

ARISTOTE
TRADUCTIONS ET ÉTUDES

**LE LANGAGE
LECTURES D'ARISTOTE**

ÉDITÉ PAR
LEONE GAZZIERO

LOUVAIN-LA-NEUVE
PEETERS
2021

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ARISTOTE ET LE LANGAGE. MODE D'EMPLOI

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L'étude des faits linguistiques chez Aristote se heurte d'emblée à une difficulté majeure, que l'on rencontre – pour ainsi dire – à même les textes : tout nombreuses et tout influentes qu'elles soient par ailleurs (et elles sont l'un et l'autre), les vues d'Aristote sur le langage s'offrent au lecteur en ordre quelque peu dispersé. Surtout, si tant est qu'il en parle souvent, Aristote ne fait nulle part du langage et de la signification l'objet d'une enquête autonome et méthodique¹. Cette dissémination rend malaisé tout effort de synthèse visant à dégager quelque chose comme une doctrine aristotélicienne du signe linguistique et de son fonctionnement. On peut même se demander s'il est légitime d'envisager la réflexion d'Aristote sur le langage dans les termes d'une théorie ou d'une conception dont le statut et la vocation seraient de l'ordre de la connaissance scientifique². En effet, même si on laisse de côté le fait qu'il faudrait

¹ Nous retrouvons ici le constat – formulé en passant et de manière passablement dogmatique dans Gazziero 2019 – qui constitue le point de départ de plusieurs travaux consacrés au langage chez Aristote. Tel est notamment le cas de Cauquelin 1990, dont nous abandonnons toutefois le rêve d'« achever l'œuvre écrite » par la lecture (p. 6) en déployant, reliant, structurant, en un mot : en actualisant les prétendus « éléments constitutifs d'une véritable théorisation » aristotélicienne du langage, éléments qui resteraient potentiels ou qui n'apparaissent que par bribes dans les différents livres du corpus (p. 6). Si tant est que cette conception existe, il est tout sauf évident que son trait le plus caractéristique soit, comme le suggère d'entrée de jeu l'autrice, d'être le reflet d'une société – la « démocratie athénienne » – dont elle transcrirait et les lieux de partage (comme, lit-on p. 6, « le prétoire [*sic*], la rue ou la place, l'agora, la tribune, l'école, la maison, le théâtre, l'atelier ou l'officine ») et les « cercles d'inégalité » ou encore les « exclusions » (« inutile », lit-on p. 7, « de discourir sur le langage de qui ne peut en avoir ou sur la parole qui se nie elle-même »).

² Crubellier & Pellegrin 2002 émettent des réserves en tout point analogues au début du chapitre qu'ils consacrent aux pratiques et théories du discours chez Aristote en dénonçant l'anachronisme qui consiste à projeter chez ce dernier des constructions théoriques

commencer par harmoniser des considérations issues d'horizons disciplinaires aussi disparates que l'étude du vivant ou celle des faits littéraires et des techniques oratoires, en passant par l'analytique, la dialectique, la psychologie ou encore la philosophie première, il n'y a pas et, à proprement parler, il pourrait difficilement y avoir une théorie aristotélicienne de la signification des expressions linguistiques ou une science aristotélicienne du langage.

La thèse est – si l'on veut – à la limite de la caricature, mais si ce n'est pas Aristote lui-même qui la formule en toutes lettres, il s'agit d'une leçon que l'on peut tirer, sans trop les tirailler, d'un certain nombre de textes du corpus de ses écrits d'école. Trois au moins – notés ci-dessous [T1], [T2] et [T3] – paraissent éliminer jusqu'à la possibilité que l'investigation des faits linguistiques puisse déboucher chez Aristote sur un savoir positif.

Le premier passage sanctionne le divorce entre signification et démonstration³ :

[T1] *Analytica posteriora* II 7, 92b 32-33 : « ἔτι οὐδεμία ἀπόδειξις ἀποδείξειεν ἂν ὅτι τοῦτο τοῦνομα τοῦτι δηλοῖ [de plus, aucune démonstration ne démontrerait que ce nom-ci montre cette chose-ci] ».

qui lui demeurent étrangères. En un mot comme en cent : « Au IV^e siècle avant J.-C. la linguistique n'existe pas » (p. 113), notamment chez Aristote.

³ La section dont nous avons tiré [T1] a été étudiée en quelque détail par Bolton 1976 ; Whitaker 1996, 209-214 ; Charles 2000, 62-69 ; de même que Modrak 2010, 254-260. Cependant, ils ont tous évité d'aborder ce passage en particulier, voire de le mentionner tout court. On comprend – jusqu'à un certain point – la réticence des interprètes face à un propos dont la place dans l'économie du chapitre n'est pas immédiatement évidente et dont la leçon admise, surtout, est loin de faire l'unanimité. Aussi, d'une part, De Rijk 2002, 676 a suggéré qu'il vaudrait mieux déplacer les lignes 92b 32-34 et les lire comme la conclusion de l'argument précédent (à savoir tout de suite après 92b 25, plutôt qu'à l'endroit où elles ont été transmises) ; d'autre part, tout plausible qu'elle soit par ailleurs (pour les raisons évoquées par David Ross dans une note qu'on lira p. 627 du commentaire de son édition des *Seconds analytiques*), l'« ἀπόδειξις ἀποδείξειεν » n'est pas la seule leçon transmise par les manuscrits (parmi les plus anciens, l'Urbinas 35 et le Marcianus 201 omettent ἀπόδειξις ; l'Ambrosianus 490 a ἐπιστήμη à la place... de plus, dans le Laurentianus 72, 5 on lit « εἶεν » au lieu de « ἀποδείξειεν »). En l'occurrence, les deux problèmes ne compromettent pas l'intérêt de [T1]. Puisqu'il s'agit d'un argument complet, encore que de confort (il s'ajoute aux précédents : « ἔτι οὐδεμία κτλ. »), qu'il soit à lire (ou pas) quelque six lignes plus haut n'a pas d'impact direct sur notre façon d'entendre l'argument lui-même ; tout au plus, la nouvelle séquence dans laquelle il s'inscrit modifiera la façon dont nous comprenons sa destination. Puisqu'il s'agit d'exclure, sur la base de [T1], que la signification puisse faire l'objet d'un savoir démonstratif, le fait qu'on sous-entende ἀπόδειξις ou qu'on lui substitue ἐπιστήμη revient essentiellement au même, tout comme revient essentiellement au même le fait qu'aucune démonstration ne démontre

Quelle que soit sa nature, la signification n'est – faut-il croire – ni une propriété en soi des expressions linguistiques ni une relation nécessaire entre un mot et ce qu'il signifie⁴. On ne saurait démontrer pourquoi tel nom signifie ceci plutôt que cela, est associé à telle chose plutôt qu'à telle autre. De fait, Aristote décrit bel et bien comment il se fait qu'un nom, quel qu'il soit, en vient à signifier une chose, quelle qu'elle soit : il en devient tout simplement le symbole, grâce à une convention⁵. En revanche, il n'y a pas de principe qui permet de fonder en raison pourquoi tel mot précis signifie telle chose en particulier. Autrement dit, « “rose” est le nom de la rose » n'est la conclusion d'aucun syllogisme dont les prémisses révéleraient une quelconque régularité (qu'elle soit physique, psychologique, ou autre).

En un sens, les faits de signification sont même ce qu'il y a de plus éloigné du domaine de ce que l'on peut connaître tout court, comme le suggèrent notre deuxième et troisième texte :

[T2] *Metaphysica* E 2, 1026b 2-5 et 13-14 : « ἐπει δὴ πολλαχῶς λέγεται τὸ ὄν, πρῶτον περὶ τοῦ κατὰ συμβεβηκὸς λεκτέον, ὅτι οὐδεμία ἐστὶ περὶ αὐτὸ θεωρία. σημεῖον δέ· οὐδεμιᾶ γὰρ ἐπιστήμη ἐπιμελὲς περὶ αὐτοῦ

cela (οὐδεμία ἀπόδειξις ἀποδείξειεν ἂν ὅτι κτλ.) ou qu'il n'y en ait pas de démonstration tout court (οὐδεμία ἀπόδειξις εἶεν κτλ.).

⁴ Le lexique aristotélicien de la signification est riche et varié ; qui plus est, Aristote s'en sert de manière peu rigide. Il est par conséquent judicieux – du moins en première instance – de ne s'arrêter que ponctuellement sur les questions d'ordre terminologique. On remarquera, en l'occurrence, qu'Aristote utilise en [T1] le verbe δηλώω (*montrer, rendre visible, faire voir, manifester*) qu'il réserve ailleurs à une tout autre famille de signes – sinon tout à fait dépourvus de signification – du moins étrangers au langage, à savoir les bruits inarticulés que produisent certains animaux dont Aristote affirme, précisément, qu'ils montrent quelque chose (à en croire Aristote lui-même dans *Politica* I, 2, 1253a 10-14, des états de plaisir et de déplaisir notamment et, plus en général, les affects que ces bêtes se manifestent les unes aux autres), sans être des mots pour autant : « δηλοῦσί γέ τι καὶ οἱ ἀγράμματοι ψόφοι, οἷον θηρίων, ὃν οὐδέν ἐστιν ὄνομα [les bruits inarticulés aussi montrent quelque chose, comme ceux des bêtes, mais aucun d'entre eux n'est un nom] » (*De interpretatione* 2, 16a 28-29).

⁵ C'est là la lecture la plus naturelle – presque une traduction mot à mot – de la clause « ὅταν γένηται σύμβολον » (*De interpretatione*, 2, 16a 27-28) qui a fait couler beaucoup d'encre (Bolton 1985, Chiesa 1986, Sedley 1996, De Angelis 2002, De Cuypere & Willems 2008, etc.), mais dont l'interprétation est pour l'essentiel arrêtée depuis au moins Boèce (*In De interpretatione. Editio secunda*, 59.28 - 60.3), que nous nous contentons de paraphraser ici : il n'y a pas de symbole aussi longtemps qu'on ne se sert pas d'une certaine expression articulée par la voix pour signifier quelque chose. Le devenir symbole du symbole n'a pas grand-chose à faire avec le symbole lui-même : il dépend en tout et pour tout du fait que ceux qui s'en servent (cf. *Sophistici elenchi* 1, 164a 20 - 165a 17) le font précisément de telle ou telle façon.

οὔτε πρακτικῆ οὔτε ποιητικῆ οὔτε θεωρητικῆ. [...] καὶ τοῦτ' εὐλόγως συμπίπτει· ὥσπερ γὰρ ὄνομά τι μόνον τὸ συμβεβηκός ἐστιν [puisque l'étant se dit de plusieurs façons, il faut en premier lieu dire de celui qui est par accident qu'il ne fait l'objet d'aucune science. En voici un indice : aucune science ne s'en soucie, ni pratique, ni productrice, ni théorique. (...)]. Il y a une excellente raison pour qu'il en soit ainsi : de fait, l'accident n'est qu'à la façon d'un nom] ».

[T3] *De sensu et sensato* 1, 437a 11-15 : « κατὰ συμβεβηκός δὲ πρὸς φρόνησιν ἢ ἀκοῆ πλεῖστον συμβάλλεται μέρος, ὃ γὰρ λόγος αἰτιός ἐστι τῆς μαθήσεως ἀκουστός ὢν, οὐ καθ' αὐτὸν ἀλλὰ κατὰ συμβεβηκός· ἐξ ὀνομάτων γὰρ σύγκειται, τῶν δ' ὀνομάτων ἕκαστον σύμβολόν ἐστιν [c'est par accident que l'ouïe apporte la contribution la plus importante à l'intelligence. En effet, puisqu'on l'entend, le discours cause la connaissance, non par lui-même, mais par accident : il se compose, en effet, de mots, chacun desquels est un symbole] ».

Que l'accident et la science ne fassent pas bon ménage chez Aristote, voire – dans la plupart des cas – qu'ils s'excluent mutuellement, ne requiert guère de commentaire ici⁶. En revanche, il n'est pas sans intérêt pour notre propos de noter qu'Aristote fait de la relation de signification le parangon de ce qui demeure essentiellement étranger à toute forme de savoir : le nom est ce qu'il y a de plus extrinsèque dans la mesure où son lien avec les choses qu'il permet de nommer est parfaitement contingent, fortuit, c'est-à-dire accidentel. Par lui-même, aucun nom ne nomme aucune chose ; en retour, par elle-même, aucune chose ne porte le nom qui est le sien et ce n'est ni toujours ni le plus souvent que les deux ne font qu'un.

Que les faits de signification tombent en dehors du domaine de ce que l'on peut démontrer ou dont on peut maîtriser techniquement la production n'a pas empêché Aristote de revenir à maintes reprises aussi bien sur les raisons pour lesquelles nous ne pouvons pas nous passer du langage que sur les conditions et circonstances dans lesquelles on s'en sert à bon ou à mauvais escient. De fait, si tant est qu'elle se manifeste de manière assez peu systématique, la curiosité d'Aristote vis-à-vis de l'ensemble hétéroclite des faits de langage est évidente, comme l'attestent les remarques

⁶ De plus, la littérature récente à ce sujet s'est enrichie de plusieurs études qui portent précisément sur le chapitre du livre E des *Métaphysiques* dont [T2] est tiré. On se reportera pour les principaux titres à la section de la bibliographie que Berti 2015 réserve, p. 214-215, à l'« être par accident » (cf. notamment la monographie de Francesca Guadalupe Masi, Masi 2015).

et digressions qui émaillent ses écrits d'éthique et de politique (où Aristote va jusqu'à identifier dans le langage le fondement de la sociabilité humaine), de même que ses écrits d'histoire naturelle (où il décrit en quelque détail la morphologie et les fonctions de l'apparat de phonation), ou encore ses traités de dialectique, de poétique et de rhétorique (où il se penche souvent sur le discours et ses éléments comme moyen d'expression littéraire, outil de persuasion et d'argumentation, mais également comme instrument d'imposture et de mystification), sans oublier – bien entendu – les écrits sur l'âme (où Aristote insiste sur le rôle privilégié que le langage joue dans la transmission du savoir et où il esquisse la trame de liens qui unissent le langage à la perception, l'imagination et la pensée). Toute apparence de paradoxe disparaît d'ailleurs pour peu que l'on observe que, chez Aristote, l'étude des phénomènes langagiers est moins orientée par un questionnement du type « qu'est-ce que le langage ? » qu'elle ne vise à régler des problèmes plus pressants du type « quelles tournures sont les mieux adaptées à susciter tel ou tel sentiment et sont-elles les mêmes aussi bien à l'oral qu'à l'écrit ? » ou encore « en quoi le langage peut-il s'avérer une source de confusion et d'erreur non seulement lorsque nous discutons les uns avec les autres mais encore lorsque nous suivons le fil de nos propres raisonnements ? ». En forçant quelque peu le trait mais – croyons-nous – sans entorse majeure à la vérité, on identifiera alors la dimension fondamentale de la réflexion aristotélicienne sur le langage dans le fait que ses démarches, quelque distinctes – encore que perméables voire même solidaires – qu'elles soient par ailleurs, ont cela en commun qu'elles traitent le langage comme un moyen plutôt que comme une fin en soi, si bien que l'intérêt qu'il suscite au fil des textes se traduit moins par la constitution d'un domaine d'investigation indépendant que par l'effort de mieux comprendre pourquoi il est un élément indispensable à la vie des hommes et comment ces derniers l'exploitent pour révéler ou dissimuler le fond de leur pensée, pour dire les choses telles qu'elles sont ou telles qu'elles devraient être, ou encore pour s'influencer mutuellement, voire se tromper les uns les autres.

Montrer cela est, en tout cas, le pari collectif des onze contributions qu'on lira dans *Le langage. Lectures d'Aristote*. Animés par le sens du texte réel davantage que par celui du texte possible, ces essais partagent tous le souci d'indexer l'étude du langage chez Aristote sur des passages précis du corpus et, plus précisément, de ne poser aux écrits aristotéliciens

que les questions auxquelles ces mêmes écrits – tantôt pris isolément, tantôt mis en relation les uns avec les autres – apportent une réponse. C’est là leur idéal régulateur et leur dénominateur commun. Il s’agit surtout de la figure de la vérité dont ils se veulent solidaires : « revenir aux textes eux-mêmes » signifie, pour l’essentiel, les prendre comme point de départ et ne jamais leur fausser compagnie.

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ARISTOTLE ON LANGUAGE AND ON LANGUAGE AND THOUGHT

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1. Language

Aristotle has something to say about language in general practically only in those texts in which he makes a comparison between man, who possesses language, and animals which do not possess language but which, in the case of some of them, are capable of communicating by means of sounds, while others emit sounds without being able to communicate and others still do not emit sounds at all. This is the sort of picture which one gathers particularly from *Historia animalium* IV 9, taken with the integration of passages from other works. The main terminological distinction there introduced (at the very beginning of the chapter) is between voice (φωνή) and sound (ψόφος) and between both and language or speech (διάλεκτος). On what voice is, Aristotle is more explicit in *De anima* II 8, where it is said to be « a certain sound which is significant (σημαντικός) » (420b 32-33) and it is a sound that is made by an animate being (420a 5-6), that is to say, as is added a little later, by an animal (420a 13). Thus it is there excluded that inanimate instruments like the pipe and the lyre possess voice, except by analogy (420a 6-8), just as it is excluded that certain involuntary emission of sounds such as coughing constitute voice: they are mere sounds or noises (420b 30-31 and 33). Still, in this text it is suggested that an animal can possess voice only if it is provided with imagination (φαντασία) (420b 31-32). Most animals (as is clear from the survey given in *Historia animalium* IV 9) emit some sort of sound

* I have benefited very much from comments by Francesco Ademollo and Leone Gazziero on previous versions of this paper (though on some points I stubbornly maintained my original position, I was at least obliged to clarify it). Many thanks to both of them.

(e.g. insects like the cicadas) and this is true even of certain fishes, but the sound that is produced is due to some particular mechanism (e.g. the friction of the πνεῦμα in the case of cicadas), thus, it is implied, it cannot be significant.

Different is the case of animals which emit sounds with some purpose (as one can gather from Aristotle's examples, the purpose no doubt being unconscious). For instance, there are animals which emit certain particular sounds in the season of coupling, with the purpose of breeding (πρὸς τὴν ὀμιλίαν καὶ τὸν πλησιασμόν), including goats, swine and sheep (*Historia animalium* IV 9, 536a 14-15). Others utter cries while fighting, e.g. the quail and the domestic cock (536a 25-28). Aristotle seems to admit that there are various levels of perfection from this point of view among animals, with some birds which, being provided with tongue, are able to articulate the sounds which they emit, and thus come close to speech (in II 12, 504b 1 ff., it is said that « more than any other animal, and second only to man, certain kinds of bird can utter articulate sounds (γράμματα φθέγγεται); of this sort are especially those which are broad-tongued ». In 536b 11 ff. it is said more generally that « articulated voice, which one might describe as a sort of speech (ὡσπερ διάλεκτον), differs in different animals... »). In any case, he seems to be convinced that certain animals emit sounds in order to communicate among members of the same race, which explains his willingness to treat voice as a significant sound. Notice that at the very end of the *De anima*, when talking of the senses which animals possess, he suggests that some animals are provided with both the sense of hearing, to receive what for the animal is significant, and tongue as an organ which enables the animal « to signify something to another (animal) ». Here again it is the birds which exemplify at best this capacity, for of them it is said:

« all of them use their tongues as a means of communication among themselves (πρὸς ἑρμηνείαν ἀλλήλοις), and some of them more than others, so much that in some cases it seems that some instruction (μάθησις) is transmitted from one to another » (*De partibus animalium* II 17, 660a 35 ff.).

In a more general way, at the beginning of *Historia animalium* VIII (IX), where something is said about the attitudes of animals concerning intelligence and stupidity, courage and cowardice, mildness and ferocity, and so forth, it is remarked that

« certain animals at the same time are receptive of some learning and instruction (μάθησις καὶ διδασκαλία), some from each other, some from

humans, that is all that have some hearing (not just those that hear sounds but also those that distinguish the differences between the signs) » (*Historia animalium* VIII, 1, 608a 17 ff., translation Balme 1991).¹

It should be noticed that various of the Aristotelian passages I am referring to in this initial part start with a consideration of the use of animal organs such as the tongue. In this connection, Aristotle introduces an important distinction between uses which are necessary (intending: necessary to the survival of the animal) and uses which promote well-being (τὸ εὖ). Thus, for example, the tongue has two uses, for tasting and for speech, the former use being necessary while the other is in view of well-being (cf. *De anima* II 8, 420b 16 ff.) It is plausible to admit that, since the tongue serves as a means of communication among animals of a given species, the well-being which is implicitly envisaged in this passage is the realization of some social organization. Man, from this point of view, is again at the highest level in the *scala naturae*, as is pointed out in a *Politics* passage to be quoted below, where his being provided with language is closely connected with his being a « political animal », since the city (πόλις) constitutes the most complete social organization.

Language or speech (διάλεκτος) is defined in *Historia animalium* IV 9, 535a 30-31, as the articulation of voice (ἡ τῆς φωνῆς... διάρθρωσις) by means of the tongue, and on the basis of this definition Aristotle can talk as if also certain animals possessed speech (536b 8 ff.). However, he also implies that this definition is not adequate, for he admits, in the passage (536b 11 ff.) quoted above, that in the case of animals this is more something « like speech », and he explicitly declares, in 536b 1-2, that the possession of speech is proper to man. What is clear from these texts is that the possession of voice is a condition of the possession of speech (536b 2-3: « those (living beings) which possess speech, also possess voice, but not all those which possess voice, possess speech », with the passage of *De generatione animalium* V 7 quoted below where voice is presented as the « matter » of speech) and that another condition for the possession of speech or language is the capacity to utter articulate sounds. Since birds, or some of them, possess voice and are capable of uttering articulate sounds, it is not made clear in these texts what distinguishes speech or language, as restricted to man, from the kind of communication

¹ Notice that Balme 1991, in his introduction to the text, defends the authenticity of this book, which previously had been questioned.

of which birds are capable. It is likely, however, that another Aristotelian passage is relevant here, i.e. *De interpretatione* 2, to be quoted and discussed below, where he says that names are by convention and are « symbols » (of things), because he adds: « even inarticulate noises, of beasts for instance, reveal something (δηλοῦσί τι), yet none of them is a name » (16a 28-29). The point would have been made in a clearer way if he had not talked generically of « beasts (θηρία) » but pointed out that (as he admits in the passage considered above) there are animals like certain birds which are capable of articulate voice and can thereby communicate with each other. But it seems likely that Aristotle is convinced that even these animals emit sounds that are so by nature (they could not emit different sounds from those they actually emit), with the exclusion then of convention and of names' being symbols. In the passage of *Politics* I 2 quoted below the voice of animals is presented as « a sign of pleasure or pain », thus it must constitute a spontaneous reaction to what provokes pleasure or pain. Given that what is said of names, i.e. of nouns and verbs, can easily be extended to other parts of discourse, at least for their being by convention (possibly not for their being « symbols » of things), conventionality must be considered as a trait which distinguishes language or speech as a whole. And it is on this basis that Aristotle can say, as he does in *Historia animalium* IV 9, 536b 19-20, « that men emit the same voice (everywhere), but do not have the same language (διάλεκτος) ». This is the only passage (apart from one in the *Problemata*, which probably is not authentic, though influenced by Aristotle) in which he states explicitly that men are distinguished in peoples who speak different languages.

There is the further question whether Aristotle really believes that birds articulate their voice in the same way as men. There is an apparent contradiction between the passage of *Historia animalium* II 12, 504b 1 ff. quoted above, where the view that birds utter articulate sounds is suggested, in the Greek, by saying that they utter letters (γράμματα), i.e. distinct indivisible sounds,² and a passage of *Poetics* 20, 1456b 23-24 where Aristotle, in giving an account of letter (στοιχεῖον) as a part of speech, asserts that « animals utter indivisible sounds too, but I do not call any of them a letter ». As we shall see, Aristotle, in the case of language proper, admits that a name or word is composed of indivisibles,

² On γράμμα in the sense of « letter », see below, V, with reference to passages of the *De partibus animalium*.

with two levels of composition: letters and syllables, a certain distinction between the letters (at least that between vowels and consonants) being indispensable to obtain the syllables. It is not at all likely that he is willing to envisage something like this in the case of the sounds uttered by birds (to say nothing of other animals), so that one must suppose the way humans articulate their voice is not the same as the way in which birds articulate their voice, this being then another main difference between language and animal communication. Also, the fact that animals in general are said to have voice but not language, and that voice is presented (in the passage of *De generatione animalium* V 7 quoted below) as the « matter » of speech, suggests that speech or language presents a form, already when uttered, that makes it different from animal voice.³ It can be presumed, though this is not stated explicitly, that only the articulation of human speech is supposed to be such that the sounds can be put in writing (these are the γράμματα proper) and can be collected in an alphabet.⁴

It has to be pointed out that, while in most of the passages considered so far, Aristotle uses the word διάλεκτος for speech or language, in *De partibus animalium* II 17 he makes some of the same considerations using the word λόγος (he says that man has a tongue which is suited to articulate the various sounds and to produce speech, cf. 660a 22-23, further 659b 30 ff.). And no doubt the Greek word λόγος can be taken in the sense of speech or language. In *De generatione animalium* V 7 he goes beyond what we find in these passages, for there he says, talking of voice, that in the case of most animals

« the female has a higher voice than the male, and this is especially noticeable in human beings, for nature has given them this capacity to a higher degree because they alone among the animals make use of voice for language (λόγος), voice being the matter of language » (*De generatione animalium* V 7, 786b 17 ff.).

Finally, it will be recalled that this word is used by Aristotle in the well-known passage of *Politics* I 2 where he says that nature, which does

³ This is the position that also Ax 1978 propounds, which is to be recommended for a more detailed discussion of the passages considered so far and in the next section. See also Ax's book (Ax 1986).

⁴ That Aristotle in the passage of *De interpretatione* 2, 16a 26-29, has writing also in mind was suggested already by Ammonius in his commentary, 31.21 ff., as pointed out by Wieland 1962. Weidemann 1991 gives weight to this aspect too, though admitting that Ammonius goes beyond what Aristotle explicitly suggests.

nothing in vain, has endowed man with language in order to make him a political animal:

« man alone of the animals has language (*λόγος*). Voice is a sign of pleasure and pain, hence it belongs to other animals as well – their nature enables them to attain the point at which they have perceptions of pleasure and pain, and can signify these to one another. But language serves to indicate what is useful and what is harmful, and so also what is right and what is wrong. And it is the peculiarity of man, in comparison with other animals, that he alone possesses a perception of good and evil, of the just and the unjust, and so forth » (*Politica* I 2, 1253a 9 ff.).

In this passage again, Aristotle, when talking of language in general, makes a comparison between man and the other animals. Animals have voice only, and this they utter under the impulse of the sensations of pleasure and pain, which of course can be provoked for instance by the presence (in the case of pain) of some danger, which is what they communicate to one another. One cannot talk of language precisely because the sounds animals emit are, as it were, dictated by the sensations they have: when for instance they are painful sounds they reflect their reaction to the presence of danger. Man on the other hand, though he can react in a rather similar way to sources of pleasure and pain (he does have voice like the animals), also has a grasp of general notions such as good and bad and right and wrong (these examples are chosen in view of the political context, but surely other notions are involved, such as being and one) and his communication with other people reflects this grasp, hence language is involved. But what is pretty clear is that the term *λόγος* rather than *διάλεκτος* is used here to evidence the underlying dimension of rationality, so that the Latin rendition of the Greek term by *ratio* has some justification, though it plays down the linguistic dimension that Aristotle no doubt has in mind as well.⁵

Given this background, how does Aristotle deal with language? As already anticipated, when he deals with language in general, he does not go beyond what we have found in these passages centered on the comparison between man and the other animals. As we have seen, he just mentions the fact that the different peoples which compose humanity

⁵ It should be remarked that much of what Aristotle states in this passage is already present in Isocrates, *Nicoles*, 5-9, where the *λόγος* is not only said to distinguish man from the animals and to enable us to fix the limits of what is just and unjust, good and bad, but is presented as being at the origin of all human civilization, including philosophy.

possess different languages. There is no attempt to give an account of how and why there is a plurality of languages (even the fable of the tower of Babel goes beyond what Aristotle has to say on this topic), apart from the claim that there is an aspect of conventionality in the words that constitute a language. Some of these words, i.e. names, are said to be « symbols » of things (as we have seen), but no attempt is made to clarify this point by at least offering a typology of signs: when Aristotle deals with signs (σημεῖα), in *Prior analytics* II 27, and in some passages of the *Rhetoric*, he seems to be only concerned with their use in argumentative inferences, without keeping natural signs explicitly distinct from the artificial ones. Nor is there any attempt to give an account of the *origin* of language, such as we find for instance in the Epicureans (see e.g. Lucretius, *De rerum natura* V, 1028 ff.). Presumably this is absent because Aristotle assumes that men have existed forever very much in the same condition, at least in so far as their intellectual capacities are concerned. It is true that he appears to have admitted that human history delineates a sort of cycle, with phases of development or progress and phases of regress, till a primitive condition.⁶ It is not clear, from the documentation we have, whether he supposed that also language gets lost in the return to a primitive condition. In that case it is not wholly excluded that he dealt with this topic in some lost work (whether in the *De philosophia* or elsewhere).

More positively, and from a more restricted point of view, Aristotle introduces, in *De interpretatione* 4, 17a 2 ff., the important distinction between discourse (sentence) which can be either true or false and which for this reason is said to be declarative (ἀποφαντικός) and discourse which is neither true nor false. In part of the exposition which follows I will concentrate on his treatment of the discourse which is said to be « apophantic ».⁷ As to the other type of discourse, in that passage he just

⁶ The most explicit testimony is to be found in a fragment of a lost work, *De philosophia*, fr. 8 Ross, but there are allusions to this change of condition in the works of the corpus, cf. *De caelo* I 3, 270b 19 ff., *Metereologica* I 3, 339b 27 ff., *Politica* VII 10, 1329b 25. In *Metaphysica* Λ 8, 1074b 1 ff., Aristotle declares it is likely that « every art and every philosophy <including science> has often reached a stage of development as far as it could and then again has perished », and manifestly in chapter 1 of the work he is describing a phase of their development.

⁷ Aristotle in the *De interpretatione* uses, in addition to the adjective ἀποφαντικός, the substantive ἀπόφανσις. They must have to do with the verb (in the middle diathesis) ἀποφαίνομαι which is currently used, along with γνώμη or δόξα, in the sense of expressing

gives an example: « a prayer is a discourse (sentence) but is neither true nor false » (17a 4). A little more is said about it in *Poetica* 19, where he makes the following statement:

« among the phenomena of expression through language (περὶ τὴν λέξιν), one branch of theory has to do with the modes of utterance; for example, what is a command and what a prayer; statement and threat, question and answer, and so forth. Knowledge of these belong to delivery and concerns the man who possesses the master-art about it » (*Poetica* 19, 1456b 8-11, translation Else 1957, slightly modified).

In the sequel he engages in polemic against Protagoras who had taken the very beginning of the *Iliad* (« Sing, goddess, the wrath ») as uttering a command when it should have been a prayer, and concludes that such questions must be left out since they concern not poetry but some other discipline. It is difficult to avoid the impression that this is a very reductive way of treating this topic.

He does not recognize that Protagoras (as we know from the testimony of Diogenes Laertius, IX 53-54) was the first to propound a division of types of discourse (λόγος) into four, namely wish (ἐὐχολή), question (ἐρώτησις), answer (ἀπόκρισις), command (ἐντολή), and was followed by Alcidas (an author well known to Aristotle, who makes references to him e.g. in *Rhetorica* III 3), who distinguished affirmation (φάσις), denial (ἀπόφασις), question (ἐρώτησις), address (προσαγόρευσις), and by others (not named) who adopted a division into seven, adding narration or exposition (διήγησις). It is not quite clear with what purpose these distinctions were propounded, and if they were always propounded with the same purpose. But this testimony shows that some thought was given to this topic, though it is likely that only Aristotle came to the distinction between discourse which is « apophantic » and discourse which is not. And, of course, the recognition of apophantic discourse as a distinct type is of fundamental importance for logic as grounded by him. Yet it also remains true that he is too dismissive of the other forms of discourse. In suggesting that they are of interest for delivery he is implying that it is just a matter of how one expresses oneself, on the same

one's thought or mind or opinion about something (cf. e.g. Herodotus, *Historiae* I 207, II, 120; VII, 52, 152; Plato, *Gorgias* 466C; *Theaetetus* 170D; *Respublica* IX, 580B). There is here an implicit opposition with other forms of speech, such as asking questions, praying, giving a command, in which one does not state how things are in one's opinion or just manifest one's thought but does something different.

level as the tone of voice that one adopts in given circumstances. And delivery (intending: of a speech, that is ὑπόκρισις), as is sufficiently clear from *Rhetorica* III 1, is not really a field which can be the object of some study, for it is a matter of innate disposition accompanied by practice (he there first states, in 1403b 20-22, that the topic had not received any treatment, but then adds, in 1404a 15-16, that the ability to recite comes from nature and has little to do with art: ἀτεχνότερον).⁸

In this connection, it should be remarked that in certain passages, such as that from *Poetica* 19 quoted above, the concept of language or speech, taken from a certain point of view, is rendered in the Greek by a third term (different from διάλεκτος and λόγος): λέξις. In some passages this term can be taken as indicating diction and even style. In introducing this term in *Rhetorica* III 1, 1403b 15-16 Aristotle asserts that it remains to talk of diction, for it is not sufficient to know *what* one ought to say (ὅ δεῖ λέγειν), but one must also know *how* to say it (ὥς δεῖ εἰπεῖν). In this passage, as one can see, he makes a distinction between the contents of the utterance and the manner in which it is expressed (Aristotle here follows a distinction, concerning the same term λέξις, which was already propounded by Plato in *Respublica* III, 392C). The treatment of λέξις which is offered in almost the whole of book III of the *Rhetoric* clearly responds to this idea. For instance, he adopts a distinction between prose and meter; he distinguishes between a style that is elevated and ornate and one which is more plane; he discusses what style is more appropriate for a certain type of discourse (e.g. before a tribunal or before an assembly of the people); he considers the use of current and of rare words, and the recourse to proverbs and other sorts of illustrations. He introduces or adopts an idea that will become popular in the tradition of ancient rhetoric, that of the *virtutes dicendi* (ἀρεταὶ λέξεως, *Rhetorica* III 2, 1404b 2 and 12, 1414a 22, further *Poetica* 22, 1458a 18), which are exemplified by clarity and perspicuity. The figures of speech are not treated in a systematic way, but some of them receive attention. Of great interest is his treatment of metaphor, which I cannot discuss in what follows.⁹ It should only be remarked that its treatment as a way of making diction or style particularly efficacious (especially in bringing something « before

⁸ His lack of interest in non-apophantic kinds of speech is remarked upon also by Schenkeveld 1984, 294.

⁹ One can refer to Ricœur 1975.

the eyes », cf. *Rhetorica* III 11), given that one respects certain criteria actually illustrated by him, is by no means mistaken, yet tends to play down its role from the point of view of the acquisition of knowledge.

An extended use of the term λέξις, which however remains closer to the sense it has in *Rhetorica* III, is that which is to be found especially in the *Sophistici elenchi*. Here the term serves to evidence that the words or expressions actually used do not faithfully reflect the underlying thought, a fact that can be at the origin of fallacies or in any case of some form of deception (that λέξις so understood suggests the sticking to the actual words used is confirmed by the later appearance of the formula κατὰ λέξιν to indicate that one is quoting literally, word by word.) One passage that illustrates what Aristotle has in mind is to be found in chapter 7 of that work, where he remarks that fallacies can be due to the similarity of the linguistic expression (ὁμοιότης τῆς λέξεως) which is used: a predicative term can be taken not as what can be called an adjectival term but as a substantive one, as if it designated some individual thing, and this is a source of fallacies (he believes that the so-called argument of the third man, leading to an infinite regress, is an example of this sort of fallacies of which the Platonists are the victims) (*Sophistici elenchi* 7, 169a 30 with 22, 178b 36 ff.). Another passage that illustrates this is to be found in chapter 22, where it is remarked that certain verbs like « to say » (λέγειν), « to run » (τρέχειν) and « to see » (ὄρν) are verbally similar for they are all active verbs, but this makes one overlook the fact that « to see » suggests a passivity rather than an activity, because seeing is a way of being affected by a sensible object (178a 14 ff.). In chapter 4, 166b 10 ff. and 14, 173b 26 ff., it is suggested that even the grammatical gender of the word (masculine, feminine, neuter) can be a source of error due to the form of expression (σχῆμα τῆς λέξεως).

Under this heading fall types of ambiguity for which Aristotle often uses the term ὁμωνυμία when it is an equivocation of a single word and ἀμφιβολία when it is a syntactical ambiguity or anyhow an ambiguity which concerns an expression (for the latter e.g. 4, 166a 6 ff.).¹⁰ Focusing on the first phenomenon, in the treatment that he offers of names (i.e. nouns and verbs) in the *De interpretatione*, as we shall see, he assumes a one-to-one correspondence between the name (ὄνομα), the thought (νόημα) and the thing (πρᾶγμα). However, he is well aware of the fact that

¹⁰ Occasionally the word is used for any sort of ambiguity.

this correspondence fails when names or words are ambiguous. (That the name either have one definite meaning, in the sense that it signifies one thing – σημαίνει ἓν – or have more than one meaning, but limited in number, is formulated as a requirement in *Metaphysica* Γ 4, 1006a 29 ff.) In many cases the ambiguity is rather obvious. But there are cases, which for Aristotle are exemplified by « being » (τὸ ὄν) and by « one » (τὸ ἓν), which usually escape attention, because one is naturally inclined to regard them as univocal words (*Sophistici elenchi* 10, 170b 20 ff., and 33, 182b 22 ff.). The examination of cases like these induces Aristotle to elaborate a rather complex classification of types of ambiguity, which is of great philosophical interest, but which cannot be discussed in the limits of this paper. On the other hand, we miss any serious treatment of *vagueness* from a semantic point of view. Aristotle just mentions this phenomenon in *Rhetorica* III 5, 1407b 1-6, treating it substantially as an elusive way of speaking (exemplified by how diviners express themselves) that it is best avoided, and failing to recognize it as is an important and unavoidable feature of language.

A still more extended use of λέξις is to be found in *Poetica* 20 where, as we shall see below, Aristotle offers a survey of the main parts of speech (including letter, syllable, noun and verb), actually presenting these as parts of λέξις. Here the term cannot be taken in the same sense as in the *Rhetoric* (with reference to the passage of *Rhetorica* III 1 quoted above), because there is no restriction to *how* to say something. But there is no opposition either between verbal expression and thought (with intention) as is to be found in the *Sophistici elenchi*. Presumably, he has recourse to it because he does not think that either λόγος or διάλεκτος are appropriate in this connection. In the case of λόγος the explanation can be that it results from the combination of sentences which are each also called λόγος and are said to be composed of nouns and verbs (e.g. *Rhetorica* III 2, 1404b 26), without going further in the analysis, because these are words that have meaning; in the case of διάλεκτος perhaps the reason is essentially the same. Anyhow it would seem that here language is considered wholly independently of the thoughts underlying the words or sentences, thus also independently of the meaning that words and sentences have.¹¹

¹¹ It can be remarked that Theophrastus, according to the testimony of Simplicius in the proemium of his commentary on Aristotle's *Categories* (it is the testimony no. 683

The main parts of speech include, according to *Poetica* 20, not only noun and verb but article (ἄρθρον) and conjunction (σύνδεσμος). Apart from the fact that « article » is not understood in quite the same sense as what we mean by it, one misses the mention of pronouns and adverbs. In fact they do not receive any distinct treatment even elsewhere, for instance in the *De interpretatione*. Aristotle considers pronouns only in so far as some of them play a role in quantification (his treatment of quantification is one of his great achievements in the field of logic, for which one cannot indicate any predecessor). Certain pronominal phrases (like τὸδε τι, τοιόνδε, ὅδε καὶ τὸδε) have a technical sense in Aristotle's works and are used frequently by him, but no general reflection is devoted to what they mean. Demonstrative pronouns (including « I », « now », « here ») are taken as « indexicals » by modern logicians like Peirce, but how they refer to objects is not discussed by Aristotle. As to conjunction, in what follows I will give some attention to what he has to say about it and about article as well (because the two cannot be separated); but it can be anticipated that what emerges is not very satisfactory. It can be added that in a brief of book I of the *Prior analytics* (namely chapter 40, as pointed out by H. Steinthal 1890, 264) it is recognized that the presence or absence of the definite article makes a difference as to the meaning of the syllogistic premise, but the term « article » is not introduced.

The main parts of discourse (λόγος) in the restricted sense of declarative sentence are the noun (ὄνομα) and the verb (ῥῆμα), which are presented as the indispensable components of even the most simple sentence (cf. e.g. *De interpretatione* 5 and 10; *Rhetorica* III 2, 1404b 26). It will have to be clarified what is really included under these two headings, beyond nouns and verbs in our sense. As we shall see, Aristotle makes a distinction between declarative sentence and definition (ὄρος, ὀρισμός), though the clarity of this distinction declines when he deals with the composition of declarative sentences by means of connectives. However, when he deals with definition by itself it is sufficiently clear what he has in mind, namely that it must be an account (usually by *genus proximum* and *differentia specifica*) of the essence of what is designated by a common

in Fortenbaugh, Huby, Sharples & Gutas 1992's collection), treated noun and verb as the elements of discourse (λόγος) and the other parts, such as conjunction and article, as parts of speech (λέξεις).

name or at least an account of its meaning. What he substantially fails to discuss are those nominal expressions, such as definite descriptions (like « the present king of France »), which can function as subjects in a declarative sentence (these have attracted the attention of logicians in recent times). The need to make a clear distinction between them and whole sentences was recognized in late antiquity (as testified by Apuleius) and in Medieval times, going beyond Aristotle: a whole sentence was called an *oratio perfecta*, while a description (including definition) was called an *oratio imperfecta*.

Concerning nouns in particular, Aristotle shows some awareness of the fact that proper names cannot be treated in the same way as common names. He remarks for instance in *Posterior analytics* I 22 that « Callias », unlike « animal » and « man », cannot be said (or predicated) of something else (83b 4-5) and, in *Metaphysica* Δ 9, 1018a 3-4, that, since « Socrates » cannot be said of many (οὐκ ἐπὶ πολλῶν), one cannot say « any Socrates » as one can say « any man ». That statements can concern either individuals or universals is suggested in various passages and the former are exemplified by the use of proper names (e.g. *De interpretatione* 10, 20a 23 ff., to be related to the beginning of chapter 7). It is also implied, though not stated explicitly, that only common names can be defined, for all examples of definition actually given in Aristotle's works concern common names (definition is expressly said to be of the universal, cf. e.g. *Analytica posteriora* II 13, 97b 25-27, *Metaphysica* Z 10, 1035b 34, 11, 1036a 28-29.) However, an explanation of how proper names differ from common names in referring to objects (a topic which has received much attention by logicians in recent times) is not given at all.

As to the disciplines dealing with language, if we leave out those which belong to the field of logic, i.e. analytic and dialectic, Aristotle only mentions grammar (ἡ γραμματική). This is clearly conceived in the traditional way as the ability to read and to write (*Topica* VI 5, 142b 30-33).¹² Thus conceived, grammar is presented as an important part of the general education (παιδείεσις) which must be acquired by a good citizen of a πόλις (*Politica* VIII 3, 1337b 22 ff.). In this connection,

¹² Ast 1838, 406 s.v. appropriately defines ὁ γραμματικός as *artis scribendi ac legendi peritus*. See also Sextus Empiricus, *Adversus mathematicos* I 49, where grammar is presented as the art of writing and reading.

there is talk of learning letters (γράμματα μανθάνειν, and Plato, *Theaetetus*, 203A 2), presumably meaning, first of all, getting familiar with the alphabet.¹³ But grammar is also regarded as including a more theoretical side, residing in the study of all the sounds in which spoken words consist (cf. *Metaphysica* Γ 2, 1003b 19-21). As such a study grammar introduces distinctions such as those between vowels and consonants and considers how they get connected in syllables and in whole words. A presentation of grammar under this aspect is given not by Aristotle but by Plato in *Philebus*, 18B 6 ff., where it is regarded as an art (τέχνη) which according to a tradition was invented by the Egyptian Theuth. A similar presentation, but with no explicit mention of grammar, is also to be found in *Theaetetus*, 202E ff. In another connection Plato also talks of a (τέχνη) ὀνομαστική (so in *Cratylus*, 425A 4), but one can suspect this is an *ad hoc* invention, for he admits it could be called otherwise. In the *Sophist*, grammar, since it involves the ability to establish the right connection between letters, is considered as paradigmatic for dialectic as the ability to establish the right connection between Ideas (*Sophista*, 253A ff.). But for the same reason it is also presented as paradigmatic for the ability (evidently inherent in normal linguistic competence, not in dialectic) to obtain a discourse which is meaningful because it involves the appropriate connection of names and verbs (261C ff.).¹⁴ Aristotle himself suggests, in *Poetica* 20, 1456b 30-34, in talking about how the various letters are pronounced, that this is of interest for the expert in metrics. This suggestion agrees with the indication found in Plato's *Cratylus*, 424B-C, that those who studied rhythms were the first to distinguish the « powers » of letters and syllables. What is involved here is probably a more special competence than that proper to grammar, but one that obtained results which were then adopted by the grammarians (in this connection, it seems significant

¹³ Given this close connection between grammar and education, it is likely that the sequence described below under V has to do with educational practice, for, as pointed out e.g. by Marrou 1948, 229: « l'instruction procède du simple (en soi) au complexe, de l'élément au composé... Il faut donc apprendre d'abord les lettres, puis les syllables, les mots isolés, les phrases, enfin les textes continus... ».

¹⁴ According to an ancient tradition, as reported by Diogenes Laertius III, 25, Plato was the « first who considered the potentialities of grammar ». No justification is given for this claim, but, since Plato's main original contribution lies in the distinction between noun and verb as the constituents of a sentence, it is likely – as suggested by Robins 1951, 17 – that this is the reason.

that Plato in the *Sophist* mentions music immediately after grammar, for this shows that the one does not exclude the other).¹⁵

It is likely that the further distinctions introduced in *Poetica* 20, such as that between noun and verb, are to be regarded as being of the competence of grammar, though Aristotle does not mention it in this connection. One term of evident grammatical interest introduced in that passage is « inflection » (πτῶσις = *casus* in Latin), which is presented in 1457a 18-23, with the indication that it applies to noun and verb, and which is mentioned in connection with both noun and verb in *De interpretatione* 2, 16a 32 ff. and 3, 16b 16 ff. This indifference is remarkable. As Else 1957, 107 states in a note *ad loc.* to his translation of the *Poetics*, inflection is « a very broad concept, covering any modification undergone by a word capable of inflection, and including the modern categories of case, number, tense, etc. » (gender should be added, as shown by *Sophistici elenchi* 14, 173b 27, 32 and 34).¹⁶ Inflected forms of words are mentioned together with coordinates (σύστοιχα) in *Topica* II, 9, where adverbial forms like « justly », « courageously » and « healthily » are presented as both inflections of « justice », « courage » and « health » and their coordinates. It is supposed that the dialectician must be familiar with this sort of relationship, for in a discussion one can apply to the coordinate group of terms what is thought to be true of the other group of terms. On the gender of nouns Aristotle is more forthcoming in *Poetica* 21, 1458a 9-17, since he says something about their terminations, but, if the passage is authentic (and not a later interpolation, as some scholars, e.g. Else, suspect), probably it summarizes points already made by Protagoras.¹⁷ Even in this case, as we have seen with reference to *Sophistici elenchi* 4, 166b 10 ff. and 14, 173b 26 ff., he is concerned with their relevance for dialectic. In the case of the verb he does point out, both in *De interpretatione* 3, 16b

¹⁵ It can be added that this sort of questions, including the determination of the number of letters constituting the alphabet, are regarded as being of the competence of both grammar and metrics by Dionysius of Halicarnassus, *De compositione verborum* 14, 4-6.

¹⁶ A survey of what for Aristotle falls under this heading is given by Bywater 1909, 275-276 (*ad* 1457a 18).

¹⁷ It is possible, however, that the passage contains some improvements on Protagoras' distinctions, as claimed by Robins 1951, 22-23: σκευός for the neuter used by Protagoras, presumably with the purpose to indicate an inanimate object (cf. *Rhetorica* III 5, 1407b 6-9), is replaced by τὸ μεταξὺ, and attention is given to the terminations of names. The popularity of Protagoras' grammatical achievement is shown by its parody in Aristophanes' *Clouds*, 658 ff.

6 ff., and *Poetica* 20, 1457a 14-18, that it « additionally signifies time » (προσημαίνει χρόνον), but probably his reason for doing so is that the tense of the verb (i.e. whether the verb is in the past or in the present or in the future) makes a difference for the time-reference of the whole statement and hence for its being either true or false (other important differences, such as aspect, are overlooked). This all shows, first, that grammar here remains at a rather primitive level and, second, that Aristotle himself has little interest in grammar as such, for not only does he not appear to offer contributions to its improvement but tends to introduce certain grammatical terms (such as πτωσις) when discussing topics which are not properly grammatical.

We can draw the conclusion that Aristotle never shows the intent to contribute to grammar as such and does not envisage any other discipline which could correspond in some way to modern linguistics; rather, he takes for granted the actual contributions to grammar already made by others. In so far as he deals with language in general, he does so by treating it as a capacity which distinguishes man from the other animals, hence mainly in his zoological works, as we have seen. He discusses the main parts of speech and some other linguistic phenomena under the heading of diction (λέξις), this being a topic of common interest for poetics and rhetoric. Certain linguistic phenomena like ambiguity are treated in his logical works (especially the *Topics* and the *Sophistici elenchi*). Noun and verb are also treated in the first chapters of *De interpretatione*, but this part of the work appears to serve as an introduction to the rest, which focusses on the logical relations between affirmation and denial – from this point of view the appropriate title for the work would be that given by Theophrastus to a work of his: *On Affirmation and Denial* (Περὶ καταφάσεως καὶ ἀποφάσεως).¹⁸ The title *De interpretatione* (Περὶ ἑρμηνείας) which the work has received does not appear to be Aristotelian. As shown by passages such as that of *De partibus animalium* II 17 quoted above, the Greek term could suggest a concern with communication by means of signs, with a focus on human communication by means of language, but this is not the main topic even of its first part, with the possible exception of the first few lines.

¹⁸ This suggestion goes back to Weidemann 2002, 43-44 and is favoured also by Sedley 2004.

Finally, if one considers Aristotle's contributions from the point of view of philosophy of language (kept distinct from logic) as understood nowadays, it is difficult to avoid the impression that these contributions are not very substantial and that they do not go much beyond what is already found in Plato (with the exception of his treatment of metaphor and of ambiguity). As pointed out above, little is done to clarify what a linguistic sign is. Questions of meaning and reference do not receive any close treatment – the example of proper names was already mentioned, other examples will be considered below. Words like *σημαίνειν* are used quite non-technically, to cover both the signification of animal sounds (in so far as they are voice) and the meaning of the words constituting human language (there have been various attempts by scholars to reconstruct an Aristotelian theory of meaning; I indicate some in the bibliography but do not follow them). Much of what Aristotle has to say about the relationship between language and thought, it will be seen, does not emerge in texts in which he discusses this topic in an explicit way or *ex professo*. A theory of speech acts is not present even *in nuce*.¹⁹

The exposition which follows is divided into three main parts. The first part (corresponding to II, III and IV) is mainly devoted to the texts concerning the relationship between language (usually spoken language, in subordination written language) and thought and also, to some extent, to the relationship between both and things or objects designated by means of language. The second part (corresponding to V, VI and VII) is devoted first to the texts presenting the levels of (increasing) composition that Aristotle admits when talking of the parts of speech (and of discourse as a whole), then to texts concerning the distinction between noun and verb and concerning the role of connectives in keeping together simple sentences. The third part (corresponding to VIII) attempts to draw some general conclusions from the previous examination.

¹⁹ See also the judgment expressed by Kretzmann 1967, 362: « Aristotle's primary interest in language was naturally that of a logician, and while his writings contain many passages on semantic questions, there is relatively little developed theory. His semantics of words (he treats of more than just names) is like Plato's in many respects and is to be found mainly in *De Interpretatione* ». Steintal 1961, 193 too remarks that Aristotle always remains a logician and does not consider language as such and in its peculiarity. Pertinent is also the following remark by Crubellier & Pellegrin 2002, 130: « Aristote utilise donc des concepts qui, rétrospectivement, nous paraissent grammaticaux ou linguistiques, mais sans dessein grammatical ou linguistique au sens moderne de ces termes ».

2. Language and Thought

A view which has been attributed to Aristotle, and which would in part explain his influence in the field of reflection about language, is that he admitted there is a parallelism between the three planes of reality (constituted by things), thought and language (an influential presentation of this view is to be found in Oehler 1962, who talks of « das Parallelismus-Schema von Sein, Denken und Sprache », e.g. on page 20). One passage that is taken (not only by Oehler) to illustrate this sort of parallelism is the first chapter of *De interpretatione*, where, as is well known, spoken sounds, i.e. presumably uttered words and sentences, are presented as « symbols (or signs) of affections in the soul » which themselves have a relationship of similarity (are ὁμοιώματα) to things (πράγματα). The passage contains the complication, which I disregard, that *written* words are in their turn presented as « symbols » of spoken ones. I now quote the passage, which is of controversial interpretation:

« spoken sounds (τὰ ἐν τῇ φωνῇ) are symbols of affections (παθήματα) in the soul, and written marks <symbols> of spoken sounds. And just as written marks (= writing) are not the same for all <men>, neither are vocal sounds (= speech) the same. But the things of which these are primarily (πρώτως) the signs, <namely> affections of the soul, are the same for all <men>; and those of which these <= the affections> are likenesses (ὁμοιώματα), <namely> things (πράγματα), are already the same. These have been discussed in a treatise On the soul, for they belong to another inquiry » (*De interpretatione* 1, 16a 3-9).

I cannot enter into much detail, but state at once that I adopt the traditional interpretation, which goes back to Ammonius and to Boethius. According to this interpretation, in Ammonius' formulation, the affections of the soul which are principally and immediately signified by vocal sounds are thoughts, and « through them as intermediates » (διὰ δὲ τούτων μέσων), also things are signified (cf. *In De interpretatione*, 17.24-28). We meet the triadic schema: things, thoughts, words, which Oehler has in mind. This interpretation seems to assume (as in my translation) that at line 6 we have an adverbial πρώτως. It has to be admitted that from a strictly philological point of view (i.e. based only on the comparison of the manuscripts) the plural genitive πρώτων is to be preferred,²⁰ but, apart from the fact that in such cases a small correction would not

²⁰ Cf. Weidemann's edition apparatus, *ad loc.*

be illegitimate, even this reading is compatible with our interpretation if one takes it to mean that « the first things of which these are the signs, namely affections of the soul », πράγματα being the second things of which these are the signs.

The traditional interpretation still leaves place to a possible disagreement about whether vocal sounds stand just for single words (nouns and verbs) or for sentences as well or even just for sentences by themselves. It will be seen that I adopt the second position, which is favoured by the points of contact between our passage and some passages of *De interpretatione* 14. It has also to be pointed out that in Aristotle's view, even in the case of an assertion which is not really simple but involves a plurality of assertions, the vocal sound remains just one (*De interpretatione* 11, 20b 18-21). That the « spoken sounds » mentioned in chapter 1 and 14 can be whole sentences is confirmed by *Poetica* 20, 1457a 23-24, where he says that « a discourse (λόγος) is a composite meaningful sound (φωνή συνθετή σημαντική), some parts of which are meaningful <= signify something> by themselves ». It is clear from what follows that these parts are names and verbs. The first position has often been taken for granted in the tradition. As to the third position, according to which the passage is concerned exclusively with whole sentences, it has been propounded by Sedley 2004 (a shortened, revised version of Sedley 1995). His proposal is attractive, because it avoids the contradiction between this passage and those passages (especially *Sophistici elenchi* 1) where single words are supposed to immediately designate things, a contradiction for which I try to give an explanation below. In spite of this, it seems to me unlikely that the passage, which no doubt serves as an introduction to the whole work (thus including chapter 14), can be almost wholly detached from the section on single words that immediately follows it, for this contains for instance an elucidation of what is implied by being a « symbol » of something (2, 16a 26-29).

Immediately after the quoted passage there is an abrupt transition from affections in (or of) the soul to thoughts or notions (νοήματα) in the soul, which can be either by themselves or in combination – by themselves when corresponding to names (nouns and verbs), in combination when corresponding to whole sentences. And combination is said to involve either truth or falsity. The abruptness of this transition is apparently what induced Andronicus of Rhodes to question the very authenticity of the treatise (according to Ammonius report in 5.28-6.4). This is an extreme

position, which has not found any followers. In the attempt to make the transition less abrupt Magee 1989 suggests however that the « first things » of line 6 are the « first thoughts » (πρῶτα νοήματα) which are mentioned by Aristotle in *De anima* III 8, 432a 12-14, a passage to which he would be referring in mentioning the treatise *On the soul* at the end of our passage. To suppose that the reference is so specific seems to be rather far-fetched and in the end the difficulty raised by the replacement of the affections in the soul with thoughts or notions is not eliminated in this way.²¹ It will be seen that I take the reference to concern the idea that thoughts are accompanied by images, hence that the affections of the soul are viewed as involving not only thoughts but also images, which explains why they can be said to be likenesses of things (I come back to the quoted passage under III, where I discuss another proposal implying a rejection of the traditional interpretation, i.e. that advanced by Kretzmann. The traditional interpretation is also defended by Weidemann 2002, in his German commentary on this part of *De interpretatione*).

As anticipated, Aristotle, in the course of the exposition in this chapter, tacitly replaces the « affections in the soul » with « thought (νόημα) in the soul » (passing from the plural to the singular), suggesting that thought is (present in the soul) sometimes without being either true or false, sometimes however being such that one of the two (truth or falsity) is attributed to it with necessity (cf. 2, 16a 9-11). In both cases, it is added at once, there must be something corresponding as a spoken sound. It is sufficiently clear, as the context shows, that Aristotle is keeping distinct single thoughts (or thoughts by themselves) and thoughts that are the result of a combination of the former, so as to constitute a whole (evidently a proposition or a judgment) which as such must be either true or false. To these combined thoughts there correspond (spoken or written) sentences and not just single words.

If one considers this passage in the light of what we find in chapter 14, which confirms that Aristotle has in mind not only single words (the Greek formula used there, 23a 32 and 35, as in chapter 1, is always τὰ ἐν τῇ φωνῇ without specifying that they are ὀνόματα, as in e.g. *Rhetorica* III 1, 1404a 20, where these are said to be μιμήματα) but whole

²¹ One reason for my disagreement with Sedley is that he also takes the reference to be very specific, namely to *De anima* II 8, 420b 27-33 (a passage already referred to above, when considering the distinction between voice and sound in animals): this contains no mention of or allusion at all to « affections in the soul ».

sentences, that are either affirmative or negative, we get that the « affections of the soul » must be taken as including opinions or judgments (δόξαι) which are themselves either affirmative or negative (there, 24b 1-2, Aristotle states that « spoken affirmations and negations are symbols of things in the soul », but from the whole chapter it is clear that these « things in the soul » are opinions; a confirmation is given by the passage on « spoken affirmations » quoted below.) Thus expressed language (spoken or written) is regarded as constituting a plane corresponding to the plane of thinking or believing, which itself is to be regarded as corresponding not just to single things but to states of affairs.

A distinction between the plane of thinking or believing and the plane of linguistic expression is to be found in a passage of *Categoriae* 5, where Aristotle is presenting the category of substance. After asserting that it is distinctive of substance to be able to receive contraries while remaining one and the same, he replies to the possible objection that the same can be said of discourse (λόγος) and of opinion (or judgment: δόξα), since the same discourse or the same opinion is able to receive contraries in the sense that it can be both true and false (of course at different times).²² The objection is stated as follows:

« for example, if the discourse that somebody is sitting is true, the same discourse will be false after he has got up. The same applies to opinion: if you believe truly that somebody is sitting, after he has got up you will believe falsely if you hold the same opinion about him » (*Categoriae* 5, 4a 24-28).

In his reply Aristotle points out a difference between the two cases. While substances are able to receive contraries because they themselves change, discourses and opinions change (in their truth-value) because something different from them has changed, namely what they are about:

« discourse and opinion themselves remain completely unchangeable in every way; it is because the actual thing (πρᾶγμα) changes that the contrary comes to belong to them. For the discourse that somebody is sitting remains the same; it is because the actual thing changes that it comes to be true at one time and false at another. Similarly in the case of opinion » (*Categoriae* 5, 4a 34 - 4b 1).

²² Λόγος is rendered as « statement » by both Ackrill and Apostle in their translations, and no doubt this is what Aristotle has in mind in this passage; but the sense of λόγος is more general and better rendered as « discourse ».

In what follows Aristotle makes it clear that it is not even proper to say that discourse and opinion are able to receive contraries:

« for it is not because they themselves receive anything that discourse and opinion are said to be able to receive contraries, but because of what has happened to something else. ... No discourse in fact or opinion is changed at all by anything. So, since nothing happens in them, they are not able to receive contraries » (*Categoriae* 5, 4b 6-8, 10-11).

Unlike modern logicians, in this passage Aristotle assumes that the statement remains one and the same when its truth-value has changed. It is also evident that he wants to point out that truth and falsity are not contrary properties of the same thing, namely a statement (or an opinion), in the way in which for instance sitting and standing up are contrary properties of the same man (hence of the same substance), yet he does not find a satisfactory way to mark the difference. But what interests us here is another point, namely that both statements and opinions are treated as bearers of truth and falsity. The parallel between statements and opinions from this point of view is quite clear, for it can be seen that in the passages quoted Aristotle either mentions both statements and opinions or declares that what applies to statements applies equally to opinions. It can be remarked that the same parallel is to be found in a passage of *Metaphysica* Θ 10, which also focusses on the possession of truth-value by statements and opinions. There Aristotle states that, concerning things which can be in opposite conditions,

« the same opinion and the same discourse becomes false and true, and at one time it may be true but at another time false. But as regards things which cannot be otherwise they <= the same opinion and the same discourse> do not become true at one time and false at another time, but the same <opinions and discourses> are always true and false » (*Metaphysica* Θ 10, 1051b 13-17).

What is not clear from either the passage of the *Categories* or that of the *Metaphysics* is whether opinions (or beliefs) and discourses (statements) are bearers of truth and falsity in the same way, or one of the two, either statement or opinion, is the bearer of truth and falsity in a primary way.

Concerning the terminology here used, I render δόξα as « opinion » rather than « belief », as does J. Ackrill in his translation of *De interpretatione*. Aristotle, it should be remarked, makes some distinction between opinion (δόξα) and belief or credence (πίστις), but he asserts,

in *De anima* III 3, 428a 20 ff., that opinion differs from imagination (φαντασία), though they can both be true or false, since it is attended by belief, « for it is not possible to hold opinions without having belief in what is opined »; « further, every opinion is accompanied by belief, and belief implies to have been persuaded, and persuasion implies discourse (λόγος) ». From this description one gathers that one cannot hold an opinion if one is not convinced of its truth. This tends to be confirmed by the fact that opinion is presented, in that same chapter, 427b 24-26, as one type of ὑπόληψις, the others being science and prudence, which clearly are all forms of admitting something as true. But, as we shall see, judgment is involved as well.

If, however, discourses are « symbols » (σύμβολα) of the affections in the soul and these affections coincide with opinions (or beliefs), it is plausible to admit that it is opinions that are the primary bearers of truth and falsity. This suggestion is confirmed in various ways by what we find elsewhere in Aristotle's writings. In *De interpretatione* 14 there is the assertion that « spoken sounds follow things in the mind (διάνοια) », hence that if opinions about contraries are contrary « the same must also hold of spoken affirmations » (23a 32-33 and 35). In *Nicomachean Ethics* III 4, it is stated that preferential choice (προαίρεσις) cannot coincide with opinion, since the latter is distinguished by being either true or false, not by being either good or bad (1111b 31-34 and 1112b 5-7). This of course is negative evidence: discourse is not mentioned at all in this connection. Further, in his treatment of truth and falsity in *Metaphysica* E 4, Aristotle asserts that they are not in the (objective) things (ἐν τοῖς πράγμασι) but in the mind (ἐν διανοίᾳ) (1027b 25-28), but « things in the mind » are opinions or beliefs, not spoken statements. This fact seems to have something to do with combination (σύνθεσις) and division (διαίρεσις), which clearly are intellectual operations (supposed to underlie affirmation and negation). In *Metaphysica* Θ, at the beginning of chapter 10, it is likewise suggested that he is in the truth who thinks (οἰόμενος) that what is divided (in reality) is divided and that what is combined (in reality) is combined, while the opposite condition is a condition of falsity.

For a confirmation of this supposition, one has to go beyond the passages in which Aristotle mentions opinion (δόξα) as what underlies discourse. Opinion in such passages must be taken in the broad sense of judgment, which is the result of the capacity of judging or discriminating

(in Greek κρίνειν). But in various contexts opinion is opposed to science (ἐπιστήμη) and this can be a source of confusion. Of our capacity of judging Aristotle says something in *De anima* III 3, and here it is clear that this involves either being right or being wrong, which is equivalent to being in the truth and being in falsity (427b 8 ff. and 428a 3-4). The dispositions or capacities to make a judgment are explicitly said to be sensation, opinion, science and intellection (428a 4-5). I leave out sensation and intellection, which can be non-propositional and under certain conditions are never wrong. What has to be remarked is that in the same chapter judgment as the result of the capacity of judging is called by the Greek term ὑπόληψις, which involves the idea of taking something as true, hence of having a certain conviction, making a certain supposition or assumption. Of judgment thus understood it is asserted that it presents various forms (literally: there are various differences of it), namely science and opinion and prudence, and in addition their opposites (427b 24-26). Ὑπόληψις is sometimes taken as equivalent to δόξα and kept distinct from science, which is a disposition excluding error (so in *Ethica nicomachea* VI 3, 1139b 15-19), but science itself is presented without ado as an ὑπόληψις, namely one concerning what is universal and necessary (so there, 1140b 31-32). Clearly, this is so because science is a disposition to judge (it is said to be a disposition by which the soul is in the truth in affirming or denying, cf. 1139b 15-16), in addition to being a disposition to make demonstrations. Thus also in the field of science it is judgment which is to be taken as the bearer of truth and falsity.

The same conclusion can be extended to the sphere of prudence (φρόνησις). Aristotle treats prudence as a disposition to have a right or true judgment with regard to action. In this sphere, he claims, it is possible that the feelings of pleasure and pain corrupt and pervert our judgment (ὑπόληψις) and the disposition which preserves us from this perversion is precisely the virtue of prudence (cf. *Ethica nicomachea* VI 5, 1140b 11 ff.). In this connection, Aristotle is willing to talk of a practical truth which is realized when true judgment is accompanied by right appetite (cf. there VI 2, 1139a 29-31). In this context he also talks of thought (διάνοια) as being at the origin of action. Thus clearly it is judgment which is always taken as the bearer of truth and falsity.

It should be remarked that in *Metaphysica* E 4 Aristotle also talks of affirmations (καταφάσεις) and denials (ἀποφάσεις) as being true and false, and this happens elsewhere too (e.g. in the treatment of the principle

of non-contradiction in *Metaphysica* Γ, 4, 1007b 30 ff., 1008a 10 ff., 1008a 34 ff.); but I think this is not in contrast with the suggestion made in the same chapter that truth and falsity belong to the mind (hence to thought), for in the case of affirmations and denials he does not keep distinct affirmative and negative *judgments* from affirmative and negative *propositions*. The Greek terms actually used e.g. in 1008a 34 ff., namely φάσις, often taken as equivalent to the successive κατάφασις (= affirmation), and ἀπόφασις (= denial), come from the verb φημί, which in its current usage not only means « to say » (or « I say ») but also to believe, to be convinced.²³ Affirmation (κατάφασις) is typically regarded as a « saying yes », in the sense of giving one's approval, of being convinced, of agreeing. Aristotle himself, in *Nicomachean Ethics* VI 9 (10), 1142b 13-14, in drawing a distinction between deliberation (βουλή) and opinion (δόξα), states that the latter is not an inquiry (ζήτησις) but already an assertion (φάσις τις). He clearly intends to suggest thereby that opinion is an accomplished judgment, or a saying yes which however needs not be expressed. This is connected with the admission (in the context) that opinion involves the claim to be true. No doubt affirmation and denial are discourses as well (they are expressly presented as affirmative or negative λόγοι, that is sentences, in *Categoriae* 10, 12b 7-9), but are not such in an exclusive way.

A passage which is indicative of Aristotle's attitude on this matter is the following:

« again, thought (ἡ διάνοια) either affirms (κατάφησιν) or denies (ἀπόφησιν) every object of thought or intelligible object, and this is clear from the definition when thought thinks truly or falsely. When it connects in one way by asserting or denying, it thinks truly, when in the other way, it thinks falsely » (*Metaphysica* Γ 7, 1012a 2-5, translation Apostle 1966).

One can see that in this passage it is directly thought (or the intellect) which is said to affirm or deny, again by associating this fact with the (intellectual) operations of combining and separating; in this way affirmation and denial are not regarded as belonging to the plane of mere discourse.

²³ Cf. Fournier 1946, 13, who observes that « le mot exprime avant tout le jugement convaincu, la notion d'énonciation est facultative »; further Schmidt 1976, 56, where he states that the verb (in the infinitive) means « offenbaren, in Worten kund geben, mit dem Nebenbegriffe: wie man selbst es für gut oder zuträglich hält » or « etwas nach seinem Urteile sagen ».

It can be added that Aristotle, in a couple of passages (cf. *De anima* III 7, 431a 8-10, and *Ethica nicomachea* VI 2, 1139a 21-22), suggests that affirmation and denial are for the mind (or the intellect: διάνοια) what pursuit and avoidance are for the appetite (ὄρεξις). Appetite, as is clear from the *De anima* passage, is regarded as pursuing what is pleasant and as avoiding what is unpleasant or painful. Similarly, it must be supposed, affirmation is to take something as true and denial is to take something as not true or as false. This is in fact implied by what is said in the context of the passage of the *Nicomachean Ethics*, where the general topic is the various ways in which we are related to truth, and being in the truth is presented as a good condition of the intellect while falsity is presented as its bad condition (VI 1, 1139a 27-29). What is stated in these passages appears to imply that underlying affirmation and denial as discourses are affirmation and denial as judgments, which are the result of certain intellectual operations: to take something as true is to approve it, is a sort of « saying yes » which is purely mental, while to take something as false is to reject it, is a sort of « saying no » which also is purely mental.

This is an approach which, it would seem, commits Aristotle to assuming that negation as the negative particle should be regarded as denying the whole statement and not simply as excluding that the predicate is related to a certain subject, that is to say, he adopts a conception of negation not as internal, but external (like in post-Fregean contemporary logic): negation governs the whole proposition. As we shall see, this is not how Aristotle himself presents negation, when he deals with it in a rather explicit way, and most scholars are convinced that he resorts exclusively to internal negation. There are various passages, e.g. in the last chapters of *De interpretatione*, where the negative particle precedes the whole statement (cf. e.g. 10, 19b 38-39; 12, 21b 5-8). This however can be taken as a matter of linguistic use, which need not show that there is some willingness to treat the negation as external to the proposition. More indicative is the fact that in *Prior Analytics* I 46, there is a passage which is dedicated to the topic of negation, where it is pointed out that « x is not-white » cannot be taken as equivalent to « is not x (is) white ». In this context it is suggested that the former statement can be expounded into « it is true to say that x is not-white », for « it is true » can replace « it is » (since it belongs to the same order). The above equivalence is excluded because the negation of « it is true to say that x is white » is not « it is true to say that x is not-white » but is « it is not true to say x

is white » (52a 24-35) Clearly, on this account, the negative construct is taken in such a way that the negation controls the whole statement, since it serves to deny the truth of the corresponding positive statement (another passage along the same lines is *Metaphysica* Δ 7, 1017a 31 ff., where a construct like « is not (the diagonal is commensurable) » is also taken as implying the falsity of the assertion that the diagonal is commensurable.

It must be admitted, however, that this is not the account that Aristotle offers when he appears to give some attention to the role of negation in propositions. In *Metaphysica* E 4, in dealing with truth and falsity as found in affirmations and (corresponding) denials, he claims that, in the case of truth, affirmation concerns objects which are combined and denial objects which are divided, while in the case of falsity affirmation concerns objects which are divided and denial objects which are combined. (1027b 20-23) This same view is reformulated in *Metaphysica* Θ 10, where it is suggested that, in the case of objects (πράγματα), truth and falsity depend on their being combined or divided, while in the case of thought (i.e. of propositions) truth consists in thinking that what is divided is divided and that what is combined is combined, falsity in doing the contrary (cf. *Metaphysica* Θ 10, 1051b 2-5 already referred to above). Here Aristotle does not explicitly say that affirmation and negation are involved, but the situation envisaged is manifestly the same as that of the other passage. In what follows he does allude to affirmation (in 1051b 24) and he offers as an example of being in the truth the fact that we think « you are white » when in fact you are white. From this we gather that an affirmation is true since it puts together subject and predicate in correspondence to the objective combination of the terms designated, while a negation is true when it divides or separates subject and predicate in correspondence to the objective division or separation of the terms designated.

Aristotle alludes to this account of affirmation and denial also elsewhere. One relevant passage is to be found at the beginning of *De anima* III 6, but the passage is a bit confusing because, after asserting in general that truth and falsehood involve a compounding (σύνθεσις) of thoughts, he illustrates this in the case of falsity: in saying that what is white is not white (presumably a shorthand for « x is not white » when in fact x is white) one has brought « not white » into a combination, but then he adds that « it is possible that all (these cases) enunciate division (διαίρεσις) ». One would expect that division be associated to negation as opposed to affirmation which involves combination. But there is the

complication that in a denial some relationship is established between the terms which are divided by the negative particle, though it is confusing to treat this as a compounding (σύνθεσις) in the same way as in the case of affirmation. Another allusion is to be found in *Metaphysica* Γ 7, 1012a 2-5, where however only combination (σύνθεσις) is mentioned: of the intellect (διάνοια) it is said that it either affirms or denies, and when, in affirming and denying, it combines in a certain way, it is in the truth, when it combines in another way, it is in the condition of falsity. A further allusion is to be found in *De interpretatione* 1, where it is asserted that « falsity and truth concern combination (σύνθεσις) and division (διαίρεσις) » (16a 12-13), presumably associating combination with affirmation and division with denial. Very likely the beginning of chapter 6 is related to this passage, for there it is said that « affirmation is the declaration (ἀποφανσις) of something about something (τινὸς κατὰ τινός), denial is the declaration of something away from something (τινὸς ἀπὸ τινός) » (17a 25-26): the particle ἀπὸ, rendered as « away », is probably to be taken to indicate separation or division, the suggestion being that affirmation involves combination and denial separation or division.

One can see that there is no great clarity in this treatment of affirmation and denial. One difficulty has been already pointed out in commenting on the passage of *De anima* III 6: denial cannot just be said to introduce a separation or division between two terms, for it must still constitute an assertion which presents some unity, hence must also introduce some positive relationship between the two terms. Anyhow, it remains conceivable that by some peculiar intellectual operation one can obtain this double result. But what is it that in reality should correspond to a negative proposition having this double function? For instance, what should correspond to the assertion that « a man is not white? ». If one takes the assertion as a whole, i.e. assumes that the negative particle is external (« not (a man is white) »), one can perhaps admit that what corresponds to it is a negative state of affairs (or the negation of its subsistence). But if one adopts the view that the negative particle has the function of dividing or separating the predicate from the subject, i.e. of excluding that the property white has some positive connection with a (given) man, there is nothing that can properly correspond to the denial.²⁴ Another

²⁴ Admitting (as I think one has to do) that the denial does not *state* that the property white and the substance man are separated, for this would be an affirmation and not a

reason for regarding this account as not satisfactory is that Aristotle, rather clearly, admits some asymmetry between the term which functions as the subject and the term which functions as the predicate of a proposition, the subject being typically represented by an individual substance and the predicate by a universal. Considerations such as these have had the effect that Aristotle's account of affirmation and denial, though quite influential in the history of logic, was also criticized and abandoned starting at least with Leibniz and his *Nouveaux essais sur l'entendement humain* IV, 5, 1.

Anyhow, apart from the questionable aspect of this account, it is sufficiently clear that Aristotle is convinced that propositions (whether positive or negative) are obtained by some intellectual operation which is at least in part an operation of combination. The idea that a proposition is obtained by putting together some terms which originally possess some independence is to be found not only in the passage examined above, but also in chapters 2 and 4 of the *Categoriae*. And that this putting together is the result of an operation of our intellect is suggested in more than one passage (e.g. in *De anima* III 4 and *Metaphysica* E 4). This operation no doubt is different from the operation envisaged in those passages (quoted above) where it is said that affirmation and denial are for the intellect what pursuit and avoidance are for the appetite, for, as we have seen, this implies that affirmation and denial are taken as wholes and not as resulting from some combination of certain terms (how these intellectual operations are related to one another is a matter that Aristotle fails to clarify). But given that this is his position, the question arises: what are the terms which are combined to obtain a proposition?

In various passages Aristotle gives a reply to this question, for he talks of single thoughts or notions (*νοήματα*) which are combined to obtain the whole underlying a spoken sentence. This happens in *De interpretatione* 1, where he talks of thoughts in the soul which are neither true nor false (16a 9-10) and are without combination and separation, their being neither true nor false being presented as a consequence of this (16a 14-16). Of these thoughts or notions which can stand alone but are susceptible of being combined he talks equally in *De anima* III 6, in the

denial, but *assumes* that they are separated; but there is an infinity of things which are separated from the substance man, so that this cannot constitute a definite state of affairs (not even a negative one).

initial passage where, as we have seen, there is talk of combination (σύνθεσις) and possibly of division (διαίρεσις) to explain how there can be truth and falsity, but the combination is explicitly said to be of thoughts or notions (νοήματα) (430a 28). He mentions these thoughts or notions also towards the end of chapter 8, where he talks of affirmation (φᾶσις = κατάφασις, one has to presume)²⁵ and denial (ἀπόφασις) and says that truth and falsity involve a combination (συμπλοκή) of thoughts or notions (*De anima* III 8, 432a 10-12).

From the passage of *De interpretatione* 1 it is clear, as we have seen above, that these single thoughts (in the same way as thoughts resulting from combination) can be expressed in spoken sounds (here single words). And we can find there the observation that these spoken words are names (ὀνόματα) and verbs (ῥήματα) and that these, by themselves, « are like the thoughts that are without combination and separation » (16a 13-14). Words said without any combination are exemplified in both chapter 2 and 4 of the *Categories*: « man », « ox », « white », « runs », « wins ». In *De interpretatione* 5 there is the following assertion:

« let us call a noun or a verb simply an expression (φᾶσις), since it is not possible <by it> to speak (εἰπεῖν), revealing something by one's utterance in such a way as to be making a statement, whether one is answering a question or speaking spontaneously » (*De interpretatione* 5, 17a 17-20).

The sense of this assertion must be that nouns and verbs do reveal something, but not in such a way as to obtain a full saying, represented by making a statement. It is possible that in this passage Aristotle recalls in some way what Plato says in *Sophista*, 268D (quoted below) where the naming of single words is kept distinct from the saying (λέγειν) of an assertion.

Going on with this survey: at the beginning of *De interpretatione* 4 Aristotle had said that

« a sentence (λόγος) is a significant spoken sound some part of which is significant in separation – as an expression (ὡς φᾶσις), not as an affirmation (ὡς κατάφασις) » (*De interpretatione* 4, 16b 27-28).

In *Metaphysica* Θ 10, 1051b 25, expression (φᾶσις) and affirmation (κατάφασις) are kept distinct and the former is made to correspond to or somehow coincide with coming into contact with (θιγεῖν) and declaring (φᾶναι) something simple.

²⁵ Idem in *De interpretatione* 12, 21b 21-22, etc. (= Bonitz 1870, 813a 17-23).

On the whole from these passages one gets the impression that, in this connection, Aristotle adopts the same distinction of planes which he has adopted in the case of opinions (or judgments) and whole sentences: single words, distinguished in names and verbs, are the spoken (or written) expression of single thoughts or notions. In both cases what is manifested linguistically is not immediately the things one talks about, but there must be something underlying (i.e. single thoughts or whole judgments), which is given expression through spoken (or written) sounds, which are either single words or whole sentences.

According to Aristotle, the single name, just as the single underlying thought, is neither true nor false, and cannot be either true or false because it is not yet stated, by means of « is » and « is not », that what the name means does or does not exist. This at least is how one can interpret what he states in *De interpretatione* 1, 16a 15 ff., where the lack of the addition of « to be » or « not to be » is said to imply the fact that e.g. « goat-stag » is neither true nor false; in 2, 16b 2-5, where the name (or noun) is said to be either true or false when accompanied by « is » or « was » or « will be »; in 3, 16b 19-22, where of the verb it is said that by itself it does not signify that something is or is not – though here there is no explicit reference to truth and falsity; similarly in 4, 16b 28-30, where « man », clearly taken as an example of a noun, is said to mean something, but not whether (this something) is or is not (what Aristotle states in these passages follows to some extent what Plato asserts about names and verbs in *Sophista*, 262B-C, namely that these by themselves do not indicate both either action or inaction and being or not being).

This way of presenting single names and single thoughts excludes the possibility that in these passages Aristotle has in mind the intuition of the simples which he illustrates in *Metaphysica* Θ 10, 1051b 18 ff. The fact that in this chapter he initially presents truth and falsity as depending on the combination and distinction of two terms, which would have to coincide with those single names and single thoughts, and then considers how there can be truth and falsity concerning simples, has induced some interpreters to believe that the single names and single thoughts he introduces in the *De interpretatione* have as their object those simple terms. (An interpretation along these lines seems to be favoured by Thomas Aquinas in the introduction to his commentary on the *Peri hermeneias*. He distinguishes three operations, in this order: grasping of the (simple)

essence of something, compounding and separating (thoughts), making inferences).²⁶ In the passage of the *Metaphysics* however Aristotle does not state that there is neither truth nor falsity about the simples since it is not stated whether they are or are not, but rather excludes the alternative between truth and falsity in the way it applies to whole statements or to whole opinions: there is a form of truth which consists in coming into contact with those simples, while the negation of this condition is not falsity but lack of contact or ignorance. The existence of those simples is not in question. Further, it is not likely that what nouns and verbs normally signify are those simples, which must be purely formal entities, because they are about substantial empirical entities. On the other hand, there must be some relationship between the intuition of the simples – which must be at the basis of giving a (real) definition, since these forms must also be essences (as Aquinas assumed) – and the availability of single names and single thoughts, but this is not clarified by Aristotle (that definition of the essence is involved is implied not in the *Metaphysics* passage but in *De anima* III 6, 430b 26-29, where the intellect is said to grasp the essence (τὸ τί ἐστὶ) according to the quiddity (τὸ τί ἦν εἶναι) of the thing, to the exclusion of the predicative relationship between two terms).

The problem with this account is the idea that we normally have in mind just single thoughts or notions and that, correspondingly, we normally utter single words like those mentioned in the quoted passages of the *Categoriae*. Usually one utters single words as a sort of shorthand for whole sentences: when one uses « runs » or « wins » one has in mind somebody who runs or wins; when one uses « man » or « ox » one will mean: « this is a man », « this is an ox ». One says « fire! » in calling attention to the fact that something (a house, etc.) is on fire. One says « yes » or « no » instead of repeating what one is asked about, i.e. the whole proposition. In the case of thoughts Aristotle, at the beginning of *De anima* III 6, when stating that they get combined in judgments, recalls the Empedoclean tale of the origin of organisms by the joining together of limbs, as *disiecta membra*, not noting how unlikely this tale is. As already said, Aristotle must draw some connection between the view that we possess single thoughts and his theory of noetic thinking, but the

²⁶ It is clear that this interpretation is related to the traditional presentation of Aristotle's logical works, on which more below, under VI.

artificiality of his account tends to give rise to doubts about that very theory (I leave out here a closer discussion of this matter).

On the whole (as we shall see more fully in part IV) it appears that there is a substantial coincidence between Plato's account in the *Sophist* and Aristotle's account in the *De interpretatione*. Both thinkers admit a distinction of three levels: (I) conceiving terms (names or words, including verbs) or single thoughts or notions in their isolation; (II) by means of our intellectual capacity combining those terms or single thoughts so as to obtain judgments, which are presented as beliefs or opinions that can be either true or false and affirmative or negative; (III) giving vocal expression to those judgments so as to communicate to other persons our thoughts about things. It is of some interest to notice that Frege 1919 too, in this connection, admits a distinction of three levels, but with some significant differences, apart from the fact that his « thoughts » do not belong to the sphere of the mental. They are as follows: (I) grasping the thought – thinking (*das Fassen des Gedankens – das Denken*); (II) recognizing of the truth of the thought – judging; (III) communicating the thought – asserting (*das Behaupten*). One significant difference concerns (I), for according to Frege it is always a matter of grasping or conceiving a whole thought, hence a whole proposition, and not just single terms or single notions. It is implicitly recognized that there is a certain artificiality in considering level (I) as do Plato and Aristotle. Another point of difference is that for Frege the recognition of the truth of the thought (or of an assertion) is the result of a distinct operation,²⁷ while for Plato and Aristotle adopting a certain thought already implies that the thought is regarded as true.

3. The Conventionality of Language

An important difference between the sphere of language and the underlying sphere of thought is that spoken (and written) language consists of vocal expressions that are adopted by convention and are « symbols » of thoughts which cannot be conventional because, unlike those expressions, they are identical for everybody (this is suggested in the first section of *De interpretatione* 1, while the idea of convention is introduced in chapter 2). Presumably Aristotle has in mind the fact that different peoples use different languages, though it is not a fact to which he normally draws

²⁷ In some works Frege propounds a distinct « assertion sign » (*Behauptungszeichen*).

attention (as we have seen, he only mentions it in just one passage, *Historia animalium* IV 9, 536b 19-20); but it is a well-known fact, to which for instance Plato makes more than one allusion at the beginning of the *Cratylus*. As for convention, in *De interpretatione* 2 Aristotle remarks that one says that names are « by convention » « because no name is a name naturally, but only when it has become a symbol. Even inarticulate noises (of beasts, for instance) do indeed reveal something, yet none of them is a name » (16a 26-29). Symbols are signs (σημεῖα) as well, as is clear from 1, 16a 6, but, being conventional, they are just one type of signs, since some signs can be natural (smoke is a sign of fire, and clearly is a natural sign).

I should like to point out here that I reject Kretzmann 1974's view, who maintains that « sign » is constantly opposed to « symbol » as something natural, in the sense of « symptom ». I quote the summary from his 1967 entry on the history of semantics:

« the spoken words are ... related to the mental modifications, first of all as *symptoms*, or natural signs (σημεῖα), of them – that is, of the presence of mental modifications in the speaker. More important, the spoken words are related to the mental modifications in the same way that written words are related to spoken words, as *symbols* of them » (Kretzmann 1967, 362).

On this interpretation the distinction between what is primary and what is secondary, introduced in the passage of *De interpretatione* 1 quoted above, concerns not the affections of the soul (or mental modifications) versus things but signs versus symbols, signs belonging to the level of voice that is common to man and animals and symbols belonging to the level of speech that is restricted to man. The relationship between affections of the soul and things is only touched upon incidentally in the passage. However it would seem that Aristotle emphasizes the opposition between things that are the same for everybody (with the consequence that also the affections of the soul, being their likenesses, are the same for everybody) and words (either written or spoken) which are not the same for everybody. Further, it is too restrictive to take « sign » as equivalent to « symptom » and in 3, 16b 6-7 and 10-11, the verb (ῥῆμα) is said to be a σημεῖον, and clearly cannot be a natural sign (cf. also 16b 22-23).²⁸

However, to say that words (as articulate signs) are symbols is not only to remark that they are artificial signs, but also to make it evident that,

²⁸ Kretzmann's suggestion is also criticized by Magee 1989, 36-45.

in addition to referring to something else, they in some way take its place, stand in its stead. This conception comes out clearly in *Sophistici elenchi* 1, where it is said that words are used in place of things (πράγματα), as their « symbols », like a sort of counters (165a 6 ff.). It would appear that here words are taken to stand directly for things and not for (understood) thoughts in the soul, for it would be odd to suppose that in reality they are used in place of those thoughts ; hence, from this point of view, this passage differs from *De interpretatione* 1. It should be remembered, however, that in 16a 6, it is said of words that they are primarily (πρώτως) signs of thoughts, which must imply that they also are signs of things (in fact it is only on the traditional interpretation that the two texts can be reconciled). This way of presenting words is in conformity with the etymology of the Greek σύμβολον (this is typically one half of a coin or a medal which was intentionally broken to serve as a sign of recognition; it can so serve if the two halves are wholly congruent, are a perfect match, which implies that each part is interchangeable with the other).

In chapter 1 of *De sensu et sensibilibus* (a little treatise belonging to the collection named *Parva naturalia*) Aristotle discusses the utility the various senses have for us and claims that among them the sense of hearing contributes most to our instruction (μάθησις), « for discourse (λόγος) is a source of instruction by reason of being heard, not however in itself but *per accidens*; for it is composed of words (ὀνόματα), and each word is a symbol » (437a 12-15). Here, as in the *Sophistici elenchi*, words or names are presented as « symbols » because they are supposed to stand directly for things (πράγματα), since in the context of the passage it had been said that the senses « inform us of many differences » (437a 2), and these must be differences between things (at the beginning of the *Metaphysics* the priority of sight is asserted, because « it renders manifest many differences », and in the case of sight these differences can only be between things). It would seem that we use words or names as symbols of things, hence as their substitute, because we are not in the condition imagined by Swift in his *Gulliver's Travels* (when he talks of the « scheme for entirely abolishing all words whatsoever » elaborated by some professors of Laputa), of carrying the things themselves in order to communicate with each other, « since words are only names for things ».²⁹

²⁹ While for Swift the main obstacle to the implementation of the scheme is the threat of a rebellion by « women in conjunction with the vulgar and illiterate » for being prevented

From the point of view now adopted of signifying things, there is no important difference between names in the sense of nouns (*ὀνόματα*) and verbs (*ῥήματα*), for, being signs or symbols of things, they are all just names. This is something that Aristotle explicitly recognized in *De interpretatione* 3, when talking of the verb, for he remarks that « when uttered just by itself a verb is a name and signifies something » (16b 19-20). In the same chapter however he also asserts that a verb « is a sign of things said of something else » (16b 7), hence admits that there is some asymmetry between the two main parts of the proposition, and he also remarks that « in addition it signifies time » (16b 6). He does not attempt to show how the two views can be reconciled.

While spoken (or written) words are different from people to people, hence conventional, both the affections of the soul and actual things (*πράγματα*) are said to be the same for all (*De interpretatione* 1, 16a 6-8). The formulation used in Greek: « actual things already (*ἤδη*) are the same », suggests that it is because actual things are the same that affections of the soul are the same too, i.e. they are so as a consequence.³⁰ The assumption must be that things designated by words are identified and classified in the same way by all peoples: a man is a man for Greeks and barbarians (Persians etc.), an ox is an ox for all of them, and so forth. Presumably Aristotle is willing to extend this identity to abstract ideas, including the ideas of what is good, what is right, etc. As a consequence of this sameness of things for everybody, the thoughts we have of them are the same for all as well. This much seems to be clear enough, given the coincidence between thoughts (*νοήματα*) and affections in the soul. What is not equally clear is how the « affections in the soul », thus

in their « liberty to speak with their tongues », the matter is taken more seriously by Chiesa 1991, 212-214, who thinks that Aristotle excluded it because the objects carried around would constitute too small a selection of what can be talked about. Similarly Whitaker 1996, 11, supposes that the scheme was excluded by Aristotle because it is more convenient to use words as tokens for things than having to carry the things themselves.

³⁰ For the meaning of *ἤδη* cf. Kühner & Gerth 1904, 120, where it is asserted that it corresponds to the Latin *iam* and that, in the first place, it is « von dem gebraucht, was schon, bereits geschieht oder geschah, ehe es erwartet wurde oder ehe etwas anderes geschah ». What in Liddell & Scott is presented as sense 4 of the term and said to express « logical proximity » seems rather to correspond to what is there introduced in the second place: « von dem (gebraucht), was sofort, sogleich geschieht », which is illustrated by Plato, *Gorgias*, 486E: « when we concur in what I believe, then that is *already* <= immediately> the very truth »; cf. also *De interpretatione* 9, 19a 39. The Latin *iam*, as the English « already », is in fact ambiguous.

conceived, can be called « likenesses » (ὁμοιώματα) of actual things in 16a 7. One conjecture can be advanced: since Aristotle often insists (in *De anima* III 7-8, especially 431a 16-17, cf. also *De memoria* 1, 449b 30 ff.) that thoughts are constantly accompanied by images, when talking about « affections in the soul », he does not make a distinction between thoughts and images and extends to thoughts what he believes is true of images.³¹ Images are said to be representations of things and to be present to the thinking soul (διανοητικὴ ψυχὴ) in the same way as things perceived by the senses, however being present to it in the absence of things actually perceived, since they persist and are kept in the mind by memory. Aristotle would then seem to think that, since in most cases when we communicate with other people, we do not have the things we talk about under our sight or some other sense, images too, in some way, have to replace the things which our discourses are about (it is indeed questionable whether, when thinking of men, oxen, and so forth, we always have their image in mind and whether these images are the same for all men. And it is even more questionable whether we have images in mind when thinking of abstract objects).³²

If one tries to extend these views to the case of opinions or judgments and whole propositions, it becomes rather problematic to say in which way « affections in the soul » are a reflection of something which is true of objects. As we have seen, Aristotle indeed claims that when opinions reflect a condition of combination or unification in the object or a condition of division, they are true, hence he admits some correspondence between these two planes; but of course the same cannot apply when opinions are false. And in any case the point of similarity is rather formal.

³¹ It should be remarked that some ancient commentators tended to treat thoughts without ado as images. So does Ammonius in his commentary, who claims that thoughts are truly such « when they are, so to speak, in harmony with the things themselves; for they are images (εἰκόνας) in the soul of things » (18.29-30; translation Blank 1996). However in the *De anima* images are called φαντάσματα, not εἰκόνας, and they are said to accompany thoughts.

³² Whitaker 1996, 14-15 advances the suggestion that the reference to a work on the soul in *De interpretatione* 1, 16a 8-9 is to *De anima* III 4, where the thought exercised by the intellect is said to operate analogously to sense-perception, which according to II 5, 418a 3 ff., becomes like its object. Yet this very parallel implies that thought here is taken to be non-propositional, which is a first restriction. A further restriction lies in the fact that the intellect is supposed to grasp pure forms, thus forms of things without their matter, which excludes (as pointed out above, in II, with reference to Aquinas' position) its having to do with all the objects language is about.

Further, there are some passages in Aristotle's work where assertions are made suggesting that the predicative relationship is established between items belonging to reality, not just to thought or to thought and language – for instance in *Analytica priora* I 27, 43a 25 ff., these items are presented as entities (ὄντα). But here again, since these items are on one side individuals, especially individual substances, on the other side universals, and the latter are predicated of the former, there is an asymmetry which, on the plane of thought and of language, excludes that the corresponding terms can stand by themselves in the same way, i.e. wholly independently of each other.

4. Aristotle and Plato

In his treatment of language and thought Aristotle is not wholly innovating, since it is easy to remark certain points of contact with what we find in Plato's *Sophist*. In this dialogue, Plato mostly talks about the possibility of falsity, which is the main topic of discussion, but recognizes that the possibility of truth is involved as well (*Sophista*, 263B and 263D). He establishes that both opinion (δόξα) and discourse (λόγος) can be false (260C 2, 260E 1-2, 261B 1-2, 261C 6, 264B 5, 264D 4-5), sometimes with the addition of imagination (φαντασία) (260E 4, 263B 6). It is also said that the false is produced in both thought (διανοία) and discourses (260C 4), but thought is also mentioned along with opinion and imagination (263D 6). However, Plato makes an explicit distinction between opinion (δόξα) and imagination (φαντασία) and says that the former « comes to be in soul according to thought in silence » while the latter is an affection that is present to someone not in itself but through sensation (264A). Presumably he intends to treat imagination as an extension of sensation, because it consists in keeping images or representations of things first cognized by sensation, but, on this ground, he keeps it distinct from δόξα, which he regards as more intellectual and in any case as the result of an act of judging. Thus he appears to be willing to treat such images or representations as bearers of truth and falsity in addition to opinions and discourses. In any case he avoids the oversimplification of which Aristotle is responsible in asserting that all thought is accompanied by images.

As for thought (διανοία), to which opinion is in some way assimilated, Plato claims it is the same as discourse, except that thought consists in a

dialogue without sound of the soul with itself which takes place inside the soul. On the other hand, when a stream comes from it (presumably the soul) and passes through the mouth, what it expresses is to be called discourse or speech (λόγος) (cf. *Sophista*, 263E with *Theaetetus*, 206C-D quoted below). Substantially the same account of the relationship between the two is given in *Theaetetus*, 189E-190A, where it is said that opinion (δόξα) is a discourse that is pronounced, yet not aloud to someone else, but silently to oneself. Dialogue is said to involve both asking questions with giving answers and affirming with denying – affirming and denying alone are mentioned in *Sophista*, 263E 12, as well. Plato in this way makes it clear that thought or opinion is manifested to others – since it must constitute a dialogue *with sound* – through its vocal expression, which turns out to be something secondary or consequential with respect to thought or opinion, and that this is another sense of discourse (λόγος). He comes back to this suggestion in the *Theaetetus*, where discourse or speech is said to be

« that which makes one's own thought manifest through sound (φωνή) with verbs and nouns, just as if it were into a mirror or water one was impressing one's opinion into the stream through one's mouth » (*Theaetetus*, 206C-D).

A little later, in 208C 4-5, it is added that discourse was considered as « the image, as it were, of thought (διανοία) in sound ». Clearly, here discourse is always vocally expressed discourse, but taken as a reflection of that thought or opinion which is so similar to it that one can call it « discourse » as well. Finally, in *Philebus*, 38B-E, Plato gives an illustration of how one comes to a judgment (the verb κρίνειν is used) about some object that is seen, and of the person who reaches this judgment it is said that

« if he were in company, he might actually say out aloud to his companion what he had told himself, and so what we earlier called opinion (δόξα) would turn into a discourse (λόγος) » (*Philebus*, 38E).

Given this coincidence between silent or internal discourse and vocally expressed discourse, in a part of his exposition in the *Sophist* Plato talks simply of discourse. The fact that he connects discourse with dialogue, having that articulation, makes it clear he has in mind whole sentences or statements, not just single words. This point is made explicit in *Sophista*, 262D, where it is declared that discourse does not just name (ὀνομάζειν), as do names, but speaks (λέγειν), i.e. says or states something. It can be

added that in this dialogue Plato tacitly abandons the view he had expressed in the *Cratylus* according to which names or words, being parts of discourse, must themselves be either true or false (385B-C): only a whole discourse, as Aristotle will make explicit, is either true or false. And of discourse thus understood it is said that it is the result of a conjunction or combination of a name (ὄνομα) and a verb (ῥῆμα), for the simple mention, in succession, of names by themselves or verbs by themselves cannot produce a discourse (cf. *Sophista*, 261D ff.). In this way, given the general opposition between naming and speaking, it is suggested that also verbs name and that, since discourse is regarded as the result of an intentional operation of conjunction, words or names can also be taken by themselves.

On this matter it appears that there is an almost complete coincidence between the account propounded by Plato and that adopted by Aristotle in the *De interpretatione*. However, as far as Plato's position in the *Cratylus* is concerned, one gets the impression that, when Aristotle states, in 4, 17a 1-2, that « every discourse is significant, not as a tool (ὡς ὄργανον) but, as we said, by convention », he is making a polemical aside against that position. For in *Cratylus*, 388A-C, the name (ὄνομα) is explicitly compared to tools like the shuttle or a drill, the shuttle being useful for dividing warp and woof, while the name is a tool for giving instruction (διδασκαλικόν), in that it divides being (οὐσία). It is rather likely that the exclusion, in *De interpretatione* 4, that the name is a tool is to be connected with the exclusion, in 2, 16a 26-28, that the name, being conventional (and being a « symbol »), can be a name by nature. Aristotle must have in mind the central part of Plato's dialogue, where one can find an ample list of etymologies which are in part of an onomatopoeic sort, as if the sounds used to make a name should be chosen so as to imitate (through the sound) the thing designated.³³ Whatever one thinks of the seriousness of this part of the dialogue, what had been said in the *Cratylus* passage of the name as a tool need not be taken to justify

³³ It would have to be specified that, as remarked by Baxter 1992, 62-65, they are onomatopoeic according to secondary onomatopoeia and not to primary onomatopoeia, as distinguished by Ullmann 1962, 82 ff. Primary onomatopoeia is exemplified by the word *cuckoo*, which appears more or less the same in many languages, while secondary onomatopoeia takes certain vocal sounds as having a certain symbolic meaning, e.g. the vowel « I » is taken as an expression of smallness. The former is apparently rejected in *Cratylus*, 423B-C.

this imitative conception of names.³⁴ But the two thinkers seem to agree in being both convinced that names must be assigned to things in such a way as to serve to offer a map of reality. It is significant that Aristotle, when dealing with issues of classification, discusses the question whether one name or more than one is appropriate (cf. e.g. *De partibus animalium* I 4, 640a 12 ff.), and points out some cases where the appropriate name is missing (cf. e.g. *De anima* II 7, beginning and 419a 4; *Historia animalium* VIII (IX) 40, 623b 5). It is also to be pointed out that Aristotle, albeit dismissive of onomatopoeic etymologies, does not despise etymologies as such, and that the etymologies found in his works are not much more scientific than those in the *Cratylus* (cf. *Physica* II 6, 197b 22 ff., where a connection, if not an explicit etymology, is propounded between ἀυτόματον and μάτην; *De caelo* I 3, 270b 22-24, where αἰθήρ is derived from αἰεὶ θεῖν; *De anima* III 3, 429a 1-4, where φαντασία is derived from φάος; etc.).³⁵ Aristotle certainly does not attempt to clarify when recourse to etymology is legitimate and when it is not.

To come back to the main topic, it has to be remarked that Plato explicitly talks of a dialogue with oneself, hence of conducting a discourse with oneself, and this is important for his distinction between internal and external discourse. In the *Theaetetus* passage (190A), opinion is said to be speaking (λέγειν) and opinion (δόξα) is said to be an uttered speech (λόγος εἰρημένος), the difference between this sort of speech and exterior discourse being that the former is silently addressed to oneself while the latter is addressed to somebody else and spoken aloud. Aristotle does not normally present discourse as a dialogue with oneself, but in one passage of *Metaphysica* Γ 4 he comes close to this view, for he says that, if a word like « man » does not receive a definite meaning,

« there is an end to discussing (διαλέγεσθαι) with others and indeed with oneself, for it is impossible to think (νοεῖν) of anything if we do not think of one thing, and even if it were possible, one name might be assigned to this thing (τούτῳ τῷ πράγματι) » (*Metaphysica* Γ 4, 1006b 8-12).

Yet it is to be remarked that, after mentioning the discussion with oneself, he immediately replaces it with the thought of something, admitting, as usual, that to a word or name there corresponds a thought.

³⁴ On this criticism by Aristotle of Plato's *Cratylus* one may refer to Ademollo 2011, 107 ff.

³⁵ Cf. Bonitz 1870, 291a 27 ff., s.v. *Etymologica*.

What comes closest to Plato's position is the admission of a coincidence between silent or internal discourse and vocally expressed discourse, as found in *Analytica posteriora* I 10, 76b 24 ff. In this passage he talks of internal discourse (ἔσω λόγος) and of exterior discourse (ἔξω λόγος), saying it is always possible to object to exterior discourse but not always to the internal one. In *Metaphysica* Γ 5, 1009a 16 ff., Aristotle comes to a similar distinction, for he suggests that, in the case of those who make certain assertions (apparently against the validity of the principle of non-contradiction) because they are genuinely perplexed, the objection is addressed not to their discourse but to their thought (διανοία), while in the case of those who make such assertions for the sake of discourse, the objection is to the discourse they express by sound (ἐν τῇ φωνῇ) and in words. Though discourse in this passage is always expressed discourse, as opposed to thought, the specification that the discourse referred to is expressed by sound makes it clear that Aristotle was ready to admit a discourse that is not expressed. Another relevant passage is to be found in *Categoriae* 6, where discourse is presented as a discrete quantity, and it is said that this is evident, « since it is measured by long and short syllables; I mean here discourse that is spoken (ὁ μετὰ φωνῆς λόγος) » (6, 4b 33-35). Finally, in *De partibus animalium* II 16, where he seems to have in mind speech in general, since he is talking of the functions exercised by human lips, one of which is to speak, he remarks that discourse that is spoken (ὁ διὰ τῆς φωνῆς λόγος) is composed of letters (660a 2-3). It is not clear, however, what weight has to be given to this opposition, explicit or implicit, between expressed discourse and internal discourse: there must be some identity in structure between the two, but this need not go as far as to construe internal discourse as a silent language proper rather than a thought articulated in the same way as expressed discourse.

The question can be raised of how far what Plato and Aristotle say about a discourse which is internal to the soul and of which spoken language is a sort of reflection can be taken as an anticipation of the idea which emerges in Medieval thought and is developed particularly by William of Ockham, i.e. that we possess a mental language proper, with the same characteristics as spoken language, such as the grammatical distinction between the parts of discourse (not only names and verbs, but also adverbs, pronouns, conjunctions, etc.), gender distinction and verbal conjugation. What Aristotle has to say on this topic certainly influenced

Ockham, but there are other influences that play a role.³⁶ Between Aristotle and Plato, it is the latter who comes closest to this idea, but on this topic he did not exercise any direct influence on Medieval thought.³⁷ And Plato himself never suggests that the distinction between the parts of discourse he actually admits is to be applied to internal discourse. Aristotle does not even suggest that the thoughts underlying spoken words are symbols or even merely signs of the things designated by those words.

5. The Levels of Composition of Speech

If now we consider what Aristotle has to say about language independently of the relationship he establishes between spoken sounds and underlying thoughts, what we have seen so far suggests he has in mind an articulation of language with various levels of composition, the composition being of elements which from some point of view are indivisible. I shall now try to offer a fuller picture of the articulation he has in mind. The passage which contains the most complete exposition of this articulation is chapter 20 of the *Poetics*, where the topic dealt with is the parts into which elocution or speech (λέξις) can be divided. The list that is offered, along with an account of each of the terms mentioned, is the following: « letter, syllable, conjunction, noun, verb, article, inflection, discourse » (1456b 20-21). The list puts together terms which are not wholly homogeneous and only in part follows the order of increasing complexity. Inflection can hardly be taken as a part of speech; conjunction (as we shall see) is related to the composition of discourses (either whole sentences or expressions that are part of sentences); article is not clearly distinguished from conjunction (and does not quite coincide with article in our sense). In what follows I stick to the order of increasing complexity and take into account what Aristotle has to say elsewhere of these « parts of speech ».

As to the letter (στοιχεῖον), Aristotle there says that

« it is an indivisible sound, not any and every one however, but one from which a composite sound naturally arises (animals utter indivisible sounds too, but I do not call any of them a letter) » (*Poetica* 20, 1456b 22-24).

³⁶ For a history of this conception see Panaccio 1999. Ockham's position is presented in greater detail by Spade 2007.

³⁷ Nuchelmans 1973, 37 also observes that « Aristotle feels less inclined to “lingualize” thought than Plato does ».

What he says of animals shows that he has in mind articulate speech, which is not possessed by them. To the letters as sounds there correspond written letters (γράμματα), which are mentioned in *De interpretatione* 1, 16a 5. In some contexts however he uses the Greek so as to cover spoken letters as well (cf. e.g. *De partibus animalium* I 16, 660a 3 ff. and III 1, 661b 15). The Greek στοιχεῖον can also mean « element », and when he deals with the element in *Metaphysica* Δ 3, he takes letters as exemplifying elements as well:

« the elements of speech (φωνή) are those of which speech is composed and into which it is ultimately divisible, while they can no longer be divided into other parts of speech distinct in kind from them » (*Metaphysica* Δ 3, 1014a 28-30).

The next stage is represented by the syllable, which of course is constituted by letters, but not letters coupled or combined in a chance way. The syllable is defined in *Poetica* 20 as « a non-meaningful (ἄσημος) composite sound made up of a mute <= consonant> and a vowel or half-vowel » (1456b 34-35); a subdivision of letters into vowels, half-vowels and mutes had been propounded before. The qualification « non-meaningful » (which could apply to the letter as well) serves to keep it distinct from the name, which derives from syllables. In *Metaphysica* Z 17, where he discusses certain forms of composition, of something composed in such a way as to be one in its totality Aristotle says that it is « not like a heap but like a syllable (the syllable is not the letters, and so « ba » is not the same as « b » and « a » ...); the syllable is not only its letters (the vowel and the consonant) but something else besides » (1041b 11-13, 16-17). This explains why letters cannot be coupled in a chance way: a syllable is a unit in itself, beyond its constituents, hence from a certain point of view it is indivisible.

Next come the noun and the verb, which, as we have already seen, are in a sense all names (ὀνόματα) and are said in *Poetics* 20 to be each « a meaningful composite sound » (1457a 10-11 and a 14). That the name (in general) is a meaningful sound is also clear from *De interpretatione*; that it is composite is implied there, for it is stated that « no part of it is meaningful in separation » (2, 16a 20) – an assertion repeated with a slight variation in the *Poetics*: « no part of it is meaningful by itself » (20, 1457a 11-12 and 15). One would expect Aristotle to refer in these passages to syllables, which, as we have seen, as syllables are not « meaningful sounds ». What happens, instead, is that in both texts he

points out that, in the case of compound names, the parts of which a name is composed are not taken as having meaning by themselves, though they can coincide with simple names which as such are meaningful. The example given in *Poetics* 20 is Θεόδωρος (= « god's gift »): -δωρος as a part of this compound does not carry any meaning (1457a 12-14). In *De interpretatione* 2 two examples are offered: the proper name Κάλλιπος (= « beautiful horse »), where -ιπος (= « horse ») as its part is not meaningful, and a common name, which is rendered rather well (by Ackrill) as « pirate-boat », where again « boat » as its part is not meaningful (16a 21-26). Now, since only a few words are composite like these, one could not argue that the name (in general) is a composite of parts which by themselves are not meaningful if one had not syllables in mind (that the single syllables which constitute a noun like ἄνθρωπος (= « man ») are not meaningful by themselves is pointed out in another connection, in 4, 16b 30-33, where this case is explicitly kept distinct from the case of « double names », as they are here called,³⁸ with a reference – « as we said » – to chapter 2). But the point that Aristotle wants to make by these examples is evidently important in his eyes (so much so that he forgets what should have been the main point), i.e. that names must be taken as indivisible units, and they must be taken this way even when they are compound names. Names then, as opposed to syllables (and letters), are meaningful when taken by themselves. Thus we have a third level where units are identified which are indivisible from a certain point of view, that of meaningfulness.

The fourth level is represented by discourse (λόγος), meaning by this a full sentence or a statement, which is defined both at the beginning of *De interpretatione* 4, and in *Poetica* 20, 1457a 23-24, as a « composite meaningful sound » (« composite » is understood in the first text) « some parts of which mean something by themselves » (so in the *Poetics*; « parts of which mean something in separation » in *De interpretatione* 4). Clearly the parts Aristotle has in mind are nouns and verbs, which, as we know, are meaningful by themselves, but in the *Poetics* he remarks that « not every discourse is composed of nouns and verbs » (20, 1457a 24-25), and in this case by « discourse » (λόγος) he means a definition and not a sentence, as is clear from what follows. It is a

³⁸ They are called in this way also at the beginning of *Poetica* 21, where they are expressly kept distinct from « simple names ». These passages testify to the importance that Aristotle attributes to this topic.

complication to which I shall come back below. In *De interpretatione* 4 he adds to what he had stated about the sentence that parts of a sentence are meaningful « as an expression » (or an utterance: φάσις) and not as an affirmation (κατάφασις), the example being a word like « man » (16b 27-28). We already know that single words, corresponding to single thoughts, are regarded by Aristotle as expressions, and indeed in 5, 17a 17-20, a passage that seems to be out of place (and was already quoted above), he explicitly says that name and verb are each such an expression.

In accord with the approach adopted so far, it is to be expected that Aristotle should point out that from a certain point of view a discourse or a sentence, taken as a whole, constitutes itself an indivisible unit. This is indeed what he does at the beginning of *De interpretatione* 5, with the complication however that he keeps distinct affirmation and denial: « the first declarative (ἀποφαντικός) discourse which is one (εἷς) is affirmation, the next is denial; the rest are one by conjunction »³⁹ (17a 8-9).

In the course of this chapter he comes back twice to this account: when he says that there is a distinction between the declarative discourse which is one, since it reveals something that is one (in some sense), and the declarative discourse which is one by conjunction (17a 15-17); and when he says that there is a distinction between the simple declaration (ἀπλῆ ἀπόφανσις) and the one which is a composition of such simple declarations (17a 20-22). As we will see at once, in later chapters there are other passages where Aristotle attempts to clarify in which way a discourse or declarative sentence is a unit, without however mentioning the fact that such sentences can be combined into something larger than themselves.

To say that a declarative sentence is one because it is simple and not a discourse, which is the result of a combination of such simple sentences, does not, of course, amount to explaining how such a sentence can be taken as one. An explanation is given at the beginning of *De interpretatione* 8, i.e. that « a single affirmation or denial is one which signifies a one related to a one (ἐν καθ' ἑνός) ». It is sufficiently clear from similar passages that Aristotle here has in mind a predicative

³⁹ I render συνδέσμων εἷς with « one by conjunction » and not, as Ackrill does, « in virtue of a connective », because clearly a long discourse, even if not like the *Iliad*, cannot be one by *one* connective particle or conjunction. But it must be understood that it is said to be one in virtue of one or more than one connective particle or conjunction.

relationship.⁴⁰ This corresponds to the suggestion (made for instance at the beginning of *De interpretatione* 10) that there cannot be such a sentence if not compounded of a noun and a verb. On this account the unity of a single sentence depends on the asymmetry between noun and verb (and, as will be pointed out below, it presents some analogy with the unity of a syllable). From another point of view, in a less direct way – because Aristotle declares, in *De interpretatione* 1, that names (nouns and verbs) by themselves are neither true nor false –, the suggestion is advanced that the single declarative sentence is distinguished by being either true or false. And since the simple sentence, as opposed to a composite sentence or a plurality of sentences kept together by conjunctions, is either true or false and cannot be both true and false, it represents the basic unit from this point of view as well.

Related to the passages of *De interpretatione* 5 containing the suggestion that sentences are one either by being simple sentences or by being a combination of simple sentences kept together by connectives, is a passage at the end of *Poetica* 20 where Aristotle asserts:

« discourse is one in two ways, either as signifying one thing, or being a discourse resulting from many <discourses kept together> by conjunction; thus the *Iliad* is one by conjunction, while the discourse <= definition> of man is one by signifying one thing » (*Poetica* 20, 1457a 28-30).

Before discussing this passage, it should be pointed out that there are two other Aristotelian passages close to it since they introduce the same example of the *Iliad*, i.e. *Metaphysica* H 6, 1045a 12-14, and *Analytica posteriora* II 10, 93b 35-37. In the first of these passages it is said that « a definition (ὁρισμός) is a discourse which is one not by conjunction, like the *Iliad*, but because it is <the account> of one thing ». In the second passage it is said that « discourse (λόγος) is one in two ways, either by being one by conjunction, like the *Iliad*, or in showing a one related to one (ἐν καθ' ἐνός) not *per accidens* ».

It can be seen that this account is confusing and unsatisfactory because « discourse » is not always understood in the same way. In the passage of the *Posterior analytics* the discourse which is one (and opposed to that which is one by conjunction of many sentences) is clearly a sentence. For

⁴⁰ This is more evident in the case of the similar (and more frequent) construct τὸ κατὰ τινός, but it should be remarked that in *Analytica posteriora* I 22, 83b 17-18 we meet the full construct ἐν καθ' ἐνός κατηγορεῖσθαι.

the account that is there given of a sentence which is one coincides with that which is given at the beginning of *De interpretatione* 8 (the passage was quoted above). The situation mentioned in this account of the sentence which is one (or simple) is to be opposed to the situation, considered at the beginning of 11, where (in a discourse) a one is related (not to one but) to many or many are related to one, about which it is explicitly excluded that it can be signified by an affirmation or denial which is one. Elsewhere (for instance at the beginning of chapter 10) Aristotle uses the formula « something related to something » (τὶ κατὰ τινός), clearly having always in mind what is signified by a simple sentence. The relationship he is contemplating in these passages is surely that of predication. Unlike what he does in the passage of the *Posterior analytics*, Aristotle fails to specify that the predicative relationship between the two terms must not be accidental, but this is what results from the treatment of simple sentences in *De interpretatione* 11.

On the other hand in both the passage of *Metaphysica* H 6 and that at the end of *Poetica* 20 the discourse which is one is made to coincide not with a whole sentence but with a definition, e.g. the definition of man (this is wholly explicit in the *Metaphysics* passage, where the technical term ὀρισμός is used, but is sufficiently clear from the context in the case of the *Poetics* passage). And when in *De interpretatione* 5 Aristotle says that « a declarative discourse is one either by revealing one thing (ἐν δηλώῳ) or by being one by conjunction » (17a 15-16), he does not keep distinct a discourse which is a sentence from a discourse which is a definition, for when he says that it is « declarative » he suggests it is a sentence but when he says that it reveals one thing (and not a one related to a one) he implies it is a definition. In the *Poetics* passage, it will be recalled, he had remarked: « not every discourse is composed of nouns and verbs: for example the definition of man » (20, 1457a 24-26); but then, when he states that « discourse is one in two ways », he forgets about discourse which *is* composed of nouns and verbs, i.e. the sentence, and only considers the definition. And it makes little sense to oppose a great complex of discourses like the *Iliad* to a single definition.⁴¹

⁴¹ A further complication is that not only in the passage at the beginning of *De interpretatione* 5 but also in the passage towards its end, which clearly is another formulation of the same idea (17a 20-21: « Of discourses the one is a simple declaration (ἀπόφανσις), affirming or denying something of something, the other is compounded of these <simple declarations>, as it were a kind of composite discourse »), discourse is manifestly a whole

To give the *Iliad* as an example of a discourse which is one by conjunction is rather surprising, even when opposed to whole sentences, but it is the only example that Aristotle offers in the relevant passages. The same example appears in *Metaphysica* Z 4, 1030a 6-9, where it is asserted that, for there to be a definition (ὀρισμός) it is not sufficient that discourse and the name signify the same – in that case all discourses would be definitions, for to a name can always correspond a discourse which signifies the same, so that the *Iliad* would be a definition – but the discourse must be (an account) of what is primary. Aristotle here assumes that a definition always serves to clarify the meaning of a name (e.g. « man ») to which it corresponds and remarks that the whole discourse in which the *Iliad* consists could be taken as corresponding to the meaning of the very word « *Iliad* », so that, if we do not adopt some restrictive clause, that would be a definition. The example, to be sure, is somewhat forced, but its use reflects a conviction present in the passages quoted above, i.e. that the *Iliad* is *one* discourse, though not one that presents the unity presented by a definition (or a sentence).

Now, apart from the fact that the *Iliad*, as an example of *one* discourse, is a rather extreme example, there is the complication that, on the basis of what is said in *De interpretatione* 5, one would expect it to be a composition of *declarative* sentences. Yet it is clear that the *Iliad*, starting from its very beginning, is not composed only of declarative sentences. This is implicitly conceded by Aristotle himself in *Poetica* 19, when he criticizes Protagoras' interpretation of the phrase: « Sing, goddess, the wrath », because the sophist regarded it as a command and not just a prayer (1456b 15-18). No doubt, one could extend certain distinctions made for declarative sentences to non-declarative sentences, but Aristotle himself does not try to do so, with one exception (the clarification of how a question can be equivocal in *Sophistici elenchi* 5, 167b 38 ff. and 6, 169a 6 ff.). It can be added that at least in one passage, that of *De partibus animalium* I 3, 643b 17-19, he concedes that the unity of a discourse obtained by conjunction can be rather loose (he opposes it to the unity a definition should have). Of course, whether the unity is loose or relatively strict depends not only on the contents of the discourse as a whole but on the connective particles that are used. But, as we shall see at once,

sentence and composition is said to regard such sentences, hence the overlapping with definition is implicitly ruled out.

Aristotle does not try to offer a classification of these connective particles, not even a rough one. What one can say, in conclusion, is that for Aristotle declarative and presumably also non-declarative sentences can be put together by means of connective particles so as to obtain a discourse which is one, this being the other extreme of the succession of increasing complexity which starts from the letter. Of course, being a combination of sentences each of which is one in the sense of being indivisible from a certain point of view (that of being the basic carrier of truth and falsity), this discourse cannot itself be one in the sense of being indivisible but only in the sense of being a whole.

To complete this exposition, it has to be remarked that the sequence described above is not wholly an Aristotelian invention, because to some extent it is already present in a passage of Plato's *Cratylus*. The passage belongs to a context where it is pointed out that names can be carried back to the letters from which they derive, just as painted objects can be said to involve a mixture of distinct colours. I quote:

« similarly, we'll apply letters to things, using one letter for one thing, when that's what seems to be required, or many letters together, to form what's called a syllable, or many syllables combined to form names and verbs. From names and verbs, in turn, we shall finally construct something important <or great (μέγα)>, beautiful, and whole (ὅλον) » (*Cratylus*, 424E-425A, translation Reeve 1998).

I said that the sequence is present *to some extent*, because, when Plato talks of what results from names and verbs, he does not make a distinction between the single sentence (which is already a whole with respect to the names and verbs composing it) and the combination of sentences exemplified by a poem like the *Iliad*, about which it is more appropriate to say it is something « important » and « beautiful ».

6. Noun and Verb as the Main Components of Declarative Sentences

In considering the various levels of composition of discourse, one has to ask to what extent there is a similarity between a certain level and the successive level (or successive levels). It is sufficiently clear that grammar is regarded as a discipline establishing certain rules, however general, for the composition of syllables, based on the fact that only certain letters can be associated with certain other letters (in the first place vowels and consonants) to obtain syllables. When one considers the composition of

whole words and focuses on the nouns and verbs making up a sentence, it is not possible to determine such rules; the only possibility to give an account of its composition from a point of view which is also phonetic is the adoption of the sort of onomatopoeic etymology propounded in Plato's *Cratylus*. It is an open question how far Plato himself was willing to endorse that approach, but, in any case, it is sufficiently clear (as I have already remarked above) that Aristotle does not follow him. The composition of whole words, apart from compound words (or « double names »), must therefore remain unexplained. The successive step concerns a whole declarative sentence. The basic composition here, we have seen, is that of a noun coupled with a verb: without this there cannot be truth and falsity. That the composition presented by a whole sentence should be considered on the analogy of the syllable is not actually suggested by Aristotle, but is at least implied by Plato in the above mentioned *Sophist* passage where he considers the way letters combine as paradigmatic for the way nouns and verbs combine in a sentence. As illustrated above, Aristotle follows Plato rather closely on various points, so it is likely that he follows him on this point as well. And the analogy has some plausibility when one considers that syllables present an internal unity because they are the combination of letters which are of different types but are such as to harmonize, particularly when they are vowels and consonants. Nouns can be taken as similar to vowels and verbs as similar to consonants. This way of taking them implies an asymmetry between nouns and verbs, which is something that Aristotle, as we have seen too, recognizes in some passages, though there is a tension between this recognition and the admission that declarative sentences are combinations of names which can stand each by itself.

After reaching this level, Aristotle, it would seem, was tempted to pursue a program whereby all sentences presenting some complexity are reduced to simple sentences, in which a verb is predicated of a subject-noun, according to the requirement that one be related to one (ἐν καθ' ἐνός). Larger discourses would have to be considered as the combination of such simple sentences by means of particles. However, it is not easy to reduce all sentences to such simple sentences, and one cannot ignore the presence of parts of discourse that play a role, though they are not either nouns or verbs or connectives used to combine simple sentences.

At this point the question has to be raised why Aristotle, in his treatment of declarative sentence in the first chapters of the *De interpretatione*,

only mentions as its components two terms, the noun and the verb (with the possible exception of the copula at the end of chapter 3). A connected question is why, when he elsewhere mentions other terms (as in *Poetica* 20), he does not come to give a full list of them and is not concerned with giving an adequate account of those he lists. The first question was already raised in antiquity, for instance by Ammonius in his commentary on Aristotle's *De interpretatione* (11.1 ff.) The answer I try to give to both questions takes into account, to some extent, that given by him to the first. Noun and verb are the only terms which are all, in a sense, names (*ὀνόματα*), in that they possess a meaning when taken by themselves. It is by their combination that we get either an affirmation or a denial, that is to say declarative sentences which are either true or false. They are, as it were, the basic building blocks of the declarative sentence, corresponding in a certain way to the letters which constitute the syllables. The point of difference is that letters can combine without needing any further element to keep them together (when they are combined in the appropriate way), while in the case of declarative sentences this is true only when they are very elementary or simple, with a verb that is predicated of the subject-noun (as in the sentence « (a) man runs »⁴² quoted as an example in *Categoriae* 2).

Significantly, in *Poetica* 20, 1457a 23-24, Aristotle states, that « discourse is a composite meaningful sound, some parts of which mean something by themselves », for, as the context suggests, the parts which mean something by themselves are nouns and verbs – the implication being that the other parts do not mean something by themselves. In what follows he remarks that not every discourse is composed of nouns and verbs, since a definition is a discourse without a verb, but it satisfies the requirement that « it will always have some part that means something » – evidently understood: means something by itself. For the definition is the enunciation of the meaning of the single name (as noun distinct from a verb). As an example of a part of discourse which means something by itself, Aristotle then offers « Cleon » in the sentence « Cleon is walking ». This example is not wholly perspicuous, since, apart from the use of a proper name, it can give the impression that only the name understood as a noun distinct from a verb has a meaning by itself, while this must be true also of the verb taken by itself. Aristotle here is influenced by his

⁴² Notice that Greek does not have the indefinite article.

general admission of an asymmetry between noun and verb, but also by the immediately previous suggestion that a discourse can include a part which is meaningful even without the presence of the verb (when in fact this concerns discourse as definition, not as sentence).

It is not clear whether the Greek for « noun » and « verb », i.e. ὄνομα and ῥῆμα, just covers what we normally mean by these words. As I have already remarked, in the case of the « noun », Aristotle makes no difference between proper and common names. As to pronouns like « I » (ἐγώ), « you » (σύ), « this » and « that », they can manifestly function as subjects for sentences (whether declarative or not) in Greek and not only in modern languages, but Aristotle does nothing to make it clear whether he includes them under « noun » (ὄνομα) by an extension of its obvious meaning. As to the verb, Aristotle's usual examples (e.g. in *De interpretatione* 3, in *Categoriae* 2, and in *Poetica* 20, 1457a 14-18) are of terms that we would consider as verbs, and in the *Poetics* passage it is expressly excluded that an adjective like « white » can constitute a verb, since it does not additionally signify a certain time. On the other hand, in *De interpretatione* 10, 20b 1 ff., where there is talk of the interchange of noun and verb, the example of a verb which is apparently given is precisely the adjective « white »; the same must be true of 20b 19-22, where the example given is « just », followed by the negative « not just » in the sequel (20a 31-34); also in *De interpretatione* 1, 16a 13-15, « white » appears to be taken as a verb. Now, in a previous part of *De interpretatione* 10, starting with 19b 10, there is the suggestion that every affirmation is composed of a name and verb, this being then illustrated by what is presented as the first affirmation (meaning presumably the simplest one), like « (a) man is », where « is » apparently has an existential sense. After this, in 19b 19 ff., Aristotle contemplates the possibility that « is » is predicated additionally as a third thing, giving as an example « (a) man is just », and remarking that here « the “is” is a third component in the affirmation ». In this passage the « is » must have a copulative sense, and, since it is said to be predicated *additionally* (προσκατηγορεῖσθαι),⁴³ it must belong to the predicative expression. This is confirmed by what follows, in 19b 24-25 and 29-30, where it is stated that « the “is” is added (πρόσκειται) to “just” or to “not-just” ». Hence

⁴³ For this sense of the verb see *Analytica priora* I 3, 25b 22-24, further *Metaphysica* I 2, 1054a 16-18, and the parallel προσσημαίνειν used in *De interpretatione* 3.

the construct « is white » or « is just » should be taken as a whole predicative expression, and also as a « verb », since it satisfies the requirement stated in *De interpretatione* 3, that the verb is a sign of what is said of something else. In other words, presumably the verb does not coincide with the adjective by itself, but with the adjective accompanied by « to be ». For it is likely that, when talking of the verb, Aristotle has also in mind nominal or descriptive expressions, for he admits, in *Metaphysica* Δ 7, that there is no difference between saying « the man *is* recovering » (with a copulative ἔστι in the Greek) and saying « the man recovers », or between saying « the man *is* walking » and saying « the man walks » (1017a 27 ff.).⁴⁴ And since he normally gives as examples of sentences, there as elsewhere, « the man is cultivated » or « the man is white », it could be suggested that these sentences could be changed into verbal sentences, by introducing a verb which certainly in most cases is not factually available or has not the appropriate sense, for instance « the man cultivates » and « the man whitens » (these English sentences do not have the appropriate sense, since they suggest a change).

The matter unfortunately is not as smooth as stated so far, since I omitted what looks like an incidental clause in the sentence of lines 19b 21-22 quoted above, which given in full is as follows: « I say that the “is” is a third component – a name or a verb (συγκεῖσθαι ὄνομα ἢ ῥῆμα) – in the affirmation ». As it stands, the clause « a name or a verb » must qualify the « is », but if we take this as a strict disjunction, one can hardly make sense of it, since one would expect from the whole context that the « is » be regarded as a verb and not possibly as a name as well. The alternative, which was already suggested by Ammonius in his commentary (166.2-5), is to take the « or » in the incidental clause to signal a conjunction: the « is » is a verb (since it additionally signifies time) and at the same time a name, in the broad sense of the word (not as a noun or as a subject-term). This is certainly a possible way of understanding the sentence, but not the most natural one. It is an understanding which is compatible with the overall interpretation recently propounded by Ademollo 2015, 50-51, whereby the account of the « verb » (ῥῆμα) which prevails in Aristotle is the grammatical one: the verb is a time-word, by exclusion of adjectives like « white » and « just » (as is apparently

⁴⁴ Close to this passage are *De interpretatione* 12, 21b 9-10, and *Analytica priora* I, 46, 51b 13-15.

maintained in *Poetica* 20, 1457a 14-18, mentioned above). One disadvantage of this interpretation is that there are passages in the *De interpretatione*, as we have just seen above, in which those adjectives are taken as verbs. And it seems rather obvious that they satisfy one of the two criteria introduced in chapter 3 for being a verb, i.e. being predicated of something else. One would have to admit that this criterion is in contrast with the grammatical criterion.⁴⁵ Another disadvantage is that, since on this account the « is » alone constitutes the verb in a sentence like « (a) man is just », the sentence must be regarded as a compound sentence with one verb and two names. But the impression that one gets is that the overall treatment in the *De interpretatione* requires this to be a simple sentence, hence one compounded of a name and a verb (for instance at the beginning of chapter 8 « every man is white » is taken as *one* assertion). Further, the passages of 10, 19b 19-20, 24-25 and 29-30 quoted above suggest that the « is » (as a third component in the sentence) cannot be taken as a verb by itself. To the objection (adduced by Ademollo against my account) that at the beginning of chapter 3 the verb is said to be a name « no part of which is significant separately » but that the « is » in expressions like « is white » would be a part which is significant separately, my reply is that this is true precisely when it is taken by itself, not any more in a construct like « a man is walking » (which should be understood as « a man is-walking », using an artifice that in Greek is not possible), to which a construct like « a man is white » can be assimilated. To come back to the sentence of lines 19b 21-22, it is

⁴⁵ It is worth noticing that Ammonius went beyond this distinction, when he stated: « for you will find “verb” said in three ways by Aristotle: either (1) “every vocal sound additionally signifying time, of which no part signifies separately, and which is always said of something else”, as he defined it in the beginning <i.e. *De interpretatione* 3, 16b 6-7>, according to which sense both indefinite verbs and cases of the verb would be verbs; or (2) “every vocal sound additionally signifying only the present time and indicating something definite”, the sense which is taught us in what he says now <i.e. 16b 9>; or (3) “every vocal sound making a predication in a proposition”, so that according to this sense “fair”, “just”, “pale”, and “animal”, when they are taken as predicates, are called “verbs”, which they were not according to either of the earlier senses » (*In De interpretatione* 52.32-53.8; translation Blank 1996). While the distinction between (1) and (2) is rather artificial, (3) is certainly different from (1) + (2), taken as suggesting the grammatical criterion (by omission of « which is always said of something else »), and one cannot exclude that this criterion and the predicative criterion lead to different results, i.e. that Aristotle does not have a consistent position on this matter. (That the criteria he adopts are not wholly clear and univocal was remarked by some scholars, e.g. already by Steintal 1961, 243, and more recently by Robins 1966).

clear that on my account it cannot stand as it is, but has to be corrected, so as to obtain what follows: « I say that the “is” is a third component in the affirmation besides the name and the verb » (in the Greek the required correction of the expression, not any more an incidental clause, should be the following: συγκεῖσθαι ὀνόματι καὶ ῥήματι). This is a modification of the correction already propounded by Weidemann in his edition (namely ὀνόματι ἢ ῥήματι), whose overall interpretation is on the same line as the one propounded here by me (before I realized this coincidence). He adopts this correction and renders it « to the name or rather to the verb »⁴⁶ in the attempt to avoid the tension between asserting that the « is » is added as a *third* component and asserting that it is added to the predicate, hence is not really a distinct component. It looks to me a rather artificial solution, which does not succeed in eliminating that tension. In a way it is true that the « is » is added as a third component (by comparison with assertions in which « is » by itself is the verb), but it is also true that in its function it is an integral part of the verb. In conclusion, no doubt the need to adopt a correction like this is a disadvantage for the interpretation I am defending, hence the reader will have to make up his mind as to which interpretation is to be preferred.

7. Some Complications (on Connectives etc.)

The traditional account of Aristotle’s logic is based on the admission of a series of degrees of complexity in the discourse which is the subject matter of the discipline. One starts with the single terms which constitute sentences, distinguishing between noun and verb; one passes then to the whole sentences themselves, making a distinction between those which are either true or false (and which are called « apophantic » by Aristotle) and the others (which do not receive any closer consideration); and finally, the treatment of single sentences (given in the *De interpretatione*) is supposed to lead to syllogistic, which defines the relations between

⁴⁶ « ... Als Drittes mit dem Nennwort oder vielmehr mit dem Aussagewort zusammengefügt ». In a note to this passage in his commented translation (337), but not in the apparatus to his edition, Weidemann points out that already Kirchmann in his commented translation of 1876 (which I was unable to see directly) suggested that the « is » is a third to be added to the name (or noun) *and* (καὶ) the verb, hence that the Greek should be corrected accordingly; however, he did not openly recognize the need for this correction.

propositions (taken as premises) on the basis of which valid conclusions can be drawn. Syllogistic itself can be demonstrative, when it starts from true premises, and thus constitutes the logical backbone of science. This way of presenting Aristotle's logic has some plausibility if one looks back at the contents of the *De interpretatione* from the treatment of syllogistic given in the *Prior analytics*, for some familiarity with those contents is certainly useful, if perhaps not indispensable, for understanding how a syllogism works. If one however sticks to the contents of *De interpretatione* one finds that the work does not in any way look forward to the treatment of syllogism in the *Prior analytics* and possibly to the treatment of demonstrative syllogism in the *Posterior analytics*: even the very word « syllogism » does not appear at all in the text. The work appears, on the whole, to be accomplished in itself.⁴⁷ But, in so far as it looks forward to something else, it contemplates the fact that declarative sentences can enter as parts of a larger discourse in which they are kept together by means of connectives (we have seen that this development is envisaged in chapter 5, though only there). This recognition is in keeping with the point that has emerged in the previous presentation: the sequence of increasing complexity which I have described above does not find its natural conclusion in the syllogism – which is a rather special sequence of three propositions since it deduces the conclusion from the two premises –, but precisely in the larger discourse which is unified by means of connective particles.

Attention must now be given to Aristotle's treatment of connectives. One step to be made concerns what he says about conjunction (σύνδεσμος) as that which keeps together a plurality of sentences. In *Rhetorica* III 12, when talking of the conjunction, Aristotle simply states that « it makes many things one » (1413b 33). This formulation is of course in conformity with the idea that the conjunction keeps together a plurality of sentences. However it is not clear that the conjunction must be used only to keep together different sentences rather than single words inside a given sentence, and this indeed seems to be the main reason for the confusion – between conjunction and article, and between different types of conjunction – in the passage of *Poetica* 20 about both the conjunction and the article. Unfortunately this passage is evidently corrupt and presents rather complicated philological problems which I will leave aside

⁴⁷ On this issue I may refer to my article, Leszl 2004, sections 1 and 2.

for the sake of brevity.⁴⁸ I quote it in the translation that Bywater gives of the text corrected by himself (it is the correction that seems most plausible to G. Else and M. Fuhrmann):

« (3) a conjunction is (a) a non-significant sound which, when one significant sound is formable out of several, neither hinders nor aids the union, and which, if the Speech (λόγος) thus formed stands by itself (apart from other Speeches) must not be inserted as the beginning of it; e.g. μέν, δὴ, τοί, δέ. Or (b) a non-significant sound capable of combining two or more significant sounds into one; e.g. ἀμφί, περί, etc. (4) An Article is a non-significant sound marking the beginning, end, or dividing-point of a Speech, its natural place being either at the extremities or in the middle » (Bywater 1909, 59 ; I adopt his subdivisions of the text).

From the way the « article » is presented it is clear that it cannot be just the article as we understand it (this usually precedes a name or nominal expression), though presumably it includes it. The Greek for « article »: ἄρθρον, seems to preserve the original (anatomical) sense of « joint » or « articulation », hence it must refer to a connecting word, as is the conjunction. Unfortunately Aristotle does not offer any example of such an « article », so that it is not clear which words (apart from articles in our sense) he has in mind, if kept distinct from conjunctions. It should be added, however, that on the basis of the text corrected by the two authors of the French commented edition and translation quoted in note 50 subdivision (3) (b) is associated to (4), so that the article would be represented by prepositions (or some of them). Finally there is the testimony by Dionysius of Halicarnassus, in his *De compositione verborum*, chapter 2, according to which the article was recognized as a distinct part of speech not by Aristotle but by the Stoics.⁴⁹ Given this confusing situation and given that the treatment of the article is not of central interest for us, it is better to suspend judgment.

As to the account of the conjunction under (3) (a) it is surprising that Aristotle says that it « neither hinders nor aids the union », as if it concerned different sentences, which however does not seem to be the case, for they cannot be represented by « one significant sound » (even

⁴⁸ For a close treatment of the matter one can refer to Dupont-Roc & Lallot 1980, 321-328 note 7 to chapter 20.

⁴⁹ There is also the possibly independent testimony by Quintilian, *Institutio oratoria* I, 4, 18-19, to the same effect (but he clearly understands σύνδεσμος, rendered in Latin as *convinctio*, as what connects noun and verb, i.e. as the copula).

if they are obtained by putting together several significant sounds, for these must be single words). If then the conjunction concerns the single sentence, what Aristotle has in mind must just be the expression in which a particle like μέν is inserted (in e.g. ὁ μὲν ἄνθρωπος). Given that the examples of conjunction under (3) (b), if they are examples of conjunction, are clearly of prepositions which modify some word, the function of the conjunction that is stressed elsewhere, i.e. keeping together a plurality of sentences, is completely overlooked. What is rather troublesome is that this function is recognized in the passage, however problematic, discussed above (under V), at the end of the same chapter 20 of the *Poetics*. As to the couple μέν ... δέ, they can of course keep together both a single complex sentence and two distinct sentences, but the difference between these two cases is not remarked upon. In *Rhetorica* III 5 Aristotle appears to have in mind, in addition to these particles, γάρ τε καί (1407a 20 ff., esp. 27-29). Clearly at least γάρ and καί can be used to connect different sentences.

What is unsatisfactory in this whole treatment is, first, that Aristotle does not make a clear distinction between the function these particles have in connecting different sentences from the function – and the collocation – they have inside a single sentence, however complex (unless sentences are analysed into atomic ones); second, that he does not keep quite distinct the particles which connect sentences by playing a certain logical role (in getting conjunctions or, in alternative, disjunctions, in obtaining conditionals and biconditionals or certain forms of subordination) from those which modify single words or expressions. A large part of the *De interpretatione* is devoted to the treatment of the relations that can be established between affirmation and denial (as simple statements with or without quantification), but independently of any close discussion of the role played by the particle « not » (οὐκ, μή). The pure conjunction « and » (καί, τε) between simple statements has a clearly different logical function from the connective « or » or « either ... or ... », and both differ from the conditional connectives « if ... then ... » or the explanatory « for », « because », « hence » or the restrictive « but », « although », « unless ». The logical role of these connectives has been explored in recent logic,⁵⁰ but Aristotle himself, in spite of making important

⁵⁰ Cf. e.g. Quine 1965, chapter 1 on *Statement Composition*, or Restall 2006, part 1 on propositional logic, chapter 2 on connectives and argument forms.

contributions to the field of logic, has practically nothing to say on this topic.

Another issue which deserves attention is the following. As was remarked above, in the case of the verb, Aristotle points out, both in *De interpretatione* 3, 16b 6 ff., and *Poetica* 20, 1457a 14-18, that it « additionally signifies time » (προσσημαίνει χρόνον), probably for the reason that, whether the verb is in the past or in the present or in the future, it makes a difference for the time-reference of the whole statement and hence for its being either true or false. One would however expect that Aristotle considered other features (such as differences in number and case) which have the same consequence of making a difference for the truth-value of a statement. All these differences fall under the heading of inflection (πτῶσις), as we already know. Now in the case of the verb inflection is illustrated, both in *De interpretatione* 3, 16b 16-18 and in *Poetica* 20, 1457a 17-18 (but here without specifying that inflection is involved), precisely by the differences in the tense of the verb, in conformity with that indication. On the other hand, in *De interpretatione* 3, other verbal differences (in mood, in voice, in person, in number) which can make a difference for the truth-value of the statement containing a verb, are wholly ignored. In the case of the noun Aristotle merely remarks, in the previous chapter, that when it is in a different case from the nominative the same applies to it as to the noun in the nominative, namely that when it is taken by itself (without an accompanying verb) it is neither true nor false. It is not remarked at all that this can make a difference for the truth-value of the statement in which it appears, when not taken by itself. In *Poetica* 20, 1457a 18-23, inflection (πτῶσις) is said to concern both noun and verb, and it is illustrated, apparently only in the case of the noun, by difference in case and number, in the case of the verb by whether it expresses a question or an order (here there is a surprising reappearance of differences in speech-act).

8. Pulling Some Threads Together

I shall now come back to the main issue of the relationship between language and thought. One aspect to be considered is the following. Once a declarative sentence is taken not alone but as constituting a larger discourse, certain particles are needed (as we have seen) to establish a relationship between it and the other sentences, hence the term « conjunction » must

be introduced. But usually also other terms, like the article, play a role inside the single declarative sentence. In the case of those pronouns which serve for the quantification of propositions, like « every » and « no », Aristotle makes it clear that they modify in some way the whole proposition and not the single term to which they are attached.⁵¹ A similar treatment can be given of most pronouns, with the exception of demonstratives. Adverbs too can be treated in a similar way, since they concern the conditions (temporal, modal, etc.) under which what is stated in the proposition takes place. In general, parts of discourse like these – and like the article, the preposition and the connective – do not have a meaning by themselves, as names (nouns and verbs) do, but are, as it were, con-significant⁵² or, to use a later term, « syncategorematic », therefore their role is subordinated to that of nouns and verbs.

However subordinate their role may be, it is clear that they make a difference for the truth-value of the declarative sentences in which they appear. The same can be said of some of the grammatical features which fall under the general denomination of « inflection » (πτῶσις). This is probably the reason why Ockham held that both the « syncategorematic » terms and the relevant grammatical features were to be present not only at the level of spoken (and written) language but also at the level of mental language (or thought).⁵³ Given that Aristotle admits, as we have seen, that thoughts underlie verbal sentences, one would expect that he adopted a position like that propounded by Ockham. However, one condition for adopting that position is a clear articulation of the grammatical and other distinctions concerning language which would have to have their counterpart in thought. This condition is not satisfied in Aristotle. Yet even at a tentative level this sort of approach is missing. It can be suggested that he would have found it objectionable, because it involves

⁵¹ Cf. *De interpretatione* 7, 17b 9-12, substantially repeated in 10, 20a 9-10 and 12-14; the exclusion of multiple quantification in 17b 12-16 and in *Analytica priora* I 27, 43b 17-22 goes in the same sense.

⁵² Aristotle uses the verb προσσημαίνει not only for the time indicated by the tensed verb but also, in *De interpretatione* 10, 20a 13, in connection with the mentioned pronouns « every » and « no ».

⁵³ It is the interpretation propounded by Spade 2007, 108: « Ockham's real basis for deciding what does and what does not go into mental language is this: *mental language has exactly those features of spoken (or written) language that affect the truth values of propositions*. That is why case, number, comparison, mood, voice, person and tense are all found in mental language, whereas the distinctions of gender, declension and conjugation are not ».

a sort of duplication not wholly unlike the useless duplication which he denounces in the case of Plato's theory of ideas. This resistance, though reasonable, could be at the expense of the coherence of his position on the relationship between language and thought.

Another aspect that requires attention lies in the communicative function of language. I think that Thomas Aquinas is fundamentally right in his presentation of Aristotle's position in commenting on *De interpretatione* 1, 16a 3-8. After asserting that the affections of the soul derive from our impressions of things, he adds:

« and if in fact man were a solitary animal the affections of the soul would be enough for him. By them, he would be conformed (*conformaretur*) to the things themselves in order to have knowledge of them in himself. But because man is naturally a political and social animal <instead>, it was necessary that the conceptions of one man become known to the others. This is done by means of voice (*per vocem*); and therefore it was necessary that there be significative voices, in order for men to live together with one another. Thus <people> who are of different languages cannot live together with one another very well » (*In libros Peri hermeneias*, 10, 1, 2, 12; translation Spade 2007, modified).

One can see that on this account it is the need to communicate with others which explains recourse to spoken language.

It is true that this communicative dimension of language is absent in Aristotle's own exposition in that chapter, and is only alluded to in chapter 3, 16b 20-21, regarding the utterance of a verb by itself (« the speaker arrests his thought and the hearer pauses »), but it can be brought in in other ways. One relevant passage is *Metaphysica* Γ 4, 1006b 8-12 quoted above, where Aristotle points out that, if we fail to give a definite meaning to the words we use, « there is an end to discussing (τὸ διαλέγεσθαι) with others and indeed with oneself ». Less directly, it has to be remembered that, as we have seen above, Aristotle considers possession of language in connection with man's being a political animal, and in view of his well-being which can only be realized in social life. The hypothetical alternative of man being a solitary animal is not explicitly envisaged by him in this connection, but it looks likely that he would have presented it as Aquinas does. Further, the idea that language is needed to communicate one's thoughts to other people is well attested in Plato, for in the *Theaetetus* passages quoted above it is clear that thoughts pronounced aloud are addressed to other people. This is an aspect that emerges in a sufficiently clear way also in the following passage of Plato's *Cratylus*

which Aristotle must have had in mind, because it touches upon the conventionality of language:

« as we *now* speak, don't we understand each other at all when one says σκληρόν, and don't you now know what I'm saying? – I do because of habit (διὰ τὸ ἔθος), my dear friend. – But by saying “habit” do you think you're saying anything different from “convention” (συνθήκη)? Or is the habit you're speaking of anything but the fact that, when I utter *this*, I think of *that* (διανοοῦμαι ἐκεῖνο), and you recognize that I think of *that*? ... Then if you recognize this when I make my utterance, you receive from me a means to indicate (δήλωμα) » (*Cratylus* 434E-435A, translation Ademollo 2011).

Actually, one could question the relevance of this passage to our understanding of Aristotle's position (as e.g. Weidemann argued in his commentary, 148), because Plato here is by no means implying that what is signified by a name like σκληρόν (clearly offered as an example) is not directly an object (πᾶγμα) but a thought (νόημα) or affection of the soul (this objection is advanced by Ademollo in his commentary, where he shows that the context excludes the postulation of any such intermediary item, cf. Ademollo 2015, 397-399).⁵⁴ However, we have seen that Plato himself, in those passages of the *Theaetetus* and in the *Sophist*, admits some underlying thought for what is expressed loudly to other people. On the other hand, Aristotle, in some passages (*Sophistici elenchi* 1, *De sensu* 1, but also *Metaphysica* Γ 4, quoted above) refers words directly to things, as we have seen. What is the explanation for this apparent divergence of position? I think it has to do with the fact that in those dialogues whole sentences are involved while here (in the *Cratylus* passage, etc.) it is a matter of explaining what one means by a single word.

One reason for drawing attention to a distinction between the plane of (uttered or written) discourse and the plane of thought (or opinion) is to take into account the possibility of a discrepancy between these two planes. What is expressed in discourse can diverge from what one thinks because one is telling a lie or because one equivocates or uses misleading expressions (either intentionally or not) or because one uses different expressions (whole sentences or parts of them) for the same thought. Equivocation indeed concerns the meaning of the single word, but it can only take place in a whole sentence. As to the use of different expressions

⁵⁴ Ademollo develops a suggestion advanced by Robinson 1955, who, however, signals the discrepancy between this passage and the *Theaetetus* and *Sophist* passages.

for the same thought, Aristotle occasionally envisages this possibility (for instance in the passage of *Metaphysica* Δ 7, 1017a 27-30 mentioned above or when he states, in *De interpretatione* 10, 20a 39-40, that the utterance « every not-man is not-just » signifies the same (ταὐτὸν σημαίνει) as the utterance « no not-man is just » or when he posits an equivalence between predicating a certain term and predicating the corresponding definition, e.g. « Socrates is a man » and « Socrates is a rational animal »), but he does not discuss it in relation to the problem which interests us (on this matter, cf. Nuchelmans 1973, 38-39). On the other hand, explaining the meaning of a single word according to an accepted convention is a situation in which making a distinction between the uttered word and the corresponding underlying thought, if this is postulated, is pointless, because the possibility of a discrepancy is excluded. It is true that it is always possible to equivocate, but this cannot be the rule, for it is also clear that if words are not taken as having an accepted meaning language becomes impossible (and this is a point which emerges in the *Metaphysics* passage). There must be a common ground among all speakers, which is constituted primarily (though not exclusively) by the meanings attributed to the single words (nouns and verbs) – meanings that can only be explained on the assumption that each of them just means one thing. That the single word is accompanied by an underlying thought need not be pointed out. But is the postulation of an underlying thought justified in this case? Probably not. One has to notice that the *Cratylus* passage suggests that one uses a certain word as a sort of instrument to make evident to the interlocutor the object one *thinks* about, i.e. what one has in mind. In the passage of *Metaphysica* Γ 4 Aristotle does not make exactly the same suggestion, but the fact that he connects thinking of one thing with assigning a name to this thing (πρᾶγμα), and connects both with communicating with other people, makes it likely that he is envisaging the same situation. If this is so, however, one has to notice that this account only apparently agrees with the other, for language here is not just an expression or manifestation of the underlying thought, which could subsist independently of language. In the case of (single) ὀνόματα, thought is not taken as underlying language and as constituting a sort of medium between it and the things one talks about, because of its similarity with the things themselves. Rather, it is regarded as the *intention* with which the ὄνομα is used to name something, and this intention cannot be expressed without the ὄνομα and the ὄνομα cannot do its job (of naming)

without the intention. In other words, thought makes use of certain signs, among which are (spoken) names. Thought does not underlie language as something at least relatively independent of it, but is actively involved in language. One has to conclude that there is a distinction of situations which is not recognized by either Plato or Aristotle, and that the latter at least tends to assume there always is some underlying thought.

To come back to Aquinas' account, this, however convincing it may be, does not serve to explain the differences between language and thought. In synthesis, what are these differences? In the first place, what has been said of the parts of discourse suggests that language is richer than thought, precisely because it presents an articulation – beyond noun and verb, in articles, prepositions, connectives, possibly pronouns and adverbs as well –, which is not to be found at the level of thought. At least Aristotle only mentions thoughts (*νοήματα*) and opinions (*δόξαι*) in relation to nouns and verbs or whole sentences (whose truth and falsity, as we have seen, depends on the combination of single thoughts) and never in relation to the other parts of discourse, which in any case do not receive an adequate treatment.

In the second place, language cannot be just an outward expression of thought as if it were its reflection in a mirror since phenomena such as the equivocity presented by single words, syntactical ambiguity, the use of metaphors, cannot take place in the sphere of thought taken by itself – on the assumption that this faithfully reflects the things designated by names. Of course, the above considerations suggest precisely that in the case of such phenomena the sphere of thought cannot be taken by itself, independently of language, for it is by means of words that thought operates when those things are intended. From this point of view, then, the question cannot be whether language is richer or not than thought, for language and thought must be regarded as interacting.

Certainly, in this interaction, it is thought and not language that is active or dynamic. This fact seems to be recognized by Aristotle himself, but in another connection. It is thought, as the faculty of thinking (*διάνοια*), that accomplishes the operations of affirming and denying and, at the same time, the operations of combining and separating single thoughts so as to obtain propositions that are either true or false. While he is explicit (as we have seen) on this point, he does not explicitly attribute to thought an active role in the use of single names. Yet he must tacitly assume that it is thought that accomplishes those operations, such as the

use of ambiguous names, which are made with the purpose of deceiving the hearer in a sophistical manner. Thought is also behind the operation of lying to other people. On the whole, because of his prevalent interest in logic, Aristotle only offers a detailed treatment of how the former sort of deception is possible (mainly in the *Sophistici elenchi*). He is aware of course of the possibility of lying, but discusses this mainly from an ethical point of view, when treating the virtue of truthfulness in *Nicomachean Ethics* IV 13, 1127a 13 ff., lying being considered as an extreme opposed in some way to this middle. Of course what he says of the possibility of propositional falsity can serve to explain the possibility of lying, but this leaves out any discussion of the intention of deceiving the other person. In general, he points out (in connection with a discussion of the principle of non-contradiction) that « it is not necessary that what one says is also what one believes » (*Metaphysica* Γ 3, 1005b 25-26).

In admitting the possibility of a discrepancy between language and thought and in attributing an active function to thought, Aristotle appears to attempt to give an account of these phenomena. But the way in which thought interacts with language does not receive much clarification. One has to explain not only how it is possible that one says what one does not really believe, but also how it is possible to give the impression to others that what one says is also what one really believes. Without the ability to give this impression, deception is not possible. Communication certainly requires that in most cases what one says is also what one considers as true, for the prevalence of deception would make communication impossible. Aristotle does not formulate the matter in these terms but certainly is convinced that there is a prevalence of truth in communication, for in the *Rhetoric*, which clearly considers truth from the point of view of communication, he remarks that « men have a sufficient disposition towards truth and in most cases attain to it » (I 1, 1355a 15-17). This however is just a general condition for there being deception, and does not explain how it actually occurs. The Platonic presentation of spoken language as a sort of image which is reflected on a mirror certainly allows for the possibility that the image be distorted, but how the distortion is obtained is not explained. Aristotle however does not appear to have gone beyond this presentation of language.

On the whole, Aristotle's approach to language presents certain features which rendered it very influential in successive philosophical and not only philosophical thought, but which have become a target of criticism

in recent times. It is a prevalently atomistic approach, its atomism being only partly tempered by the recognition that the combination of the basic elements (letters in the case of the syllable, names in the case of the sentence) involves a unifying form. These basic elements can be taken by themselves and not, at least in the case of nouns and verbs, always as parts of sentences which give expression to certain judgments. Names as semantic units are supposed to nominate things which are capable of being classified and defined in a fully univocal way. It is not recognized that the meaning of a word depends not only on the object it designates but also on its relationship with the other words which constitute a language. And of course there is no awareness of the fact that different languages involve different ways of classifying what each language is about. Another connected feature of this approach is that language, being taken just as a system of signs embedded in sounds (or written letters) which serves to the communication of one's thoughts to other people, functions like an outward covering of those thoughts, as if it were comparable to the clothes that cover a human body. We get what Max Black has called « the model of the garment » (Black 1968, chapter 4). And it is questionable both that language be of such an extrinsic and passive nature and that thought has such a fullness and independence with respect to language.

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ARISTOTLE'S SEMANTIC THINKING AND HIS NOTION OF SIGNIFICATION IN *DE INTERPRETATIONE* 1 AND BEYOND

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De interpretatione, 1, 16a 1-17: « πρώτον δεῖ θέσθαι τί ὄνομα καὶ τί ῥῆμα, ἔπειτα τί ἐστὶν ἀπόφασις καὶ κατάφασις καὶ ἀπόφανσις καὶ λόγος. (P1) Ἔστι μὲν οὖν τὰ ἐν τῇ φωνῇ τῶν ἐν τῇ ψυχῇ παθημάτων σύμβολα, καὶ τὰ γραφόμενα τῶν ἐν τῇ φωνῇ, καὶ ὡσπερ οὐδὲ γράμματα πᾶσι τὰ αὐτά, οὐδὲ φωναὶ αἱ [16a 5] αὐταί· ὧν μέντοι ταῦτα σημεῖα πρώτων, ταῦτά πᾶσι παθήματα τῆς ψυχῆς, καὶ ὧν ταῦτα ὁμοιώματα πράγματα ἤδη ταῦτά. περὶ μὲν οὖν τούτων εἴρηται ἐν τοῖς περὶ ψυχῆς, – ἄλλης γὰρ πραγματείας· (P2), (P3) ἔστι δέ, ὡσπερ ἐν τῇ ψυχῇ ὅτε μὲν νόημα ἄνευ τοῦ ἀληθεύειν ἢ ψεύδεσθαι ὅτε δὲ ἤδη [16a 10] ᾧ ἀνάγκη τούτων ὑπάρχειν θάτερον, (P4) οὕτω καὶ ἐν τῇ φωνῇ· (P5) περὶ γὰρ σύνθεσιν καὶ διαίρεσιν ἐστὶ τὸ ψεῦδος τε καὶ τὸ ἀληθές. τὰ μὲν οὖν ὀνόματα αὐτὰ καὶ τὰ ῥήματα ἔοικε τῷ ἄνευ συνθέσεως καὶ διαιρέσεως νοήματι, οἷον τὸ ἄνθρωπος ἢ λευκόν, ὅταν μὴ προστεθῇ τι· οὔτε γὰρ ψεῦδος [16a 15] οὔτε ἀληθές πω. σημεῖον δ' ἐστὶ τοῦδε· καὶ γὰρ ὁ τραγέλαφος σημαίνει μὲν τι, οὐπω δὲ ἀληθές ἢ ψεῦδος, ἐὰν μὴ τὸ εἶναι ἢ μὴ εἶναι προστεθῇ ἢ ἀπλῶς ἢ κατὰ χρόνον¹ [first it needs to be established what is a subject-noun and a present-tense-predicative-term, next what is an affirmation, a denial, a statement-making-sentence, and a sentence. (P1) Things in vocalized-sound are symbols of affections in the soul, and written marks are symbols of things in vocalized-sound, and just as written marks are not the same for everybody, nor are vocalized-sounds the same for everybody. [16a 5] But the primordial things of which vocalized-sounds and written marks <i.e.

¹ I am reproducing here Mino-Paluello's text of *De interpretatione* 1. However, my translation does not follow Mino-Paluello's punctuation at 16a 16-17, but Sedley's (Sedley 1996, 93). I will be also taking into consideration Weidemann's text. For Aristotle's *Analytics* and *De anima* I will be relying on Ross' editions and, for the *Metaphysics*, on Jaeger's ; I will use Bywater's edition of the *Ethica nicomachea*; Walzer and Mingay's edition of the *Ethica eudemia*; Nussbaum's edition of the *De motu animalium*; Louis' edition of the *Historia animalium* and Kassel's edition for *Poetica*. I will quote Plato's works according to Burnet's editions.

ταῦτα> are signs, these things <picking up ὄν, i.e. that of which> are the same affections of the soul for everybody, and that of which these affections of the soul <i.e. ταῦτα> are likenesses, these in fact are certainly the same things for everybody. These matters, however, have been treated in the discussion on the soul – they in fact concern a different subject. (P2), (P3) And, just as in the soul there is sometimes a thought without stating-the-truth or stating-a-falsehood and sometimes there is a thought [16a 10] to which one of these <i.e. stating-the-truth or stating-a-falsehood> already necessarily applies, (P4) the same also occurs in vocalized-sound. (P5) Truth and falsehood are in fact about connection and separation. Subject-nouns themselves, as well as present-term-predicative-terms, resemble thought without connection or separation, as for instance “man” or “white”, when nothing is added to them, for there is yet neither falsehood [16a 15] nor truth, but a sign of some particular thing. For even “goat-stag” signifies something, but not yet something true or false, unless “is” or “is not” with or without time qualification is added] ».

De interpretatione 1 makes at least four linguistic points. (Point 1) Written and spoken linguistic expressions² symbolize or signify soul-affections, as well as things (i.e. extramental and extralinguistic items) (16a 3-8). (P2) Among thoughts, some are neither true nor false, i.e. lack truth value, and some are either true or false, i.e. have truth value. (P3) Thoughts which have truth value consist of thoughts that lack truth value

² I will use « expression » to refer to any act of linguistic communication that can be regarded as complete in itself, and this applies to any linguistic unit and any combination of linguistic units complete in itself either uttered or written, including what we call nouns, verbs, sentences, and statement-making-sentences. This use of « expression » needs to be distinguished from some uses of φάσις in the *De interpretatione*, which translations usually render as « expression » and which at *De interpretatione* 16b 26, 17a 17-18 is restricted to linguistic units and any combination of linguistic units complete in itself (nouns, verbs, and sentences) which do not convey statements and therefore cannot be true or false. Ackrill 1963, 45-46 translates φάσις at 16b 26, 17a 17-18 as « expression » and Weidemann (Weidemann 2015, 75) as « Ausdruck ». At 22a 11 φάσεις are expressions such as « possible », « not possible », « admissible », « not admissible », « impossible », « not impossible », « necessary », and « not necessary » and here Ackrill 1963, 61 translates « expressions » and Weidemann (Weidemann 2015, 131) « Ausdrücke ». However, at 21b 18 φάσις refers to combinations of linguistic units complete in themselves that are true (or false). Nonetheless, Ackrill 1963, 60 translates « expression » and Weidemann 2015, 127 « Ausdrücke ». In contrast, at 21b 21-22, where φάσις still refers to combinations of linguistic units complete in themselves that are true (or false), Ackrill 1963, 60 translates « affirmations » and Weidemann 2015, 129 « Bejahungen ». I propose to translate φάσις in the sense of « linguistic unit and any combination of linguistic units complete in itself (nouns, verbs, and non-statement-making-sentences) which does not convey (or presuppose) a statement and cannot be true or false » (16b 26, 17a 17-18) as « non-statement-making-expression ».

(16a 9-11, 16a 14). (P4) To this distinction between « thoughts which have and thoughts which lack truth-value » corresponds a linguistic distinction between linguistic expressions which are neither true nor false, i.e. lack truth value (e.g. *ὀνόματα* and *ῥήματα*, 16a 13-18, cf. 16a 9-11) and linguistic expressions which are either true or false, i.e. have truth value (i.e. statement-making-sentences, see *λόγος ἀποφαντικός*, 17a 2, 17a 8 and *ἀπόφανσις*; 17a 25, 17b 5, 17b 11). The relationship between these two different sorts of linguistic expressions is such that linguistic expressions which have truth value consist of linguistic expressions that lack truth value (i.e. *ὀνόματα* and *ῥήματα*) (16a 11). Finally, (P5) thoughts which have truth value, are either true or false because they connect or separate the thoughts they consist of. And by the same token, linguistic expressions which have truth value are either true or false because they connect or separate the linguistic expressions they consist of (16a 12-18).

It is here assumed that thoughts which have truth value, insofar as they consist of other thoughts, are complex; while linguistic expressions which have truth value, insofar as they consist of other linguistic expressions, are also complex. It also appears to be assumed that the thoughts which are ultimate constitutive elements of complex thoughts do not consist of further thoughts and are thus simple; while the linguistic expressions which are ultimate constitutive elements of complex linguistic expressions do not consist of further linguistic expressions and are thus simple.

These semantic points and assumptions have earned the first short, compressed, and elliptical chapter of the *De interpretatione* the reputation of being « semantic ». Lines 16a 3-8 in particular have been regarded as « the most influential text in the history of semantics » (Kretzmann 1974, 3), and some interpreters have even claimed that *De interpretatione* 1 contains Aristotle's semantic theory (Montanari 1984, 12). However, the purpose of this chapter cannot be the formulation of such theory, for that would be inconsistent with the end and subject matter of the whole work. If we are to measure the subject matter of the *De interpretatione* by the topic most prominent in that treatise, we must conclude that it is contrary and contradictory pairs of assertions³. As a matter of fact, chapter 6 of the *De interpretatione* introduces contrary and contradictory pairs of assertions, chapters 7 to 14 focus on different features and relations

³ Sedley 1996, 93. Bear in mind that the title « De Intrepretatione » or « Περὶ ἔρμευείας » is spurious, see Weidemann's edition, v-vi ; Weidemann 2015, 9-10.

among such pairs, and this all makes for about seven of the nine Bekker pages of the whole treatise.

In this context, chapters. 2 to 5, insofar as they present concepts suitable for the analysis of contrary and contradictory pairs of assertions (e.g. ὄνομα, ῥῆμα, λόγος, ἀπόφανσις, ἀπόφασις, and κατάφασις), can be regarded as an introduction to the subject matter of the treatise. Chapter 1, in contrast, to the extent that it facilitates the basic concepts (e.g. φωνή, σύμβολα, σημεῖα, σύνθεσις, and διαίρεσις) that chapters 2-6 use to define the concepts needed for the analysis of contradictory pairs (Kretzmann 1974, 1), can in turn be regarded as a preamble to the introduction to the study of contrary and contradictory pairs, and this preamble – as we have seen – happens to be linguistic and semantic in character⁴.

This poses two pairs of questions regarding *De interpretatione* 1. First, questions about the role of chapter 1 in the work's general project: (Question 1) what is the point of the semantic observations of *De interpretatione* 1? And (Q2) how does the topic of contrary and contradictory pairs of assertions shape Aristotle's semantic observations in *De interpretatione* 1? Second, questions about the content of *De interpretatione* 1: (Q3) what is the semantic theory officially sketched in chapter 1? And (Q4) is this theory a theory of meaning?

My answers to these questions and the following study of *De interpretatione* 1 will centre around the relation of linguistic expressions to both thoughts and reality. This is the relation Aristotle refers to by means of terms such as « σύμβολον » (16a 4 and 28, 24b 2), « σημεῖον » (16a 6, 16b 7, 10 and 22), and « σημαίνειν » (16a 17, 20b 2, 22b 8) and I propose to call it « signification ». I will not focus on the relation Aristotle flags by means of the expression « ὁμοιώματα ». This is a relation between our cognitive capacity and reality which Aristotle himself takes to be a separate topic handled in the *De anima* (16a 8-9).

In order to settle what signification in the *De interpretatione* is, (§1) I will begin by explaining what contribution the notion of « vocalized-sound »

⁴ Notice that the first two lines of *De interpretatione* 1 introduce the notions of ὄνομα, ῥῆμα, ἀπόφασις, κατάφασις, ἀπόφανσις, and λόγος (16a 1-2). Since the first word of the treatise is « first » (πρῶτον, 16a 1) and ὄνομα, ῥῆμα, ἀπόφασις, κατάφασις, ἀπόφανσις, and λόγος are the subject matter of chapters 1 to 7 only, we must conclude that these two lines do not really mark the start of the treatise as a whole, but rather the start of the introduction to the treatise. However, bear in mind that these lines may very well have been added by an ancient editor of the text.

(φωνή) makes to *De interpretatione* 1. This will help us understand the general background of Aristotle's approach to signification and how that background contrasts with his purposes in *De interpretatione* 1. Next, (§2) I will explain what « ὀνόματα », « ῥήματα », and « λόγοι » mean according to the *De interpretatione* and (§3) what it is for « ὀνόματα », « ῥήματα », and « λόγοι » (specifically ἀποφάνσεις, « statement-making-sentences ») to signify. Then, (§4) I will provide an assessment of Aristotle's notion of signification in the *De interpretatione* beyond chapter 1. Here I intend to show that beyond chapter 1 Aristotle introduces and presupposes semantic notions or values different from what he officially introduces as « signification » and « signify » at the start of the treatise. This assessment will help us further evaluate what Aristotle understands as « signification » and « signify » in *De interpretatione* 1. I expect all this to provide answers to (Q1) and (Q2) and help us make progress towards answering (Q3) and (Q4). Next, (§5) I will show that Aristotle's semantic observations are motivated and aimed at an analysis of contrary and contradictory pairs of assertions. This will put me in a position to answer (Q3) and (Q4), and explain what sort of semantic theory *De interpretatione* 1 contains and how that theory compares to what we call meaning. Finally, (§6) I shall conclude by recapitulating and connecting the answers to (Q1), (Q2), (Q3), and (Q4).

Accordingly, four main conclusions are reached: (i) The semantic observations of *De interpretatione* 1 provide linguistic elements and a linguistic background to explain contrary pairs, contradictory pairs, statement-making-sentences, and truth and falsehood. (ii) In *De interpretatione* 1, Aristotle restricts his semantic interests to elements and relations necessary for explaining contrary and contradictory pairs of assertions, and he does this at the expense of other linguistic and semantic issues that may be important for us, such as communication and linguistic content. (iii) *De interpretatione* 1 presupposes a distinction between simple vocalized-sounds and complex vocalized-sounds which implies a very rough notion of compositionality, according to which complex vocalized-sounds consists of simple vocalized-sounds. (iv) *De interpretatione* 1 does not contain a theory of what we call « meaning », for its main concern is neither how we manage to understand or be motivated by expressions, nor what we request when we fail to understand or be motivated by an expression.

1. The general background of Aristotle semantic remarks in *De interpretatione* 1 and the notion of φωνή or vocalized-sound

1.1. What is φωνή or vocalized-sound?

The first two lines of *De interpretatione* 1 introduce the notions of ὄνομα, ῥῆμα, ἀπόφασις, κατάφασις, ἀπόφανσις, and λόγος (16a 1-2). It is clear that their spoken forms (16a 13, 19, 16b 19-20, 26, 17a 1, 5, 23, 20b 1-2; cf. τὰ γραφόμενα, 16a 4; γράμματα, 16a 5) are all vocalized-sounds (φωναί, 16a 5; τὰ ἐν τῇ φωνῇ, 16a 3; τῶν ἐν τῇ φωνῇ, 16a 4; ἐν τῇ φωνῇ, 16a 11) significant by convention (16a 5-6)⁵. However, further inspection of the treatise reveals that vocalized-sound must also include πτώσεις ὀνομάτων (16a 19, 32 and 16b 5), ὀνόματα ἀόριστα (16a 32), πτώσεις ῥημάτων (16b 16-17), and ῥήματα ἀόριστα (16b 14). Moreover, insofar as λόγοι include prayers (εὐχή, 17a 4), as well as statement-making-sentences (ἀπόφανσις, 16a 2, 17a20-23 ff., 17b 5, 11) which in turn include affirmations (ἀπόφασις, 17a 25, 16a 31) and denials (κατάφασις, 16a 2, 16b 27, 17a 25, 32 ff., 17b 20 ff., 17b 38 - 18a 12, 19b 5 ff., 19b 15, 21a 34 - 22a 13, 23a 27-24b 9)⁶, we need also include prayers (and apparently non-statement-making-sentences in general), statement-making-sentences, affirmations, and denials under vocalized-sound. This implies that ὀνόματα, πτώσεις ὀνομάτων, ὀνόματα ἀόριστα, ῥήματα, πτώσεις ῥημάτων, ῥήματα ἀόριστα, λόγοι, εὐχαί, ἀποφάσεις, καταφάσεις, ἀποφάνσεις are all vocalized-sounds significant by convention (16a 19, cf. 16b 19-20, 26).

What exactly is here the relationship between vocalized-sound, being significant, and convention? The phrasing « vocalized-sound significant by convention » has been taken to suggest a distinction between vocalized-sound, significant vocalized-sound, and vocalized-sound significant by convention. This implies that Aristotle assumes that not every vocalized-sound is significant and that not every significant vocalized-sound

⁵ According to common classical Greek linguistic usage – which Aristotle appears to follow at this point – something that signifies (σημαίνειν) is a sign (σημεῖον) and has the property of being significant (σημαντικόν). If this is the case, we can then say that φωναί, ὀνόματα, ῥήματα, and λόγοι signify, have the property of being significant, and are signs. We can also say that they are signifiers, i.e. items that signify. What exactly « signify » means in the *De interpretatione*, in particular in chapter 1, that is something this paper will try to explain.

⁶ I delay translations of « ὄνομα », « ῥήμα », « λόγος », and related linguistic terms until section §2. These are terms we should be weary of directly assimilating into contemporary terminology, for such terminology may obscure their connotations.

is significant by convention. In this reading, Aristotle is interested neither in any vocalized-sound, nor in significant vocalized-sound in general, but in vocalized-sound that is significant by convention⁷. However, we should not jump into conclusions too hastily, for in his natural and psychological works, Aristotle implies a different and quite interesting description of vocalized-sound.

According to Aristotle's natural and psychological works, vocalized-sound is not any sound (ψοφεῖν, *Historia animalium*, 535b 3 and ψόφος, 535a 27). In the *Historia Animalium* and in the *De anima*, vocalized-sound is a natural sound, and this means that vocalized-sound is a sound a living being produces by means of its own organs, when it itself acts as principle or agent in the production of the sound (*Historia Animalium* 535b 9-14, 535b 30-32). The organs involved in the production of vocalized-sound are not any organs either (οὐ τῷ τυχόντι μορίῳ, *De anima* 420b 14), but the « windpipe » or tube that carries air to the lungs (*Historia Animalium*, 535a 27-30). However, not every sound produced through the wind pipe can be regarded as vocalized-sound. A cough, for instance, is not a vocalized-sound (*De anima* 420b 30-31). For a sound to be a vocalized-sound, it does not suffice that it be produced through the windpipe. In addition to that, a living being acting as agent must produce the sound voluntarily⁸ and this voluntary sound must also be significant (σημαντικὸς γὰρ δὴ τις ψόφος ἐστὶν ἢ φωνή, 420b 32-33)⁹.

Two crucial facts underlie this restricted notion of « vocalized-sound ». First, insofar as vocalized-sound is significant, it must be produced for the sake of communication (ἢ δ' ἐρμηνεῖα ἔνεκα τοῦ εἶ, *De anima* 420b 19) and its very purpose must be communication. This suggests that vocalized-sound presupposes a communication model that

⁷ D. Sedley (Sedley 1996) is committed to this view, which was in fact accepted by Latin commentators such as Thomas Aquinas and Albertus Magnus, which implies that there are vocalized-sounds which do not signify.

⁸ Vocalized-sound is neither a non-voluntary motion such as breathing or falling asleep (οὐχ ἔκούσιος κίνησις, see *De motu animalium* 703b 8-11), nor a counter-voluntary motion (ἀκούσιος κίνησις, see 703b 5-8) such as palpitation or an erection, which involve φαντασία and can take place against one's desires (see *Ethica nicomachea* 1110b 18, 1111a 22). Vocalized-sound is rather a voluntary motion (ἐκούσιος κίνησις, see *De motu animalium* 703a 4-5) involving desire and cognition, e.g. φαντασία.

⁹ The syllables – and this must also apply to letters – of words do not signify and yet they are called « vocalized-sound » (*De interpretatione* 16b 30-38). That is so because syllables lack signification but are elements of linguistic expressions that do signify. « Vocalized-sound » as mere sound without signification is uncommon in Greek, but possible, see Plato, *Theaetetus* 156c 2, but cf. 163b 3.

involves an enunciator, a receptor, and a message. According to such model, the enunciator purposely emits a sound that is a sign and carries a message, and such enunciator intends the receptor to receive and interpret that sign and message in a certain way. In this model, a sign is not only purposely emitted but is also established or instituted for the sake of communication. For this reason, the sign must, at the very least, presuppose some form of convention. Moreover, this conventional sign is certainly not an inferential sign or symptom. For we interpret inferential signs not on the basis of convention but by means of inference, not to mention that inferential signs need not involve an enunciator which somehow purposely uses the sign and establishes its signification having in view communication.

Second, insofar as vocalized-sound is significant and produced for the sake of communication, its production must presuppose some cognitive content. In fact, vocalized-sound according to Aristotle is « ensouled » in the sense that a cognitive capacity is responsible for its production (*De anima* 420b 24-32)¹⁰. That cognitive capacity in the general context of the *De anima* and the *Historia Animalium* is φαντασία. And since Aristotle thinks that vocalized-sound signifies something precisely because (γὰρ δὴ) it involves a cognitive capacity (σημαντικὸς γὰρ δὴ τις ψόφος ἐστὶν ἢ φωνή, *De anima* 420b 32-33), we can say that according to him φαντασία is involved both in the triggering of the physiological mechanism that produces a vocalized-sound, as well as in the fact that the vocalized-sound is significant.

As we have seen, Aristotle's biological and psychological works distinguish vocalized-sound not only by means of the organs involved in its production. Vocalized-sound is voluntary, its production involves cognition, it is for the sake of communication, and is significant by convention. In this picture, vocalized-sound is essentially significant by convention, i.e. every vocalized-sound is significant by convention, and vocalized-sound must be distinguished from vocal sounds such as a cough (*De anima* 420b 30-33, *De interpretatione* 16a 29) or an expression of pain not necessarily intended as an act of communication. This picture, however, does not square with an unrestricted notion of vocalized-sound,

¹⁰ In *De anima* 420b 5-6 « ensouled » (ἐμψύχον) means « alive », but at 420b 31, where it is explained as implying or presupposing φαντασία (ἀλλὰ δεῖ ἐμψύχον τε εἶναι τὸ τύπτον καὶ μετὰ φαντασίας τινός, 420b 31-32), it must mean « by a living being ». Unlike Ross, who reads ἐμψυφόν, I read ἐμψύχον at 420b 31, which is what all codd. have.

according to which only some among all vocalized-sounds are significant, and only some among those that are significant are significant by convention.

Against this restricted construal of vocalized-sound, according to which vocalized-sound is essentially significant by convention, one may reply that at *De interpretatione* 16b 32 Aristotle speaks of a « mere vocalized-sound » (φωνή μόνον) that does not signify. One may think that this « mere vocalized-sound » surely implies that in the *De interpretatione* « vocalized-sound » is not necessarily significant and is not used in the same way as in the *De anima* and biological works. This reply, however, misses the point of the text at 16b 32. The « mere vocalized-sound » Aristotle has in mind there is a syllable or a combination of a consonant and a vowel (16b 30-32), and such vocalized-sound does not signify simply because it is a phonetic element or part of a more complex phonetic articulation that is a minimal unit of signification. Consequently, although this « mere vocalized-sound » does not signify, it belongs to a significant expression and to a system of signification, and must therefore be distinguished from a mere unarticulated vocal sound which does not belong to a system of signification (cf. 16a 29)¹¹.

In this restricted reading of « vocalized-sound », according to which every vocalized-sound is somehow conventional, the expression « vocalized-sound significant by convention » is no doubt somewhat redundant. However, this redundancy is not pointless, for it makes explicit an analysis that underscores the crucial features of what a vocalized-sound is. What makes this restricted reading attractive and worth taking into consideration, is that it brings to the fore and emphasizes the cognitive, communication, and conventional aspects of vocalized-sound setting it apart from any random and non-linguistic vocal-sound.

1.2. *The cognitive aspect of vocalized-sound*

In the *De anima* and biological works, the cognitive aspect of vocalized-sound is φαντασία. However, φαντασία cannot ultimately be what Aristotle has in mind when he refers to the cognitive aspect of vocalized-sound

¹¹ Something similar can be said in regard to *Poetica* 1456b 39 - 1457a 10, where conjunction (σύνδεσμος, e.g. μέν, δέ) and article (ἄρθρον) are said to be non-significant vocalized-sound (φωνή ἄσημος): conjunction and article may not signify, but they certainly belong to a system of signification.

in the *De interpretatione*. Here he starts by pairing vocalized-sound with soul-affections (τῶν ἐν τῇ ψυχῇ παθημάτων, 16a 4-5; παθήματα τῆς ψυχῆς, 16 a 6-7), and although φαντασίαι can be regarded as soul-affections (*De anima* 403a 5-10 and 427b 14-18), he quickly narrows the scope of « soul-affections » to thoughts (16a 10, 14, see also 17a 18, 23a 32-33). A possible explanation for this narrow scope may be that Aristotle in the *De interpretatione* is not concerned with vocalized-sound in general, but with vocalized-sounds such as ὀνόματα, ῥήματα, and λόγοι, which are not only exclusive to humans, but appear to be related to and depend on the higher levels of human cognition. This of course posits the question what thoughts in *De interpretatione* 1 are.

Vocalized-sounds or things in vocalized-sound (e.g. ὀνόματα, πτώσεις ὀνομάτων, ὀνόματα ἀόριστα, ῥήματα, πτώσεις ῥημάτων, ῥήματα ἀόριστα, λόγοι, ἀποφάσεις, καταφάσεις, ἀποφάνσεις) can signify thoughts and beliefs (23a 33-34, 24a 1-4). Insofar as things in vocalized-sound signify thoughts and beliefs, the logical properties of things in vocalized-sound correspond to the logical properties of thoughts and beliefs (e.g. complexity and simplicity, having or lacking truth-value, opposition, etc.), and the relations among things in vocalized-sound correspond to relations among thoughts and beliefs (e.g. contrariety, opposition) (16a 9-16, 23b 32, 24b 1 ff.). If this is the case, then « thoughts » in *De interpretatione* 1 cannot be understood in the narrow sense of a fully-fledged single grasp of a principle (or even a universal) and as resulting from the exercise of the intellect's capacity to grasp principles (or universals) (cf. *Analytica posteriora* 100b 5 ff.).

Indeed, insofar as the *De interpretatione* is about contradictory pairs of assertions and their relations, the range of thoughts in this work must be broader than the single grasp of principles. In *De interpretatione* 1, Aristotle takes into consideration both thoughts on their own as well as thoughts that result from the connection or separation of other thoughts (16a 9-15), and in subsequent chapters he pairs affirmative and negative assertions in vocalized-sound with affirmative and negative beliefs (23a 33-34, 24a 1-4). This implies that thoughts in the *De interpretatione* cannot be restricted to a single grasp but must include the product of discursive operations. For this reason, thoughts in the *De interpretatione* must be understood in a broad sense as resulting from the exercise of the general capacity for thinking (νοῦς, νοεῖν, *De anima* 429a 10-23, 430a 24, 430a 28), which includes the discursive connection and separation of

thoughts (διάνοια, *Metaphysica* 1012a 2-5, 1027b 25-1028a 4, 1065a 21-24, 1052a 21), the apprehension of general notions (ὑπόληψις) (see *Physica* 186a 28-29, 186b 4-5), calculation (λόγος), knowledge (ἐπιστήμη), the capacity to grasp principles (νοῦς, *Analytica posteriora* 100b 5-7), and beliefs (*De interpretatione* 21a 32-33, 23a 32-24b 9).

Now, if ὀνόματα and ῥήματα signify thoughts that lack truth-value, while λόγοι – specifically statement-making-sentences (ἀποφάνσεις) – signify thoughts that are either true or false, one would expect the signification of at least some λόγοι to be in some way different from the signification of ὀνόματα and ῥήματα. It is true that if Aristotle is speaking of signification in broad general terms, he needs not distinguish between the signification of simple and complete expressions. Nonetheless, since he takes the logical properties of things in vocalized-sound to correspond to the logical properties of thoughts and beliefs (e.g. complexity and simplicity, having or lacking truth-value, opposition, etc., *De interpretatione* 16a 9-16, 23b 32, 24b 1 ff.), he must either presuppose, imply, or be open to accept two different sorts of signification, i.e. simple signification which does not involve truth-value and complex signification which does involve – in the case of ἀποφάνσεις and thoughts that make statements – truth-value. In order to clarify what these two different forms of signification amount to, we need first clarify how Aristotle distinguishes between ὀνόματα, ῥήματα, and λόγοι, and how it approaches these linguistic distinctions. A good way to do this is to explain Aristotle's terminology, and finally provide translations of these terms.

2. Ὀνόματα, ῥήματα, λόγοι, and their relationship, and what they can tell us about *De interpretatione* 1 and beyond

2.1. *De interpretatione*'s distinction between ὀνόματα, ῥήματα, and λόγοι

In the *De interpretatione*, Aristotle uses the terms « ὀνόματα », « ῥήματα », and « λόγοι » in a technical way which bears witness to how he thinks about signification. In Greek, ὄνομα may mean as much as « word » (see Plato, *Sophista* 261d 2, 4), but it can also have narrower meanings such as « noun » (262a 1, 7, 9, 262b 10) and « name » (Plato, *Cratylus* 384c 3-5). In the *De interpretatione*, Aristotle proposes a technical and an even narrower use of the term (Πρῶτον δεῖ θέσθαι τί ὄνομα καὶ τί ῥῆμα, 16a 1-2). According to this technical use, both the

common noun « ἄνθρωπος », i.e. « human » (20a 10-15, 19b 32-35)¹², as well as the personal noun « Κάλλιππος », i.e. « Kallippos » (16a 21), count as ὀνόματα. Clearly, ὀνόματα are nouns of some sort. However, Aristotle distinguishes common and personal nouns in the nominative case from common and personal nouns in other cases, reserving the term ὄνομα to the former and the term « noun-inflections » (πτώσεις ὀνομάτων, 16a 32 - 16b 5) to the latter. In addition to that, he also distinguishes ὀνόματα from indefinite-nouns (ὄνομα ἀόριστον, 16a 32) such as « non-man » (« οὐκ ἄνθρωπος », 16a 19 and 30, 19b 8, 20a 2 and 31). This implies that ὀνόματα are common and personal definite nouns in the nominative case. For this reason and bearing in mind that – as we shall see – such nouns play a crucial role in statement-making-sentences, I will translate ὄνομα as « subject-noun ».

A similar description applies to the ῥῆμα. In Greek, « ῥῆμα » was originally used to refer to what is said and meant by a phrase or word (Chantraine 2009, 325, see εἶργω 2). Eventually, the term came to be understood in opposition to « ὄνομα » and to refer to the marker of an action in a sentence (Plato, *Sophista* 262b 5-7). Along these lines, Aristotle in the *De interpretatione* takes « recovery » to be an ὄνομα and « recovers » a ῥῆμα¹³. However, he distinguishes the ῥῆμα, which has present tense (16b 9), from the πτώσις ῥήματος (16b 17), which has future or past tense (16b 16-17). In addition to this, he also distinguishes the ῥῆμα from the indefinite-ῥῆμα (ἀόριστον ῥῆμα, 16b 14), such as « not-recover » (τὸ δὲ οὐχ ὑγιαίνει καὶ τὸ οὐ κάμνει οὐ ῥῆμα λέγω, 16b 11).

If we bear in mind that Aristotle takes a ῥῆμα in a sentence to be a sign of what is said of something else (καθ' ἑτέρου λεγομένων σημειῶν ἐστι, 16b 11) and that such something else can be signified by an ὄνομα, it is clear that he takes the ῥῆμα to play a central role in predication and describing a subject. Consequently, a ῥῆμα is a present tense predicative term and I will accordingly translate « ῥῆμα » as « present-

¹² I am translating « ἄνθρωπος » here as « human » in sense of human-being, for « ἄνθρωπος » in classical Greek applies to all members of the species, both males and females.

¹³ Οἷον ὑγίεια μὲν ὄνομα, τὸ δ' ὑγιαίνει ῥῆμα (16b 8-9). The natural translation of ὑγίεια is « health ». However, following Ackrill 1963, 44 I am translating « recovery ». « Recovers » is derivative from « recovery » in a similar way as ὑγιαίνει is derivative from the ὑγίεια. Unfortunately, there is not for our purposes an adequate English verb or predicate-term derivative from « health ».

tense-predicative-term ». In contrast, I will from now on translate πτώσις ῥήματος as « predicative-term-inflection » and ἀόριστον ῥῆμα as « indefinite-(present-tense-)predicative-term »¹⁴.

Both the subject-noun and the present-tense-predicative-term contrast with λόγος, which in the *De interpretatione* includes sentences that make statements (ἀποφάνσεις, 16b 29-30, 17a 8-9), be these affirmations or denials (16a 2, 17a 20 and 25, 17b 15), as well as prayers (17a 4). According to 16b 26-28, a λόγος is a « significant vocalized-sound, a part of which is significant in separation as an expression, not as an affirmation » (16b 26-28)¹⁵. In other words, a λόγος is a complex linguistic expression, some of whose parts have signification on their own apart from the λόγος, but do not signify in such a way as to make a statement. I will translate λόγος as « sentence » and I will refer to sentences that make a statement (i.e. ἀποφάνσεις) as « statement-making-sentences ».

2.2. *Motives for De interpretatione's distinction between ὀνόματα and ῥήματα*

From a linguistic point of view, Aristotle's technical terminology in the *De interpretatione* strikes as bizarre because it lacks a generic distinctive term that embraces the subject-noun (ὄνομα), the noun-inflection (πτώσεις ὀνομάτων), and the indefinite-noun (ὄνομα ἀόριστον). The natural Greek term to cover species of nouns or names would of course be « ὄνομα », and yet Aristotle reserves this term to the subject-noun. From our contemporary linguistic perspective, a better strategy would

¹⁴ We should not hasten to associate the distinction between subject-nouns (including nouns in general) and present-tense-predicative-terms with the Aristotelian distinction between substances and properties. Such association, at least without important and elaborate qualifications, is unacceptable because Aristotle takes into consideration subject-nouns (e.g. ὑγίεια) etymologically derivative from predicate-terms (e.g. ὑγιαίνει), not to mention that he also takes into consideration subject-nouns that do not signify substances, such as « goat-stag » (16a 16-17). In addition to that, Aristotle appears to use « ἄνθρωπος » as an example of subject-noun (16a 14-15), but this is a common noun, which as such can be used not only as a subject but also as a predicate. In fact, the point of introducing simple thoughts and complex thoughts (16a 9-11, 14) as the first or primary things signified (16a 6) is to allow for the possibility of language (i.e. expressions and sentences) signifying things that find no counterpart in reality.

¹⁵ There are, however, obvious common idiomatic uses of λόγος in the *De interpretatione*, such as in κατὰ λόγον (« in a reasonable way », 22a 14), μὴ κατὰ λόγον (« non-rational », 22b 38), μετὰ λόγον (« rational » or « with reason », 22b 39), and ὁ αὐτὸς λόγος (« the same account », 19a 27-28, see also 16b 1-2).

have been to use « ὄνομα » as a broad generic term that embraces the subject-noun, the noun-inflection, and the indefinite-noun, and to have coined for the subject-noun a term that involves a qualification over ὄνομα as in the translation « subject-noun ». The same applies to « ῥῆμα ». The contemporary reader is inclined to think that Aristotle should have used « ῥῆμα » as a broad general term that embraces the present-tense-predicative-term, the predicative-term-inflection, and the indefinite-predicative-term, and that he should have coined for the present-tense-predicative-term a term that involves a qualification over ῥῆμα as in the translation « present-tense-predicative-term ».

Aristotle, however, had reasons either to accept or implement this terminology in the *De interpretatione*¹⁶ where a distinction between subject-nouns and noun-inflections is relevant because contrary and contradictory pairs of statement-making-sentences consist of statement-making-sentences (i.e. affirmations and denials, cf. 17a 23-26 and 32-34), and a statement-making-sentence necessarily contains a subject-noun, but does not necessarily contain a noun-inflection. This is so because a statement-making-sentence, to the extent that it is about whether or not something is the case (17a 23-24), either asserts something of something or asserts something as not of something (17a 25-26), and this presupposes a subject of which a predicate is either asserted of or asserted as not of. In fact – as we saw in §1.1 –, the minimal form of a statement-making-sentence consists of a subject and a predicate expression (19b 10-19), and here the subject-noun is obviously the subject expression.

Aristotle recognizes the priority¹⁷ of the subject-noun over the noun-inflection in regard to the statement-making-sentence, when he observes that if we placed « is » (or « was », or « will be ») after a noun-inflection, the resulting phrase would be neither true nor false, and would not make a statement (16a 32 - 16b 5); whereas if we placed « is » (or « was », or « will be ») after a subject-noun, the resulting phrase would be either true or false and would make a statement (16a 3-4). This is so because a

¹⁶ We find the same terminology in *Poetica* 1457a 10-14 and 18-22. It is unclear whether Aristotle is applying the terminology of the *De interpretatione* to the *Poetica* or the other way around, or whether this was simply the terminology available to him. Be as it may, a possible reason he does not use « ὄνομα » as a general term for nouns and terms is that the term for him may in fact include not only nouns and adjectives, but also pronouns, and probably even adverbs (see Lucas 1968, 202).

¹⁷ What sort of priority this is will be explained in §4.3.

subject-noun, unlike a noun inflection, can function as the subject of a statement-making-sentence¹⁸.

An indefinite-noun in the nominative can of course also function as subject of a statement-making sentence (19b 10-12). Nonetheless, indefinite-nouns are formed by applying a negation to a subject-noun; for this reason, indefinite-nouns depend on subject-nouns. The dependence of indefinite-nouns on subject-nouns, however, goes deeper. Indefinite-nouns designate complement-classes of classes which are themselves designated by subject-nouns. While the class designated by a subject-noun is defined by clear-cut intensional properties, the complement-class designated by an indefinite-noun is defined by a class of items that are not in a given class. Consequently, it is not only the case that indefinite-nouns as terms depend on subject-nouns, but the classes designated by indefinite-nouns also depend on the classes designated by subject-nouns, and while the classes designated by subject-nouns are clearly distinguishable, the classes designated by indefinite-nouns are blurry and unprecise, or at least considerably less distinguishable than the classes designated by subject-nouns.

In addition to this, the distinction between subject-nouns and indefinite-nouns is relevant in the *De interpretatione* because « human » and « non-human » are not statements and therefore, properly speaking, do not hold a relation of opposition. As a matter of fact, « non- » in « non-human » does not even involve a denial (20a 31-40), for denials are sentences, not terms. This suggests that Aristotle gives to the subject-noun a term of its own, i.e. « ὄνομα », because the subject-noun, unlike the noun-inflection, plays a basic and indispensable role in statement-making-sentences, and by extension also in contrary and contradictory pairs. Indefinite-nouns, in turn, must have a derivative role, for they – as we have seen – presuppose and are derivative from subject-nouns.

As one may expect, Aristotle distinguishes the present-tense-predicative-term from the indefinite-predicative-term and the predicative-term-inflection along the same lines he distinguishes subject-nouns from indefinite-nouns and noun-inflections. Indefinite-predicative-terms, insofar as they are constructed on present-tense-predicative-terms, are derivative and

¹⁸ This is of course the case in direct discourse, but not in indirect discourse and the infinitive with accusative construction, where the subject is in the accusative case and the predicate-term in infinitive form.

dependent on present-tense-predicative-terms. The distinction between indefinite-predicative-terms and predicative-terms is relevant in the *De interpretatione* because in order to identify genuine contrary and contradictory pairs, we need first identify genuine affirmations and denials. And since indefinite-predicative-terms are not denials, we should not take the occurrence of an indefinite-predicative-term in a sentence to indicate that the sentence is a denial (20a 11)¹⁹.

As for the terminology « noun-inflection » and « predicate-term-inflection », it clearly involves an analogy between predicative-term-inflection and noun-inflection: just as nouns display different endings, predicate-terms also display different endings. However, there is also a disanalogy: nouns display different endings according to their syntactic role in a sentence, while predicate-terms – unlike nouns – mark time and display different endings according to the time they mark. Not only that, and more importantly, while a noun inflection – unlike a subject-noun – cannot function as a subject²⁰, a predicative-term-inflection can function as a predicate just like any present-tense-predicative-term can function as a predicate. This suggests that Aristotle distinguishes the present-tense-predicative-term from the predicative-term-inflection either because the predicative-term-inflection is derivative from the present-tense-predicative-term, or because the present tense, insofar as it can mark timeless general or universal action, is in some way independent from and prior to time demarcation, or both²¹.

Clearly, Aristotle has interest in giving priority to the subject-noun and the present-tense-predicative-term because they are the most basic and

¹⁹ Notice that indefinite-predicative-terms, unlike predicate-terms in general, equally hold of anything, whether existent or non-existent (ὅτι ὁμοίως ἐφ' ὅτουσδ' ὑπάρχει καὶ ὄντος καὶ μὴ ὄντος, *De interpretatione* 16b 14-15). In contrast, indefinite-predicative-terms can in some way be said to always hold of non-existents, e.g. « goat-stag is not-white », see Whitaker 1996, 65. For this reason, knowing whether or not the predicate holds of an existent or a non-existent entity is relevant in determining the truth-value of a statement-making-sentence.

²⁰ With exception of the accusative with infinitive construction, of course.

²¹ Tense can be crucial in identifying contradictory pairs and deciding which sentence of the pair is true and which false. Take, for instance, the case of future singular sentences or future contingents in *De interpretatione* 9. We cannot determine during the present which sentence of a contradictory pair involving future singular sentences is true and which false. Notice also that according to Aristotle predicative-term-inflections are understood in respect to the present-tense-predicative-term, for he describes past and future as what surrounds the present (τὰ δὲ τὸν περίξ <χρόνον>, 16b 18).

ultimate elements of statement-making-sentences, as well as of contrary pairs and contradictory pairs. His terminological choices are either compatible or reflect and emphasize this priority. The subject-noun and the present-tense-predicative-term, insofar as they are prior in analysis, get each a simple name of their own. In contrast, the noun-inflection, the predicative-term-inflection, the indefinite-noun, and the indefinite-predicative-term, insofar as they are posterior in analysis, get each correspondingly a compound name built on the name of the subject-noun and the name of the present-tense-predicative-term respectively. We can here appreciate that Aristotle's terminology, even if it sounds odd to us, is useful insofar as it provides a background and helps explain the elements of contrary pairs, contradictory pairs, and statement-making-sentences. For this reason, we can at this point conclude that in the *De interpretatione* Aristotle employs a terminology which allows him to emphasize a ranked analysis of the elements of contrary pairs, contradictory pairs, and statement-making-sentences at the expense of what is for us a clear linguistic terminology. This – as we shall see in §4 – has consequences for his notion of signification. In the context of the *De interpretatione*, we should not expect signification to explain linguistic phenomena in general. In this context, signification should rather help explaining contrary pairs, contradictory pairs, and statement-making-sentences.

2.3. *The case of λόγοι and its implications*

The case of the term « λόγος » is somewhat different from that of the terms « ὄνομα » and « ῥῆμα ». As we have seen, in the *De interpretatione* « λόγος » is clearly a generic term that embraces prayers (17a 4) and statement-making-sentences – i.e. affirmations (καταφάσεις) and denials (ἀποφάσεις) (17a 8-9) – all of which are sentences. However, Aristotle's definition of « λόγος » includes more than sentences. A « λόγος » is « a significant vocalized-sound, a part of which is significant in separation as an expression (φάσις), not as an affirmation (κατάφασις) » (16b 26-28) and the signification in question is by convention (17a 1-2). « A part... which <is> significant in separation as an expression » can be either a subject-noun, a noun-inflection, a present-tense-predicative-term, or a predicative-term-inflection. Present-tense-predicative-terms and predicative-term-inflections can in Greek be regarded as sentences, for they mark first, second, or third person

and therefore presuppose an implicit subject. However, expressions containing subject-nouns and noun-inflections need not be sentences, for instance « εἰς τὴν πόλιν », « ὁ καλὸς ἵππος », « ὁ ἵππος ὁ καλός », « ὁ ἑπακτροκέλης »²².

Unfortunately, Aristotle's definition of « λόγος » is problematic. By all accounts, it is circular; and from the point of view of contemporary linguistic analysis, it is obscure. When he says that a λόγος is « a significant vocalized-sound, a part of which is significant in separation as an expression (φάσις), not as an affirmation (κατάφασις) » (16b 26-28), Aristotle uses « affirmation » to explain λόγος, although an affirmation is itself a λόγος. Aristotle, therefore, implies that « a λόγος is a significant vocalized-sound, a part of which is significant in separation, as an expression, not as <a λόγος that is> an affirmative statement-making-sentence (κατάφασις) » (16b 26-28).

In addition to being circular, this definition does not provide clear necessary and sufficient conditions for a λόγος. It does not clarify why forms as distinct as prayers – which do not make statements –, statement-making-sentences – which do make statements –, and expressions such as « εἰς τὴν πόλιν », « ὁ καλὸς ἵππος », « ὁ ἵππος ὁ καλός », « ὁ ἑπακτροκέλης » – which are not even sentences – are all λόγοι. The definition appears to include a wide range of different types of linguistic expressions without establishing a necessary and linguistically, or semantically, revealing link between them. As a matter of fact, the definition strikes as internally imprecise and as merely stipulative. This, however, is not a fatal problem for Aristotle, for he will leave behind this definition and operate through the rest of the *De interpretatione* with statement-making-sentences, which he manages to differentiate well from other types of sentences. Nonetheless, Aristotle's definition of λόγος encounters difficulties in regard to other semantic notions, such as that of compound subject-nouns.

Take a noun-phrase such as « ὁ καλὸς ἵππος », or a phrase like « ἡ πόλις ». What exactly is the difference between these phrases and a compound subject-noun such as « ἑπακτροκέλης »? According to Aristotle, « ἑπακτροκέλης » has no parts that signify on their own and that should

²² Notice that « ὁ ἵππος καλός » has an adjective in predicative position, and can thus be regarded as presupposing an implicit ἔστι and therefore as being a sentence, whereas « ὁ καλὸς ἵππος » and « ὁ ἵππος ὁ καλός » have their adjectives in attributive position, do not presuppose an implicit ἔστι, and cannot be sentences.

distinguish it from « ὁ καλὸς ἵππος » and « ἡ πόλις ». However, one can perfectly argue that « ἡ πόλις » has no parts that signify on their own, that in « ἡ πόλις » the definite article « ἡ » modifies the meaning of « πόλις ». Although this is not the case in all instances of « ἡ πόλις », it certainly appears to be the case where the expression is used to name a particular part of a particular city – just like New Yorkers refer to Manhattan as « the city ». In such cases, a particular relation seems to hold between the definite article « ἡ » and « πόλις », whereby « πόλις » plays a role comparable to that of « ἑπακτρο- » in « ἑπακτροκέλης ». This suggests that there is a difference between « ἡ πόλις » and « ἡ πόλις » used as a name. A difference which demands clarification and puts into question a clear-cut distinction between « ἡ πόλις » and « ἑπακτροκέλης ».

The same applies to the difference between noun phrases such as « ὁ καλὸς ἵππος » and « ἑπακτροκέλης ». It needs to be explained why « ἵππος » in « ὁ καλὸς ἵππος » – unlike « ἑπακτρο- » in « ἑπακτροκέλης » – has a signification of its own not dependent on the rest of the phrase. This needs clarification because one may think that part of what makes « ἑπακτρο- » lack a signification of its own, and have a semantic value dependent on the expression « ἑπακτροκέλης », is the fact that the construction of compound nouns obeys syntactic rules²³, much in the same way as the construction of noun phrases such as « ὁ καλὸς ἵππος » obeys syntactic rules. If that is so, the question arises: what are then the syntactic rules that allow « ἵππος » in « ὁ καλὸς ἵππος » to have a signification of its own and prevent « ἑπακτρο- » in « ἑπακτροκέλης » from having a signification of its own. This brings us far from Aristotle, but it shows that the distinction between the semantic input of the parts of a λόγος, such as « ὁ καλὸς ἵππος » or « ἡ πόλις », and the semantic input of the parts of a compound noun, such as « ἑπακτροκέλης », is not as clear as one may expect and Aristotle assumes. Aristotle's definition of λόγος does not draw as sharp of a line between « ὁ καλὸς ἵππος » and « ἑπακτροκέλης » as contemporary linguistic expectations would wish.

²³ Just to give an example of such rules, in the composition of Greek words, if a word determines another, it usually presides the word it determines, e.g. λογοποιός. Notice that word composition sometimes originates from relations that words originally held in sentences, e.g. the relations between an adjective and substantive or a substantive and a genitive, πανμήτωρ > πάντων μήτηρ. See Kühner & Gerth 1892, 311 ff.

We can conclude at this point that Aristotle's remarks on subject-nouns, predicate-terms, and sentences fail to make some of the sharp and exhaustive distinctions a contemporary reader may expect. This, once again, suggests that in the *De interpretatione* Aristotle's interest in subject-nouns, present-tense-predicative-terms, and sentences is not really linguistic and semantic in our contemporary terms. And if that is so, we should not expect his views on signification to be linguistic and semantic in our contemporary terms. Aristotle's notion of signification in the *De interpretatione* is just as narrow and as loose as to help explain contrary pairs, contradictory pairs, and statement-making-sentences.

3. Signification in *De interpretatione* 1

As we have seen, Aristotle's approach to terms and sentences considerably differs from our semantic and linguistic interests and it is introduced in *De interpretatione* 1 in order to merely facilitate the reader's understanding of contrary and contradictory pairs of assertions. Let us now see how this approach to terms and sentences affects Aristotle's notion of signification in that treatise.

3.1. *Symbol and Signification*

In *De interpretatione* 1, instances of vocalized-sound are signs (σημεῖα) primarily of soul-affections (παθήματα τῆς ψυχῆς), and also of πράγματα (16a 5-8). Part of what this means is clarified by the adjacent and antecedent used of the term « symbols » (σύμβολα, 16a 4). Aristotle uses this term to make two claims:

- (1) Vocalized-sounds (things in vocalized-sound) are symbols of soul-affections (things in the soul) and
- (2) Written marks are symbols of vocalized-sounds (things in vocalized-sound).

Yet the term « symbols » appears only once in Aristotle's formulation of these two claims. One single explicit instance of the term is used, while a second remains implicit, to make two different but related claims. And the only explicit instance of the term is placed between the two claims ("Ἔστι μὲν οὖν τὰ ἐν τῇ φωνῇ τῶν ἐν τῇ ψυχῇ παθημάτων σύμβολα, καὶ τὰ γραφόμενα τῶν ἐν τῇ φωνῇ, 16a 4). Clearly, Aristotle is here emphasizing the term « symbols ».

Claims (1) and (2) support the further claim that:

- (3) Written marks and vocalized-sounds are not the same for everybody, i.e. written marks and vocalized-sounds vary among different linguistic communities. This implies that written marks and vocalized-sounds are socially dependent and conventional.

All these claims rest on the following assumptions (cf. 16a 6-8):

- (4) Vocalized-sounds are symbols of πράγματα²⁴.
 (5) Written marks are symbols of soul-affections.
 (6) Written marks are symbols of πράγματα.
 (7) The symbol relation and the conventional signification relation are transitive. Written marks can be symbols of soul-affections and πράγματα, insofar as they are symbols of vocalized-sounds, which are already symbols of soul-affections and πράγματα.

Notice that Aristotle makes no distinction between the way in which written marks are tallies or signs of vocalized-sounds, the way in which written marks and vocalized-sounds are tallies or signs of soul-affections, and the way written marks and vocalized-sounds are tallies or signs of πράγματα. Aristotle is thus taking symbol and signification as a general notion that concerns four levels distinguishable in conventional signification: written marks, vocalized-sounds, soul-affections, and πράγματα.

Here « πράγματα » must in principle mean extralinguistic and extramental-items. Three doctrines of the *De interpretatione* support this reading²⁵. First, the clear-cut distinction among the levels of written marks, soul-affections, and πράγματα. Second, the fact that *De interpretatione* 1 speaks of soul-affections being likenesses (ὁμοιώματα, 16a 7) of πράγματα. This supports reading « πράγματα » as « extralinguistic-items » or « extramental-items » because that of which soul-affections are ultimately likeness of are extralinguistic-items or extramental-items²⁶. And third, the fact that the *De interpretatione* is about contrary pairs, contradictory

²⁴ Vocalized-sounds are first signs (and symbols) of affections of the soul (16a 6), but also of that which such affections grasp. I will defend this reading soon at §3.2. Written marks, insofar as they intend to reproduce vocalized-sounds, signify also affections of the soul and what those affections grasp.

²⁵ Pace Weidemann 2015, 161.

²⁶ As suggested by « likeness » (ὁμοιώματα) at 16a 7, although the extramental and extra-linguistic world shapes and determines our formation of thoughts and the production of linguistic expressions, our thoughts and the linguistic expressions need not be mere indications or representations of items and facts in the extramental world.

pairs, statement-making-sentences, and ultimately truth and falsehood, for truth and falsehood has to do with the relationship between on the one hand language, and on the other hand soul-affections and extramental/extralinguistic reality.

Notice also that at 16a 6-8 there is a shift from the term « symbols » to the term « signs ». This shift involves a remarkable interplay between « symbols » and « signs », such that:

- (1') Vocalized-sounds are primarily signs of soul-affections.
- (5') Written marks are primarily signs of soul-affections.

These two claims in turn assume the following further claims:

- (2') Written marks are signs of vocalized-sounds.
- (4') Vocalized-sounds are (secondarily) signs of extramental-items²⁷.

These assumptions are important because claims (1') and (4') support the explicit claim that:

- (8) Soul-affections and extramental-items are the same for everybody, i.e. soul-affections and extramental-items do not vary across individuals and among different linguistic communities. Consequently, soul-affections and extramental-items are not socially and convention dependent. Soul-affections ultimately depend on the interaction between a human capacity and the external world, while the external world – even if humans interact in it and can modify it – is ultimately independent from and prior to human intervention.

We can appreciate that « symbols » (16a 3-5) and « signs » (16a 6-8) overlap insofar as (1) vocalized-sounds are symbols of soul-affections and (1') things in vocalized-sound are primarily signs of soul-affections. This overlap, however, presupposes a difference between symbol and sign. The text directly associates « symbol » with the linguistic fact that written marks and vocalized-sounds vary among different linguistic communities and are therefore human and socially dependent or conventional. « Sign », in contrast, is directly associated with the fact that soul-affections and extramental-items do not vary across different linguistic communities²⁸.

²⁷ It is perhaps also assumed that (5') Written marks are thirdly (i.e. after vocalized-sounds and soul-affections) signs of extramental-items.

²⁸ Sedley thinks that vocalized-sound in *De interpretatione* 1 presupposes signification in the non-linguistic sense of « indications » of an animal's soul-affections, while in

This contrast seems to imply that « symbol » and « sign » have related but different meanings and this coincides with Greek linguistic usage. Strictly speaking, a symbol is an object or tally, which upon previous agreement different people use to indicate, single out, or identify themselves or something else to one another (see *Ethica eudemia* 1239b 13). Since in our present case the term appears at the start of the treatise, is not preceded by a terminological clarification, and there is no further usage made of it in the rest of the *De interpretatione*, it seems we are to take « symbol » at face value. If this is the case, then the point must be that instances of vocalized-sound work like tallies, which on account of previous agreement different people use to indicate, single out, or identify themselves or something else to one another. What is remarkable here about symbols is that they straightforwardly presuppose convention and agreement.

In contrast, sign and signification in the *De interpretatione* – the adjective σημαντικός (significant) is a cognate of the substantive σημεῖον (sign) – are sometimes qualified by the phrase « by convention » (cf. 16a 3-6, 9-16 and 19-20, 16b 33 - 17a 2, cf. 16a 26-28). This suggests two things. First that the sign in question must be the particular sort of sign established by convention for the sake of communication and not, for instance, an inferential sign, such as smoke taken as an indication of fire. Second, this also suggests that « sign » designates a class which includes different kinds of signs, e.g. conventional and inferential signs, and conventional signs are specifically designated as « symbols ».

Under this light, given that symbols are inextricably connected to convention, Aristotle in *De interpretatione* 1 uses the term « symbols » to emphasize the linguistic and conventional side of a relationship between « significans » (i.e. what signifies) and « significatum » (i.e. what is signified, the object of signification), while he uses « sign » to emphasize the non-conventional character of the « significatum » (soul-affections, thoughts, extramental-items)²⁹.

chapters 2-4 it presupposes a more linguistic sense of signification, for in these chapters different linguistic expressions are defined as significant vocalized-sound and this implies that vocalized-sound as such is not yet significant, see Sedley 1996, 91-93. Here Sedley is oblivious to the fact that « symbols » at 1, 16a 4 underlines the vocalized-sounds are significant by convention and this determines the scope and character of signification in *De interpretatione* 1.

²⁹ All this confirms that the text assumes a correspondence between (1) and (1'), (2) and (2'), (3) and (3'), (4) and (4'), and (5) and (5').

Yet this is not everything the notion of symbol has to tell us about *De interpretatione* 1. As we have already implied, the notion of symbol – and this should also apply by extension to the notion of conventional sign – presupposes at least four elements:

- (i) A tally
- (ii) People who use that tally
- (iii) An agreement among people as to how the tally is to be used, interpreted, or understood. As well as agreement as to what the tally indicates, singles out, identifies, or stands for
- (iv) And the item the tally indicates, singles out, identifies, or stands for, i.e. the « significatum »

In the light of these elements, it is clear that: (i) vocalized-sounds and written marks are tallies of soul-affections and extramental-items, whereas written marks are tallies of vocalized-sounds, and eventually of soul-affections and extramental-items. Notice we have many different and distinct relations, some of them made explicit, and some of them left implicit, but none of them clearly distinguished by the notion of sign or tally:

- a) The relation between vocalized-sounds and written marks
- b) The relation between vocalized-sounds and soul-affections
- c) The relation between vocalized-sounds and extramental-items
- d) The relation between soul-affections and extramental-items
- e) The relation between written marks and soul-affections
- f) The relation between written marks and extramental-items

Aristotle is primarily concerned with (b) the relation between vocalized-sounds and soul-affections and (c) the relation between vocalized-sounds and extramental-items. However, instead of distinguishing between the way vocalized-sounds signify soul-affections and the way vocalized-sounds signify extramental-items, what Aristotle is keen to imply is that vocalized-sounds are established by some sort of agreement or convention, and are therefore available in common only to a community of speakers, i.e. enunciators and receptors (ii-iii). And it is precisely for this reason that vocalized-sounds are not the same for everybody, even though soul-affections and extramental-items are the same for everybody (16a 6-8) (iii-iv).

Vocalized-sounds, insofar as they are symbols, are not the same for everybody, because they are restricted to those who partake on the

agreement or convention that establishes the symbol. Extramental-items, in contrast, are the same for everybody because, being independent from human intervention and agreement, they are equally available for everybody to grasp. In turn, soul-affections are the same for everybody, presumably because they result from the interaction between extramental-items and a human capacity which is qualitatively the same in every human³⁰.

This notion of symbol, tally, and conventional signification, according to which conventional signs signify thoughts and extramental-items (16a 3-4), is used to introduce the idea that truth and falsehood result from the connection or separation of vocalized-sounds and/or the connection or separation of thoughts (16a 9-16). The point is that we can connect and separate thoughts, but we can also – though presumably in a different way – connect and separate vocalized-sounds. Ideally, vocalized-sounds are tallies of thoughts and (sometimes) also of extramental-items, and they are connected or separated in a way that corresponds to the way thoughts are connected or separated, while thoughts in turn correspond to the way extramental-items are connected or separated. However, and this is crucial, we can connect and separate vocalized-sounds irrespectively of whether or not the thoughts or extramental items they are tallies of are in fact connected or separated, and we can also connect and separate thoughts irrespectively of whether or not the items they grasp are in fact connected or separated. The way we connect and separate vocalized-sounds must, at least in principle, be distinguished from the way we connect and separate thoughts. Nonetheless, Aristotle does not explicitly distinguish them.

³⁰ Some take Aristotle to imply that soul-affections and extramental-items are the same for everybody because the soul-affections in question grasp universals, while the extramental-items in question are universals. This is problematic because soul-affections, even though they are soon restricted to thoughts, appear to involve not only universals. Thoughts in *De interpretatione* 1, as we saw (§1.2), include a wide spectrum of cognition that includes – among other things – the grasp of universals, as well as the connection and separation of thoughts. If two people grasp the same universal, they grasp exactly the same thing, but that does not imply that they will connect or separate it to other universals in the same way. After all, you can get your universals right, and yet formulate false sentences. In addition to that, the general character of *De interpretatione* 1 does not appear to restrict thoughts to the scientific and philosophical grasp that universals presuppose, not to mention that the *De interpretatione* also speaks of beliefs (23a 32 - 24b 9, 21a 32), which need not presuppose a fully-fledged grasp of universals.

There is however something remarkable at 16a 16-18, where Aristotle insists that a thought or a vocalized-sound on its own, without connection to or separation from some other thought or vocalized-sound, can be neither true nor false. The example given is « goat-stag », which can be neither true nor false, and merely signifies something. The claim « for even “goat-stag” signifies something » reveals upon inspection a semantic notion and value different from what has been called « signification ». « Goat-stag » certainly signifies something, but obviously that something is not an extramental-item. We can in this context say that « goat-stag » is a symbol, a sign, or signifies a thought (cf. 16a 3-8). However, we can still ask what this thought is about. And if we are not making a clear-cut distinction between the way vocalized-sounds relate to thoughts and the way thoughts relate to their content, we may ask what this thought signifies. In this last case, the intuitive answer is that the thought signifies goat-stag, and we can say this even if as a matter of fact there is no such thing in the world as a goat-stag. In this situation, we can clearly distinguish between the thought (i.e. the cognitive event or soul-affection) and goat-stag, even if as a matter of fact there is no goat-stag in the world.

What we have here is what we call signification in the sense of expressing something or mental content. There is a thought that represents goat-stag. Something similar applies also to the vocalized-sound « goat-stag », for we can say that it signifies goat-stag, expresses goat-stag, or has linguistic content. We are dealing here with something different from what has been called « signification », this being a notion or semantic value totally different from the symbol, tally, and conventional signification introduced at 16a 3-4 and operative until 16a 16. We shall return to this in §4.2.2.

3.2. *The order of things signified*

If we consider that soul-affections ultimately result from the interaction between a human capacity and extramental-items, we can say that they depend on extramental-items. From this perspective, extramental-items are anterior, prior, and first in respect to soul-affections. However, Aristotle in *De interpretatione* 1 says that vocalized-sounds signify first (or primarily) (πρῶτον) soul-affections (Int. 16a 6-8)³¹. This implies that

³¹ Following Minio-Paluello and more recently Weidemann, I accept the reading πρῶτον for two reasons. It is an old reading and a *lectio difficilior*. It is true that he codex

vocalized-sounds signify first soul-affections and then (secondly) extramental-items. From this perspective, it appears that soul-affections are prior in respect to extramental-items. This priority, however, can be construed in at least two different ways.

According to the first construal, « first » (or « primarily ») may qualify not a place in an order of ontological or genetic dependence between soul-affections and extramental-items, but a place in the sequential order in which vocalized-sound signifies, indicates, singles out, or identifies soul-affections and extramental-items. In this reading, when we utter a vocalized-sound, that vocalized-sound first signifies, indicates, singles out,

Ambrosianus L 93 (n, s. ix) and the codex Parisinus Coislinianus 330 (C, xi) read *πρώτως*, but the codex Vaticanus Barberianus Graecus 87 (s. ix/x) reads *πρώτων* and this reading is attested by the Armenian translation (Δ, s. v), the Syriac translation of George of the Arabs (Γ, beginning of s. viii) (Furlani 1922, 34-37), and Boethius' translation (Λ, s. vi), which reads: *quorum autem hae primorum notae*. Along these lines, the first edition of Boethius's commentary on Aristotle's *De interpretatione* attests *πρώτων* (216-218), while the second edition not only attests *πρώτων* but seems to trace this reading back to Alexander of Aphrodisias (297, 302). George of the Arabs attests that this reading was known to Olympiodorus (s. vi), who apparently pointed out that some manuscripts read *πρώτως* or *πρώτον*, and some *πρώτων* (see Furlani 1922). The manuscript tradition of the commentaries of Ammonius' commentary also attests *πρώτων*: cod. A (Parisinus 1942), reads *πρώτον* at 24, 5, but at line 6 and 10 it reads *πρώτων*; however, a (the Editio Princeps Aldina of codice M, Monacensis 222), which belongs to the same family as cod. A, reads *πρώτον*. *Πρώτων* is a *lectio difficilior* because it is the most unusual construal. One can imagine somebody introducing *πρώτως* or *πρώτον* to explain the unusual *πρώτων*, but not somebody introducing *πρώτων* to explain the usual *πρώτως* or *πρώτον*. *Πρώτως* and the adverbial accusative *πρώτον* are alternative and more common ways to express the meaning of *πρώτων*. See Montanari 1984, I, 130. Usually, the distinction between the reading *πρώτως/πρώτον* and the reading *πρώτων* is understood as a distinction between vocalized-sounds being first symbols/signs of affections of the soul (*πρώτως/πρώτον*) and vocalized-sounds being symbols/signs of affections of the soul which are primordial (*πρώτων*). See Suto 2012, 31. Nonetheless, if we read *πρώτων*, the meaning can be either that « soul-affections are (come) first in order or sequence » or that « soul-affections are primordial ». I agree with Kühner that in predicative usage the adjective *πρώτος*, -η, -ον may in some cases have a force indeterminate between attributive and adverbial (see Kühner & Gerth 1898, 273 ff.). In my view, it would be correct to translate *πρώτων* adverbially as « primordially ». Compare the expressions « the ambulance was quick to arrive » and « the ambulance arrived quickly ». Notice that in the *De interpretatione* itself at 17a 8-9 we have one more instance of *πρώτος*: Ἔστι δὲ εἷς πρῶτος λόγος ἀποφαντικός κατάφασις, εἶτα ἀπόφασις· οἱ δὲ ἄλλοι συνδέσμων εἷς. Here, the affirmation is « first » in respect to the denial not just because one comes first and the other second, but because the denial is constructed on the basis of the affirmation and is thus understood by means of the affirmation (see *Analytica posteriora* 86b 34-36). The affirmation is contained and presupposed by the denial, and for that reason is « fundamental », « primordial », and « primitive » in respect to the denial.

or identifies a soul-affection, and through that soul-affection it then (secondly) signifies, indicates, singles out, or identifies an extramental-item.

According to the second construal, « first » (or « primarily ») may qualify neither a place in the sequential order in which vocalized-sound signifies soul-affections and extramental-items, nor a place in the order of ontological or genetic dependence between soul-affections and extramental-items. Rather « first » (or « primarily ») may have to do with the fact that in order to be a symbol or sign and to signify, a vocalized-sound must signify, indicate, single out, or identify a soul-affection, but it needs not signify, indicate, single out, or identify an extramental-item. In this reading, a vocalized-sound primarily and necessarily signifies, indicates, singles out, or identifies a soul-affection, but it needs not signify, indicate, single out, or identify an extramental-item.

The second construal needs not exclude the first and there are reasons to accept it. As we have seen, according to *De interpretatione* 1, the term « goat-stag » signifies something (ὁ τραγέλαφος σημαίνει μὲν τι, 16a 17) even though there is no extramental-item that is a goat-stag. We can say that « goat-stag » only signifies a soul-affection and the sort of thought that is neither true or false (οὐπὼ δὲ ἀληθὲς ἢ ψεῦδος, 16a 17; see 16a 13-15). On the other hand, false statement-making-sentences must also signify soul-affections and associations of simple thoughts, i.e. complex thoughts, that are false (16a 9-11), although they do not signify actual states of affairs. False complex thoughts, in turn, consist of simple thoughts which are connected when they should be separated or are separated when they should be connected; or in some cases they consist of simple thoughts which signify extramental-items, and they either connect simple thoughts which signify extramental-items that are in fact separated or separate simple thoughts which signify extramental-items that are in fact connected (16a 9-13, cf. 17a 26-31).

If terms like « goat-stag » and the thoughts they signify need not signify extramental-items, and if false statement-making-sentences and the complex thoughts they signify need not signify and represent actual states of affairs, it is then clear that every case of signification involves a soul-affection, but not every case of signification involves something or an actual relation among items in the extramental world. Every case of signification, therefore, involves a soul-affection, but not every case of signification needs to correspond to a piece of reality or represent reality as it actually is.

This appears to be involved in the terminology « likeness » (ὁμοιότητα, 16a 7-8). The vocabulary of « likeness » suggests that the thinking-capacity must initially interact with extramental-items and actual states of affairs in order to generate soul-affections or thoughts. However, as goat-stag (16a 16-17) and the possibility of formulating false statement-making-sentences testify, this capacity can generate thoughts that are similar, roughly correspond, or misrepresent, but neither stand for extramental-items nor correspond to actual states of affairs³².

In a nutshell, from the point of view of the generation of soul-affections and thoughts, extramental-items are prior and primary in respect to soul-affections. However, from the point of view of « signification », it is soul-affections that are prior and primary in the sense of primordial, for every vocalized-sound signifies a soul-affection or thought, although it does not need to signify an extramental-item or correspond to an actual extramental state of affairs. In the order of signification, it is soul-affections or thoughts that are first and primordial.

The fact that « empty » and false cases of vocalized-sound signification are perfectly possible is crucial for the *De interpretatione* as a whole for two reasons. First, if the extramental world does not directly determine every case of signification, then signs need not necessarily be traced back to actual objects and state of affairs, they need not faithfully correspond to the world and may even misrepresent it; and if signs need not correspond to the world and may even misrepresent it, then we cannot reliably infer from linguistic signification (i.e. from linguistic signs) and vocalized-sounds anything about the extramental world. Consequently, vocalized-sounds and linguistic signs have no reliable inferential power. Second, and more importantly for the *De interpretatione* as a whole, if false cases of vocalized-sound signification are possible, i.e. if false statement-making-sentences are possible, then contrary and contradictory

³² According to Sedley 1996, 93, οὔτε γὰρ ψεῦδος οὔτε ἀληθές πω. σημεῖον δ' ἔστι τοῦδε· καὶ γὰρ ὁ τραγέλαφος σημαίνει μὲν τι (16a 15-17 in Minio-Paluello's text has not been edited correctly and σημεῖον δ' ἔστι τοῦδε here should not be translated as « a proof of this ». The reason for this, according to Sedley, is that ὅδε in Attic prose and Aristotle does not have the anaphoric meaning « the aforementioned ». Sedley refers us to Kühner (Kühner & Gerth 1898, 646-647). The text, Sedley proposes, should read οὔτε γὰρ ψεῦδος οὔτε ἀληθές πω, σημεῖον δ' ἔστι τοῦδε. καὶ γὰρ ὁ τραγέλαφος σημαίνει μὲν τι, and σημεῖον δ' ἔστι τοῦδε here should be translated as « but a sign of some specific thing ». According to Sedley, this translation allows for a consistent use of « sign » and « signify » in *De interpretatione* 1.

pairs are possible. This emphasis in truth and falsehood, and the terminology « likeness », confirms that Aristotle relies on a distinction between the levels of signs (i.e. written marks and vocalized-sounds), soul-affections, and extramental-items.

3.3. *Problems concerning signification in De interpretatione 1*

Although *De interpretatione 1* appears to make a point on signification that is relevant for the work as a whole, contemporary readers may have qualms about the way it speaks about symbols and signs in general. Unlike Aristotle, modern readers are inclined to approach semantic and linguistic issues not in terms of what Aristotle calls « signification », i.e. symbols, and tallies – be these simple or complex –, but in terms of meaning and what words convey, express, or tell us – I shall come back to this issue in §5³³. In addition to that, a central interest of contemporary semantics is what role exactly simple expressions play in complex expressions, and how exactly subject-terms and predicate-terms make together a single unitary sentence and a statement. For this reason, modern readers may think that the notion of symbol obscures the difference between the signification proper to simple vocalized-sounds and simple thoughts, and the signification proper to complex vocalized-sounds and complex thoughts that make statements³⁴.

³³ This is probably one reason why Weidemann understands the distinction between signifying first and signifying second as a distinction between signifying first soul-affections in the sense of standing for soul-affections and signifying second in the sense of telling us what the content of those soul-affections is. Weidemann 2015, 161 says « Die Gedanken, die wir im Gespräch untereinander austauschen, bilden die Dinge, auf die wir uns mit unseren Worten beziehen, in dem Sinne in unserer Seele ab, daß wir die Dinge, wenn wir jene Gedanken als Sprecher denken, meinen und daß wir, wenn wir jene Gedanken als Hörer denken, verstehen, daß unser Gesprächspartner sie meint ». In addition to disregarding the term « symbol » at 16a 4 and its role in *De interpretatione 1*, this interpretation disregards the fact that Aristotle in the *De interpretatione* does not make a distinction between the relation of signification among vocalized-sounds and soul-affections, and the relation of signification among vocalized-sounds and extramental-items. We must, however, appreciate the fact that thoughts must signify something and that something need not be an extramental-item. The term « goat-stag », for instance, does not signify an extramental-item, but Aristotle claims that it signifies something (16a 17). As we have already seen, we can say that « goat-stag » signifies or is a sign of a thought. However, the emphasis and the contrast in the forefront of *De interpretatione 1* is that between written marks and vocalized-sounds signifying first thoughts and then extramental-items.

³⁴ This is a hot debated issue in contemporary philosophy. Notice also that to say that « (a) a subject-noun and a predicative-term have different syntactic functions (b) because

Contemporary readers may find the lack of an elaborate distinction between « simple symbol signification » and « complex symbol signification » in *De interpretatione* 1 troubling. To claim that « a vocalized-sound signifies because it is a tally » may be an acceptable description of what simple symbols do, but not of what complex symbols do. Complex symbols are not mere tallies and do not merely stand for things. The elements of complex symbols may very well be tallies that stand for things, but complex symbols themselves also convey relations among the things for which their elements stand, and this should be regarded as a crucial distinction between simple vocalized-sounds and complex vocalized-sounds³⁵. However, we need to recognize that beyond chapter 1 Aristotle does make a distinction between the signification of simple vocalized-sounds (i.e. terms) and the signification of complex vocalized-sounds (e.g. statement-making-sentences). Such distinction shall be one of the topics of the next section.

4. Signification in the *De interpretatione* beyond chapter 1

Two important questions arise: does Aristotle exclusively operate in the rest of the *De interpretatione* with the notion of signification he explicitly introduces in chapter 1 or does he introduce additional semantic notions

the one signifies the sort of thing of which something else is said and the other the sort of thing that is said of something else » is insufficient to explain what a statement-making-sentence and an assertion are. It is insufficient because one may perfectly argue the other way around, by saying that « (b) a subject-noun and a predicative-term signify the one the sort of thing of which something else is said and the other the sort of thing which is said of something else (a) because they have different syntactic functions ».

³⁵ This lack of distinction not only applies to Aristotle's use of « signification », but also to his use of « convention » (16a 19, 27 and 17a 2). In the case of simple vocalized-sounds/thoughts, convention has to do with the relation that pairs a simple vocalized-sound/thought with something, whereas in the case of complex vocalized-sounds/thoughts we need to include the conventions that establish syntactic rules. It seems Aristotle regards convention in very general terms and that his point is limited to the opposition of convention to nature (16a 19, 27) and tool (17a 2). Aristotle's general point must be that symbols or tallies and syntactic rules do not involve a causal relation between « significans » and « significatum », and for this reason we cannot make inferences from language to reality. Tallies or symbols and syntactic rules are established by human voluntary intervention and not by any human voluntary intervention, but human voluntary intervention determined by social context and for the purposes of communication. Consequently, nothing in the nature of the « significatum » determines its « significans ». The constrains on which « significans » should signify which « significatum » have nothing to do with the nature of the « significatum », but perhaps with the execution and effective fulfilment of the act of signification, e.g. a term should signify one or a limited number of things, otherwise it would not be able to properly signify anything (*Metaphysica* 1006a 31 - 1006b 9).

or values? What is the relationship between the signification of terms and the signification of statement-making-sentences? The answer to the first question will be negative. In the course of the *De interpretatione*, Aristotle lapses into at least one semantic notion or value different from the notion of « signification » explicitly presented in chapter 1. The answer to the second question, however, will be complex. Although Aristotle does not explicitly distinguish term signification from statement-making-sentence signification in *De interpretatione* 1 – or what we have called « simple symbol signification » and « complex symbol signification » –, we need to elucidate how he assumes these two forms of signification to relate to one another. In this section, I will begin (§4.1) by studying Aristotle’s distinction between terms and statement-making-sentences. Subsequently, I will move to (§4.2) term signification and (§4.3) the relation between term signification and statement-making-sentence signification, i.e. the structure of a statement-making-sentence. Next, I shall discuss (§4.4) statement-making-sentence signification. And finally, I shall finish this section (§4.5) by explaining the point and purpose of *De interpretatione* 1 regarding signification.

4.1. *Distinction between terms and sentences*

As we had already anticipated at §2.3, according to Aristotle subject-nouns and present-tense-predicative-terms – and this must also apply to terms in general – lack parts that signify on their own (οὐδὲν καθ’ αὐτὸ σημαίνει, 16a 21-22) in separation (ἧς μηδὲν μέρος ἐστὶ σημαντικὸν κεχωρισμένον, 16a 20-21, cf. 16b 27-30) from any other terms and any sentence of which they are parts. In contrast, sentences have parts that signify, i.e. terms, e.g. subject-nouns and predicate-terms. Statement-making-sentences in particular must have parts that signify because they are either true or false insofar as they say something (as not) of something, and therefore connect (or separate) subject-nouns and predicative-terms (cf. 16a 12-14, 16b 27-30). Terms, in contrast, insofar as they do not have parts that signify, cannot connect or separate anything and can be neither true nor false.

This distinction between terms and sentences presupposes that subject-nouns, present-tense-predicative terms, and terms in general do not have parts that signify a thought, let alone any extramental-item; whereas sentences and statement-making-sentences in particular do have parts that

signify thoughts and may signify extramental-items. For example, no syllable (and no letter) in the term « ἄνθρωπος » taken on its own apart from the term – i.e. « αν- », « -θρω- », « -πος » – signifies anything (16b 30-31). More precisely, no syllable (and no letter) in « ἄνθρωπος » signifies a thought, let alone an extramental-item³⁶.

According to Aristotle, the same applies to « -ιπος » in « Κάλλιπος ». The element « -ιπος » in « Κάλλιπος » does not signify anything taken on its own apart from « Κάλλιπος ». This must mean that « -ιπος » from « Κάλλιπος » taken on its own does not signify a thought, let alone any extra-mental item. In contrast, the term « ἵπος » on its own, taken apart from the sentence « καλὸς ἵπος <ἔστιν> », signifies something and that something must at least be a thought, if not also an extra-mental item. And since the parts of sentences also signify within the sentence, « ἵπος » in « καλὸς ἵπος <ἔστιν> » has a signification of its own inside this sentence and therefore signifies a thought inside the sentence, if not also an extra-mental item.

These semantic views have crucial consequences. If « ἵπος » signifies something both taken on its own apart from « καλὸς ἵπος <ἔστιν> » as well as within « καλὸς ἵπος <ἔστιν> », then it seems possible that « ἵπος » in « καλὸς ἵπος <ἔστιν> » gives a contribution of its own to the signification of the sentence « καλὸς ἵπος <ἔστιν> » as a whole. Whereas if « -ιπος » from « Κάλλιπος » does not signify anything either taken on its own apart from « Κάλλιπος » or within « Κάλλιπος », then it seems we can say that « -ιπος » in « Κάλλιπος » does not and cannot give a contribution to the signification of « Κάλλιπος » as a whole.

We may explain this difference between « -ιπος » in « Κάλλιπος » and « ἵπος » in « καλὸς ἵπος <ἔστιν> » in contemporary terms as follows. While « καλὸς ἵπος <ἔστιν> » describes or represents something, « Κάλλιπος » simply designates something. And while « ἵπος » in « καλὸς ἵπος <ἔστιν> » can contribute with what it designates to the description or representation that « καλὸς ἵπος <ἔστιν> » accomplishes, « -ιπος » in « Κάλλιπος » does not designate anything and does not really contribute to the designation « Κάλλιπος » accomplishes. More to the point, « καλὸς ἵπος <ἔστιν> » describes because

³⁶ Similarly, « υς » from « μῦς » does not signify anything taken on its own apart from the term (16b 31-32), i.e. it does not signify a thought, let alone any extramental-item.

its elements stand for elements of the state of affairs it describes. In contrast, « Κάλλιππος » does not describe, but merely designates, and its composition is irrelevant for designating. Even though we may view « Κάλλ- » and « -ιππος » in « Κάλλιππος » as respectively derivative from « καλός » and « ἵππος », the fact of the matter is that this derivation – in Aristotle’s view – is irrelevant for designating. As a matter of fact, we can perfectly use « Κάλλιππος » to effectively and consistently designate a human being that is neither similar to a horse, nor a fine specimen of its kind. The same applies to « αν- », « -θρω- », and « -πος », for these syllables are compositionally irrelevant for what « ἄνθρωπος » does, which is to designate a human, humans, any human, or what a human being is.

Precisely because « Κάλλ- » and « -ιππος » are compositionally irrelevant for the signification of « Κάλλιππος », Aristotle – against our contemporary intuitions – is happy to consider « Κάλλιππος » as a simple noun (16a 22-26, see ἀπλοῖς ὀνόμασιν at 16a 23). In contrast, « ἐπακτροκέλης » is a compound noun because although « ἐπακτρο- » and « -κέλης » properly speaking do not signify anything taken on their own apart from « ἐπακτροκέλης », they « want » to signify (16a 25-26). This, however, needs not mean that « -κέλης » contributes to the signification of « ἐπακτροκέλης ».

An ἐπακτροκέλης (a light small piratical or courier skiff) is a vessel that has features of two other types of vessel, the ἐπάκτρις (a light small, fishing, pirate, or hunter boat) and the κέλης (a fast sailing yacht). It is not necessarily the case that « -κέλης » in « ἐπακτροκέλης » signifies a κέλης or the κέλης-part of the ἐπακτροκέλης. Nor is it necessarily the case that « ἐπακτρο- » in « ἐπακτροκέλης » signifies an ἐπάκτρις or the ἐπακτρο-part of the ἐπακτροκέλης. It is not necessarily the case that the design of an ἐπακτροκέλης simply results from adding the designs of an ἐπάκτρις and a κέλης. No ἐπάκτρις and no κέλης is to be found in an ἐπακτροκέλης or its design in at least the same way or a similar way as something about a ἵππος (horse) and about being καλός (fine) is to be found in the state of affairs expressed by « καλός ἵππος <ἔστιν> ».

In this picture, « -κέλης » does not on its own signify a κέλης, and « ἐπακτρο- » does not on its own signify an ἐπάκτρις. In fact, « -κέλης » does not properly signify, it does not signify on its own and it does not signify a thought, let alone any extramental-item. The same goes for « ἐπακτρο- ». For this reason, neither « -κέλης », nor « ἐπακτρο- »,

can give a semantic contribution of their own to the signification of « ἐπακτροκέλης ». On the contrary, it appears that « -κέλης » and « ἐπακτρο- » « want » to signify precisely because « ἐπακτροκέλης » signifies an ἐπακτροκέλης which – again – is a vessel that has features of the ἐπάκτρις, as well as features of the κέλης. If that is the case, it may then be the case that the signification of « ἐπακτροκέλης », as a whole, makes « -κέλης » and « ἐπακτρο- » « want » to signify. It is unclear why this would be so for Aristotle, but one reason could be that the signification of « ἐπακτροκέλης » as a whole somehow associates « -κέλης » to a κέλης and « ἐπακτρο- » to an ἐπάκτρις.

The contrast between the non-significant parts of terms and the significant parts of sentences, in conjunction with the « ἄνθρωπος », « Κάλλιπος », and « ἐπακτροκέλης » examples, suggests that the parts of a sentence, unlike the parts of « ἄνθρωπος », « Κάλλιπος », « ἐπακτροκέλης », and of any term do contribute or determine the signification of the whole sentence. At this point, we need to answer two questions: how does a term signify and how do the parts of sentences, i.e. terms, contribute with their own signification to the signification of sentences? Before answering these questions, let us examine what other semantic notions or values of term signification surface or are implicit in the *De interpretatione* beyond chapter 1. This will in fact give us further clues about signification in *De interpretatione* 1.

4.2. *Semantic values of terms in the De interpretatione beyond chapter 1*

In what follows, I will provide examples of additional semantic notions or values found in the *De interpretatione* beyond chapter 1. To do that, (§4.2.1.) I need to explain what Aristotle means by subject-nouns and predicative terms spoken on their own, and (§4.2.2.) what sort of signification he has in mind in this case. This will allow me to fully explain why Aristotle introduces additional semantic notions or values after *De interpretatione* 1.

4.2.1. Terms spoken on their own

As we saw in §2, Aristotle's description and distinction between the subject-noun and the present-predicative-term is syntactic, for it relies on the functions these different types of terms have in a sentence. However,

when he considers the present-tense-predicative-term and the subject-noun on their own and outside the sentence, he sees them as closely related. In fact, Aristotle goes as far as to say that « present-tense-predicate-terms spoken on their own are subject-nouns and signify something » (*αὐτὰ μὲν οὖν καθ' αὐτὰ λεγόμενα τὰ ῥήματα ὀνόματά ἐστι καὶ σημαίνει τι*, 16b 19). Here the « and » (*καὶ*) before « signify something » is exegetic and introduces an explanation of what precedes. Consequently, the point at 16b 19 is that present-tense-predicate-terms spoken on their own are nouns insofar as they signify something. This is an identity claim of sorts between present-tense-predicate-terms and subject-nouns (*τὰ ῥήματα ὀνόματά ἐστι*) which holds only under certain conditions: when present-tense-predicate-terms are spoken on their own (*αὐτὰ μὲν οὖν καθ' αὐτὰ λεγόμενα*).

There are multiple obscurities in the claim that « present-tense-predicate-terms spoken on their own are subject-nouns and signify something ». In what way exactly are present-tense-predicate-terms spoken on their own said to be nouns? What does it mean to be spoken on its own? How is « signify something » supposed to be understood? We clearly need to do some interpretative work. To begin with, recall that a present-tense-predicate-term is a vocalized-sound significant by convention (cf. 16a 3-6, 9-16 and 19-20) which marks present time (16b 6 and 8-9), none of whose parts signify on their own (16b 6-7), signifies the sort of thing said of something else (16b 7 and 9-10), and has predicative function within a sentence. In contrast, a subject-noun is a vocalized-sound significant by convention (16a 19 and 26-27), which does not mark time (16a 20), none of whose parts signify on their own (16a 20-21), has nominative case (16a 32 - 16b 1), has the function of a subject within a sentence (16b 2-3), and signifies the sort of thing of which something is said³⁷.

These distinctions are relevant because we can identify present-tense-predicate-terms and subject-nouns on account of features common to

³⁷ Why do predicative forms, unlike subject-nouns, mark time? It is not clear what Aristotle's view is, but here is a suggestion: what is in fact temporally marked is the predicate-term's relation to a subject (see 19b 13-14). An additional problem is how to read « signifies the sort of thing said of something else » and « signify the sort of thing of which something is said ». This is problematic because one may argue that « recovery » and « recovers » concern the same item and their different senses have to do with the way how the item is regarded.

both of them, but not on account of divergent and excluding features. Consequently, present-tense-predicate-terms and subject-nouns cannot be identified on account of their divergent syntactic or syntactic related features, such as marking time, having nominative case, signifying the sort of thing said of something else, signifying the sort of thing of which something is said, having predicative function, and having the function of a subject within a sentence³⁸. Rather, present-tense-predicate-terms and subject-nouns can only be identified on account of their common non-syntactic features, which are: being vocalized-sounds that signify something by convention, none of whose parts signify on their own³⁹.

This suggests that when he speaks of « present-tense-predicate-terms spoken on their own » (αὐτὰ μὲν οὖν καθ' αὐτὰ λεγόμενα), Aristotle must imply present-tense-predicate-terms bereft of their syntactic features and functions. In other words, a present-tense-predicate-term spoken on its own must be a present-tense-predicate-term spoken in disconnection from any other linguistic expression and without exercising any syntactic function. This implies that a present-tense-predicate-term spoken on its own does not perform the function of a predicate and is not a predicate. How is this to be understood? Is « spoken on its own » to be understood factually and literally? Or is it to be understood figuratively as a mental exercise of analysis? Do terms, according to Aristotle, have an actual signification of their own independent from syntax and sentence signification?

³⁸ If a present-tense-predicate-term's time demarcation qualifies the relation between subject and predicate, that time demarcation should become irrelevant when the present-tense-predicate-term is spoken disconnected from a subject. In addition to that, we need to bear in mind that present forms need not mark present tense, but universal time.

³⁹ When he says « present-tense-predicate-terms spoken on their own are subject-nouns and signify something » (16b 19), Aristotle is simply saying that when a speaker utters a term both speaker and listener get something, what they get is common to both of them, and that thing is just something regarded on its own irrespective of its relations to other things. For this reason, it is not the case that when a speaker utters a term, the speaker's and the listener's thinking move from one item to other item as to associate them, which is what happens when we make a statement. I am accepting Weidemann's reading at 16b 22-15. Cf. Plato, *Cratylus* 437a 2-5 : « Σκοπῶμεν δὴ ἐξ αὐτῶν ἀναλαβόντες πρῶτον μὲν τοῦτο τὸ ὄνομα, τὴν “ἐπιστήμην”, ὡς ἀμφίβολόν [ἔστι], καὶ μᾶλλον ἔοικε σημαίνοντι ὅτι <ἴστησιν> ἡμῶν ἐπὶ τοῖς πράγμασι τὴν ψυχὴν ἢ ὅτι συμπεριφέρεται » – this text is thought to be an antecedent to *De interpretatione* 16b 19, see also Weidemann 2015, 160. However, notice that in *Cratylus* 437a 2-5 knowledge is taken to be the soul's fixation on things and this is contrasted with going around things.

These questions are pertinent because « on their own » (καθ' αὐτά) at 16b 19 can be read in at least two different ways: it can be read figuratively or literally. The figurative reading suggests that under analysis present-tense-predicate-terms can be conceptually and theoretically abstracted from their syntactic features and functions, and this need not imply that present-tense-predicate-terms in fact have a signification of their own outside sentences. It is only when we execute the mental exercise of analyzing sentences and regarding present-tense-predicate-terms in isolation from other expressions that we can say that present-tense-predicate-terms have a signification of their own. In this reading, a present-tense-predicate-term spoken on its own can be regarded apart from its syntactic features, other terms and sentences, although its actual use and utterance may somehow always presuppose such features, other terms, and sentences.

In contrast, the factual and literal reading implies that present-tense-predicate-terms spoken on their own as a matter of fact do not – or need not – perform any syntactic function and yet still signify independently of any sentence and linguistic expression. In this reading, a present-tense-predicate-term can as a matter of fact – not merely in abstraction – signify without fulfilling any syntactic function in disconnection from other terms and outside any sentence. In other words, an utterance of a present-tense-predicate-term can be significant outside any sentence without presupposing any relation to other terms. In short, in this reading present-tense-predicate-terms in general have signification and semantic value independently of, and even prior to, sentences and syntactic functions.

At this point we encounter a difficulty. How are we supposed to square the literal reading with all the relevant linguistic phenomena (which would certainly go a long way toward excluding the figurative reading)? Once again, Aristotle's remarks on signification appear to be general enough as to provide the necessary linguistic background to understand contrary pairs, contradictory pairs, and statement-making-sentences, yet they are not specific enough as to provide a full description of some linguistic phenomena. That being said, textual considerations support the literal reading. Notice that the expression « on their own » (καθ' αὐτά) in 16b 19 adverbially qualifies « spoken » (λεγόμενα). It is spoken present-tense-predicate-terms that are under consideration, and being spoken or uttered is something that does not occur in abstraction but in actual fact, namely when the term is in fact spoken or uttered. Aristotle

is talking about actual spoken instances of present-tense-predicate-terms. And since he is identifying actual spoken instances of present-tense-predicate-terms with subject-nouns, he must also be talking of actual spoken instances of subject-nouns. Aristotle is thus implying that present-tense-predicate-terms uttered on their own are indistinguishable from subject-nouns uttered on their own insofar as they both signify something on their own⁴⁰.

The point is, therefore, that actually uttered present-tense-predicate-terms and actually uttered subject-nouns have the same semantic role. This semantic role is prior and independent from sentences, syntactic features, and syntactic functions⁴¹. And this semantic role is just to signify.

⁴⁰ Since Aristotle defines the present-tense-predicate-term by means of its syntactic features, to speak of a present-tense-predicate-term without such features may appear to be a contradiction in terms. However, Aristotle may still think that a present-tense-predicate-term spoken on its own, although it basically signifies in the same way as a subject-noun signifies, signifies a different sort of « significatum » (or a different aspect of a « significatum ») from the sort of « significatum » (or aspect of a « significatum ») a subject noun signifies. This is suggested by the fact that a subject-noun signifies the sort of thing of which something is said, while predicate-terms signify the sort of thing said of something. Nonetheless, Aristotle also contrasts « ὑγίεια » and « ὑγιαίνει » (16b 8-9), and « ἄνθρωπος » as a common noun can function both as subject and as predicate.

⁴¹ Although Aristotle distinguishes a form of isolated term signification common to subject-nouns and present-tense-predicate-terms spoken on their own that excludes any syntactic features and functions, it is important to bear in mind that he is not referring to what we call lexemes or lexical units. We take « run », « runs », and « ran » to be morphologically marked realizations of the same lexeme, which is the smallest linguistic expression conventionally associated with a non-compositional meaning that can be uttered in isolation to convey semantic content. Lexemes are abstract units of lexical analysis that exists regardless of inflection and endings but nonetheless do belong to a syntactic or word category and they can be regarded as abstract representation of sets of words which determine how words can be instantiated in sentences. Just like a lexeme, Aristotle's present-tense-predicative-term spoken on its own belongs to a word or syntactic category. However, we should be wary of identifying the present-tense-predicative-term spoken on its own with a lexeme for at least three reasons. First, a lexeme is an abstraction, whereas Aristotle's present-tense-predicative-term spoken on its own cannot be an abstraction, for is intended to be spoken and is therefore a concrete utterance. Second, the notion of lexeme normally assumes that terms and lexemes are types. The entry-words of a dictionary are in fact lexemes and they do not define tokens or particular individual linguistic uses but general abstracted uses and types. In contrast, as we have just seen, present-tense-predicative-terms spoken on their own are concrete utterances. Notice that *Categoriae* 1a 1-15 implies that nouns are types, for it holds that different things can have the same noun in common. Along these lines, it seems we could in principle construe « ἐπακτροκέλης » (16a 26), « οὐκ ἄνθρωπος », « Φίλωνος », and « Φίλωι » (16a 30-b 1) as types. However, it is unclear whether vocalized-sounds in the *De interpretatione* are to be construed as actual utterances or types of utterances, e.g. *Κάλλιππος* (16a 19-21).

It is thus assumed that present-tense-predicate-terms spoken on their own and subject-nouns spoken on their own both signify something by convention in the very same way. If this is the case, then Aristotle recognizes a general form of signification proper to terms spoken on their own independently of any syntactic context, according to which a term spoken on its own is a vocalized-sound which signifies something by convention and none of whose parts signify on their own.

This reading is supported by the fact that *De interpretatione* 1 speaks of thoughts that are neither true nor false because they hold no relation of connection or separation with other thoughts. Moreover, *De interpretatione* 1 also assumes that some vocalized-sounds – e.g. subject-nouns and present-tense-predicate-terms – correspond to thoughts that are neither true nor false, and such vocalized-sounds are neither true nor false, precisely because they hold no relation of connection or separation with other vocalized-sounds (16a 9-15) and the thoughts they signify hold no relation of connection or separation with other thoughts. This makes clear that vocalized-sounds or terms such as « Socrates », « pale », and « human », spoken on their own must have a signification of their own independently of a statement-making-sentence because they in fact are neither true nor false.

However, Aristotle's point easily applies to subject-nouns such as « Socrates », predicate-terms such as « pale », and common nouns such as « human ». Intuitively the subject-noun « Socrates » spoken on its own can just signify Socrates and nothing else whatsoever. « Socrates » spoken on its own can signify, indicate, single out, or identify Socrates without any further allusion to any relation Socrates may have to something else. Similarly, the predicate-term « pale » (see 16a 15) spoken on its own can signify, indicate, single out, or identify pale or paleness without any further allusion to any relation pale or paleness may have to a subject. Something similar applies to « human ». That, however, is not the case of a predicate-term such as « walks » or « περιπατεῖ ».

The morphological features of predicate-terms such as « περιπατεῖ » mark tense, mood, and person (« περιπατεῖ », in particular, is a contracted

Nonetheless, terms considered as spoken on their own, insofar as they are actual utterances, must be tokens. Aristotle is ambivalent between regarding expressions as tokens and regarding them as types. Third, the notion of lexeme presupposes the notion of « morphologically marked realizations » and it would be anachronistic to attribute such thing to Aristotle.

form and can be either third person singular present indicative or a second person singular present imperative). These features inevitably introduce an implicit subject, syntactic functions, and time demarcation. In the case of « pale », in contrast, such features are not introduced by the term itself but by « is », « was », or « will be », as in sentences such as « Coriscus is pale » (see 19b 13-19). For this reason, we can intuitively speak of « pale » spoken on its own independently of any syntactic function and sentence, but not of « περιπατεῖ » spoken on its own independently of any syntactic function and sentence. We can speak of « περιπατεῖ » on its own independently of any syntactic function and sentence only in abstraction but not *de facto*. One may insist that Aristotle perhaps takes expressions such as « περιπατεῖ » to be possible only insofar as expressions such as « περιπάτησις » and « περιπατητικός » are possible. In other words, Aristotle perhaps takes « περιπατεῖ » to be a sentence constructed or developed from « περιπατητικός ». This, however, is an extremely speculative solution.

In any case, the literal reading of « spoken on their own » fits neatly with the fact that Aristotle reduces truth and falsehood to complex vocalized-sounds and thoughts representing items that stand on their own as connected or separated by means of connecting and separating simple vocalized-sounds or thoughts that stand on their own. Unfortunately, predicate-terms such as « περιπατεῖ » do not fit as neatly as « pale » and « Socrates » into this picture.

4.2.2. Signification of terms spoken on their own

What exactly would this general form of signification proper to terms spoken on their own apart from any syntactic context be? Aristotle's explanation is this: when a speaker utters a present-tense-predicative-term on its own, « ἴστησι γὰρ ὁ λέγων τὴν διάνοιαν, καὶ ὁ ἀκούσας ἠρέμησεν [the speaker stops his thinking (or mind), and the listener pauses] ». What does this mean? Let us look at 16b 20-21 in more detail⁴².

⁴² Ammonius (*In De interpretatione*, 54-55) has two explanations for this passage. According to his first explanation, a present-tense-predicative-term is spoken at length with an utterance and that utterance is uttered at length with the thought to which the present-tense-predicative-term corresponds. We finish this thought at the same time we finish uttering the term. Consequently, when we have spoken or read from beginning to end a present-tense-predicative-term, we stop thinking and we finish the thought the

« The speaker stops his thinking, and the listener pauses » presupposes the sort of communication model we encountered in our discussion of vocalized-sound in §1.1. This communication model involves a speaker (enunciator) and a listener (receptor) that belong to the same linguistic community, as well as a message that is communicated from speaker to listener, and the content of this message is grasped by both. In this model, the relation between speaker and listener is such that when the speaker utters – for instance – a term spoken on its own, the speaker intends the listener not only to fix his thinking on a certain thought, but also to have access to the content of that thought and to understand something in

present-tense-predicative-term signifies. This explanation has a weakness. It introduces time span without arguing why we need such introduction in order to understand the text. Moreover, it seems that time span per se applies equally or similarly to both terms and sentences, and here we are supposed to be concerned with terms and exclude sentences. According to Ammonius' second explanation, if someone asks, for instance « what does Socrates happen to be doing? », the questioner's thought is in doubt as if it were wandering, for the questioner is thinking of each of the many things that may be the case of Socrates and does not know which of them is actually the case of Socrates. However, if someone answered « ...walks », the questioner would stop thinking, would be freed from doubt, and would stop wandering. For this reason, the questioner pauses as soon as they hear the answer expressed by the predicate-term. The answer stops the questioner's thinking and does something by uttering the predicate-term, and the questioner is affected as soon as he hears the predicate-term. This explanation overlooks the fact that Aristotle is taking into consideration present-tense-predicative-terms and terms in general in separation from any other linguistic form. Answering the question « What does Socrates happen to be doing? » with « ...walks », i.e. with a predicate-term, presupposes a statement-making-sentence, i.e. « Socrates walks ». Boethius' (*In De interpretatione* I, 226; II, 315 ff.) explanation is of the same spirit as Ammonius'. According to him, Aristotle's point is that when we speak a noun, the listener's mind (intellectus) starts working (incohere). As long as the utterance takes place, the listener's mind follows the vocalized-sound and it stops when the utterance and the noun are completed and they have understood what was said. When we say « hippocentaurus », the listener's mind engages in activity from the first syllable on and does not rest until the whole utterance and noun is finished, the listener hears the last syllable, understands what was said, and rests. The same applies to predicate-terms. When we say « currere », the listener's mind goes through the syllables « cur- », « -re », and when they have heard the last syllable « -re » and understood the signification of the predicate-term, the mind rests. Boethius also points out that « currit » on its own is just a « nomen » and can be compared to the Greek nominalization of the infinitive by means of the Greek neuter definite article. However, we need to bear in mind that Greek infinitive forms, even nominalized Greek infinitive forms, express aspect, which is something Aristotle does not take on board in this passage, just as he does not take on board syntactic features. « Pace » Ammonius and Boethius, Aristotle's point is that if a speaker utters a term, both the speaker's and the listener's mind get fixed on something, that something is somehow in both cases the same thing, and that thing is in some way simple.

particular, for this is what is involved in getting a message across. The speaker, therefore, utters the term in order to communicate something to the listener. In turn, when a listener from the same linguistic community, who follows the same linguistic conventions, listens to the term uttered by the speaker, that listener in fact fixes his thinking on the thought intended by the speaker and understands and gets the message the speaker intended him to understand and get. Since in this particular case the speaker uttered a term spoken on its own, speaker and listener fix their thinking on the sort of thought that can be neither true nor false (cf. 16a 9-16) and simply understand something regarded on its own irrespective of its relations to other things. It is here assumed that the understanding the speaker and the listener associate with the term can in some way be said to be common and the same for both the speaker and the listener.

In this picture, terms spoken on their own convey a message that both speaker and listener grasp, they make us understand something, and therefore tell us something. The communication model presupposed in « the speaker stops his thinking, and the listener pauses » clearly distinguishes the fact that a term conveys a message from both the soul-affection (or thought) the term indicates, singles out, or identifies, as well as from the extramental-item the term may indicate, single out, or identify. This implies that at *De interpretatione* 3, where Aristotle says « the speaker stops his thinking, and the listener pauses », he not only has in mind the notion of « symbol signification » he introduced in chapter 1, 16a 3-16, but he also assumes the notion of « conveying a message », « telling something », or « term linguistic content » which was merely implicit in chapter 1, 16a 16-17.

In the context of the *De interpretatione*, however, these two notions of signification can be and need to be held apart. The notion of « symbol signification » introduced in *De interpretatione* 1 was meant to emphasized the conventional character of the relation between linguistic expressions and what they signify, and it was intended as an explanation of how terms relate to soul-affections and extramental-items. Convention alone does a lot to explain how a term relates to a soul-affection or an extramental-item and that is what is at stake in *De interpretatione* 1. However, convention alone is far from fully explaining how a term tells us something.

Notice also that in « [a] present-tense-predicate-terms themselves spoken on their own are subject-nouns and signify something – [b] for the

speaker stops his thinking (or mind), and the listener pauses » (16b 19-21), [b] intends to explain [a], i.e. [b] linguistic and mental content intends to explain the notion of signification in [a]. The semantic notion or value referred to by [b] is different from the semantic notion referred to at [a] and they must be clearly distinguished from one another, otherwise the account would be circular⁴³.

Under this light, we can read [a] and [b] as follows. In [a], « signify something » introduces the notion of « symbol signification » of *De interpretatione* 1 as it applies to terms. Aristotle intends to explain that present-tense-predicative-terms spoken on their own have « simple symbol signification ». He proves this ostensibly, by pointing at the fact that [b] when a present-tense-predicative-term is spoken on its own, « the speaker stops his mind (or thinking) and the listener pauses ». Since this fact presupposes a communication model and therefore also a notion of « simple or term linguistic content », Aristotle is ultimately showing that [a] a present-tense-predicative-term spoken on its own has « term symbol signification » [b] precisely because it tells us something and has « term linguistic content ».

Aristotle's point is thus that present-tense-predicative-terms, and terms in general, spoken on their own are tallies or symbols that indicate, single out, or identify soul-affections or thoughts and extramental-items. This must be so because present-tense-predicative-terms, and terms in general, spoken on their own tell something and have « term linguistic content ». This is shown by the fact that when a speaker speaks a present-tense-predicative-term on its own, the speaker's thinking (or mind) fixes (on something because the speaker understands something intended to be sent as a linguistic message), and the hearer pauses (because the hearer's thinking also fixes on something and the hearer understands that something as a message).

This all makes clearer *De interpretatione* 1's approach to signification, in particular the signification of terms and simple thoughts. Aristotle starts by focusing on symbols (16a 4) and this is his focus and interest since he wants to bring to the fore convention, as well as four levels relevant for truth and falsehood, statement-making-sentences, contrary pairs, and contradictory pairs. Those four levels are written marks, vocalized-sounds,

⁴³ However, we have to recognize the existence of circular accounts in the *De interpretatione*, e.g. the account of λόγος at 16b 26-28.

soul-affections or thoughts, and extramental-reality. However, he lapses into a different sort of semantic notion or value when he tells us that « goat-stag » signifies something (16a 17). This something is certainly not an extramental-item. We can say it is a thought. But if we in turn ask what that thought is about, we will have to say that it is about goat-stag, which is neither an extramental-item nor properly speaking a psychological event, a soul-affection, or a thought. In addition to signification understood as symbol and tally signification, Aristotle also has a notion of linguistic or mental content merely implicit at 16a 16-17 and implicit but operative at 16b 20-21.

As it appears, in *De interpretatione* 1 Aristotle starts by considering signification in terms of « tally or symbol signification ». However, already in chapter 1 and later on he inadvertently lapses into other semantic notions or values. For this reason, it is clear that he does not intend to discuss « simple linguistic content » and it is no wonder that he does not offer further clues about « linguistic content » and what it is for a term and a statement-making-sentence to convey or tell us something. This may be a pity for us, because our interest in meaning is an interest in what a term or expression does when it tells us something.

4.3. *Structure of a statement-making-sentence and compositionality*

As we have seen, according to the *De interpretatione* a statement-making-sentence either asserts something of something (19b 5) or asserts something as not of something (17a 23-30). In a statement-making-sentence a predicate is thus either asserted of a subject or as not of a subject. This presupposes a subject-noun that signifies the subject and a predicate-term that signifies the predicate. For this reason, the minimal form of affirmation and denial – as we have already mentioned §1.1 – consists in a subject of which a predicate is either asserted of or asserted as not of. A statement-making-sentence must thus minimally consist of a subject-noun and predicate-term (19b 15). And while a statement-making-sentence signifies insofar as it asserts something (as not) of something, a term just signifies something. Consequently, the signification of a statement-making-sentence is complex, whereas the signification of a term is simple.

Under these premises, the following questions arise: is it the case that according to Aristotle a term has the same signification spoken on its

own outside a sentence and inside a sentence or is it the case that he thinks that a term has a special form of signification inside a sentence that is to be distinguished from the signification it has spoken on its own outside a sentence? Is the simple signification of the term really prior to the complex signification of the statement-making-sentence? Or is the complex signification of the statement-making-sentence prior to the simple signification of the term? *De interpretatione* 1 in conjunction with Aristotle's understanding of subject-nouns in chapters 2-4 suggests that term signification is prior to statement-making signification and that a term in principle has the same signification both spoken on its own outside any sentence, as well as inside a sentence. Nonetheless, some qualifications on this view must be made.

To begin with, simple thoughts do signify on their own and simple thoughts can also be themselves connected or separated in order to make complex thoughts that are true or false (16a 9-12). It is here assumed that the thoughts that are connected or separated are thoughts that stand and signify on their own previously to being connected or separated, and no specification is made as to any change in the thoughts and their signification before and after being connected or separated. For this reason, simple thoughts themselves are not only an integral part of complex thoughts, but they are also prior to complex thoughts.

Further, we must bear in mind the following two facts about subject-nouns, predicate-terms, and statement-making-sentences. First, subject-nouns and predicate-terms in sentences signify simple thoughts. Second, it is not only the case that vocalized-sounds signify thoughts or soul-affections. It is also the case that the semantic properties and characteristics of vocalized-sounds are the same or mirror the semantic properties and characteristics of thoughts (οὕτω καὶ ἐν τῇ φωνῇ, 16a 11, 23a 32 ff.). If this all is the case, it must follow that subject-nouns and predicative-terms that have a signification of their own spoken on their own (16b 19-21) can also be connected or separated in order to make statement-making-sentences (16a 13-16). In this picture, subject-nouns and predicative-terms are not only an integral part of statement-making-sentences, they are also prior to them, just as simple thoughts must be integral part and prior to complex thoughts.

As a matter of fact, Aristotle implies that a statement-making-sentence asserts of a subject what the predicate-term spoken on its own signifies, and that of which the predicate is asserted is that which the subject-noun

spoken on its own signifies. If this is the case, then subject-nouns, predicate-terms, and terms in general have the same signification both spoken on their own outside a statement-making-sentence, as well as inside a statement-making-sentence. A statement-making-sentence relies on the signification its terms have spoken on their own previously to being connected or separated in a statement-making-sentence, and for this reason subject-nouns and predicative-terms are semantically prior and anterior to statement-making-sentences⁴⁴. Moreover, a statement-making-sentence and its signification do not determine the signification of the subject-noun and the predicative-term it contains. On the contrary, the signification of a statement-making-sentence depends on the signification of its subject-noun and its predicative-term. The signification of a statement-making-sentence is thus determined from the bottom up, i.e. from the signification of its basic constituents to the signification of the sentence as a complex whole.

If we remember that the signification of a statement-making-sentence results from the signification of its parts, but the signification of a term (a subject-noun or a predicative-term) does not result from the signification of its parts, it is clear that in order to make an assertion and signify, a statement-making-sentence structurally and semantically depends on its constitutive elements, and these constitutive elements are ultimate elements of signification which simply have signification and whose signification does not depend on their composition and structure. For this reason, subject-nouns and predicative-terms are simple and irreducible elements in terms of signification. In *De interpretatione* 1, Aristotle presupposes a system of signification in which simple significant elements, which cannot be analyzed into further significant elements, constitute complex significant elements. This is clearly a case of compositionality.

However, this notion of compositionality is rough and sketchy, for Aristotle does not elaborate on whether the parts of a statement-making-sentence fully or partially determine the whole statement-making-sentence and how exactly they do that. Nonetheless, this notion of compositionality has remarkable implications. If in the *De interpretatione* – and in particular in its first chapter – Aristotle implicitly conceives of sentence signification in compositional terms, he must then be committed

⁴⁴ Pace Sedley 1996, 87.

to the view that our understanding of subject-nouns and predicative-terms facilitates our understanding of statement-making-sentences. If he is committed to compositionality, Aristotle is committed to the view that our understanding of a statement-making-sentence presupposes a previous independent understanding of the terms (e.g. a subject-noun and a predicative-term) of that sentence, and this previous understanding of terms must be an understanding of terms spoken on their own apart from that sentence and any sentence.

At this point an important caveat must be made. We need to make a distinction between the semantic priority of terms and the structural or syntactic priority of a statement-making-sentence. What a statement-making-sentence does – i.e. making an assertion and saying something (as not) of something – determines its composition and syntax. It is for this reason that Aristotle could speak in syntactic terms of a priority of the statement-making-sentence in respect to its parts: since a statement-making-sentence says something (as not) of something, it requires a term that signifies that of which something is said, as well as a term that signifies that which is said of something, and for this reason the minimal form of statement-making-sentence must consist – as we have already seen §1.1 – of a subject-noun and a predicate-term (19b 10-19). This has two consequences.

First, it is only within the statement-making-sentence that subject-nouns and predicate-terms function as actual subjects and predicates. It is only within the sentence that subject-nouns function as subjects (16b 2-3) and predicate-terms as predicates. It is only within the sentence that it becomes relevant and manifests that subject-nouns signify the sort of thing of which something is said and predicate-terms the sort of thing said of something else (16b 7 and 9-10). In other words, the sentence determines the syntactic role of the terms that are its subject-noun and its predicate-term.

Second, neither two subject-nouns, nor two predicative-terms, would make a statement-making-sentence. We do not get a statement-making-sentence from joining two subject-nouns or two predicative-terms, but we do get a statement-making-sentence from joining any subject-noun with any predicative-term, and this is a syntactic rule implicit in *De interpretatione* 1 and the rest of the text.

This syntactic rule is crucial in the context of the *De interpretatione*, for it helps explaining statement-making-sentences, falsehood, and

contrary pairs. The fact that we can connect and separate any subject-noun from any predicative-term so as to constitute a statement-making-sentence implies that we can say anything (as not) of anything and therefore represent anything (as not) of anything (17a 20-23, 19b 5, 18a 14). And since we can connect and separate any subject-noun from any predicate-term, we can formulate both a statement-making-sentence that says a predicate of a subject at a certain time and in a certain respect, as well as a statement-making-sentence that says the same predicate as not of that very same subject at the same time and in the same respect. Of these two statement-making-sentences, one must correspond and the other cannot correspond to the way thoughts or extramental-items in fact relate to one another, i.e. one must be true and the other must be false, and this is a contradictory pair. It follows from this that the combination of subject-nouns and predicative-terms can represent relations among thoughts or extramental-items that do not actually take place. It also follows that the syntactic rule that allows for joining any subject-noun with any predicate-term makes it possible that speakers can formulate false statement-making-sentences not only by mistake, but also at will even when the speaker is not committed to the falsehood of the sentence. This means that the joining of subject-nouns and predicate-terms is not constrained by the way thoughts and extramental-items in fact relate to one another⁴⁵.

⁴⁵ Bear also in mind that the parallelism and correspondence between vocalized-sound and thought presupposed at 16a 9-11 implies that compositionality also applies to thoughts. Just as statement-making-sentences in vocalized-sound contain expressions that have signification on their own apart from the sentence they are in, complex thoughts must contain simply thoughts that have a signification on their own apart from the complex thought they are in. Further, if in vocalized-sound there are expressions such as subject-nouns and predicative-terms, in thought there must also be simple thoughts of the subject sort which subject-nouns signify, as well as simple thoughts of the predicative sort which predicative-terms signify. Moreover, just as subject-nouns fill up the place of subjects in sentences and signify the sort of thing of which other things are said, in the same way there must be thoughts of the subject sort which play the role of subjects in complex thoughts and correspond to the sort of thing of which other things are said. Similarly, just as predicative-terms mark time, function as predicates in sentences, and signify the sort of thing that is said of other things, in the same way it seems there must be simple thoughts of the predicative sort that involve some sort of time demarcation, play a predicative role in complex thoughts, and stand for the sort of thing that is said of other things. Finally, the relationship a thought of the subject sort and a thought of the predicative sort have to a complex thought must be analogical to the relation subject-nouns and predicative-terms have to a statement-making-sentences. And just like sentences result from the input of subject-nouns and predicative-terms, in the same way complex thoughts must result from the input of simple thoughts of the subject sort and simple thoughts of the predicative sort.

The construction of a statement-making-sentence is constrained by the linguistic and syntactic rule that allows for the connection or separation of a subject-noun and a predicate-term, but prohibits the connection or separation of a subject-noun and subject-noun, as well as the connection or separation of a predicate-term and a predicate-term.

4.4. *Sentence and statement-making-sentence signification in the De interpretatione beyond chapter 1*

There are two obstacles to a full general elucidation of sentence signification in the *De interpretatione*. First, since he is interested in contradictory pairs, Aristotle in this treatise systematically and consistently focuses on statement-making-sentences (16a 22, 31; 17a 8-17, 20-22; 19a 23-37). He refers only in passing to sentences that do not make statements (16b 26-28, 16b 33 - 17a 7) and never clarifies what in his view are the differences and relationship between non-statement-making-sentences and statement-making-sentences⁴⁶. Second, the notion of λόγος – as we saw in section §2.3 – embraces not only sentences, but also expressions such as « ἡ πόλις » and « ὁ καλὸς ἵππος », and no distinction is made between all these different linguistic forms. As a consequence, the distinction between sentences, nominal phrases, and terms remains obscure in the *De interpretatione*. For these reasons, I will not intend to provide a general account of sentence signification and will focus – as I have already been doing – on the signification of statement-making-sentence in that treatise.

At *De interpretatione* 20a 16-18, Aristotle explicitly speaks of a statement « signifying » in the sense of expressing, conveying, and telling us something, for he says that the denial contrary to « every animal is just » is the one that signifies « that » no animal is just (ἐναντία ἀπόφασίς ἐστι τῆ « ἅπαν ἐστὶ ζῷον δίκαιον » ἢ σημαίνουσα ὅτι οὐδέν ἐστι ζῷον δίκαιον)⁴⁷. Here « that » (ὅτι) introduces what is signified, i.e.

⁴⁶ We may be inclined to think that Aristotle takes non-statement-making-sentences to presuppose in some way or another statement-making-sentences. This claim is speculative, but is supported by the fact that a non-statement-making-sentence contains a subject-noun and a predicate-term, which in the *De interpretatione* are viewed as essential tools to say something (as not) of something and make statements.

⁴⁷ See also 20b 1-2, where Aristotle says that « if <in Greek> the order of subject-noun and present-tense-predicative-term is switched, <the statement-making-sentence> signifies the same ». Switching the order of subject-noun and present-tense-predicative-term in a

what the denial expresses, conveys, or tells us. There is thus in the *De interpretatione* a semantic notion according to which a statement-making-sentence expresses, conveys, or tells something⁴⁸. I will refer to this semantic notion as « complex linguistic content ».

Much later, at 20a 39-40 (see also 20a 16-39), Aristotle introduces yet another notion of signification. He claims that we can identify the signification of a statement-making-sentence on the basis of its truth conditions and logical properties. For instance, « every not-man is not-just » and « no not-man is just » signify the same thing because they have the same truth conditions and entail one another (τὸ δὲ πᾶς οὐ δίκαιος οὐκ ἄνθρωπος τῷ οὐδεὶς δίκαιος οὐκ ἄνθρωπος ταῦτόν σημαίνει, 20a 39-40, see also 20a 16-39)⁴⁹. This cannot be compared to complex linguistic content for at least two reasons. First, sentences can convey different things and yet have the same truth value and share logical properties, e.g. « Cicero is Tully » and « Cicero is Cicero », « dogs are cordate » and « dogs are renate ». Second, there is a difference between knowing that a sentence is true and knowing what the sentence expresses (e.g. the proposition it expresses, its linguistic content) (Dummett 1993, 9-10). In the light of these evidence, we can then distinguish in the *De interpretatione* three different notions of signification that apply to statement-

statement-making-sentence does not result in a change of statement-making-sentence – that is to say, what is being conveyed does not vary.

⁴⁸ Notice that in the *De interpretatione* some uses of ὅτι imply that beliefs have content, see 23a 32-35, 23a 40 - 23b 7, 24a 4-6.

⁴⁹ When he says that « “a man is not pale” appears to signify at the same time also that no man is white » (δόξειε δ’ ἂν ἐξαιφνης ἄτοπον εἶναι διὰ τὸ φαίνεσθαι σημαίνειν τὸ οὐκ ἔστιν ἄνθρωπος λευκός ἅμα καὶ ὅτι οὐδεὶς ἄνθρωπος λευκός, 17b 35-37), Aristotle suggests that although « a man is not pale » contains the term « man », it entails neither that no man is white, nor the statement-making-sentence « no man is white ». Notice that Aristotle also uses the vocabulary of signification to indicate how in a statement-making-sentence the extension of the subject term relates to the extension of the predicate-term, e.g. an affirmation that signifies universally is contradictorily opposed to the denial that signifies non-universally, e.g. « every man is pale » is contradictorily opposed to « not every man is pale » (17b 16-20). In addition to this, the vocabulary of signification is also used to indicate how two modal terms and concepts relate to one another. « Necessary » and « impossible », for instance, have the same force (δύναμις) and in some special way – i.e. by conversion – signify (σημαίνειν) the same thing, because (γὰρ) if it is impossible for something to be, then it is necessary for it not to be, and if it is impossible for something not to be, then it is necessary for it to be (22b 3-10). However, Aristotle makes clear that a term such as « every » does not signify the universal, but rather « pro-signifies » in the sense that it indicates that something is taken to apply universally (17b 12, 20a 9-15).

making-sentences: « complex symbol signification » (specially in *De interpretatione* 1), « complex linguistic content », and « truth condition signification ».

4.5. *The point and purpose of De interpretatione 1 in regard to signification*

Looking back at *De interpretatione* 1, we can at this point finally answer some of our initial questions. We had asked (Q1) what the point of the semantic observations of *De interpretatione* 1 is. The answer to this question is that the point of the first semantic remarks of the treatise is not merely semantic but geared at providing a general neutral linguistic context in which Aristotle's discussion of contrary pairs, contradictory pairs, and statement-making-sentences is to be inserted. We had also asked (Q2) how the topic of contradictory pairs of assertions shapes Aristotle's semantic observations in *De interpretatione* 1. Considering that the semantic remarks of *De interpretatione* 1 are brief, basic, and general, and considering Aristotle inadvertently lapses into semantic notions strikingly different from the notion of symbol or tally signification initially and officially presented at the start of the treatise, it seems that the topic of contrary pairs, contradictory pairs, and statement-making-sentences does not really shape the scope and clarity of Aristotle's semantic remarks in *De interpretatione* 1. The semantic theory of *De interpretatione* 1 is meant to be general enough as to help explain contrary and contradictory pairs of assertions without providing a detailed account of language.

We still need answers to the question (Q3) what the semantic theory presented in *De interpretatione* 1 is, as well as to the question (Q4) whether the theory of signification of *De interpretatione* 1 is a theory of meaning. I turn to these two last questions in the next section.

5. What sort of semantic theory does *De interpretatione* 1 presuppose

Thus far, we have gathered enough information to assess what sort of semantic theory *De interpretatione* 1 contains and how it compares to what we call meaning. In what follows, (§5.1) I will provide a more detailed description in order to better assess what sort of theory of signification it is. Next, and finally, (§5.2) I will show that this theory is not really a theory of meaning.

5.1. *The semantic theory of De interpretatione 1*

The notion of symbol or « tally signification » of *De interpretatione 1* involves three salient distinctions. First, a distinction between four domains: written marks, vocalized-sounds, soul-affections, and extramental-items. This distinction is relevant in the *De interpretatione* for explaining statement-making-sentences, contrary pairs, and contradictory pairs for the following reason. If both the relation between vocalized-sounds and soul-affections and the relation between vocalized-sounds and extramental-items are conventional, and therefore non-necessary, then neither do extramental-items fully and necessarily determine which vocalized-sound signify them, nor do vocalized-sounds themselves fully and necessarily determine which extramental-items they signify. Since this applies to both terms and sentences, the structure and configuration of a sentence need neither fully and necessarily determine, nor be fully and necessarily determined, by the configuration and structure of the relations among thoughts and among extramental-items. This opens the possibility of explaining true and falsehood as a match and mismatch between language and thought or/and between language and reality. Second, a distinction between two different sorts of relations: the conventional relation vocalized-sounds hold both to soul-affections and extramental-items, and the non-conventional relation of likeness soul-affections hold to extramental-items. In the *De interpretatione* this distinction is relevant because it allows for the possibility of further explaining the mismatch between language, soul-affections (i.e. thoughts), and the extramental world not only as a matter of error, but also as an intentional exercise of our cognitive capacity. If soul-affections (i.e. thoughts) can fail to correctly represent the extramental world, or if they can purposely misrepresent the extramental world by representing as connected what is separated and separated what is connected, then vocalized-sounds need not signify soul-affections (i.e. thoughts) that correctly reproduced the extramental world. And third, a distinction between two different sorts of vocalized-sounds and two different sorts of soul-affections or thoughts. Simple vocalized-sounds and simple thoughts are distinguished from complex vocalized-sounds and complex thoughts. Thanks to this distinction, truth and falsehood can be analyzed into relations among simple vocalized-sounds which signify simple thoughts and sometimes also extramental-items, or/and relations among simple soul-affections which

may or may not signify extramental-items. Complex vocalized-sounds (i.e. statement-making-sentences) connect or separate simple vocalized-sounds (a subject-noun and a predicate-term) that signify simple thoughts and possibly extramental-items. If a complex vocalized-sound connects simple vocalized-sounds which signify thoughts (and sometimes extramental-items) that are in fact connected, then the complex vocalized-sound is true, but if the thoughts (or extramental-items) are in fact separated, then the complex vocalized-sound is false. Similarly, if a complex vocalized-sound separates simple vocalized-sounds that signify thoughts (and sometimes also extramental-items) that are in fact separated, then the complex vocalized-sound is true, but if the thoughts (or/and extramental-items) are in fact connected, then the complex vocalized-sound is false. The same applies *mutatis mutandis* to complex and simple thoughts.

In *De interpretatione* 1, none of these semantic distinctions is meant to explain communication. They are not meant to explain how a linguistic expression expresses something or carries across some message, and they do not exploit the social and communicative context of language. This may be surprising considering that « symbol » and « convention » presuppose a social context and that Aristotle's notion of vocalized-sound in the *De anima* and biological works presupposes a communication model.

Being meant to provide a linguistic background for the study of statement-making-sentences, contrary pairs, and contradictory pairs, these distinctions emphasize that linguistic signs are not natural signs independent from human intervention and determined by the external world that facilitate reliable inferences, but rather signs established by voluntary social human intervention. They provide elements that explain truth and falsehood, and facilitate the semantic and linguistic background for a discussion on contrary and contradictory pairs of assertions. Aristotle's discussion of signification in *De interpretatione* 1 is a semantic theory to the extent that it provides the minimal and most general semantic information necessary to understand such issues.

Summing up, we can answer question (Q3) – i.e. what semantic theory does *De interpretatione* 1 introduce? – by saying that the semantic theory sketchily presented or presupposed there is a theory meant to help explain the semantic background of contrary and contradictory pairs, and it provides the minimal semantic information necessary for justifying the possibility and correct understanding of such pairs of assertions.

5.2. *Signification and meaning in De interpretatione 1*

In principle and in a very broad sense, we may say that the meaning of a linguistic expression is the extramental object or fact the linguistic expression indicates or communicates⁵⁰. We may also say that the meaning of a linguistic expression is the idea or representation the expression calls to mind in readers and hearers. The analysis of such meaning varies among different types of expressions, such as words (nouns, verbs, adjectives), sentences (statement-making-sentences and non-statement-making-sentences alike), and syncategorematic expressions⁵¹. Since *De interpretatione 1* holds that vocalized-sounds signify both soul-affections and extramental-items, we may think that the notion of signification explicitly introduced in chapter 1 and meaning are the same thing or similar enough as to be loosely identified. However, this apparent similarity does justice neither to *De interpretatione 1*'s theory of signification, nor to meaning.

If we look carefully at our current approach to meaning, we can discern crucial distinctions between the notion of tally signification explicitly introduced in *De interpretatione 1* and meaning. Our current conception of meaning is confined to a specific theoretical framework. We approach meaning by distinguishing at the outset the meaning of terms from the meaning of sentences, and in regard to the meaning of terms we are keen

⁵⁰ The term « meaning » is ambiguous between at least: (i) intent and determination, as in « she means to run for prime minister », (ii) symptom or indication, as in « dark grey clouds mean rain », (iii) what a dictionary entry reports, e.g. « Arachnid <means>: any of a class of arthropods etc. », and (iv) what we communicate when we translate, as in « the Latin word “margarita” means pearl ». (v) We also speak of meaning in the sense of what we intend to communicate by the use of an expression and we distinguish this meaning from the meaning the expression « itself » conveys. We may, for instance, use the word « wicked », which means evil, to mean wonderful. In the *De interpretatione* « signify » is never to mean in the sense of what the speaker intends to convey. Nor does « signify » appear to have such meaning in Aristotle, see Irwin 1982, 253. For our purposes, only (iii) and (iv) are relevant.

⁵¹ In the *De interpretatione*, Aristotle takes into consideration syncategorematic expressions, such as the quantifier « all ». He labels the semantic value of this quantifier not as « signification » but as « pro-signification » (20a 13). However, the application of the terminology of « pro-signification » to syncategorematic expressions with respect to their semantic value is not consistent, for he says that « all » does not signify « universal » (17b 13). « Pro-signification » is also associated with the truth value of syncategorematic expressions, e.g. « necessary » and « impossible » « signify » the same thing when applied conversely (22b 8-10). Notice also that Aristotle's use of « pro-signification » is not restricted to syncategorematic expressions, for he says that predicate-terms pro-signify time (16b 6, 13 and 18).

to quickly distinguish between the meaning of singular terms from the meaning of general terms. In the case of singular terms, we distinguish naming, denotation, or reference, and the concrete or abstract item for which a singular term stands from sense or what the term expresses. Reference comes to the fore in synonymy, because two different singular terms may very well refer to the very same object and yet express different things, e.g. « Hesperus » and « Phosphorus ». In some cases, as in « bachelor » and « unmarried-man », we take synonymy to be analytical. General terms, in contrast, do not name entities. Rather, they apply or fail to apply to entities and are thus true or false of the entities to which they apply or fail to apply. For this reason, we distinguish between the extension of general terms (i.e. the entities to which a general term applies) and their intension (i.e. what the term expresses). Extension comes to the fore in heteronymy, because two different general terms may very well have the very same extension and yet express two different things, e.g. « cordate » and « renate ». Finally, in the case of sentences, we distinguish their true-value, the propositions they express, and what they say.

Although there are referential or denotative theories of meaning, e.g. the « “Fido” – Fido theory of meaning », meaning is usually identified with sense and what a term or sentence expresses. One reason for this may be the following. The meaning of sentences derives from their composition and syntax, and for this reason it is unnatural to think of them as picking up or referring to something. Reference is thus limited to terms, specifically to singular terms, and such terms make up a very limited sample of linguistic expressions and meaning. Another reason why meaning is usually identified with sense and what a term or sentence expresses, is that regarding meaning as a concrete object – or even just as an object – is in itself striking and problematic. As Strawson puts it: « if the meaning of a word were the object it denotes, we would be able to produce the meaning of “handkerchief” from our pockets » (Strawson 1972, 40). For these reasons, even though we may speak of the object or idea a linguistic expression means, we prefer to regard meaning as what a linguistic expression says or expresses, i.e. linguistic content. We also expect a theory of meaning to explain what linguistic expressions express and how they express it, and such theory is usually formulated as – or in the framework of – a theory of synonymy, heteronymy, analyticity, and linguistic content.

Yet, that is not all we nowadays expect from a theory of meaning. We also expect a theory of meaning to explain what it takes to understand a linguistic expression and a language, how speakers of a language communicate, and how a language works. As a result, current talk about meaning is associated with certain situations, contexts, and expectations that are far from prominent or even at stake in the case of the notion of symbol, sign, and signification explicitly introduced in *De interpretatione* 1. We ask for the meaning of a linguistic expression, either when we fail to understand the expression or when we think we are not motivated by the expression in the way we are expected to be motivated. For us, the meaning of a linguistic expression is what we request either when we fail to understand the expression or when we think we fail to be motivated by the expression as expected.

When we ask for the meaning of a linguistic expression, we usually expect a rather particular sort of answer, namely, a dictionary entrance, a synonym, a translation, or instructions as to how to use the expression. We do not expect an answer to this question to say that the expression means this or that soul-affection or thought, though we would be satisfied if the answer points at or indicates some particular extramental-item. For this reason, meaning for us is usually what a learner grasps when they learn a word, what a competent speaker conveys with an expression, what a competent hearer understands, and what a non-competent speaker fails to understand. Meaning for us is above all the cognitive or linguistic content of a linguistic expression and this is more in line with the semantic value implicit in 16a 16-17, 16b 19-21, and 20a 16-19.

As a matter of fact, our talk of meaning is talk about what an expression in a certain language means, and language here is overtly regarded in the everyday sense of a social practice in which people actively engage (Dummett 1993, 3-4, 30-31). As a consequence, when we speak about meaning we usually say that « an expression “E” in a language L means M » and we take M here to provide the cognitive and linguistic content of « E » for speakers of L. Along these lines, we expect a theory of meaning to explain how speakers of L use « E » to transmit M as a message to hearers of L, and how hearers of L interpret or decode M. We take this explanation to provide the necessary and the sufficient conditions for sentences of the type « “E” in L means M » and to explain « E », L, M, and their relationship. This explanation must take into consideration several things: whether expressions like « E » come in different sorts

with different sorts of meaning, whether those different sorts of expressions can be combined to produce yet other expressions and sorts of meaning, and what the conditions or rules for such combinations are⁵².

If we compare signification as it is understood in *De interpretatione* 1 with our understanding of meaning, it becomes apparent that, despite some similarities and coincidences, we cannot identify it with meaning. First, signification in *De interpretatione* 1 cannot be identified with reference because reference is restricted to nouns (predicates do not have reference but extension and intension), whereas signification in *De interpretatione* 1 straightforwardly applies to both subject-nouns (singular or common) and predicate-terms, as well as to sentences.

Second, signification in *De interpretatione* 1 – as we have seen in §3.1, §4.2, and §4.3 – cannot be identified with what a linguistic expression expresses, or with linguistic content. Although *De interpretatione* 1 speaks of vocalized-sound and soul-affections or thoughts, it does not explicitly refer to their cognitive or linguistic content. Linguistic content is implied in 16a 16-17, 16b 19-21 (in the discussion of the present-tense-predicative-term spoken on its own) and 20a 16-18 (where Aristotle tells us that « the denial contrary to “every animal is just” is the one that signifies that no animal is just »)⁵³. And third, although *De interpretatione* 1 makes use of the restricted notion of vocalized-sound, which in the psychological and biological works presupposes communication, that chapter is not concerned with communication.

⁵² Irwin 1982, 242-243 makes a similar point about signification in Aristotle in general.

⁵³ *De interpretatione* 1's sketchy theory of signification has been equated by Weidemann (Weidemann 2015, 160; Weidemann 1982, 252-253) with the « uncritical semantics » Quine denounces (Quine 1968, 185-186). According to Quine, « uncritical semantics » is the myth that language can be correctly described in analogy to a museum, where « the exhibits are meanings and the words labels ». This is a myth, in Quine's view, because meaning cannot be identified with exhibits or items displayed and available for us to grasp. Meaning, according to Quine, cannot be identified with any object at all, be such object a mental entity, a platonic idea, or an extramental and extra-linguistic item. Quine thinks that the notion of meaning as an item available to be grasped disregards the fact that language is a communication tool that presupposes a linguistic community and the interaction between a speaker and a hearer. For this reason, meaning should not be construed as an object but in terms of social behavior. However, considering that what *De interpretatione* 1 calls « signification » is not strictly speaking meaning, and considering that its sketchy theory of semantics does not intend to explain human communication, but rather the basic elements of contrary pairs, contradictory pairs, and statement-making-sentences, it is then perhaps unfair to attribute to *De interpretatione* 1 Quine's so-called « uncritical semantics » of meaning.

We can finally answer question (Q4), i.e. whether *De interpretatione* 1 contains a theory of meaning, by saying that its semantic theory is not a theory of what we currently call meaning because it is not a theory of what linguistic expressions express or of linguistic content.

6. Answers and Conclusion

The fact that the *De interpretatione* is a treatise about contrary and contradictory pairs does not appear to shape Aristotle's linguistic remarks in that treatise. For this reason, the answer to the question (Q1), «what is the point of the semantic remarks of *De interpretatione* 1? », is that *De interpretatione* 1 talks of (Point 1) written marks and vocalized-sounds which signify soul-affections or thoughts and things in the world, because it needs to remind us that the conventional relation between, on the one hand, language and, on the other hand, thought and reality, depends on human voluntary action and is not (directly and immediately) determined by the extralinguistic and extramental world. For this reason, linguistic expressions need not faithfully correspond to reality and we should not draw from language the type of inferences we draw from symptoms or natural signs. Something similar applies to *De interpretatione* 1's (P2, P3, P4, P5) distinction between simple vocalized-sounds/thoughts, which are neither true nor false, and complex vocalized-sounds/thoughts, which are either true or false, and its view (P5) that truth and falsehood result from the connection and separation of simple vocalized-sounds/thoughts. This distinction and this view are relevant to the treatise as a whole because the possibility of truth and falsehood is a necessary condition for the subject matter of the treatise, which is contrary and contradictory pairs of assertions.

In this context, the answer to the question (Q2), « how does the topic of contradictory pairs of assertions shape Aristotle's semantic observations in the *De interpretatione*? », is that these semantic remarks are not shaped by a theory of contrary and contradictory pairs. They are general enough to help explain – without presupposing a theory of contrary and contradictory pairs – how it is possible that a vocalized-sound (i.e. a statement-making-sentence) and a soul-affection or thought be either true or false. Aristotle's semantic observations in *De interpretatione* 1 do not intend to explain language and communication themselves.

As for question (Q3), « what semantic theory does *De interpretatione* 1 introduce? », the answer is that *De interpretatione* 1 officially takes

signification to be symbol or tally signification. A vocalized-sound (or written mark) is first and fundamentally a symbol or tally of a soul-affection. In some cases, a vocalized-sound (or written mark) is also a symbol or tally of an extramental-item or state of affairs, when the soul-affection it signifies in fact corresponds to an extramental-item or state of affairs.

De interpretatione 1 presupposes a distinction between different sorts of signs and different sorts of signification. Simple vocalized-sounds are symbols or tallies of simple soul-affections (or simple thoughts) and sometimes also for extramental-items. In contrast, complex vocalized-sounds are symbols or tallies of complex soul-affections (or complex thoughts) and sometimes also for actual states of affairs. Here, a rough notion of compositionality is assumed, according to which complex vocalized-sounds (i.e. statement-making-sentences) consist of simple vocalized-sounds, and complex thoughts consist of simple thoughts.

And finally, we can answer question (Q4), « does *De interpretatione* 1 contain a theory of meaning? », by saying that *De interpretatione* 1 does not intend to provide and does not contain a theory of meaning, because it is not concerned with what linguistic expressions express or with linguistic content, it is not concerned with the social aspect of linguistic expressions, it is not concerned with how we manage to understand or be motivated by linguistic expressions, and it is not about what we request when we fail to understand or be motivated by an expression.

In conclusion, *De interpretatione* 1 limits its semantic and linguistic remarks to information that does not presuppose a theory of contrary and contradictory pairs and helps explaining how it is possible that a vocalized-sound (i.e. a statement-making-sentence) and a soul-affection or thought be either true or false. These remarks do not intend to explain language and communication. For this reason, *De interpretatione* 1 and *De interpretatione* in general leave aside linguistic and semantic issues we may consider important, such as communication, linguistic content, and even synonymy, heteronymy, and analyticity. Moreover, the linguistic terminology of *De interpretatione* 1 and the *De interpretatione* in general does not explicitly distinguish different senses of « signification » and obscures some aspects of the linguistic distinctions between statement-making-sentences, non-statement-making-sentences, and compound nouns. *De interpretatione* 1 operates with a distinction between simple vocalized-sounds and complex vocalized-sounds which implies a very rough notion of compositionality, according to which complex vocalized-

sounds consist of simple vocalized-sounds. However, these distinctions do not constitute a theory of meaning because *De interpretatione* 1 is concerned neither with how we manage to understand or be motivated by expressions, nor with what we request when we fail to understand or be motivated by an expression.

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TENSING THE VERBS

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For many philosophers, including Aristotle, only present entities *exist*. According to the correspondence theory of truth,¹ for a sentence to be true there must be a fact obtaining in the world that corresponds to the content expressed by the sentence. Is there a corresponding fact for past-tense and future-tense sentences? Some philosophers have argued that there is no such fact. Their position, however, has the unpleasant consequence that past and future-tense statements do not have a truth-value – a view that many deem to be counterintuitive.

In this paper, I analyze Aristotle's remarks on past and future tenses. I will explain Aristotle's claim that these tenses are « inflexions » of verbs rather than verbs by suggesting that the inflexions can be *derived* from the present tense and this latter has a logical priority over the other tenses. The paper will also cursorily consider Aristotle's ontology of time, because I maintain that the Stagirite developed such a logical theory in order to express his metaphysical ideas about the reality of the present.

I first outline the contemporary debate between temporal realists and presentists and I show that Aristotle is not a consistent presentist (section 1). I explore then what « truthbearers » are for Aristotle and I present the relevant text from *De Interpretatione* 4, where the Stagirite introduces his definition of « assertion ». I will stress that past, present and future tense statements *can* be truth-bearers (section 2). I will then consider one of the key-components of an assertion, the verb, and examine Aristotle's claim that past and future tenses are not « verbs » but « inflexions of

¹ On Aristotle's « classical » notion of correspondence, see Künne 2003, 93-111. Other correspondence theories of truth are discussed at 112-174.

verbs » (section 3). In section 4, I will analyze Aristotle's distinction of the many senses of the copula « is » – this analysis is a preliminary to the « deduction » of past and future tenses. In section 5, I show how we can « deduce » the past and future tenses from the senses of the copula that can be labelled as « is_{potentially} » and « is_{actually} ». I then summarize Aristotle's definition of time to corroborate the claims made in the previous sections (section 6). In the conclusion, I argue that my interpretation better represents Aristotle's ideas on tenses.

1. Presentism and Temporal Realism

There are two main ways to approach the presentist/temporal realism debate. According to the standard definition of « presentism », ² a presentist maintains that only present *things* exist. According to E.J. Lowe, ³ this is tantamount to state that past and future tense utterances do not have a truth-value. Lowe assumes that, for an utterance of the structure « S-is-P » to be true, there must be a subject S in the actual world and property referred to by the predicate P, such that S is P. However, the presentist philosopher rejects the idea that any entity may exist at a time different from the present. Hence, any utterance of the form « S-was-P » or « S-will-be-P » does not have a truth-value (or is vacuously false), because there is no « S » or « P » entity in the actual world that correspond to the subject and predicate of the above sentences.

Aristotle's position is that only the present exists, because the past is no longer with us and the future has not yet come into being:

« ὅτι μὲν οὖν ἢ ὄλως οὐκ ἔστιν ἢ μόλις καὶ ἀμυδρῶς, ἐκ τῶνδὲ τις ἂν ὑποπτεύσειεν. τὸ μὲν γὰρ αὐτοῦ γέγονε καὶ οὐκ ἔστιν, τὸ δὲ μέλλει καὶ οὐπω ἔστιν. ἐκ δὲ τούτων καὶ ὁ ἄπειρος καὶ ὁ ἀεὶ λαμβανόμενος χρόνος σύγκειται. τὸ δ' ἐκ μὴ ὄντων συγκείμενον ἀδύνατον ἂν εἶναι δόξειε μετέχειν οὐσίας [Barnes 1984: To start, then: the following considerations would make one suspect that it either does not exist at all or barely, and in the obscure way. One part of it has been and is not, while the other is going to be and is not yet. Yet time – both infinite time and any time you like to take – is made up of these. One would naturally suppose that what is made up of things which do not exist could have no share in reality] » (*Physica* IV 10, 217b 32 - 218a 3).

² See e.g. Ingram & Tallant 2018.

³ See Lowe 2002, 42-43.

The above passage seems to suggest that what we consider to be time (i.e., the continuum involving past, present and future) includes two non-existing things, i.e. the past that is no more (τὸ μὲν γὰρ αὐτοῦ γέγονε καὶ οὐκ ἔστιν) and the future that is not yet there (τὸ δὲ μέλλει καὶ οὐπω ἔστιν). Aristotle is going to argue that time actually *exists* and the above passage might be a dialectical argument in favor of the opposite claim (i.e. that time does not exist). Dialectical arguments are grounded on probable or reputable premises, not on necessary premises. Hence, it is not straightforward to conclude that Aristotle maintained that past and future simply do not exist: for his purposes, it was enough to assume that claim that was commonly held by most people. This does not entail, however, that Aristotle might have thought that past and future times *do* exist. When he offers his account of time and of the « now », Aristotle states that the « now » is the boundary between past and future, but the numbering that occurs in time presupposes a numbering soul, hence the relation established by this boundary may simply be a *relation of reason*.⁴ Additionally, Aristotle does not challenge the common opinion according to which past and future do not exist. It is important to stress that the Stagirite can coherently claim that time exists and yet past and future do not by stating that past and future are not *constituent parts* of time. Albeit contrary to common intuitions, this idea is consistent with Aristotle's ontology of time: unless we adopt an idealist reading of the core passage on the reality of time,⁵ Aristotle is committed to the idea that time involves

⁴ Aristotle seems to suggest this idea in *Categoriae* 6, 5a 23-30: « ἐπὶ δὲ γε τοῦ ἀριθμοῦ οὐκ ἂν ἔχοι τις ἐπιβλέψαι ὡς τὰ μόρια θέσιν τινὰ ἔχει πρὸς ἄλληλα ἢ κείται που, ἢ ποῖά γε πρὸς ἄλληλα συνάπτει τῶν μορίων· οὐδὲ τὰ τοῦ χρόνου· ὑπομένει γὰρ οὐδὲν τῶν τοῦ χρόνου μορίων, ὃ δὲ μὴ ἔστιν ὑπομένον, πῶς ἂν τοῦτο θέσιν τινὰ ἔχοι; ἀλλὰ μᾶλλον τάξιν τινὰ εἴποις ἂν ἔχειν τῷ τὸ μὲν πρότερον εἶναι τοῦ χρόνου τὸ δ' ὕστερον [with a number, on the other hand, one could not observe that the parts have some position in relation to one another or are situated somewhere, nor see which of the parts joins on to one another. Nor with the parts of a time either; for none of the parts of a time endures, and how could what is not enduring have any position? Rather might you say that they have a certain order in that one part of a time is before and another after] ». Aristotle is stating that the *parts* (τὰ μόρια) of time do not have a position, i.e. they do not have a place relative to another place, simply because they do not persist. Aristotle seems to equate the robust notion of existence in the present to having a place in this world. This idea is rather commonsensical and can reasonably be attributed to the Stagirite, even though the discussion in *Physica* IV 10, 217b 32 - 218a 3 is dialectical. In the *Categories* Aristotle adds that even if past and future times do not have a position, because they do not exist, nothing prevents them from being related to the present according to a certain order (τάξιν τινὰ).

⁵ For this reading, see Ruggiu 2018, 195-279.

a mind that *measures* (or *counts*) motion, but has a mind-independent reality that cannot be reduced to the motion of which it is the measure. A possible explanation, which will be argued for in section 6 below, is that time is nothing but the predisposition of motion to be measured by a possible mind. Hence, time belongs to motion as an accident belongs to its substance. Motion, on the other hand, is identical to the moving thing *quoad suppositum*.⁶ And the moving thing can only exist in the present. Hence time, *qua* extra-mental entity, can only exist in the present.

However, even though Aristotle is a presentist because he maintains that only present entities *exist*, he does not think that past and future tense sentences do not have a truth-value.⁷ He maintains that assertions may be made using verbs of any tense, as is clear from the following three passages:

- (1) « τὸ δὲ Φίλωνος ἢ Φίλωνι καὶ ὅσα τοιαῦτα οὐκ ὀνόματα ἀλλὰ πτώσεις ὀνόματος, λόγος δὲ ἐστὶν αὐτοῦ τὰ μὲν ἄλλα κατὰ τὰ αὐτά, ὅτι δὲ μετὰ τοῦ ἔστιν ἢ ἦν ἢ ἔσται οὐκ ἀληθεύει ἢ ψεύδεται, – τὸ δ' ὄνομα αἰεὶ [“Philo’s”, “to-Philo”, and the like are not names but inflexions of names. The same account holds for them as for names except that an inflexion when combined with “is”, “was”, or “will be” is not true or false whereas a name always is] » (*De interpretatione* 2, 16a 32-16b 4).
- (2) « ἀνάγκη δὲ πάντα λόγον ἀποφαντικὸν ἐκ ῥήματος εἶναι ἢ πτώσεως· καὶ γὰρ ὁ τοῦ ἀνθρώπου λόγος, ἐὰν μὴ τὸ ἔστιν ἢ ἔσται ἢ ἦν ἢ τι

⁶ Cf. *Physica* III 1, 200b 33 - 201a 3. For the identification of motion with the moving thing see Thomas Aquinas' interpretation (*In Physicam* III 3, 296). According to Aristotle, motion is the actuality of what is potentially, *qua* such (cf. *Physica* III 2, 201a 11; the literature on Aristotle's definition of motion is vast: see at least Kosman 1969 and Kostman 1987). However, Aristotle adds that motion takes place in one of the following categories: substance, quality, quantity, place (cf. *Physica* III 1, 200b 33 - 201a 3). Any change or motion that takes place in any of these categories is nothing but a (first) actualization of what was potentially such-and-such. But anything that is potentially such-and-such in any of the above four categories is nothing but an entity falling under these categories. Their corresponding first actualizations will also be falling under the same categories. Hence, motion can be conceptually distinguished from the changing entity, but it is identical with it *in re*. On the basis of this argument, I suggest that Aquinas is likely to be right in stating that for Aristotle motion is identical to the moving entity *quoad suppositum*.

⁷ In this paper, the word « sentence » corresponds to the Greek λόγος. I do not intend to claim that Aristotle maintained that the linguistic truth-bearers are utterances (token-sentences) or propositions (according to the meaning of « proposition » employed by modern theorists, i.e. type-sentences). Crivelli 2004, 72ff. maintains that linguistic truth-bearers are utterances. Charles & Peramatzis 2016, 139 argue that Aristotle's « talk of the combinations and divisions of things, or of combined/divided things, leaves open the precise nature of the truth-making entities ».

τοιούτο προστεθῆ, οὐπω λόγος ἀποφαντικός [every statement-making sentence must contain a verb or an inflexion of a verb. For even the definition of man is not yet a statement-making sentence – unless “is” or “will be” or “was” or something of this sort is added] » (*De interpretatione* 5, 17a 9-12).

- (3) « ἔστι δ' ἢ μὲν ἀπλῆ ἀπόφανσις φωνῆ σημαντικῆ περὶ τοῦ εἰ ὑπάρχει τι ἢ μὴ ὑπάρχει, ὡς οἱ χρόνοι διήρηνται [the simple statement is a significant spoken sound about whether something does or does not hold (in one of the divisions of time)] » (*De interpretatione* 5, 17a 23-24).

How can Aristotle reject linguistic presentism, if he is a metaphysical presentist? His correspondence theory of truth seems to imply that logical and linguistic items should mirror metaphysical realities. This puzzle forces us to distinguish between the linguistic meaning of a verb and its reference. In a true affirmative sentence, all terms should be referring to *really existing entities*, i.e. to present entities. Past and future tenses cannot refer to past or future items, because such things *do not exist*. These verbal forms may however *mean* a particular (logical and linguistic) relation to the present tense. Thanks to the mediation of this *meaning*, past and future tenses also *refer* to present entities, albeit in an indirect and implicit way.⁸

According to E.J. Lowe, a philosopher is a « temporal realist », if she maintains that sentences with the structure « S-was-P » or « S-will-be-P » may have a truth-value as much as a sentence like « S-is-P » may have a truth value. Temporal realists differ among themselves in that they maintain that the time-index, embedded in the tense of the copula, qualifies different parts of the sentence. According to some philosopher, the time-index modifies the subject. Hence, a sentence like

- (i) The chair was red

⁸ I do not attribute to Aristotle any anachronistic distinction between sense and reference along the lines of Frege 1892. I believe, however, that we cannot make sense of the Stagirite's complex theory of tense if we do not make the following distinctions. « Time » refers to either (i) the grammatical tense or (ii) real time. As far as real time is concerned, only the present exists. There are, however, three tenses: past, present and future, and it is possible to form true sentences with any of these. These tenses are not distinguished on the basis of their reference, *i.e.* of the corresponding realities that are signified by them, inasmuch as there is just one kind of realities *in ipsa rerum natura*, *viz.* present entities. The reciprocal distinction among the tenses rests then on their meaning, *i.e.* on their reciprocal relations that are merely conceptual relations. The distinction between the meaning and the reference of a term is reminiscent of the scholastic distinction between the *significatio* and the *suppositio* of a term – a theme that has undoubtedly Aristotelian roots (cf. e.g. Gili 2019a, 26-28).

is equivalent to the following sentence:

(i*) the chair-at- t_k ($k < p$) is red

Sentences like (i*) suggest that a subject may have several temporal parts. A metaphysical theory that is consistent with this analysis of language is the four-dimensionalism, according to which each object has parts according to the three spatial dimensions and the temporal dimension.⁹

Alternatively, it is possible to think that the time-index modifies the predicate. Sentence (i) in the above example would be equivalent to:

(i**) the chair is red-at- t_k ($k < p$)

This analysis suggests that all predicates are relational predicates that involve a reference to time. If one adopts a correspondence theory of truth, one would expect that all properties are relational properties. This, however, is quite counterintuitive. E.J. Lowe favours a third option, which he labels « adverbialism »: the time index modifies the copula, not the subject or the predicate of the sentences.¹⁰ He does not specify, however, what this entails from a metaphysical viewpoint¹¹. In what follows, I maintain that Aristotle's position is indeed adverbialist in that the Stagirite maintains that past and future-tense sentences may have a truth-value and in these sentences the time index does not qualify the subject or the logical predicate, but the way in which the predicate is said of the subject. Aristotle develops such a theory precisely because he maintains that the logical language is designed to capture and describe metaphysical truths.

2. Aristotle on Truthbearers

In order to understand why Aristotle maintains that past and future sentences may have a truth-value, even though only present entities exist, it is necessary to look at the syntactic structure of linguistic truth-bearers.

What is a (linguistic) truth-bearer for Aristotle? What item (linguistic or not) is susceptible to be true or false? The question has been raised many times in recent years and there is no consensus on what Aristotle maintained on the subject. P. Crivelli suggests that extra-mental *objects*

⁹ Four-dimensionalism has been defended by Lewis 1986 and Sider 1997.

¹⁰ Adverbialists include Lowe & Haslanger 1989. D. Lewis criticized this position in his paper Lewis 2002.

¹¹ Cf. Lowe 2002, 47-49.

are the primary truth-bearers and that, in the case of linguistic items, utterances and not type-sentences (i.e., what many modern theorists call « propositions »)¹² are susceptible of being true or false.¹³ D. Charles and M. Peramatzis maintain, on the contrary, that the primary truth-bearers are linguistic entities and that Aristotle does not distinguish between token and type-sentences in his writings.¹⁴ Although I side with Charles and Peramatzis on the issue, I do not intend to argue for either position in this context, because I believe that either interpretation is compatible with what I maintain on the *logical structure* of a linguistic truth-bearer.

I intend to point to another aspect of linguistic truth-bearer. According to Aristotle, the *structure* of a truthbearer is a predication expressed where a predicate is joined to (or separated from) a subject by means of a copula (and, in the case of negative sentences, by copula+negation).¹⁵ The general structure of a sentence is as follows:

(i) S is P

Aristotle's claim is far from being straightforward and the above « traditional » interpretation, according to which all truth-bearers have an « S-is-P » structure, has been challenged with solid arguments by M. Matthen and L.M. De Rijk. In an article published in 1983 (Matthen 1983), M. Matthen works with the distinction between the veridical and the copulative values of « to be » that had been distinguished by C. Kahn. According to Matthen, the most fundamental function of « to be » is to *assert the truth* of a statement. Hence, all structures of the form (i) « S is P » can be rephrased as (ii) « P-S is », where the predicate in (i) becomes an adjective of the subject S in (ii). De Rijk followed Matthen's suggestion in his book on Aristotle's Semantics and Ontology (De Rijk 2002). De Rijk maintains that « in Aristotle's protocol language the surface-structure (or colloquial) copula construction (Σωκράτης ἐστὶ λευκός = "Socrates is pale") is remodelled in terms of the veridical nuance of hyparctic "be" thus Ἔστι Σωκράτης λευκός. So the finite verb "be" is used emphatically (at the head of the sentence) as an assertoric operator

¹² B. Bolzano is often credited to have first distinguished utterances from types propositions in a clear way in his *Wissenschaftslehre* (Bolzano 1837).

¹³ Cf. Crivelli 2004.

¹⁴ Cf. Charles & Peramatzis 2016.

¹⁵ Supporters of this traditional interpretation include Geach 1968; Van Bennekom 1986; Crivelli 2004.

which is attached to a participial phrase: “[Socrates’s-being-pale]” or *that*-clause: “[that-Socrates-is-pale]” » (De Rijk 2002, 36). According to De Rijk 2002, 87-93, the evidence in favour of the primarily assertoric value of ἔστιν is that Aristotle apparently never states that ἔστιν is a copula. He rather maintains that ἔστιν is « attached to the combination already formed by an onoma and a rhema » (De Rijk 2002, 87). The emphatic position of ἔστι at the head of sentences in several examples in Aristotle’s *De Interpretatione* seems to support De Rijk’s reading, because such position emphasizes the affirmation.¹⁶

Soon after the publication of De Rijk’s book, C. Kahn modified his interpretation of the philosophical understanding of « to be » and concluded that the existential meaning is more fundamental if « we are looking for the lexical content or *meaning* of the verb ». ¹⁷ According to Kahn, this modification is able to accommodate De Rijk’s interpretation. Kahn, however, maintains that « the syntactic function of predication is more basic for comprehending the uses of εἶναι as a unified system, and also for understanding the role of the verb in philosophy » (Kahn 2003, xiii-xiv). Kahn observes that the veridical use – which is more fundamental for both Matten and De Rijk – is a second-order function from a syntactic viewpoint (Kahn 2003, xix). It is important to stress that De Rijk’s and Kahn’s proposals are about the linguistic value of ἔστιν rather than on its logical function. From a logical viewpoint, as Kahn acknowledges, it is possible to derive the veridical use from the copulative and the

¹⁶ De Rijk 2002, 88 note 37 rightly notes that neither J.L. Ackrill nor W. Cavini paid attention to the issue. Interestingly, Cavini is not a consistent supporter of the copulative reading, contrary to what De Rijk suggests: Cavini maintains that the verb εἶναι both signifies a connection and generates an assertion (cf. Cavini 1985, 17 and 44). T. Waitz seems to have anticipated Matten’s and De Rijk’s conclusions (even though the latter two seem not to be aware of it). In his commentary on *De interpretatione* 10, 19b 25-30, Waitz makes the following remarks: « iam hos tres terminus (ἄνθρωπος, δίκαιος et ἔστι) non sic distinxit Aristoteles ut nos solemus: non dixit unum oration subiectum esse, alterum praedicari, tertium copulare priores [...] apparet igitur ἔστι ab Aristotele hoc loco poni non ut copulam, sed ut tertiam quondam eamque veram enuntiationis partem [...] δίκαιος arctius coniungitur cum ἄνθρωπος, sicut cum substantive coniungi solet adiectivum. Enuntiatio igitur ἔστι δίκαιος ἄνθρωπος non idem est quod “homo est iustus”, sed verbum e verbo “est-iustus homo”. Quae quum ita sint, patet Aristotelem in his non observavisse quid intersit inter esse et existere, quod, quum Graecorum unum sit verbum εἶναι, non est quod miremur » (345-346).

¹⁷ Kahn 2003, xiv. A slightly modified version of Kahn’s 2003 *Introduction* was later published in Kahn 2004 and in Kahn 2009 with the title « A Return to the Theory of the Verb *Be* and the Concept of Being ».

copulative from the veridical. I maintain, however, that also from a logical viewpoint the copulative function is more fundamental inasmuch as Aristotle maintains that « being » is said in many ways, i.e. *per se/per accidens*, according to the ten « categories », according to potentiality or actuality, in the veridical sense (cf. *Metaphysica* E 2, 1026a 33 - 1026b 1), but all these senses undoubtedly refer to « connections » of a predicate and a subject, as is clear from Aristotle's own examples (see e.g. 1026b 19).¹⁸ More recently, P. Laspia suggested to consider the ἔστιν as a « predicative operator » or ἄρθρον along the lines of Aristotle, *Poetica* 20, 1456b 38 - 1457a 10.¹⁹ Her proposal has the merit of explaining why ἔστιν has such an ambivalent status, i.e. why it is necessary to form an assertion and why its only function seems to be the connection of a predicate to a subject.

The « S-is-P » structure admits for quantifiers and modal operators (cf. *Analytica priora* I 2, 25a 1-13). It can also be rephrased with the verb « belongs to » instead of « is » (cf. e.g. *Analytica priora* I 2, 25a 14-17, where the two expressions are used interchangeably):

(i*) P belongs to S

Whereas the second version may be better suited to write syllogisms (hence Aristotle's apparent preference for this structure in the *Prior Analytics*), the first structure makes it apparent that the copula « is » has many meanings. I will be arguing that Aristotle prefers the structure (i) over any other equivalent in a natural language precisely because he wants to show that « is » has many meanings and that these meanings have to be distinguished in order to dispel any ambiguity. I believe that

¹⁸ On the predicative value of the participle of εἶναι see Kahn 2003, 452-457. Allan Bäck distinguishes his reading of Aristotle's ἔστιν from Kahn's in that Bäck's « aspect » interpretation stresses that every predication is also a statement about the existence of the subject of the predication. My position is similar to Bäck's in that I also maintain that Aristotle clearly « considers every verb to contain at least an implicit assertion of "is" » (Bäck 2000, 106). I do not follow Bäck in stating that the « is » necessarily entails « robust existence », but from this premise Bäck derives a conclusion similar to mine, i.e. past and future tenses of εἶναι can only be understood on the basis of the present tense (cf. again Bäck 2000, 106).

¹⁹ See Laspia 2018, especially 45-49. When Aristotle gives examples of ἄρθρον, he only mentions τὸ ἀμφί (according to a conjectural reconstruction) and τὸ περί (cf. *Poetica* 20, 1457a 7) – he does not seem to be including ἔστιν. This absence is rather conspicuous. Laspia 1997, 116, observes that the first example could be a φημί – that is closer to the φ.μ.ι. attested by the ms. Parisinus gr. 1741 – with a copulative function, as in « I call (φημί) "human being" a rational animal ».

Aristotle intended to dispel ambiguities from the language because their presence can go unnoticed and apparently valid arguments may turn out to be fallacies when ambiguities are dispelled (cf. *Topica* Z 3, 140a 23-32; *Sophistici elenchi* 10, 170b 12-30). As is well known, Aristotle did not explicitly state that we should create an ideal language of logic where all ambiguities of natural language are eliminated, but his attentive classification of fallacies and sophisms shows that he was aware of the ambiguities of natural language. One might be tempted to infer that the search for a non-ambiguous language for the sciences is not incompatible with Aristotle's enterprise. In what follows, I will speak of a distinction between an « ideal logical language » and « natural language » without implying that Aristotle advocated for this distinction, nor that he should have, had he been consistent with his own intuition: I will rather hypothesize this distinction as an explanatory tool for his preference for certain expressions over others. It should be clear that there is no « ideal logical language » in Aristotle's own writings, as the oscillation between the linguistic structures (i) and (i*) demonstrates. The two linguistic structures have nevertheless a trait in common: they are both designed to make our linguistic analysis simpler.

In at least two passages Aristotle claims that the form (i) should be preferred to any other equivalent in a natural language. Natural languages, including ancient Greek, may represent the same semantic content in different ways, but they not all sound as natural. For a Greek, it is more natural to say that « Socrates eats » rather than « Socrates is *eating* ». Interestingly, Aristotle insists that the two expressions are *equivalent* from a semantic viewpoint. Why would he need to stress such an obvious fact? Why would he underline that the more unnatural « the-man-is-recovering » (ἄνθρωπος ὑγιαίνων ἐστίν) construction is equivalent to « the-man-recovers » (ἄνθρωπος ὑγιαίνει)?

« ὁσαχῶς γὰρ λέγεται, τοσαυταχῶς τὸ εἶναι σημαίνει. ἐπεὶ οὖν τῶν κατηγορουμένων τὰ μὲν τί ἐστι σημαίνει, τὰ δὲ ποιόν, τὰ δὲ ποσόν, τὰ δὲ πρὸς τι, τὰ δὲ ποιεῖν ἢ πάσχειν, τὰ δὲ πού, τὰ δὲ ποτέ, ἐκάστῳ τούτων τὸ εἶναι ταῦτο σημαίνει· οὐθὲν γὰρ διαφέρει τὸ ἄνθρωπος ὑγιαίνων ἐστίν ἢ τὸ ἄνθρωπος ὑγιαίνει, οὐδὲ τὸ ἄνθρωπος βαδίζων ἐστίν ἢ τέμνων τοῦ ἄνθρωπος βαδίζει ἢ τέμνει, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων [those things are said in their own right to be that are indicated by the figures of predication; for the senses of “being” are just as many as these figures. Since some predicates indicate what the subject is, others its quality, others quantity, others relation, others activity or passivity, others its place, others

its time, “being” has a meaning answering to each of these. For there is no difference between “the man is recovering” and “the man recovers”, nor between “the man is walking” or “cutting” and “the man walks” or “cuts”; and similarly in all other cases] » (*Metaphysica* Δ 7, 1017a 23 - 1017a 30).

In the above passage, Aristotle observes that « the man recovers » is equivalent to « the man is recovering », because he wants to state that the copula « is » has many meanings, including « activity » or « passivity » – these latter senses of the copula might be missed, if we were to express all active and passive states with verbs different from εἶναι. But why is it important to state that the meanings of « is » include activity and passivity? Aristotle maintains, as I will expound in what follows, that there are some fundamental ways of predicating something of something, i.e. some fundamental « predications ». ²⁰ These predications are expressed by the verb εἶναι in an ideal logical language. Hence all sentences of any natural language that do not display the copula need to be translated into their equivalent, so that it becomes evident that there are additional meanings of « is ».

²⁰ This claim had been defended by Thomas Aquinas in his commentary on *Metaphysics* Δ 7 (*In Metaphysicam* V 9, 891-892): « Sciendum enim est quod praedicatum ad subiectum tripliciter se potest habere. Uno modo cum est id quod est subiectum, ut cum dico, Socrates est animal. Nam Socrates est id quod est animal. Et hoc praedicatum dicitur significare substantiam primam, quae est substantia particularis, de qua omnia praedicantur. Secundo modo ut praedicatum sumatur secundum quod inest subiecto: quod quidem praedicatum, vel inest ei per se et absolute, ut consequens materiam, et sic est quantitas: vel ut consequens formam, et sic est qualitas: vel inest ei non absolute, sed in respectu ad aliud, et sic est ad aliquid. Tertio modo ut praedicatum sumatur ab eo quod est extra subiectum: et hoc dupliciter. Uno modo ut sit omnino extra subiectum: quod quidem si non sit mensura subiecti, praedicatur per modum habitus, ut cum dicitur, Socrates est calceatus vel vestitus. Si autem sit mensura eius, cum mensura extrinseca sit vel tempus vel locus, sumitur praedicamentum vel ex parte temporis, et sic erit quando: vel ex loco, et sic erit ubi, non considerato ordine partium in loco, quo considerato erit situs. Alio modo ut id a quo sumitur praedicamentum, secundum aliquid sit in subiecto, de quo praedicatur. Et si quidem secundum principium, sic praedicatur ut agere. Nam actionis principium in subiecto est. Si vero secundum terminum, sic praedicabitur ut in pati. Nam passio in subiectum patiens terminatur ». On the history of the « deduction » of the categories from the types of predication before see Hansen 2017. More recently, Sainati 1968 and Frede 1987 have claimed that in a more fundamental sense Aristotle’s « categories » are *predications*. From types of predications it is possible to generate classes of predicates (and of their corresponding extra-mental entities). But an Aristotelian category is ultimately a « predication », i.e. it is rooted in a « modus predicandi ». Frede’s article has been rather influential (see e.g. Barnes 2005). I compare Sainati’s and Frede’s interpretations in Gili 2017. In Gili 2020, I argue that also Alexander of Aphrodisias was conceiving of κατηγορία as « predications ».

The other passage in which Aristotle hints at the idea that the logical language should translate all statements without a copula « is » into their equivalent with the copula « is » is taken from the *De Interpretatione*:

« εἰ γὰρ κατὰ παντὸς ἢ κατὰφασις ἢ ἡ ἀπόφασις, τὸ ζύλον ἔσται ἀληθές εἰπεῖν εἶναι μὴ λευκὸν ἄνθρωπον· εἰ δὲ οὕτως, καὶ ὅσοις τὸ εἶναι μὴ προστίθεται, τὸ αὐτὸ ποιήσῃ τὸ ἀντὶ τοῦ εἶναι λεγόμενον, οἷον τοῦ ἄνθρωπος βαδίζει οὐ τὸ οὐκ ἄνθρωπος βαδίζει ἀπόφασις, ἀλλὰ τὸ οὐ βαδίζει ἄνθρωπος· οὐδὲν γὰρ διαφέρει εἰπεῖν ἄνθρωπον βαδίζειν ἢ ἄνθρωπον βαδίζοντα εἶναι [since of everything the affirmation or the negation holds, the log will be truly said to be a not-white man. And if this is so, in cases where “to be” is not added what is said instead of “to be” will have the same effect. For example, the negation of “a man walks” is not “a not-man walks” but “a man does not walk”; for there is no difference between saying that a man walks and saying that a man is walking] » (Int. 12, 21b 3-10).

In this passage Aristotle is discussing the formation of contradictory pairs in the case of singular statements. In his opinion, the structure « S-is-P » is clearly the privileged expression, because it enables us to generate the contradictory sentence by adding a negation before the copula. Aristotle observes that it is possible to generate a contradictory sentence of a sentence that does not display any copula (« S-V », i.e. subject+verb) by simply negating the verb (« S-not-V »). However, the structure « S-is-P » is undoubtedly privileged, because it allows us to avoid any ambiguity as far as the position of the negation is concerned. Aristotle unambiguously states that the negation of a contradictory statement should precede the copula and not the predicate. There might be some semantic ambiguity with the alternative structure « S-not-V », because one might wonder what the negation is actually negating. The verb « V » includes two semantic items, i.e. the copula and a predicate. The position of the copula before the verb is not transparent as to whether the negation negates the copula or the predicate of a semantically equivalent expression.

This ambiguity and the very fact that the structure « S-V » (and « S-not-V ») appears to be closer to the natural language suggest that Aristotle might have had a reason to stress yet again that « S-V » is equivalent to « S-is-P ». Since the latter structure (« S-is-P ») enables him to avoid ambiguities, I venture to say that Aristotle was aware of the necessity of a « logical language » where all ambiguities are eliminated. Any statement in a natural language with a verb in the past or in the future tense

will have to be translated into an equivalent statement with « was » or « will be » and a predicate that expresses the action or passion signified by the verb.

3. Verb and inflexions of verbs

Before showing how Aristotle might have « deduced » the past and future tenses of the verb εἶναι, I need to demonstrate that such a « deduction » is needed. In his chapter on « verbs » in the *De interpretatione*, Aristotle clearly maintains that the present tense is more basic and that past and future tenses are derivative.²¹ Aristotle states that the past and the future tenses are « inflexions » of the verb (τὸ ὑγιανεῖ οὐ ῥῆμα, ἀλλὰ πτώσις ῥήματος, *De interpretatione* 3, 16b 16-17). A πτώσις is a « modification » of a word (cf. *Poetica* 20, 1457a 18). Aristotle explicitly talks of πτώσεις of nouns in *De interpretatione* 2, 16b 1 and refers to the cases different from the nominative as πτώσεις of the nominative case.²² This suggests that the modification of a word *w1* to obtain a word *w2* that is a πτώσις of *w1* is such that *w1* is « prior » to *w2* like the nominative case is prior to the other cases. One could not understand a πτώσις without grasping also the word of which it is a πτώσις. Other passages are less perspicuous. In *Topica* V 7 Aristotle considers arguments about πτώσεις (cf. 136b 15) and it is clear from the context that πτώσεις are two words related to each other but without a clear priority. There are cases of adjectives and of nouns that do not seem to involve the nominative (cf. 136b 20-22) and Aristotle considers πτώσεις also an adverb and its corresponding adjective (cf. 136b 17-18): there seems to be no reason to consider an adjective « prior » to its corresponding adverb or vice versa. The oddity of the notion of πτώσις in chapter 7 of *Topics*, book V²³ is more evident if one considers the etymology of πτώσις, that

²¹ Aristotle's text is read in this way, *inter alios*, by Ackrill 1963, 112 and Whitaker 1996, 67-70.

²² On the analogy between the analysis of πτώσεις of names and that of verbs, see H. Weidemann 2002's comments *ad De interpretatione* 3, 16b 16-18.

²³ Reinhardt 2000, 114-115 convincingly argued that *Topica*, E is the result of editorial work by an unknown author who had at his disposal « Aristotelian materials ». This hypothesis may explain the discrepancy in the notion of πτώσις between the book E of the *Topics* and the *De interpretatione*. Alexander of Aphrodisias was already aware of the problem and maintains that properly speaking, if A is a πτώσις of B, B cannot be the πτώσις of A; there is however another sense of πτώσις, according to which, if A is a

is related to the verb *πίπτω* (« to fall »): even though we do not have much evidence on the meaning of *πτῶσις* within a grammatical context in Aristotle's times, the very etymology suggests that the idea of « falling » has a metaphorical sense in grammar. If a word is the result of a « falling » (*πτῶσις*), it should have « fallen » from another word and this latter is prior to the former. For our purpose, it is sufficient to notice that in *De interpretatione* 2 the priority of the nominative over the other cases is clearly stated, because only the nominative can have the grammatical function of being the « noun » of a statement.²⁴ Any utterance that were to display a genitive or a dative or an accusative as the subject of the phrase would not have a truth-value.

The case of verbs and of their inflexions, however, is different. « Of Philo runs » is not a grammatical sentence and, as such, does not have a truth-value, but « Philo talked to Socrates » is as grammatical as « Philo runs ». And Aristotle admits that sentences with « inflexions » of verbs have a truth-value as much as sentences with « verbs » (i.e., with present tense verbs).

Aristotle writes:

« ῥῆμα δέ ἐστι τὸ προσσημαῖνον χρόνον, οὗ μέρος οὐδὲν σημαίνει χωρίς· ἔστι δὲ τῶν καθ' ἑτέρου λεγομένων σημείων. λέγω δ' ὅτι προσσημαίνει χρόνον, οἷον ὑγίεια μὲν ὄνομα, τὸ δ' ὑγιαίνει ῥῆμα· προσσημαίνει γὰρ τὸ νῦν ὑπάρχειν. καὶ ἀεὶ τῶν ὑπαρχόντων σημείον ἐστίν, οἷον τῶν καθ' ὑποκειμένου. [16b 10] – τὸ δὲ οὐχ ὑγιαίνει καὶ τὸ οὐ κάμνει οὐ ῥῆμα λέγω· προσσημαίνει μὲν γὰρ χρόνον καὶ ἀεὶ κατὰ τινος ὑπάρχει, τῆ διαφορᾷ δὲ ὄνομα οὐ κεῖται· ἀλλ' ἔστω ἀόριστον ῥῆμα, ὅτι ὁμοίως ἐφ' ὅτου οὐκ ὑπάρχει καὶ ὄντος καὶ μὴ ὄντος. [16b 15] ὁμοίως δὲ καὶ τὸ ὑγιάνει ἢ τὸ ὑγιανεῖ οὐ ῥῆμα, ἀλλὰ πτῶσις ῥήματος· διαφέρει δὲ τοῦ ῥήματος, ὅτι τὸ μὲν τὸν παρόντα προσσημαίνει χρόνον, τὰ δὲ τὸν πέριξ [Barnes 1984 modified: a verb is what cosignifies tense, no part of it being significant separately; and it is a sign of what is said of something else. It cosignifies tense: “recovery” is a name, but “recovers” is a verb, because it cosignifies something's holding now. And it is always a sign of what holds, that is, holds of a subject. “Does not recover” and “does not

πτῶσις of B, B is a *πτῶσις* of A: Alexander maintains that Aristotle uses this meaning of *πτῶσις* in *Topica* E, 7. Commenting on that passage, Alexander makes the following remark: « Πτώσεις ἰδίως αὐτῷ λέγειν ἔθος τὸ μὲν δικαίως τοῦ δίκαιος τὸ δὲ ἀνδρείως τοῦ ἀνδρείος, νῦν δὲ πτώσεις ἐκάτερα ἐκατέρων λέγει » (*In Topica*, 410.19-20).

²⁴ « Τὸ δὲ Φίλωνος ἢ Φίλωνι καὶ ὅσα τοιαῦτα οὐκ ὀνόματα ἀλλὰ πτώσεις ὀνόματος, λόγος δὲ ἐστίν αὐτοῦ τὰ μὲν ἄλλα κατὰ τὰ αὐτά, ὅτι δὲ μετὰ τοῦ ἐστίν ἢ ἦν ἢ ἔσται οὐκ ἀληθεύει ἢ ψεύδεται, – τὸ δ' ὄνομα ἀεὶ, – οἷον Φίλωνός ἐστιν ἢ οὐκ ἐστίν· οὐδὲν γὰρ πῶ οὔτε ἀληθεύει οὔτε ψεύδεται » (*De interpretatione* 2, 16a 32 - 16b 5).

ail” I do not call verbs. For though they cosignify tense and always hold of something, yet there is a difference – for which there is no name. Let us call them indefinite verbs, because they hold indifferently of anything whether existent or non-existent. Similarly, “recovered” and “will-recover” are not verbs but inflexions of verbs. They differ from the verb in that it cosignifies the present tense, whereas they <cosignify> the tenses around the present] » (*De interpretatione* 3, 16b 6-18).

Aristotle points to two similarities between names and verbs: no part of them signifies (σημαίνει) separately and they both *refer to* (σημαίνει) something.²⁵ Unlike names, verbs *refer to* attributes and not to subjects (the verb « is a sign of what is said of something else ») and *cosignify* tense (χρόνον).²⁶ Aristotle in this passage is not mentioning « real time », i.e. the extra-mental measure of before and after in motion that inheres in the moving thing as an accident inheres in its substance.²⁷ He is rather

²⁵ By stating that no part of either the name or the verb is significant, he is implicitly stating that the whole term – be it a verb or a name – signifies, i.e., in my interpretation, *refers to* something in the real world.

²⁶ Pacius makes excellent remarks on the characteristics that are proper to verbs: « Omisso igitur genere, quod commune est verbo cum nomine, et quod supra exposuimus, ponit Aristoteles tres differentias: quarum prima est adsignificare tempus, per quam se-ungitur verbum a nomine [...]. Altera differentia est, quod nulla pars verbi significat per se, i.e. nulla syllaba per se, per quam differentiam separatur verbum a oratione. Sed haec differentia communis est etiam nomini [...]. Tertia differentia est, esse notam eorum quae de altero dicuntur, id est, esse notam attributi, seu habere vim connotandi attributum cum subiecto de quo dicitur. Notandum est, omne verbum habere tres vires: nam significat, adsignificat, et consignificat. Significat rem aliquam; adsignificat tempus; consignificat nexum attributi cum subiecto » (*Organon*, 65). On the medieval theories of the « cosignification » of verbs see Rosier-Catach 2009.

²⁷ Aristotle states that « when » is a category (cf. *Categoriae* 4, 1b 25-27). According to the traditional interpretation, « categories » are either linguistic items (and, in this case, they are either predications or predicates) or extra-mental beings. However, almost all commentators agree that linguistic items correspond to extra-mental beings, so that whenever Aristotle introduces a « category », he is introducing a partition of real being. This seems to entail that for Aristotle the « when » is a feature of reality. Interestingly, some terms are said to « signify » (σημαίνει) a « when »: « τῶν κατὰ μηδεμίαν συμπλοκὴν λεγομένων ἕκαστον ἥτοι οὐσίαν σημαίνει ἢ ποσὸν ἢ ποιὸν ἢ πρὸς τι ἢ πού ἢ ποτὲ ἢ κεῖσθαι ἢ ἔχειν ἢ ποιεῖν ἢ πάσχειν. [Of things said without any combination, each signifies either substance or quantity or qualification or a relative or where or when or being-in-a-position or having or doing or being-affected] » (1b 25-27). In my opinion, Aristotle deliberately distinguishes the uses of σημαίνει and προσσημαίνει: the first introduces a reference in the real world, whereas the second introduces a grammatical feature (that is obviously indirectly describing the real world). The distinction, however, should be kept, because Aristotle clearly introduces a new verb, προσσημαίνω, that does not occur in any other ancient author but Alexander of Aphrodisias (who is obviously citing Aristotle). Hence, it is reasonable to suppose that προσσημαίνω is Aristotle’s coinage

speaking of *tense*, i.e. of the linguistic relation that modifies the way in which the attribute signified by the verb is connected to the subject. The verb *cosignifies* (προσσημαίνει) a tense and indirectly *refers to* a time, as we shall see in what follows. Real time entails the (possible) existence of mind, but has objective reality and can be understood as the predisposition of motion to be measured by a mind whatsoever.²⁸ Motion, however, is said in relation to real beings and, specifically, in relation to substance, quality, quantity and place.²⁹ None of these entities *exist* outside of the present. Hence the only *real time* that exists is the present. What would be the reference of a past tense or a future tense verb? The « past » or the « future », *qua* parts of « real time », do not exist.³⁰ Therefore,

and there must be a reason why he felt the need of introducing a verb different from σημαίνω. In *Metaphysica* Δ, 13, 1020a 26-32 Aristotle states that « time » and « movement » are « attributes » (πάθη) of things that are in time and in movement: « τῶν δὲ κατὰ συμβεβηκὸς λεγομένων ποσῶν τὰ μὲν οὕτως λέγεται ὡςπερ ἐλέχθη ὅτι τὸ μουσικὸν ποσὸν καὶ τὸ λευκὸν τῷ εἶναι ποσόν τι ᾧ ὑπάρχουσι, τὰ δὲ ὡς κινήσις καὶ χρόνος· καὶ γὰρ ταῦτα πόσ' ἅπαντα λέγεται καὶ συνεχῆ τῷ ἐκεῖνα διαιρετὰ εἶναι ὧν ἔστι ταῦτα πάθη. λέγω δὲ οὐ τὸ κινούμενον ἀλλ' ὃ ἐκινήθη· τῷ γὰρ ποσὸν εἶναι ἐκεῖνο καὶ ἡ κίνησις ποσῆ, ὃ δὲ χρόνος τῷ ταύτην. [of things that are quantities accidentally, some are so called in the sense in which it was said that musical and white were quantities, viz. because that to which they belong is a quantity, and some are quantities in the way in which movement and time are so; for these are called quantities and continuous because the things of which these are attributes are divisible. I mean not that which is moved, but the space through which it is moved; for because that is a quantity movement also is a quantity, and because this is a quantity time is so] ». By referring to « time » as a πάθος of things, Aristotle is stating that time is an accident that inheres in a substance and has mind-independent existence. This nicely fits with *Categoriae* 4, 1b 25-28, where Aristotle argues that « when » is a category.

²⁸ For an alternative « idealist » reading of Aristotle's concept of time see Ruggiu 2018, especially 82-84 and 117-118. Coope 2005 also maintains that there is no time without a soul that can count time. An analogous position has been defended by Harry 2015, who maintains that actual time is « taken time » and « taken time » entails the presence of a « taker ». Roark 2011 proposes a « hylomorphic reading » of time in which « time » is a compound in which motion is the matter and perception is the form. Roark maintains, however, that there would be time also if no one happens to perceive motion, because time is a property of motion *qua* perceivable by a possible soul. My understanding is similar to Roark's, even though I would be hesitant in applying the hylomorphic model to motion, perception and time the way Roark does. The « realist » interpretation of Aristotle's account of time, viz. the idea that time would exist also regardless of the existence of any soul that measures its passing, has been argued for by Thomas Aquinas (*In Physicam* IV, 23), Festugière 1934, Dubois 1967, Goldschmidt 1982. Similarly also Conen 1964 maintains that there is an objective time, even though he also talks of a subjective time. Sfondoni-Mentzou 2016 argues that time is a real entity of the world according to Aristotle.

²⁹ Cf. *Physica* III 1, 200b 33-201a 3.

³⁰ Cf. *Physica* IV 10, 217b 32-218a 3.

the semantic relation introduced by the verb προσσημαίνει cannot have real time as a *terminus ad quem*, precisely because also the inflexions of the verb, i.e. verbal forms in the past or the future tense, are said to *cosignify* (προσσημαίνει).

This metaphysical puzzle may explain why Aristotle is rather ambivalent on the status of « inflexions » of verbs, i.e. on the status of past and future tenses. He certainly claims that past and future tense sentences may be declarative sentences, i.e. sentences that *can* have a truth-value.³¹ But he considers past and future tenses to be πτωσις ῥήματος, for they do not *refer to* real time, but rather *signify* what is *around* the present (τὰ δὲ τὸν πέριξ), i.e. the past and future tenses. The Greek of line 16b 18 can be misunderstood: Aristotle says that inflexions *cosignify* (προσσημαίνει) « τὸν πέριξ ». In the *Revised Oxford Translation*, the translators rightly presuppose that the article τὸν refers to χρόνον³² and read the line as stating that past and future tenses (τὰ δὲ) signify (<προσσημαίνει>) « the time outside the present » (τὸν <χρόνον> πέριξ). It should be stressed, however, that « outside » the present there can be no *real time*, because past and future do not exist. Therefore, I propose to translate the implied χρόνον with « tense ».³³ As I shall state in what follows, past

³¹ Ademollo 2010 has convincingly argued that not all declarative sentences have a truth-value, i.e. not all sentences that have a grammatical structure such that it is possible to ask whether they are true or false are in fact either true or false.

³² See on this also Waitz, *ad loc.*

³³ Boethius already noticed that Aristotle's expression is rather new (cf. *In De interpretatione. Editio prima*, 70.20-22: « et novo admirabilique sermone usus est: quod complectitur »). There is robust evidence that Aristotle refers to the past and to the future as « tenses ». Let us review the textual evidence. (A). *De interpretatione* 10, 19b 12-14: « ἄνευ δὲ ῥήματος οὐδεμία κατάφασις οὐδ' ἀπόφασις· τὸ γὰρ ἔστιν ἢ ἔσται ἢ ἦν ἢ γίγνεται ἢ ὄσα ἄλλα τοιαῦτα, ῥήματα ἐκ τῶν κειμένων ἔστιν· προσσημαίνει γὰρ χρόνον. [Barnes 1984 modified: Without a verb there will be no affirmation or negation. "Is", "will be", "was", "becomes", and the like are verbs according to what we laid down, since they cosignify tense] ». In this passage, Aristotle refers to what has been posited beforehand (ἐκ τῶν κειμένων), i.e., in all likelihood, to his definition of verb (ῥήμα) in 3, 16b 6-7 (Ῥήμα δὲ ἔστι τὸ προσσημαῖνον χρόνον, οὗ μέρος οὐδὲν σημαίνει χωρίς). Aristotle's exposition in 19b 12-14 is not entirely consistent with *De interpretatione* 3, because future and past verbal forms are said to be « verbs » and not inflexions of verbs (*contra* 3, 16b 16-17). This is clearly a minor inconsistency, inasmuch as ῥήμα can be taken in two senses: (i) a more rigorous sense, that includes only present tense verbs; (ii) a more general sense, closer to the ordinary meaning of the word, that includes past, present and future tense verbs. In 3, 16b 8-9, Aristotle observes τὸ δ' ὑγίαινει ῥήμα· προσσημαίνει γὰρ τὸ νῦν ὑπάρχειν. On the basis of this passage, it is possible to infer that a verbal form in the future or the past tense *cosignifies* (προσσημαίνει) that something belongs to a subject either *in the future* or *in the past* respectively. Aristotle is thus

and future tenses *refer to* the relation from the present to an earlier stage in the motion process or a relation to a later stage. The reference is thus an existing thing (the present entity), but not understood *qua* existing in the present, but rather in its conceptual relation to an earlier or future instant of time. In Aristotle's preferred metaphysical jargon, the past tense refers to the present (real) time as to the result of some previous potentiality and the future tense refers to the present (real) time as to a potentiality towards a future realization.

This explains why Aristotle considers past and future tenses « inflexions ». Scholars have been puzzled by the statement. Commenting on line 16b 16, J.L. Ackrill, for example, noted that:

« it is strange that Aristotle, having said that a verb is what additionally signifies time, should here deny that past and future tenses are verbs on the ground that they do not refer to present time » (Ackrill 1963, 121).

It should be clear that Aristotle wanted to privilege the present because it refers to something that *is the case*. Past and future tenses should be *derived* from the present tense, as much as genitive and dative are derived from the nominative.

clarifying the *meaning* of different verbal forms and their *linguistic* function, he is not stating what the verb *refers to* in the extra-mental reality. If all verbs can be rephrased as « was/is/will be + an adjective/a participle », the adjective or participle refers to an extra-mental property of a substance, whereas the copula (« was/is/will be ») *cosignifies* the connection of the predicate to its logical subject and *cosignifies* (προσημαίνει) the *tense*, i.e. the temporal qualification of this connection. (B). *Poetica* 20, 1457a 14-18: « ῥήμα δὲ φωνὴ συνθετὴ σημαντικὴ μετὰ χρόνου ἧς οὐδὲν μέρος σημαίνει καθ' αὐτό, ὥσπερ καὶ ἐπὶ τῶν ὀνομάτων· τὸ μὲν γὰρ ἄνθρωπος ἢ λευκόν οὐ σημαίνει τὸ πότε, τὸ δὲ βαδίζει ἢ βεβάδικεν προσημαίνει τὸ μὲν τὸν παρόντα χρόνον τὸ δὲ τὸν παρεληλυθότα. [Barnes 1984 slightly modified: A verb is a composite significant sound involving the idea of tense, with parts which (just as in the noun) have no significance by themselves in it. Whereas the word "man" or "white" does not signify a time "he walks" and "he has walked" involve in addition to the idea of walking that of time present or time past] ». This passage is similar to the previous one in that it addresses the *meaning* of verbal forms. Interestingly, the verb is said to be a φωνὴ συνθετὴ σημαντικὴ. Aristotle is not using a word modeled on the verb προσημαίνω. Yet, the adjective σημαντικὴ does not refer to any « time » but rather to the attribute introduced by the verb – the temporal dimension is added with the expression μετὰ χρόνου. (C). The third passage to consider is *De interpretatione* 3, 16b 6-18 that has already been quoted in the body of the text. In this text, Aristotle states that the verb (ῥήμα) signifies the present « tense » (τὸν παρόντα προσημαίνει χρόνον). Aristotle distinguishes the « verb » (ῥήμα) from the « inflexions of verbs » (πτῶσις ῥήματος) in that the former has the present tense, whereas the latter forms have different tenses. If προσημαίνει is designed to spell out this grammatical difference between tenses, it is describing the *meaning* of the « verb ». Aristotle uses προσημαίνει also to expound the (merely linguistic) meaning of a term.

4. The many meanings of « is »

In *Metaphysica* Δ 7, Aristotle distinguishes the many senses of « being ». He does the same in *Metaphysics* E with more details. In this section, I intend to show that Aristotle could « deduce » past and future senses with the linguistic resources that he outlines in his discussion about the many meanings of « being ». As Parmenides already did in his poem,³⁴ Aristotle adopts the participle to speak about the « is », i.e. the third person of the indicative of the εἶναι. In *Metaphysica* Δ, 7 we have a fourfold distinction of the senses of « is »:³⁵

1. *per se/per accidens* « is »;
2. senses of the *per se* « is »: the ten « categories », i.e. the ten basic predications;
3. « is_{potentially} » and « is_{actually} »;
4. « is » means « is_{truly} ».

The senses of truthful « is » are thus 22 (one *per accidens* sense+10 *per se* senses of « is », and each of these 11 senses can be either « potentially » or « actually »). Aristotle is trying to solve a series of linguistic ambiguities. He knows that the usage of « is » is unavoidable, but he

³⁴ Parmenides clearly analyzes the copula « is » in his fragment B8, 1-2 (μόνος δ' ἔτι μῦθος ὁδοῖο / λείπεται ὡς ἔστιν) and one is tempted to assume that whenever he talks of τὸ εἶν (the two verbal forms are juxtaposed in fr. B2). The interpretation according to which Parmenides' « being » is the copula has been defended by Mourelatos 1970, 52-53; for a recent assessment of Parmenides' analysis of the « is » see Bredlow 2011.

³⁵ Kahn 1966, 248-249 noted that the « existential » « is » is missing from Aristotle's list of the senses of « being » (see also Hölscher 1976, 13-31). Kahn would later revise his position (see footnote 16 above). Traditionally, it has been assumed that the copula has also an existential value in singular affirmative sentences: cf. Alexander Aphrodisiensis, *In Analytica Priora*, 404.3-10; Ammonius, *In De interpretatione*, 160.5-7; Maier 1896, 113-114 (« die Wahrheit eines Urteils liegt darin, dass sein Inhalt das Abbild eines Seienden ist. [...] Dass Aristoteles das Sein in der Funktion der Copula und das Sein in der Bedeutung "existieren" nicht auseinandergehalten hat und nicht auseinanderhalten konnte, ergibt sich aus dem Bisherigen von selbst. Das heisst nicht: das Existieren verflüchtigt sich in das logische Sein, sondern: dann Sein der Copula ist das objektive Sein des Existierens »); Sainati 1968, 218 (« Aristotele palesemente conferisce un preciso valore esistenziale (positivo o negativo) alla copula, sì che per lui l'istituzione di un nesso copulativo è, *insieme*, un'asserzione di esistenza o di inesistenza »); Cavini 1985, 44 (« la copula opera (a) come segno *illocutivo* di affermazione o negazione [...]; (b) come segno di connessione fra soggetto e predicato [...]; (c) come indicatore di portata esistenziale »); Van Bennekom 1986. Exceptions to the traditional interpretation include Morpurgo Tagliabue 1971, according to whom the Aristotelian copula does not have an existential value.

wants to dispel any confusion that it may generate. Let us consider the following two senses of « is »:

- (i) S is_{actually-a-substance-i.e.-a} P
- (ii) Q is_{actually-displaying-the-quality} R

The first sentence would be true if we were to replace S with « Peter » and « P » with « human being », but would be false if we were to replace « S » with « cultivated » and P with « white » (a sentence like « the cultivated is white » is a case of accidental predication). Similarly, the replacement « table » for Q and « red » for R yields to a true statement. Once the 22 senses of truthful « is » have been identified, it is possible to classify all possible predicates depending on whether they form a grammatical connection with one of the senses of « is ». The sense « is_{actually-displaying-the-quality} » does not yield to a grammatical connection with the predicates « human being, cat, rock », but it forms a grammatical connection with predicates like « beautiful, red, harmonious ». The « is_{potentially} »/« is_{actually} » distinction does not affect the formation of classes of predicates. These classes are affected by the senses of *per se* « is ». The ten categories, *qua* categories of predicates (and, consequently, *qua* categories of the entities signified by the predicates) are the result of the distinction among the ten senses of *per se* « is ». Similarly, it is reasonable to expect that the distinction between past, present and future tenses of « is » can be deduced from the many senses of « is ».

Aristotle writes:

« ἔτι τὸ εἶναι σημαίνει καὶ τὸ ὄν τὸ μὲν δυνάμει ῥητὸν τὸ δ' ἐντελεχείᾳ τῶν εἰρημένων τούτων· ὄρων τε γὰρ εἶναι φαμεν καὶ τὸ δυνάμει ὄρων καὶ τὸ ἐντελεχείᾳ, καὶ [τὸ] ἐπίστασθαι ὡσαύτως καὶ τὸ δυνάμενον χρῆσθαι τῇ ἐπιστήμῃ καὶ τὸ χρώμενον, καὶ ἡρεμοῦν καὶ ᾧ ἤδη ὑπάρχει ἡρεμία καὶ τὸ δυνάμενον ἡρεμεῖν. ὁμοίως δὲ καὶ ἐπὶ τῶν οὐσιῶν· καὶ γὰρ Ἑρμῆν ἐν τῷ λίθῳ φαμέν εἶναι, καὶ τὸ ἥμισυ τῆς γραμμῆς, καὶ σῖτον τὸν μήπω ἄδρόν. πότε δὲ δυνατὸν καὶ πότε οὐπω, ἐν ἄλλοις διοριστέον [Barnes 1984: again, “being” and “that which is”, in these cases we have mentioned, sometimes mean being potentially, and sometimes being actually. For we say both of that which sees potentially and of that which sees actually, that it is seeing, and both of that which can use knowledge and of that which is using it, that it knows, and both of that to which rest is already present and of that which can rest, that it rests. And similarly in the case of substances we say the Hermes is in the stone, and the half of the line is in the line, and we say of that which is not yet ripe that it is corn. When a thing is potential and when it is not yet potential must be explained elsewhere] » (*Metaphysica* Δ 7, 1017a 36 - 1017b 9).

I chose not to modify the English translation edited by J. Barnes to underline the ambiguities of the Greek original that are easily lost in the English version. Barnes's translations (εἶναι, « being »; τὸ ὄν, « that which is ») are potentially misleading, because they are both open to read εἶναι and τὸ ὄν as two subjects, whereas it seems evident to me that Aristotle intends to stress the verbal aspect of the two terms. I would rather translate εἶναι with « to be » and τὸ ὄν with « the “is” ».³⁶

5. How to deduce past and future times from the meanings of « is »

Among the many meanings of truthful « is » we have listed the meanings « is-potentially » and « is-actually ». As is clear from Aristotle's

³⁶ I understand that this proposal is rather idiosyncratic. A translator, however, should interpret the text he or she is translating. As saint Jerome has it, the translator should *non verbum e verbo, sed sensum exprimere de sensu* (cf. *Ad Pammachium de optimo genere interpretandi*, 5). For an interpretation similar to mine see Chernyakov 2002, 62. I argued elsewhere that Aristotle's dialectical method in the *Metaphysics* brings him to explain the many senses in which a term is used in the context of a sentence. This seems to imply that whenever Aristotle is listing the senses of τὸ ὄν, he is actually listing the senses in which we happen to use forms of the verb εἶναι in the context of a dialectical debate. These forms are nothing but the copulae, inasmuch as every sentence can (and should) be translated into a sentence displaying the structure « S-is-P » in an ideal logical language (cf. Gili 2019b). Leone Gazziero rightly pointed out to me that Aristotle has the resources to distinguish between use and mention of the copula, as is clear from passages like *De interpretatione* 10, 19b 12-13, where the ἔστιν is *mentioned* and not used: ἀνευ δὲ ῥήματος οὐδεμία κατάφασις οὐδ' ἀπόφασις· τὸ γὰρ ἔστιν κτλ. I believe, nevertheless, that my translation can be defended, because Aristotle's language is not entirely consistent and there are more than one term for the same concept, as is clear from a passage like *Metaphysica* Δ 7, where Aristotle intends to distinguish the many senses of τὸ ὄν. When the Stagirite is introducing the fourth sense of τὸ ὄν at line Δ 7, 1017a 31, he writes: ἔτι τὸ εἶναι σημαίνει καὶ τὸ ἔστιν ὅτι ἀληθές. In my interpretation, the grammatical subject of this phrase cannot but be a synonym of τὸ ὄν, of which we are expounding the many senses. In other words, Aristotle is showing that τὸ ὄν, τὸ εἶναι and τὸ ἔστιν are synonyms in this context. Already Renaissance Scholastics like Thomas de Vio Cajetan and Franciscus Sylvester Ferrariensis distinguished two meanings of « ens »: (i) « ens participialiter sumptum » and (ii) « ens nominaliter sumptum » (cf. Courtine 1990). I believe that Δ 7, 1017a 31 shows that Aristotle certainly understood in at least one context τὸ ὄν as having a verbal function and not a nominal function (cf. on this aspect of the Greek participle ὄν the enlightening remarks in Kahn 2003). In my opinion, the English translation « what is » may be misleading in that it suggests that τὸ ὄν has a nominal value. The issue is arguably intricately, because the article τό can obviously turn what follows it into a nominal compound. However, if my interpretation is correct, τό has the function of *mentioning* what follows it in this context. I believe that my interpretation should be preferred because (i) it is the most natural reading of the Greek participle ὄν (as maintained, among others, by C.H. Kahn), (ii) it is supported by Δ 7, 1017a 31 and (iii) it seems to be philosophically more fruitful, because Aristotle's goal appears to distinguish the many senses of the copula.

definition of time, that presupposes his definition of motion and change (cf. section 6), potentiality and actuality are virtually present in the definition of *time*. In a correspondence theory of truth, language reflects reality:³⁷ hence, if time can be defined in virtue of potentiality and actuality, tense can be expressed thanks to the senses of « is » that express « is-potentially » and « is-actually ».

According to Aristotle, change or motion is the actuality of what is potentially such, *qua* such. Time measures this motion. A possible interpretation of what « motion » is consists in paying attention to the categories in which motion takes place: substance, quality, quantity, place. If motion takes place in the category of substance, it consists in generation or corruption of a given substance. In other words, motion or change is *identical* to the changing thing (i.e., a substance that is about to be generated or to be corrupted). Yet, the changing thing is considered *qua* first actuality of a potentiality to be such-and-such. Aristotle distinguishes three stages: pure potentiality to be such-and-such, the first actuality of being such-and-such, and the ultimate actuality of being such-and-such. A black table is potentially red. When I start painting the table with red paint and I already changed the colour of half of its surface, the table is potentially red according to a second sense of potentiality. Alternatively, we can say that its being red has come to an imperfect realization, i.e. to a first actuality. When the table is entirely red, it is actually red according to the second sense of actuality.

Change involves a direction: from black to red. The black table is not changing yet and the red table is not changing anymore. The partly red table is changing: it is change itself in the category of quality.

Tenses can be « deduced » from the present in an analogous way. As we stated in section 2, we have to deduce the past and future tenses of « to be » from the copula « is », because all verbs can (and must) be reduced to the structures « is P »/ « was P »/« will be P ».

If I say that (i) « S will be P », I am stating nothing but (i*) « S is_{potentially} P ».

The past is more difficult to spell out, but its concept is equally simple. (ii) « S was P » means that it was actual that « S is P » and that

³⁷ Noriega-Olmos 2013 has challenged the received view according to which Aristotle maintains that words refer to thoughts and thoughts refer to things. According to Noriega-Olmos, there is only a non-accidental relation of reference between words and thoughts.

other stages in the process of change have occurred after « S is P » was truthfully uttered. This means that the actual stage « S is P » entailed that « Q is_{potentially} R ». In the present instant of time, it is true to state that « Q is_{actually} R ». In other words, every true statement about the past in the past tense is nothing but a statement in the present tense about the realization of what the past event potentially implied.

If we need to resort to a formula, (ii) « S was P » means that:

(ii*) « S is P » entails that « Q is_{potentially} R » and *now* « Q is_{actually} R ».

It is not difficult to see the advantages of this proposal. If we look for the truth conditions for a statement like (iii) « the railways workers' union has proclaimed a strike », the statement is simply true because *now* (iii*) « there is no train running ». It should be clear why Aristotle would prefer to look for the truth-conditions of (iii*) rather than for the truth-conditions of (iii): there is no proclamation of any strike happening *now* (since the strike was proclaimed *yesterday*), hence there is no item in reality that can be said to *correspond* to what I utter in (iii).

The above schema becomes less natural for truths about the distant past. Suppose that we are to analyze the statement:

(iv) Cesar conquered Gaul.

There is no Cesar nor any Gaul today, but it is true beyond any reasonable doubt that Cesar did conquer the Gaul. What does (iv) entail that it is true today? For once, it could be argued that there would be no French language, had the Romans not conquered Gaul. Hence, if (iv), then (iv*) « Many inhabitants of former Gaul speak French, a language derived from Latin ».

There are many more trivial facts in the past and their effect in the present are more difficult to assess. For instance, 20 years ago I was playing football in the playground. There is hardly a measurable effect of this. We should notice, however, that Aristotle, albeit not a determinist, stated that past events are necessary. Whatever the effect of any past event, if there is an effect, there must have been a cause. And if the effect is the case, the cause is necessarily the cause of that effect. It is not necessary to be able to identify the present tense sentence that would be entailed by a past tense sentence. It is sufficient to know that there must be one and that, if the present tense sentence is true, the corresponding past tense sentence is necessarily true.

6. Aristotle on the definition of « time »

Time, says Aristotle, is the measure (or the number) of motion according to the « before » and « after » (cf. *Physica* IV 11, 219b 1-2).³⁸ This definition raises many puzzles: is it possible to have an order of succession (before/after) without time? What is « motion »? And what is a « measure »?

Aristotle claims that there is an order of succession intrinsic to motion. He also claims that this order of succession can be observed in the case of local motion, because this latter takes place in the space, and the spatial dimensions have magnitudes and magnitudes are ordered independently of any time or motion.³⁹ Motion, on the other hand, is the actuality of what is potentially such-and-such, *qua* potentially such-and-such. Aristotle's definition is rather obscure, « ἡ τοῦ δυνάμει ὄντος ἐντελέχεια, ἣ τοιοῦτον, κίνησις ἐστίν. [Thus the fulfilment of what is potentially, as such, is motion] » (*Physica* III 1, 201a 10-11).

There have been two main interpretations of this definition: the so-called process-view and the actuality-view. On the first interpretation, change is the *actualization* of a process, the ἐντελέχεια is the dynamic unfolding of the potentiality.⁴⁰ On the second interpretation, the ἐντελέχεια (translated with « actuality ») is the « state » in which an entity happens to be, once its potentiality to be such-and-such has achieved its first realization.⁴¹ Even though I favour this second interpretation, I believe that both readings have common features that suffice to justify my claim that the tenses can be « deduced » from the two senses « is », i.e. « is_{potentially} » and « is_{actually} ». In both readings of the definition of change, the two notions of actuality/actualization and of potentiality are prior to and more fundamental than the notion of change itself. A potentiality is always a potentiality towards an actuality/actualization, and this latter realizes a previous potentiality. Whenever we consider the actuality/actualization, we conceive of it not as an absolute state – not even within the « actuality-view ». Rather, the stage is related to its previous stages (potentiality) and to its successive realizations (second actuality/

³⁸ The bibliography on Aristotle's notion of time is vast. Among the recent books see Cavagnaro 2002; Coope 2005; Roark 2011; Castelli 2012; Sfondoni-Mentzou 2016.

³⁹ The standard example is that of a train from Naples to Milan that goes through Rome. The segment Naples-Rome is shorter than the segment Naples-Milan, hence the segment Naples-Rome will be completed by any traveler *before* the completion of the segment Naples-Milan.

⁴⁰ See Kostman 1987.

⁴¹ See Kosman 1969; Hintikka 1977; Broadie 1982 (ch. III).

further actualizations). It is reasonable to think that these stages can be represented by predications in which a predicate is said to hold of a subject. These predications will display the « is_{potentially} » if they represent a potential stage and the « is_{actually} » if they represent the actuality/actualization stage. The present is identified with actuality. Hence, the different *times* can easily be deduced with the help of the notions of potentiality and actuality/actualization, since these notions define motion, which in turn defines time. The future time will be the actuality of what is now *potentially* the case. The past is the potentiality of what is now *actually* the case. These two times are described by the corresponding tenses. As we have suggested, the past tense (« A was B ») means a certain predication (« C is E ») is *now* actually the case, and this very predication is the *actuality/actualization* of a different predicative relation (« A is B »), that describes a past event. Similarly, the future tense (« F will be G ») means that it is *now* potentially the case that the predicative relation described in the future tense is the case.

7. Conclusion

I have shown that Aristotle's idea that past and future tenses are not verbs but « inflexions of verbs » is not an erratic oddity, but rather an observation that aims at saving two opposite intuitions: on the one hand, Aristotle wants to save the commonsensical opinion according to which past and future tense sentences may have a truth-value; on the other hand, he wishes to create a logical language that serves the purpose of science, and his metaphysical science states that only present entities exist. Aristotle's solution consists in stating that past and futures tenses are derivative. But what does it mean that they are derivative? How can we generate them from what is prior to them, i.e. from the present tense? I outlined a possible path to answer this question, by looking at the linguistic resources that Aristotle lists in *Metaphysics* Δ 7. In particular, I suggested that Aristotle distinguishes two senses of the copula « is », i.e. « is_{potentially} » and « is_{actually} ». All verbs can be reduced to the structure « is+predicate » and they probably should be reduced to such a structure in an ideal logical language that aims at representing Aristotle's metaphysical ideas.⁴² Hence, all verbs can be reduced to a structure that should be disambiguated in

⁴² Cf. Allan Cobb 1973.

virtue of the distinctions laid out in *Metaphysica* Δ 7. Interestingly, these distinctions allow us to generate past and future tenses from the present tense of « is_{potentially} » and « is_{actually} ». In conclusion, Aristotle had the linguistic resources to explain why the present tense is prior to the past and the future tenses and in what sense these latter can be derived from the former. This hierarchy serves in all likelihood a metaphysical purpose, because it is consistent with the idea that only present entities exist, because past things are no more and future ones are not yet here.⁴³

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⁴³ I thank Silvia Fazzo, Leone Gazziero, Patrizia Laspia, Laetitia Monteils-Laeng, Ernesto Napoli for their objections and remarks. I presented an early version of this paper at the Lille conference organized by Leone Gazziero in June 2016, at a work-in-progress workshop at UQAM (September 2018), and at the Université de Montréal at the kind invitation of Laetitia Monteils Laeng (September 2018). A more recent version was presented at the University of Navarra (Pamplona) in April 2019. I thank all those who attended my talks, and in particular Augustin Echavarria, Miguel Garcia Valdecasas and Alejandro Vigo for their comments. Remaining mistakes and shortcomings are only mine.

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ELEMENTS OF (DIALECTICAL) ARGUMENTATION THEORY IN ARISTOTLE'S *TOPICS*

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Aristotle's digressions on the semantic properties of language, at least as far as the argumentative treatises are concerned, but arguably also in what concerns the *Categories* and the *De interpretatione*¹, do not stem from an interest in semantic problems *per se*. Rather, they are inscribed in a more general intention to improve the quality of different argumentative practices, among which dialectical argumentation is of the greatest importance. This paper, then, turns to Aristotle's theoretical efforts regarding dialectical argumentation.

Although Aristotle did not set out to formulate a general theory of argumentation, he clearly thought carefully and systematically about this linguistic act. This is evident from his analyses of arguments and argumentative practices in the *Rhetoric*, the *Topics*, the *Sophistical Refutations*, as well as in the *Prior* and *Posterior Analytics*. It does not come as a surprise then that general elements of argumentation theory are scattered over these works. Among them, the *Topics* takes pride of place, for the book is rich in insights on argumentation in general and on dialectical argumentation in particular.

The aim of this paper is to present in a somewhat structured way the elements of argumentation theory, with a focus on dialectical argumentation, that Aristotle puts forward in the *Topics*. The reconstructed theory would fall today under normative pragmatics² – the study of argumentation

¹ For the dialectical background of the *Categories*, see Menn 1995; for that of the *De interpretatione*, see Whitaker 1996.

² The term was coined by Frans van Eemeren in order to denote the ideal approach to argumentative discourse: « scholars of argumentation are interested in how argumentative discourse can be used to justify or refute a standpoint in a rational way. Therefore, argumentative

as a complex and interactional speech act with the aim to regiment it. Dialectical argumentation, as Aristotle understands it, is evidently a complex and interactional speech act: it consists of a structured progression of questions and answers between two interlocutors with the specific aim of leading one of them, the answerer, to contradiction. Moreover, Aristotle's endeavour is normative: in fact, Aristotle opens the *Topics* with the claim that

« ἡ μὲν πρόθεσις τῆς πραγματείας μέθοδον εὔρεϊν ἀφ' ἧς δυνασόμεθα συλλογίζεσθαι περὶ παντὸς τοῦ προτεθέντος προβλήματος ἐξ ἐνδόξων, καὶ αὐτοὶ λόγον ὑπέχοντες μηθὲν ἐροῦμεν ὑπεναντίον [Smith 1997, 1: its goal is to find a method with which we shall be able to construct deductions (...) concerning any problem that is proposed and – when submitting to argument ourselves – will not say anything inconsistent » (*Topica* I 1, 100a 18-21).

His intention, then, is to provide a method (μέθοδος) so that questioner and answerer argue *in a specific way*. In other words, his intention is not just to describe how dialectical argumentation does take place but also, and more importantly, to show how it should take place, in accordance to this method, for it to serve its purpose.

The article is structured as follows: in a first part, I discuss shortly Aristotle's account of syllogistic arguments, in general, and of dialectical syllogisms, in particular. The second part focuses on the main features of Aristotle's account of dialectical argumentation: its general structure, the aspects that need regimentation, and how the method meets those needs. Parts three to five deal with the opening, the interrogative and the concluding stages of the dialectical argumentation. I conclude, in part six, with a tentative analysis of some *τόποι* of the genus (*Topics* IV) from the point of view of their relation to the interrogative stage and the method described in *Topics* I.

1. Syllogistic arguments

For Aristotle, the main instrument of dialectical argumentation is the dialectical syllogism. Although he lets other argument types play a role

discourse should be studied as a specimen of normal verbal communication and interaction and it should, at the same time, be measured against a certain standard of reasonableness. The need for this convergence of normative idealization and empirical description can, if pragmatic is taken to be the study of language use, be acknowledged by construing the study of argumentation as part of normative pragmatics » (van Eemeren 1990, 37-38).

in dialectical argumentation (e.g., induction may serve to establish a universal premise; cf. *Topics* VIII 1), the syllogism is the argument type that must ultimately support the conclusion of the exchange³. In other words, the concluding step of the exchange can be analysed as a syllogism, sometimes supplying implicit but intended terms, e.g. quantifiers⁴. So, immediately after his statement of purpose, Aristotle gives a definition of the syllogism, the argument type of which the dialectical syllogism is a distinct manifestation⁵.

In *Topics* I 1, Aristotle defines the syllogism as follows⁶:

« ἔστι δὴ συλλογισμὸς λόγος ἐν ᾧ τεθέντων τινῶν ἕτερόν τι τῶν κειμένων ἐξ ἀνάγκης συμβαίνει διὰ τῶν κειμένων [Smith, 1: a syllogism, then, is an argument in which, certain things being supposed, something different from the suppositions results of necessity through them] » (*Topica* I 1, 100a 25-27).

According to this definition⁷, the syllogism is an argument specifically determined by the following features: (a) it consists of assertions; and (b) it involves an inference. Regarding (a), the syllogism has: (i)⁸ some

³ Cf. *Analytica priora* I 1, 24a 25-28: « οὐδὲν δὲ διοίσει πρὸς τὸ γενέσθαι τὸν ἑκατέρου συλλογισμὸν· καὶ γὰρ ὁ ἀποδεικνύων καὶ ὁ ἐρωτῶν συλλογίζεται λαβόν τι κατὰ τινος ὑπάρχειν ἢ μὴ ὑπάρχειν. [Striker 2009, 1: However, this will make no difference with regard to the syllogism produced by either of them <i.e. the demonstrative and dialectical premise>, for both the demonstrator and the questioner deduce by taking it that something belongs or does not belong to something] ». Cf. II 22, 68b 9-14.

⁴ Allen 2011, 65 says: « [...] most of the syllogisms that the *Topics* instruct us how to form are not categorical syllogisms – even informally presented. They can be analyzed as syllogisms in the moods of the figures only with the utmost violence if at all ». In fact, the concluding part of a dialectical exchange can be so analyzed by supplying implicit but intended logical terms, and by taking *accepted* premises as categorical assertions.

⁵ *Topica* I 1, 100a 21-25: « πρῶτον οὖν ῥητέον τί ἐστὶ συλλογισμὸς καὶ τίνες αὐτοῦ διαφοραί, ὅπως ληφθῆ ὁ διαλεκτικὸς συλλογισμὸς· τοῦτον γὰρ ζητοῦμεν κατὰ τὴν προκειμένην πραγματείαν. [Smith 1997, 1: First, then, we must say what a deduction is and what its different varieties are, so that the dialectical deduction may be grasped (for that is the one we seek in the present study)] ».

⁶ *Prior Analytics* I 1, 24b 18-20 has almost the same definition, but has « τῶ ταῦτα εἶναι » instead of « διὰ τῶν κειμένων ». Cf. also *Sophistici elenchi* I 16, 164b 27f. A very similar definition features in the *Rhetoric* 2, 1356b 16-18, but instead of the « *by necessity* » clause of the definitions in *Topics* and *Prior Analytics* we find « either universally or for the most part (ἢ καθόλου ἢ ὡς ἐπὶ τὸ πολὺ) ».

⁷ See also Bolton 1994, 108f.; Brunschwig 1967, xxx-xxxiv; Frede 1987, 110-116.

⁸ Interpreters disagree as to whether Aristotle accepts one premise syllogisms. Bolton 1994, Corcoran 1974, Frede 1987, Keyt 2009, Malink 2015 reject the possibility, rightly so, I think, from an analytical perspective. However, an actual argumentation can leave a premise unexpressed because it is so widely accepted that it is unnecessary to be explicit

points of departure or premises–assertions that are laid down (τεθέντων / κεμμένων); and (ii) a conclusion, which follows and is different from the statements in (i)⁹. Regarding (b), the inference the syllogism involves is: (iii) necessary, i.e. one cannot accept the premises and reasonably reject the conclusion (cf. *Topica* VIII 1, 156b 27-30); and (iv)¹⁰ by virtue of what has been accepted, i.e. the new information the conclusion conveys must be somehow grounded in the semantic content of the premises.

So, on the one hand, « cats are mammals; dogs are animals; therefore, cats are mammals » is not a syllogism, because the conclusion, « cats are mammals » is identical with one of the premises, so (ii) does not obtain – the conclusion does not convey new information. On the other hand, « As are Bs; Bs are Cs; therefore, As are Cs », is not a syllogism either (cf. Frede 1987, 112) because the premises have no extension, so (iv) does not obtain. This because the conclusion does not convey new information – it conveys no information at all – based on the semantic content of the premises. Aristotle, then, has in mind a notion of syllogistic inference that is not purely formal, but that includes a necessary semantic component somehow captured in (iv). As Michel Crubellier has explained, (iii) captures the fact that in the syllogism the inference is constraining¹¹,

about it (e.g., in rhetorical settings), as long as the explicit premise introduces a mediating term. *Pace* Malink 2015, that the premise is not expressed does not mean that it is not intended and hence does not play a role in the concluding step of the argumentation, although it certainly needs to be supplied in any analytical stage.

⁹ Bolton 1994, 112 sees in this requirement the introduction of non-formal epistemic constrains on the syllogism. Clearly the constrain introduced by (ii) is non-formal, but to me it is not necessarily epistemic; it is enough that it be semantic, i.e. that the conclusion has a semantic content different from that of the premises. The same goes for Bolton's analysis of (iv). Aristotle's definition of the syllogistic argument as such is independent of epistemic qualifications – it carries no indication of how the premises are known – but it carries semantic conditions.

¹⁰ Keyt 2009, Malink 2015, Smith 1997, among others, understand (iv) as an indication that unexpressed premises are not allowed. I, however, take (iv) as indicating something more general: it does not aim to exclude missing or superfluous premises specifically, but aims to assure that the assertion in the conclusion is established through a *relevant and explicitly introduced* mediating term (something akin to the middle term of the *Prior Analytics*). The argument fails if such a term is nowhere introduced (cf. *Analytica priora* I 32), and it is liable to criticism (cf. *Topica* VIII 11) if it contains a premise that has nothing to do with the term. Cf. Frede 1987, 110-116.

¹¹ Once the *Prior Analytics* is available, one could say « constraining insofar as it instantiates one of the schemata of the *Prior Analytics* ». As Allen 2007 and Malink 2015 rightly suggest, (iii) was more an intuitive than a fully understood condition before the existence of the *Prior Analytics*. For formal inference in the *Prior Analytics*, see Corcoran 1974; Crubellier 2014, 12-25; Lukasiewicz 1951; Malink 2015; Striker 1998.

while (iv) captures the fact that an actual syllogistic argument must have content¹². In this connection, I do not see, as other interpreters do¹³, an opposition between what is considered a syllogistic argument in the *Topics* and what is so considered in the *Prior Analytics*. To me, the *Topics* and the *Prior Analytics* understand the syllogistic argument in essentially the same way, but approach it from different perspectives owing to different purposes. Consequently, each treatise highlights and unveils different aspects of the syllogism. In particular, the *Prior Analytics* aims to achieve, among other things, a general understanding of the condition (iii), i.e. inferential necessity.¹⁴ The *Topics*, on the other hand, aims to understand the dialectical syllogism as an argument type involving a necessary inference and some material features specifically related to the contexts where it is used and the kind of subject matters with which it is usually concerned.

Syllogisms, Aristotle tells us, can be demonstrative, dialectical, eristic and paralogistic¹⁵. He presents this distinction without giving an explicit

¹² Crubellier says, in the introduction to his French translation of the *Prior Analytics*, that « la lecture des *Analytiques* fait apparaître la même épistémologie réaliste et le même souci du concret que l'on trouve dans le reste du corpus. Aristote ne cherche pas à construire ou à étudier un quelconque "langage formel". Lorsqu'il se réfère à des arguments, on voit qu'il a toujours en vue un discours particulier portant sur des objets déterminés » (Crubellier 2014, 19). Cf. *Analytica priora* I 32, 47a 22-28 and 31-35.

¹³ Allen 2007, for instance, proposes that the account of the syllogism in the *Prior Analytics* replaces that of the *Topics*. To be sure, there was not a systematic account of inferential necessity before the *Prior Analytics*, so in a sense it provides a systematic understanding of something that was at best implicit in the *Topics*. But the *Prior Analytics* does not make the essential aspects of the *Topics* outdated: the method for topical argumentation it contains is in no way replaced by the enterprise of the *Prior Analytics* and is still necessary for arguing in certain contexts and about certain subject matters. The same goes for the understanding of fallacies in the *Sophistical Refutations*. In an oral presentation in Gothenburg (November 2018), Michel Crubellier has spoken of different language games, with the syllogism at the center, being at stake in both treatises. My interpretation is in line with Crubellier's idea. Cf. Striker 1998, who sees in the *Prior Analytics* the understanding of only one of the necessary components of a valid syllogistic argument; see also Barnes 1981; Corcoran 1974.

¹⁴ This purpose may have been prompted by Aristotle's inquiry into demonstration in the *Posterior Analytics*, which, some interpreters have argued, could have been partly produced earlier than the *Prior Analytics*. For this, see Allen 2011; Smith 2008; Solmsen 1929. Ross 1939 takes issue with Solmsen 1929; Solmsen 1941 rebuts. For a formal reconstruction of Aristotle's deductive system, see Corcoran 1974; for the axiomatic reconstruction with which Corcoran takes issue, see Lukasiewicz 1951.

¹⁵ Aristotle tells us later that his enumeration of the varieties of syllogism is in outline (ὡς τύπον), suggesting that he does not intend it to be exhaustive (cf. *Topica* I 1, 101a 19). For instance, there is no mention of the rhetorical syllogism and the relation between

criterion for it, but the lines that follow are revealing in this regard. Let me focus on the most enlightening cases for my purpose: the demonstrative and dialectical syllogisms.

A syllogism is demonstrative (i.e. it is an ἀπόδειξις)

« [...] ὅταν ἐξ ἀληθῶν καὶ πρώτων ὁ συλλογισμὸς ᾗ, ἢ ἐκ τοιούτων ἃ διὰ τινῶν πρώτων καὶ ἀληθῶν τῆς περὶ αὐτὰ γνώσεως τὴν ἀρχὴν εἴληφεν [Smith 1997, 1: (...) if the deduction is from things which either are themselves true and primary or have attained the starting-point of knowledge about themselves through some primary and true premises] » (*Topica* I 1, 100a 27-30).

Whereas a dialectical syllogism is

« [...] δὲ συλλογισμὸς ὁ ἐξ ἐνδόξων συλλογιζόμενος [Smith 1997, 1: one which deduces from what is acceptable] » (*Topica* I 1, 100a 30).

The distinction between the demonstrative and the dialectical syllogism lies, then, in their conclusions following from different kinds of premises. Aristotle's characterisation of demonstrative premises in the *Posterior Analytics* may suggest at first that his criterion of distinction between premises is epistemic, for there he says:

« εἰ τοίνυν ἐστὶ τὸ ἐπίστασθαι οἷον ἔθεμεν, ἀνάγκη καὶ τὴν ἀποδεικτικὴν ἐπιστήμην ἐξ ἀληθῶν τ' εἶναι καὶ πρώτων καὶ ἀμέσων καὶ γνωριμωτέρων καὶ προτέρων καὶ αἰτίων τοῦ συμπεράσματος· [Tredennick 1960, 31: now if knowledge is such as we have assumed, knowledge must proceed from premises which are true, primary, immediate, better known than, prior to, and causative of the conclusion] » (*Analytica posteriora* I 2, 71b 19-22).

In this characterisation, the premises of scientific knowledge are described as pieces of knowledge that are true, primary, etc., so that the features other than « true », which is a semantic feature, could be understood as epistemic qualifications. But another interpretation is possible, which is warranted by the syllogistic context of the *Posterior Analytics*. As Robin Smith, among others, has argued¹⁶, all the non-semantic features above can be understood as logical features somehow related to the indemonstrability of demonstrative premises by means of middle terms¹⁷.

eristic and sophistic arguments is not clear. I shall focus here on the opposition between demonstrative and dialectical syllogism.

¹⁶ Smith 2009, 53-54. For other analyses of the role of these features in scientific knowledge, see Bronstein 2016, Ch. 4; Hintikka 1972.

¹⁷ Bronstein 2016, 62-63 refers to them as explanatorily basic: « [...] a proposition is explanatorily basic if it is a principle from which explanations proceed, at which explanations cease, and within which the explanation is primitive ».

From this perspective, demonstrative premises are indemonstrable assertions – within the same discipline, that is – that the demonstrator accepts as true premises of her demonstration because she somehow knows them and as such they are trustworthy in themselves. Self-evidence may be one of the reasons why some demonstrative premises, e.g. the common principles of science (Smith 2009), are trustworthy in themselves, but need not be the only reason. For instance, definitions, which are indemonstrable by means of middle terms, can serve as demonstrative premises¹⁸, but in this case their trustworthiness comes rather from the demonstrator's empirical acquaintance with the *definiendum*'s essence (cf. Hintikka 1972, 59).

Aristotle himself refers to trustworthiness when in the *Topics* he goes on to describe demonstrative premises as those:

« ἔστι δὲ ἀληθῆ μὲν καὶ πρῶτα τὰ μὴ δι' ἐτέρων ἀλλὰ δι' αὐτῶν ἔχοντα τὴν πίστιν (οὐ δεῖ γὰρ ἐν ταῖς ἐπιστημονικαῖς ἀρχαῖς ἐπιζητεῖσθαι τὸ διὰ τί, ἀλλ' ἐκάστην τῶν ἀρχῶν αὐτὴν καθ' ἑαυτὴν εἶναι πιστήν) [Smith 1997, 1: which get their trustworthiness through themselves rather than through other things (for when it comes to scientific starting-points, one should not search further for the reason why, but instead each of the starting-points ought to be trustworthy in and of itself)] » (*Topica* I 1, 100b 17-21).

This description demarcates demonstrative premises, which are trustworthy in themselves, from those which are trustworthy for external reasons. This is exactly the criterion which, in *Topics* I, separates demonstrative premises from dialectical ones. Regarding dialectical premises Aristotle says:

« ἔνδοξα δὲ τὰ δοκοῦντα πᾶσιν ἢ τοῖς πλείστοις ἢ τοῖς σοφοῖς, καὶ τούτοις ἢ πᾶσιν ἢ τοῖς πλείστοις ἢ τοῖς μάλιστα γνωρίμοις καὶ ἐνδόξοις [Smith 1997, 1: those are acceptable, on the other hand, which seem so to everyone, or to most people, or to the wise – to all of them, or to most, or to the most famous and esteemed] » (*Topica* I 1, 100b 21-23).

While demonstrative premises are trustworthy in themselves, because the demonstrator somehow knows them, dialectical premises are so on external, social, grounds – they get their trustworthiness from their being widely accepted by social groups. So, while the demonstrative premise is acceptable because of the demonstrator's knowledge of it, the dialectical

¹⁸ For definitions in demonstration, see Bolton 1987; Bronstein 2016; Charles 2014; Hintikka 1972.

premise is acceptable because it is socially acceptable, regardless of the dialectician(s)'s epistemic attitudes to it. The criterion, then, turns to the source of acceptability of the premises, which is intrinsic in the demonstrative ones, and based on social acceptability in the dialectical ones¹⁹.

To sum up, dialectical argumentation is an argumentative speech act the argumentative force of which ultimately lies in the dialectical syllogism, a syllogistic argument the premises of which are socially acceptable (see Brunschwig 1967, xxxviii-xxxvi). Now, the syllogistic form of the argument on which a dialectical argumentation is based only becomes evident at an analytical, evaluative, stage. As we shall see, the actual unfolding of a dialectical exchange²⁰ looks quite different.

2. On dialectical argumentation and the dialectical method

As already mentioned, the purpose of the *Topica* is to provide a method for dialectical argumentation. After his general remarks about syllogistic arguments, Aristotle goes on to explain what this method consists in and what is it useful for. In so doing, he also sheds some light on the structure of dialectical argumentation and on its actual uses.

In *Topica* I 2 Aristotle mentions four uses of dialectic:

« ἐπόμενον δ' ἂν εἶη τοῖς εἰρημένοις εἰπεῖν πρὸς πόσα τε καὶ τίνα χρήσιμος ἢ πραγματεία. ἔστι δὴ πρὸς τρία, πρὸς γυμνασίαν, πρὸς τὰς ἐντεύξεις, πρὸς τὰς κατὰ φιλοσοφίαν ἐπιστήμας [Smith 1997, 2: next in order after what we have said would be to state the number and kinds of things our study is useful for. There are, then, three of these: exercise, encounters and the philosophical sciences] » (*Topica* I 2, 101a 25-28).

And then:

« ἔτι δὲ πρὸς τὰ πρῶτα τῶν περὶ ἐκάστην ἐπιστήμην [Smith 1997, 2: furthermore, it is useful in connection with the first starting points about any individual science] » (*Topica* I 2, 101a 36-37).

However, from the tips and tricks he gives to questioner and answerer, mainly in book VIII, it is clear that training, the gymnastic encounter between a questioner and an answerer, quite likely in the presence of

¹⁹ Social acceptability will be discussed in Part 4.

²⁰ Henceforth « dialectical training », « exchange » and « exercise » point to the same speech act, the one I describe in the following section.

some sort of third party, is the immediate use the method of the *Topics* aims to regiment²¹. Of course, the gymnastic setting itself is there to train practitioners to be good arguers also in other settings, which is clear from Aristotle's scattered remarks about the application of his method in e.g. philosophical²², competitive (*agonistic*), and testing (*peirastic*) settings²³. Think, for instance, of a piano method, which is immediately intended for use in piano lessons, but the more general aim of which is that students can play the piano also at other occasions, e.g., recitals and casual gatherings²⁴. Let me describe how a dialectical training possibly looked like²⁵.

In an unproblematic unfolding of the exercise, (a) a questioner, *Qu*, presents a problem (πρόβλημα) to an interlocutor, the answerer *An*, of the form: « Is *t* the case or not? ». Let us suppose that *An* replies « no ». So, *t* becomes the claim *Qu* will force *An* to accept. (b) He will do that by introducing questions (προτάσεις) of the form « Is *pn* the case? ». If *An* replies « yes », « *pn* » becomes a premise to which *An* is henceforth committed²⁶. (c) The goal for *Qu* is to get *An* to accept *pn*'s that together

²¹ For dialectic as a scientific method and its use in the quest for first principles, see Bolton 1990 (cf. Brunschwig 1990); Irwin 1988, Part I.1-3; Owen 1961; Smith 1993, 349-355. For training as the immediate use of the dialectical method, see Allen 2007; Brunschwig 1985; Primavesi 1996, Part 1.

²² For dialectic as a philosophical method, see e.g., Barnes 1980; Owen 1961; for a rejection of this view, see Frede 2012. A careful reconstruction of the use of the dialectical method in philosophical practice is found in Bolton 1990 (cf. Brunschwig 1990). To me, a dialectical method for philosophy in Aristotle can only be the result of a reconstruction, as the one Bolton did, which is not possible to do on the basis of the *Topics* alone.

²³ For these uses, see e.g. *Topica* VIII 1, 155b 27-28; 14, 164b 13-15 for agonistic; VIII 5, for peirastic, with *Sophistici elenchi* 8, 168b 20-25 and 11, 171b 4 ff. As far as the *Topics* alone is concerned, I see no decisive reason to believe that either the peirastic or the philosophical use of dialectic is the final aim of the method. Aristotle certainly thinks that agonistic discussion for its own sake must be avoided, but he is also aware that it cannot be avoided altogether (cf. *Topica* VIII 14, 164b 13-15), and hence the method must also prepare the practitioners to deal with it. This is related to the sophistic use of dialectic, which Aristotle analyses thoroughly in the *Sophistical Refutations*. To me, *pace* Bolton 1994, the *Topics* remains rather neutral in that respect, and hence it provides above all an understanding of dialectical argumentation that can be put to use, with the necessary pragmatic adjustments, in any of those other contexts.

²⁴ A similar comparison is made by Smith 1993, 342, using fencing instead of piano-playing. Fencing, of course, has the advantage of being an interactional and competitive practice.

²⁵ A thorough reconstruction of the exercise is found in Moraux 1968.

²⁶ Aristotle makes it clear in *Topica* I 4, 101b 29-33 that one of the fundamental differences between problems and premises lies on the different interrogative form they take: « διαφέρει δὲ τὸ πρόβλημα καὶ ἡ πρότασις τῷ τρόπῳ. οὕτω μὲν γὰρ ρηθέντος, "ἄρα γε τὸ ζῶον πεζὸν δίπουν ὀρισμός ἐστιν ἀνθρώπου;" καὶ "ἄρα γε τὸ ζῶον γένος τοῦ

sylogistically imply t ²⁷, so that An will have no other option than to also accept t and be in contradiction with his initial position. Accordingly, the goal for An is to prevent this from happening by reasonably rejecting the pn 's that can be rejected. So, the difficulty for Qu lies on finding the right pn 's, i.e. pn 's that (i) will be accepted by An , and (ii) are connected with each other, and with t , so as to imply t in a way that is syllogistically sound. The difficulty for An lies on spotting « bad » premises so as to not let Qu get away with them²⁸. Let us call (a), (b) and (c), respectively, the opening, the interrogative, and the concluding stage of the dialectical exchange.

Aristotle's method intends to improve the quality of the dialectical training through a systematic understanding of: (i) the problems (in relation to the opening stage); (ii) the acceptability of premises (in relation to the interrogative stage); and (iii) the fitting syllogistic relations between the premises and the problem (also in relation to the interrogative stage). The method²⁹, then, intends to determine what are legitimate dialectical

ἀνθρώπου;», πρότασις γίνεται· ἐὰν δὲ «πότερον τὸ ζῶον πεζὸν δίπουν ὀρισμὸς ἐστὶν ἀνθρώπου ἢ οὐ;», πρόβλημα γίνεται [Smith 1997, 3-4: A problem is different from a premiss in its form. For stated in this way: “is it the case that two-footed terrestrial animal is the definition of man?” (...) it is a premiss; but stated in this way: “whether two-footed terrestrial animal is the definition of man or not”, it becomes a problem] ». Note that this formal difference is pragmatically determined by the function they have in the dialectical exchange: the problem is the opening sentence of the exchange so that its form must force the answerer to take a position; the premise belongs to the interrogative stage of the exchange and its form must allow the answerer to either concede or reject it.

²⁷ In this sense t can also be seen as the conclusion of the dialectical syllogism which ultimately supports the successful dialectical exercise.

²⁸ *Topica* VIII abounds in advice for the answerer on how to tackle premises.

²⁹ Aristotle takes rhetoric and medicine as paradigmatic cases for the dialectical method. He says, in *Topica* I 3, 101a 5-10: « ἔξομεν δὲ τελέως τὴν μέθοδον ὅταν ὁμοίως ἔχωμεν ὡσπερ ἐπὶ ῥητορικῆς καὶ ἰατρικῆς καὶ τῶν τοιούτων δυνάμεων· [...] οὔτε γὰρ ὁ ῥητορικὸς ἐκ παντὸς τρόπου πείσει οὐθ' ὁ ἰατρικὸς ὑγιάσει, ἀλλ' ἐὰν τῶν ἐνδεχομένων μηδὲν παραλίπη, ἱκανῶς αὐτὸν ἔχειν τὴν ἐπιστήμην φήσομεν. [Smith 1997, 3: We shall have a complete grasp of our method when we are in the same condition as in the case of rhetoric, medicine and other such abilities. (...) For the rhetorician will not convince under all circumstances, nor the physician heal; however, if he leaves out nothing that is possible, then we shall say that he has a sufficient grasp of his craft] ». In *Rhetorica* I 1, Aristotle is more explicit about what a proper method should be able to accomplish: it should provide tools for going about a task in the most efficient way possible based on a systematic understanding of it. The method does not make one infallible with respect to the task because external circumstances can hinder even the best from succeeding. For instance, very ill people cannot be healed, not even by the best doctors. The goal of the method is not to assure success but to maximize its odds. As Aristotle explains in *Rhetorica* I 1 a method must consider all the varieties of the task, determine all the aspects essential to it, and provide a procedure to go about it so as to maximize the

problems, what are acceptable premises and how to find premises linked to the problem in a fitting way according to the goal of the dialectical exchange.

3. The opening stage

In *Topics* I 11 Aristotle defines the dialectical problem³⁰ as:

« πρόβλημα δ' ἐστὶ διαλεκτικὸν θεώρημα τὸ συντεῖνον ἢ πρὸς αἴρεσιν καὶ φυγὴν ἢ πρὸς ἀλήθειαν καὶ γνῶσιν, ἢ αὐτὸ ἢ ὡς συνεργὸν πρὸς τι ἕτερον τῶν τοιούτων, περὶ οὗ ἢ οὐδετέρως δοξάζουσιν ἢ ἐναντίως οἱ πολλοὶ τοῖς σοφοῖς ἢ οἱ σοφοὶ τοῖς πολλοῖς ἢ ἑκάτεροι αὐτοὶ ἑαυτοῖς [Smith 1997, 10: (i) a point of speculation, (ii) directed either to choice and avoidance or to truth and knowledge (...) (iii) about which people either have no opinion, or the public think the opposite of the wise, or the wise think the opposite of the public, or each of these groups have opposed opinions within itself » (*Topica* I 11, 104b 1-5).

This definition characterizes the problem in terms of (i) the puzzling nature of its proposition, (ii) its subject matter, and (iii) its socio-epistemic character: a problem is the questioning of a puzzling proposition, *t*, most commonly practical or theoretical³¹, with respect to which there is either no general opinion or social disagreement.

The puzzling nature of the problem, (i), is pragmatically introduced with the gymnastic aspect of the dialectical exchange in perspective. To be true, philosophical problems in general may involve puzzling propositions, but Aristotle's remarks in I 11 make it clear that what he is describing is specifically the kind of problem that makes good training. For this reason, theoretical propositions that are straightforwardly true or false, or practical proposition that are straightforwardly praiseworthy or blameworthy are excluded, for:

« οὐδεὶς γὰρ ἂν προτείνειε νοῦν ἔχων τὸ μηδενὶ δοκοῦν οὐδὲ προβάλοι τὸ πᾶσι φανερόν ἢ τοῖς πλείστοις· τὰ μὲν γὰρ οὐκ ἔχει ἀπορίαν [Smith

odds of success. With respect to rhetoric, for instance, Aristotle tells us that his predecessors failed to consider deliberative speech, which is an important variety of rhetorical speech, and to understand the notions of proof (πίστις) and enthymeme (ἐνθύμημα), which are essential to that of persuasive speech.

³⁰ For problems, see Brunschwig 1967, xxv-xxix and 126-129; Rubinelli 2009, 4-5; Slomkowski 1997, 15-18; Smith 1997, 80-84.

³¹ Theoretical problems may include scientific problems (e.g. belonging to physics, psychology, etc.) and problems about puzzling propositions of logical character; see Brunschwig 1967, xxvii and 126-127.

1997, 9: no one in his right mind would hold out as premiss what nobody thinks or make a problem of what is evident to everyone or to most people, since the latter contains no puzzle] » (*Topica* I 10, 104a 5-7).

In this regard, Aristotle ironically remarks that wondering whether one should honour one's parents or not is blameworthy, while wondering whether snow is white or not indicates a flaw in perception (cf. *Topica* I 11, 105a 5-7). So, suitable problems do not arise from the moral or cognitive flaws of individuals but from the truly puzzling nature of a proposition. However, problems about puzzling propositions that are too easy or too complex to tackle are also excluded because they do not make good training:

« οὐδὲ δὴ ὧν σύνεγγυς ἢ ἀπόδειξις, οὐδ' ὧν λίαν πόρρω· τὰ μὲν γὰρ οὐκ ἔχει ἀπορίαν, τὰ δὲ πλείω ἢ κατὰ γυμναστικὴν [Smith 1997, 10: nor ought one to inquire into that the demonstration of which is near to hand, or those the demonstration of which is excessively remote. For the former present no difficulty, while the latter present too much for exercises] » (*Topica* I 11, 105a 7-9).

Regarding (ii), the practical or theoretical subject matter of dialectical problems is also likely to be pragmatically determined by the scholarly context of the dialectical training (see Smith 1997, 81). At any rate, Aristotle's claim that some problems are presented with a view to truth and knowledge, or to choice and avoidance, should not be read as if the aim of dialectical argumentation were to solve the problem once and for all. This much is clear from the fact that, as already mentioned, the dialectical syllogism deduces from acceptable premises, regardless of their truth-value. If an answerer has inadvertently accepted a false premise, he can be effectively refuted on the grounds of it, and the contradictory of his claim, which is not necessarily true, will be established³². The aim of dialectical argumentation is, at best, to make either t or $\neg t$ more acceptable: if the answerer holds t and is led to contradiction, it will appear less reasonable to hold t so that the acceptability turns in favour of $\neg t$; on the other hand, the skilled questioner who fails to lead the answerer

³² See e.g. Bryson's argument in *Sophistici elenchi* 11, 171b 7-22; for a reconstruction and discussion see Bolton 2012, 287-288. At p. 291 Bolton makes the important remark that: « [...] even a master geometer can accept things which commonly appear to be true and in accord with his subject, though they are false, such as the false first premise of Bryson's argument ».

to contradiction will make it look as if his position is less reasonable to hold so that the acceptability turns in favour of *t*. Strictly speaking, though, the aim of dialectical argumentation in training is to destroy (*ἀνασκευάζειν*) the answerer's claim (if it is *t*) or establish (*κατασκευάζειν*) its contradictory (if it is $\neg t$), which is not the same as deciding which one between *t* or $\neg t$ is true.

The notion of acceptability is here related to socio-epistemic attitudes towards the problematic proposition, which is clear from Aristotle's introduction of (iii): the problematic proposition at stake must be either one about which there is no opinion in general or one about which there is social disagreement, i.e. between the many and the wise, or between sub-groups within the many, or between sub-groups within the wise (see Brunschwig 1967, 127). A notable exception is the case of the thesis, which in one of its senses is « ὑπόληψις παράδοξος τῶν γνωρίμων τινὸς κατὰ φιλοσοφίαν [Smith 1997, 10: a belief contrary to opinion held by someone famous for philosophy] » (*Topica* I 11, 104b 19-20). So, a disagreement between an individual and a group yields a suitable dialectical problem only when the individual in question holds certain intellectual authority.

To sum up, the presentation of a problem is the opening stage of the dialectical exchange. From the pragmatic perspective of the gymnastic setting, for *t* to yield a suitable problem it has to be intrinsically puzzling and of a manageable and instructive depth. The problem is proposed with the specific aim to refute the claim, *t*, of the answerer, although it is not excluded that the questioner's success or lack thereof can have an impact on the general acceptability of *t*. This acceptability is socially understood, since *t* is specifically described as a proposition about which people in general have no opinion or about which there is social disagreement (with the exception of claims by notable individuals).

4. The interrogative stage: acceptable premises

The interrogative stage of the dialectical exchange consists in putting forward questions of the form « Is *s* *p*? ». If the answerer replies « yes », the proposition « *S* is *p* » becomes an accepted premise (*πρότασις*) for the questioner's argumentation. *Topics* I 10 contains a detailed account of the dialectical premise from the point of view of its acceptability. Contrary to the dialectical problem, which is partly characterized in terms

of the social disagreement it involves, the dialectical premise³³ is characterized in terms of its social acceptability – on its being an ἔνδοξον:

« ἔστι δὲ πρότασις διαλεκτικὴ ἐρώτησις ἔνδοξος ἢ πᾶσιν ἢ τοῖς πλείστοις ἢ τοῖς σοφοῖς, καὶ τούτοις ἢ πᾶσιν ἢ τοῖς πλείστοις ἢ τοῖς μάλιστα γνωρίμοις, μὴ παράδοξος· θεῖη γὰρ ἄν τις τὸ δοκοῦν τοῖς σοφοῖς, ἐὰν μὴ ἐναντίον ταῖς τῶν πολλῶν δόξαις [Smith 1997, 9: a dialectical premiss is (i) the asking of (ii) something acceptable to everyone, most people, or the wise (that is, either all of them, most of them, or the most famous), provided it is not contrary to opinion (for everyone would concede what the wise think, so long as it is not contrary to the opinions of the many)] » (*Topica* I 10, 104a 8-12).

First, the interrogative form of the dialectical premise, (i), is pragmatically determined by the dialogical context where it belongs. Second, the dialectical premise is also pragmatically characterized by its acceptability by the answerer, which is at its maximum when, (ii), it is an ἔνδοξον, i.e. when it is actually accepted by the many (all or most of them) or the wise (all, most of them or the most notable); or, as we shall see, when it is derived from an ἔνδοξον in certain ways. It is noteworthy that the acceptability by the wise is here conditional on a lack of disagreement with the opinion of the many, so that the wise make a group apart only in the case of propositions on which the many have no stand. This is compatible with the lack of a truth requirement for dialectical premises: an obscure truth, even when backed up by an intellectual authority, is unlikely to be accepted by the answerer if it is at odds with public opinion (cf. Brunschwig 1967, xxxvii).

Interpreters of the *Topics* have engaged in a discussion on whether being an ἔνδοξον amounts to having a specific epistemic quality. The discussion is important for our purposes because it has implications for the related question of what characterizes a dialectical premise. Bolton 1990, for instance, proposes that for Aristotle ἔνδοξα are credible beliefs, either to an individual or to social groups, so that being an ἔνδοξον is related to being credible to people. Here credibility is an epistemic quality of the dialectical premise which somehow explains its actual acceptance by social groups. Bolton, however, does not go as far as claiming that the defining feature of an ἔνδοξον is such an epistemic quality. Reinhardt 2015 takes that further step and argues that plausibility, an inherent epistemic

³³ For a detailed analysis of dialectical premises, see Slomkowski 1997, 19-35; see also Brunschwig 1967, xxxvi-xxxvii; Primavesi 1996, 34-35; Smith 1997, 77-80.

quality, is the defining feature of *ἔνδοξα*, and of dialectical premises, their wide acceptance by social groups being only a privileged accident. Reinhardt takes issue in particular with « the traditional view », which according to him is neatly put forward by Brunschwig 1967, in his remark that:

« le caractère “*endoxal*” d’une opinion ou d’une idée n’est pas en son principe une propriété qui lui appartient de droit, en vertu de son contenu intrinsèque (ce qui interdit les traductions par probable, vraisemblable, plausible, et d’autres adjectifs comportant un suffixe analogue) mais une propriété qui lui appartient de fait: comme le précisera la définition donnée en 100b 21-23 [...] les énoncés “*endoxaux*” sont ceux qui ont des garants réels, qui sont autorisés ou accrédités par l’adhésion effective que leur donnent, soit la totalité ou la quasi-totalité des hommes, soit la totalité ou la quasi-totalité des σοφοί » (Brunschwig 1967, 113-114).

Regarding Brunschwig’s passage, Aristotle needs not be giving a precise definition of the *ἔνδοξον*, and hence of the dialectical premise in terms of *ἔνδοξα*³⁴. It is also possible that he is just reporting on the norms of actual practice: the premises of dialectical exchanges happen to be *ἔνδοξα*. Then, the question becomes rather whether they must be *ἔνδοξα*, and if so, why. In this respect, the *ἔνδοξον* character of the dialectical premise, its wide social acceptability, may be best understood as a pragmatic stipulation; for widely accepted propositions, and propositions derived from them in certain ways, have the highest odds of being accepted by the answerer, and this regardless of the answerer’s own epistemic attitudes to them. The answerer may even be skeptical about them but, if they are widely acceptable, training is not the occasion to make his skepticism public, lest he comes across as unreasonable or as troublesome. On the one hand, Aristotle says that no reasonable person would present a problem about what is evident to everyone, and no reasonable questioner would ask what no one believes (cf. *Topica* I 10, 104a 5-8 and I 11, 104b 22-24). In the same vein, we could add that no reasonable answerer would reject what everyone believes. On the other hand, in *Topics* VIII 8, Aristotle says that:

« εἰ οὖν μήτ’ ἀντεπιχειρεῖν ἔχων μήτ’ ἐνίστασθαι μὴ τίθησι, δῆλον ὅτι δυσκολαινει· ἔστι γὰρ ἢ ἐν λόγοις δυσκολία ἀπόκρισις [...] συλλογισμοῦ φθαρτικῆ [Smith 1997, 32: if, though not able either to counterattack

³⁴ As it has been duly noted by Karbowski 2015; King 2013.

or to object, <the answerer> does not concede, it is clear that he is being cantankerous. For cantankerousness in arguments is responding in a way (...) which is destructive of the deduction » (*Topica* VIII 8, 160b 10-14).

Where cantankerousness (τὸ δυσκολαίνειν) points to the answerer's deliberate effort to hinder the proper development of the exercise³⁵.

Another question is why ἔνδοξα are widely accepted. As Aristotle himself suggests, they are widely accepted because they seem to be the case (τὰ δοκοῦντα) to the many (all or most) or to the wise (all or most) (cf. *Topica* I 1, 100b 21-23). So, it well may be that, as Reinhardt contends, their wide acceptance is related to their plausibility. However, plausibility alone cannot be the reason why being an ἔνδοξον demarcates the dialectical premise from other argumentative propositions. To be true, plausibility is a necessary condition: an implausible proposition has no place in dialectical argumentation, not even as a problem, let alone as a premise³⁶. A problematic proposition, on the other hand, must be plausible – otherwise discussing it would make no sense – but it is the opposite of a good choice for a dialectical premise. The reason why ἔνδοξα make good dialectical premises, i.e. premises that are most likely to be accepted by the answerer, is that (1) they are plausible to social groups and (2) not the object of social disagreement. In other words, the reason is that they are widely³⁷ acceptable³⁸. As explained above, a proposition that is accepted by the wise, but not by the many, will not make a good dialectical premise, not because the many are more likely to be right about it than the wise, but because the answerer can reject the premise on the basis of that disagreement. Consequently, plausibility alone, or any other intrinsic epistemic qualification for that matter, cannot be the defining feature of the dialectical premise. The point is rather to characterize dialectical premises so as to increase the odds that the answerer accepts them, notably in the case of non-evident propositions, in which case it is indeed a good stipulation to let social acceptability bestow credibility on them, as Brunschwig, among others, duly noted.

The difficulty for the questioner lies, then, in finding fitting premises, i.e. premises that are (i) acceptable as described above; and (ii) linked to

³⁵ For an understanding of the dialectical exercise as a fundamentally collaborative practice, see Brunschwig 1985.

³⁶ As a problem only when the proposition (in this case a thesis) is backed by someone's intellectual authority or a convincing argument; cf. *Topica* I 11.

³⁷ In relation to (2).

³⁸ In relation to (1).

the problem in the right way. The remaining part of I 10 focuses on strategies aimed at (i) being sufficiently equipped with acceptable premises, either by derivation from premises that are actually accepted, (a) using similarity³⁹, or (b) using rules of conversion that preserve acceptability⁴⁰, or (c) by drawing on propositions from the scientific disciplines. Other ways of equipping oneself with acceptable premises is given the chapters devoted to the four *ὄργανα* (i.e. *Topica* I 14-17)⁴¹. The remaining part of this study focuses on (ii).

5. Division of problems and premises in terms of the four predicables

The pivotal point of the method developed in the *Topics* is the understanding that dialectical problems and premises involve propositions with a predicative structure (they have the form « subject + predicate ») which admits four types:

« πᾶσα δὲ πρότασις καὶ πᾶν πρόβλημα ἢ ἴδιον ἢ γένος ἢ συμβεβηκὸς δηλοῖ. [...] ἐπεὶ δὲ τοῦ ἴδιου τὸ μὲν τὸ τί ἦν εἶναι σημαίνει, τὸ δ' οὐ σημαίνει, δηρήσθω τὸ ἴδιον εἰς ἄμφω τὰ προειρημένα μέρη, καὶ καλείσθω τὸ μὲν τὸ τί ἦν εἶναι σημαῖνον ὄρος, τὸ δὲ λοιπὸν κατὰ τὴν κοινὴν περὶ αὐτῶν ἀποδοθεῖσαν ὀνομασίαν προσαγορευέσθω ἴδιον [Smith 1997, 3: every premise, as well as every problem, exhibits either a unique property, a genus or an accident (...). But since one sort of unique property signifies what it is to be something and another sort does not, let us divide unique properties into both the parts stated, and let us call the sort that signifies what it is to be something a definition, while the remaining sort may be referred to as unique property, in accordance to the designation given to them] » (*Topica* I 4, 101b 17-23).

Definition, proprium⁴², genus and accident came to be known in later traditions as « the predicables »⁴³. This division is fundamental for the

³⁹ E.g. if « there is one science of opposites », then « there is one sensation of opposites » can be derived from the similarity between science and sensation.

⁴⁰ E.g. that the contradictory of the opposite of an accepted premise is an acceptable premise. Suppose, for instance, that p: « one must do good by one's friends » is generally accepted; its opposite is opp(p): « one must do wrong by one's friends ». Then, the contradictory ¬opp(p): « one must not do wrong by one's friends » will be acceptable.

⁴¹ Rubinelli 2009, 30-33 argues convincingly that the *ὄργανα* are strategies to equip oneself with acceptable premises, mainly against Slomkowski's 1997, 54-58 contention that they are *τόποι*. De Pater 1968 understands the *ὄργανα* in a way similar to Rubinelli.

⁴² Pace Smith 1997, I stick to the tradition of translating « ἴδιον » as « *proprium* ».

⁴³ The name « predicable » stems from an interpretative tradition at least as old as Porphyry's *Isagoge*. For the four predicables, see Brunschwig 1967, xlv-l; De Strycker

deductive aspect of the method, for Aristotle provides us with a set of topic-neutral strategies to find premises linked to the problem in a syllogistically sound way upon the understanding that problems and premises have a predicative form that is definitional, generic, proprium-related or accidental.

At first, Aristotle claims that his list of four predicables is given « in outline » (cf. *Topica* I 6, 103a 1), suggesting that it is neither exhaustive nor mutually exclusive⁴⁴. In I 5 he makes pragmatic remarks regarding problems that are not explicitly definitional, generic, etc., as if his division was not systematic. For instance, he says that problems of identity⁴⁵, such as « is *x* the same as *y* or not? » or « is *x y* or not? », are to be treated as either definitional or generic, depending on whether the identity at stake is identity in species or identity in kind (cf. *Topica* I 5, 102a 10 and 35).

However, in *Topics* I 8 Aristotle provides a deduction of the four predicables that from a pragmatic perspective seems to fit the bill:

« ἀνάγκη γὰρ πᾶν τι περὶ τινος κατηγορούμενον ἤτοι ἀντικατηγορεῖσθαι τοῦ πράγματος ἢ μή. καὶ εἰ μὲν ἀντικατηγορεῖται, ὄρος ἢ ἴδιον ἂν εἶη (εἰ μὲν γὰρ σημαίνει τὸ τί ἦν εἶναι, ὄρος, εἰ δὲ μὴ σημαίνει, ἴδιον [...]). εἰ δὲ μὴ ἀντικατηγορεῖται τοῦ πράγματος, ἤτοι τῶν ἐν τῷ ὄρισμῷ τοῦ ὑποκειμένου λεγομένων ἐστὶν ἢ οὐ. καὶ εἰ μὲν τῶν ἐν τῷ ὄρισμῷ λεγομένων, γένος ἢ διαφορὰ ἂν εἶη [...] εἰ δὲ μὴ τῶν ἐν τῷ ὄρισμῷ λεγομένων ἐστί, δῆλον ὅτι συμβεβηκὸς ἂν εἶη [Smith 1997, 8: necessarily, whenever one thing is predicated of another, it either counterpredicates with the subject or it does not. And if it does counterpredicate, then it must be a definition or a unique property – for if it signifies what it is to be something it is a definition, while if it does not it is a unique property (...). But if it does not counterpredicate with the subject, then either it is among the things stated in the definition of the subject or it is not. If it is among the things stated in the definition, then it must be a genus or a differentia (...). On the other hand, if it is not among the things stated in the definition, then it is clear that it must be an accident] » (*Topica* I 8, 103b 6-17).

This deduction relies both on the logical notion of counter-predication and on the pragmatic consideration of what is a fitting reply to the question

1968, 143-148; Primavesi 1996, 92-95; Slomkowski 1997, 69-73; Smith 1997, xxviii-xxx; Rubinelli 2009, 1.2.1.

⁴⁴ Against Brunschwig's 1967, lxxxvi inclusive understanding of this list, Slomkowski (Slomkowski 1997, 73-94) convincingly argues for its exclusive character.

⁴⁵ The whole I 7 is devoted to this question of identity.

« what is *s*? ». It is a well-known fact that this pragmatic consideration is crucially linked to the central role of the definition in the dialectical practices of Plato's Academy⁴⁶. As of counter-predication (τὸ ἀντικατηγορεῖσθαι), Brunschwig 1967, 122 makes it clear that it refers to the possibility of substituting two predicates of the same concrete object rather than to the convertibility of subject and predicate in the proposition expressed by the premise. For instance, « man » and « capable of letters » counter-predicate because any concrete *x*, which is a man, is capable of letters, and vice versa, and not because « man is capable of letters » is convertible with « what is capable of letters is a man »⁴⁷. In other words, two terms counter-predicate if and only if they can be applied to exactly the same concrete things, i.e. if they are co-extensive.

Counter-predicability is the notion that demarcates the definition and the proprium from the genus and the accident. A term « *s* », its definition and its proprium are counter-predicable. The definition is, in turn, the counter-predicable that answers suitably the question « what is it to be *s*? », hence its characterization as « a phrase which signifies the what-it-is-to-be » (cf. *Topica* I 5, 101b 37). Aristotle adds that a simple word cannot be given in reply to the question of the definition – the definition is necessarily a complex expression⁴⁸. This remark is related to the distinctive feature of the definition, i.e. its indication of *s*'s essence: in order

⁴⁶ Thus, De Strycker says: « le schéma même des prédicables [...] et les rapports que chacun d'eux entretient avec l'espèce sont commandés par la primauté de la définition. En ce sens, la perspective des *Topiques* est encore celle de l'Académie » (De Strycker 1968, 144). Moreover, Brunschwig says: « en effet, pour réfuter une définition, le seul moyen n'est pas de montrer que le prédicat proposé n'est pas la définition du sujet [...] la distinction des prédicables est le produit d'une analyse méthodique des conditions auxquelles doit satisfaire une définition » (Brunschwig 1967, xlviii-xlix). And Smith 1997, 30: « there are indications that the predicables are part of Aristotle's inheritance from the Academy [...] Plato thought the pursuit of definitions to be an important part of philosophical education as well as of philosophy itself, and Academy sport-arguments may have been largely occupied with attacking and defending definitions ». The proprium is thought to be Aristotle's innovation, though; cf. De Strycker 1968.

⁴⁷ Counter-predicability implies convertibility, and in a sense grounds convertibility, but from a logical point of view they function at different logical levels: Counter-predicability is a property of terms and convertibility a property of statements.

⁴⁸ *Topica* I 5, 101b 37 - 102a 5: « ἀποδίδεται δὲ ἢ λόγος ἀντ' ὀνόματος ἢ λόγος ἀντὶ λόγου. [...] ὅσοι δ' ὀπωσοῦν ὀνόματι τὴν ἀπόδοσιν ποιοῦνται, δῆλον ὡς οὐκ ἀποδίδασιν οὗτοι τὸν τοῦ πράγματος ὀρισμόν, ἐπειδὴ πᾶς ὀρισμὸς λόγος τίς ἐστιν. [Smith 1997, 4: A definition is given either as a phrase in place of a word or as a phrase in place of a phrase (...). But as for those who answer with a word (however they do so), it is clear that these people are not giving the definition of the subject, since every definition is a phrase] ».

to properly express what it is to be *s* from the point of view of its essence, the definitional phrase has to capture both *s*'s general kind and the feature that demarcates *s* from other things of the same kind – its *differentia* (cf. *Topica* VI 3, 140a 27-29). Genus and *differentia* are two different features of *s* that in the definition must be expressed distinctively with different terms.

The proprium is, then, negatively characterized as the counter-predicable that does not indicate the what-it-is-to-be, so the one that is not a suitable reply to the question « what is *s*? ». For instance, to be capable of letters is unique to man, but it is not a fitting reply to the question « what it is to be a man? »⁴⁹.

Counter-predicability separates definition and proprium from the predicables that do not counter-predicate. Those that do not counter-predicate can, again, either answer suitably the question « what is *s*? » or not. The former is the genus⁵⁰ and the latter the accident.

The pragmatic consideration of what is a suitable answer to « what is *s*? » as a criterion of division also explains why the *differentia* is taken together with the genus (or subsumed under the genus as in I 4): in fact, the *differentia* alone is not a fitting answer to the question « what is *s*? »⁵¹, unless it is given with the genus, which amounts to giving the definition. The genus alone, however, is a fitting answer, and hence, from this pragmatic perspective, it takes priority over the *differentia* in the division of the four predicables.

⁴⁹ *Topica* I 5, 102a 18-22: « ἴδιον δ' ἐστὶν ὃ μὴ δηλοῖ μὲν τὸ τί ἦν εἶναι, μόνω δ' ὑπάρχει καὶ ἀντικατηγορεῖται τοῦ πράγματος. οἷον ἴδιον ἀνθρώπου τὸ γραμματικῆς εἶναι δεκτικόν· εἰ γὰρ ἄνθρωπός ἐστι, γραμματικῆς δεκτικός ἐστι, καὶ εἰ γραμματικῆς δεκτικός ἐστιν, ἄνθρωπός ἐστιν. [Smith 1997, 4: A unique property is what does not exhibit what it is to be for some subject but belongs only to it and counterpredicates with it. For example, it is a unique property of a human to be capable of becoming literate: for if something is human, then it is capable of becoming literate, and if it is capable of becoming literate, then it is human] ». Note that this example makes clear that counter-predicability grounds the determination of a predicable as a proprium.

⁵⁰ Although note the discrepancy with the deduction in I 8, where Aristotle includes the *differentia* as a suitable, not necessarily co-extensional, answer to « what is *s*? ». In fact, the *differentia* is co-extensional only when *s* is a *species ultima*; cf. Schiaparelli 2016, 250-256. The status of the *differentia* in Aristotle's corpus is complex and it seems that Aristotle's views about it developed over time; for this development, see Granger 1984.

⁵¹ As Schiaparelli 2016, 232-242 shows, the *differentia* expresses a certain qualification of *s*, how *s* is, and not what it is (τί ἐστὶ).

Accordingly, the genus is characterised as what is predicated of several things specifically different in relation to the question « what is *s*? »:

« γένος δ' ἐστὶ τὸ κατὰ πλείονων καὶ διαφερόντων τῷ εἶδει ἐν τῷ τί ἐστὶ κατηγορούμενον. ἐν τῷ τί ἐστὶ δὲ κατηγορεῖσθαι τὰ τοιαῦτα λεγέσθω ὅσα ἀρμόττει ἀποδοῦναι ἐρωτηθέντα τί ἐστὶ τὸ προκειμένον· καθάπερ ἐπὶ τοῦ ἀνθρώπου ἀρμόττει, ἐρωτηθέντα τί ἐστίν, εἰπεῖν ὅτι ζῷον [Smith 1997, 5: a genus is what is predicated in the what-it-is of many things which are different in species. (Let us say that those things are “predicated in the what-it-is” which it would be appropriate to give as answers when asked what the thing in question is, as it is appropriate in the case of a man, when asked what it is, to say that it is an animal)] » (*Topica* I 5, 102a 31-35).

Finally, the accident is negatively determined as:

« συμβεβηκὸς δὲ ἐστὶν ὁ μὴδὲν μὲν τούτων ἐστὶ, μήτε ὄρος μήτε ἴδιον μήτε γένος, ὑπάρχει δὲ τῷ πράγματι [Smith 1997, 5: something which is none of these – not a definition, a unique property, or a genus – but yet belongs to the subject] » (*Topica* I 5, 102b 4-5).

And immediately after positively determined as:

« ὁ ἐνδέχεται ὑπάρχειν ὀτρωῶν ἐνὶ καὶ τῷ αὐτῷ καὶ μὴ ὑπάρχειν [Smith 1997, 5: what can possibly belong and not belong to one and the same thing, whatever it may be] » (*Topica* I 5, 102b 6-7).

Evidently, then, the accident is neither co-extensional with « *s* » nor a fitting answer to the question « what is *s*? », for something that can not belong to *s* is not a suitable reply to a question that aims to determine its essential features.

6. *Topoi* – the case of the genus

The division of problems and premises according to the four predicables is fundamental for dialectic as an argumentative practice, for upon it Aristotle devises strategies of « attack » for the questioner who must build an argument that refutes the answerer's claim, i.e. who must find premises that are syllogistically linked to the problem in the desired way. *Topics* II-VII provide *τόποι* – angles of attack – for each predicable: II-III for the accident; IV for the genus; V for the proper; VI-VII for the definition.

A τόπος⁵² can be understood as an attack strategy⁵³, which can be schematised as follows:

1. Determine the predicable P with which the problem/claim (« S is (not) p ») is concerned⁵⁴
2. Consider whether case C obtains, where there is a mediating term « m » that is predicatively linked to « s » and « p » in a certain way
3. If so, then « p » cannot be predicated as P/is predicated as P
4. For, C violates/follows P-rule, a rule of P-predication

For instance:

« ἂν δὴ τεθῆ γένος τινὸς τῶν ὄντων, πρῶτον μὲν ἐπιβλέπειν ἐπὶ πάντα τὰ συγγενῆ τῷ λεχθέντι, εἴ τινος μὴ κατηγορεῖται, καθάπερ ἐπὶ τοῦ συμβεβηκότος [...] εἰ γὰρ τοῦτο, δῆλον ὅτι οὐ γένος [...] τὸ γὰρ γένος κατὰ πάντων τῶν ὑπὸ τὸ αὐτὸ εἶδος κατηγορεῖται [(1) if a genus was

⁵² For τόποι, see Brunshwig 1967, xxxix-xlii and l-liv; De Pater 1968; Primavesi 1996, 83-102; Rubinelli 2009, 12-28; Slomkowski 1997, 43-58; Smith 1997, xxiv-xxviii. Slomkowski 1997, 46-47 understands the τόπος as the hypothetical premise of a hypothetical syllogism (i.e. the dialectical syllogism), but he clearly misinterprets the passages he uses to support his position that the τόποι are premises. De Pater 1968, 177 has a similar understanding of the τόπος, but only in scientific contexts as in geometry: « [...] le lieu est un principe et une proposition (ou prémisses) commune à plusieurs arguments [...] »; in general, however, De Pater 1968 understands the τόπος as an inferential warrant. For a convincing rejection of Slomkowski's contention, see Rubinelli 2009, 30-33.

⁵³ Rubinelli 2009, 14 also understands them as argumentative strategies, and specifically as « argument schemes of universal applicability: it describes a way of constructing an argument by focusing on the formal structure of its constitutive propositions ». However, the argument cannot be constructed by focusing on the formal structure of its propositions, because the predicative relations they owe to the kind of predication they involve are not part of their formal structure. In other words, *nothing* in the claim's form (or in its lexical content for that matter) reveals the kind of predication it involves. The strategic procedure provided by the τόποι is essentially pragmatic as explained in the following note.

⁵⁴ Note that step (1) is pragmatic in yet another sense (i.e. at the propositional level in a Gricean sense) than the one I have used throughout this paper (i.e. at the argumentation level in a normative-pragmatic sense). In order to determine the kind of predication the answerer's claim involves, it is not enough to understand the lexical meaning of all the words in the claim and the grammatical rules of composition. Simply put, the kind of predication is not part of the expressed meaning of the claim, but part of its intended meaning. The questioner, then, must infer the intended kind of predication in the claim from shared background knowledge and contextual elements. Brunshwig 1967, 1 says, in a similar vein, that « les prédicables ne désignent pas les relations réelles qui peuvent s'établir entre un sujet et les propriétés qu'il possède, mais les relations intentionnelles qui peuvent s'établir entre un sujet et les propriétés qu'une proposition lui attribue ».

assigned to something, (2) consider first among all the things of the same genus as the subject if <the genus> is not predicated of some of them (...), for (3) if this is the case, it is evident that it is not the genus (...) for (4) the genus is predicated of all the things falling under the same species » (*Topica* IV 1, 120b 15-20, my translation).

The argumentative force of this strategy lies in the P-rule in (4), which allows the inference of the contradictory of the claim from the premises the answerer has accepted. This is easily seen in the following examples, where the answerer's claim is an affirmation involving a predication of the genus, which has to be destroyed by the questioner.

Example 1:

Questioner	Answerer
Is pleasure good or not?	Yes (claim: « pleasure is good »)
Is drinking alcohol a pleasure?	Yes
Is drinking alcohol not good?	Yes
Therefore, pleasure is not good.	

G-rule: the genus is predicated of something as regards the what it is.

Analysis: drinking alcohol is pleasurable; drinking alcohol is not good; therefore, what is good is not what is pleasurable (i.e. good is not related to pleasure as a genus)⁵⁵

Example 2:

Questioner	Answerer
Is snow white?	Yes (claim: « snow is white »)
Is white a quality?	Yes
Is snow not a quality?	Yes
Therefore, snow is not white.	

G-rule: the genus must fall under the same category as the species.

Analysis: white is a quality; snow is not a quality; therefore, snow is not white (i.e. white is not related to snow as a genus).

⁵⁵ Some interpreters analyze the dialectical syllogism as a hypothetical syllogism (of the forms of *modus ponens* or *modus tollens*) where the P-rule is one of the premises; cf. e.g. Slomkowski 1997, 99 and Rubinelli 2009, 22. To be true, this analysis may be one way to formalize the dialectical syllogism implied by these examples. However, this dialectical syllogism can also be analyzed as a categorical syllogism, where the P-rule is an external warrant. The latter analysis, I think, is closer to the spirit of the dialectical practice, where the P-rules are implicit and not liable to rejection by any party.

Example 3:

Questioner	Answerer
Is the opinionable the knowable?	Yes (claim: « the opinionable is the knowable »)
Is the non-existent opinionable?	Yes
Is the non-existent not knowable?	Yes
Therefore, the opinionable is not the knowable.	

G-rule: the genus must be predicated of anything of which the species is predicated.

Analysis: the non-existent is opinionable; the non-existent is not knowable; therefore, the opinionable is not the knowable (i.e. the knowable is not related to the opinionable as a genus).

In these examples, the G-rules are statements belonging to the predicative logic of the genus. « Drinking alcohol », « quality » and « non-existent » are mediating terms which, in these destructive cases, block the genus-predication « *s* is *p* » because of the violation of a G-rule.

So, in the case of the destruction of an affirmative claim, the strategy can also be described as follows: given a *P* and a claim « *S* is *p* », find a mediating term « *m* » related to « *s* » and « *p* » so as to violate some P-rule. Accordingly, in the case of the introduction of an affirmative claim (destruction of a negative claim), the strategy can be described as: given a *P* and a claim « *S* is not *p* », find a mediating term « *m* » related to « *s* » and « *p* » so as to establish « *S* is *p* » based on some P-rule.

I had claimed in the first part of this study that in the syllogism predicative relations between the terms of the premises bring about the conclusion. The aforementioned analysis of the *τόποι* and their reliance on P-rules allow us to say something more about the relations at stake in dialectical argumentation: the conclusion « *S* is (not) *p* » obtains because « *s* » and « *p* » are linked (or separated) through a mediating term « *m* » on the basis of some rule of P-predication. In other words, the inference in a dialectical syllogism obtains because it is backed up by a P-rule that works as an inferential warrant.

7. Conclusion

Aristotle did not write an account of dialectical argumentation but his intention to provide the dialectical training with a method led him to

understand that peculiar linguistic practice in a systematic way. In this paper, I set out to reconstruct his account in a way that somewhat meets the ways of modern argumentation theory. Aristotle not only described the dialectical exchange as it actually took place in its social context, but in his quest for a method for it he aimed to improve it – this is why I claim that Aristotle's endeavour is normative-pragmatic.

In Aristotle's account, dialectical argumentation is a complex interactional speech act consisting of three distinct stages: (a) the presentation of a problem (opening stage); (b) a set of questions aimed at obtaining premises (the interrogative stage); and (c) the refutation, or lack thereof (concluding stage). His dialectical method understands (a) and (b), first in terms of disagreement and acceptability; second in a topic-neutral way in terms of predicative relations skilfully reduced to the four predicables. Based on this understanding, Aristotle provides us with strategies to find mediating terms that link problem and premises so as to lead to the refutation of the answerer's claim. I suggest that these strategies are the *τόποι*, which are ultimately grounded in general predicative rules that work as inferential warrants in Aristotle's account. These rules are compartmentalized according to the four predicables. My claim that the *τόποι* can be understood as strategies of attack based on predicative rules, working as inferential warrants, which are compartmentalized according to the four predicables, is a strong contention in need of deeper analysis of the internal books of the *Topics*. This is, of course, a task that surpasses the limits of this study, and one I hope to address in another study in the near future.⁵⁶

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⁵⁶ As pointed out to me by the editor of this volume, both ideas have an illustrious past: cf. e.g. Boethius, *De topicis differentiis* II 3, 27.7-9 and 26.2-4; cf. Ebbesen 1981, 106-126.

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ARISTOTE LINGUISTE ET GRAMMAIRIEN :
L'ANALYSE DE LA ΛΕΞΙΣ DANS LES RÉFUTATIONS
SOPHISTIQUES

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Dans le traité des *Réfutations Sophistiques*, Aristote s'attache à prémunir l'usage de la dialectique (c'est-à-dire de l'échange verbal raisonné entre deux interlocuteurs) contre les procédés fallacieux auxquels recourent les « amateurs de querelles » : ceux qui veulent l'emporter à tout prix dans ce qu'ils considèrent comme des joutes verbales¹. Dès son introduction, il met en garde contre deux facteurs de « dérives » de l'échange dialectique : d'abord l'apparence pour qui regarde pour ainsi dire de trop loin, ce qui peut faire prendre une déduction ou une réfutation apparentes pour une déduction ou une réfutation réelles (tout comme l'on peut prendre certains métaux pour de l'or ou de l'argent). Le facteur d'illusion le plus fécond dans ce cas est lié aux mots (τὰ ὀνόματα). En effet, comme le dit Aristote en 1, 165a 7-8, dans la mesure où nous ne pouvons pas « mettre sur la table » les objets-mêmes (τὰ πράγματα) dont nous discutons (διαλέγεσθαι), nous utilisons les mots en guise de symboles (τοῖς ὀνόμασιν ἀντὶ τῶν πραγμάτων χρώμεθα συμβόλοις). Mais le problème est que nous pensons que ce qui arrive au niveau des mots arrive aussi (συμβαίνειν) au niveau des objets qu'ils symbolisent (165a 6-9). Or, les mots sont en nombre limité de même que les énoncés (λόγοι), tandis qu'il y a une infinité de choses à dire. Il est donc inévitable qu'un même mot ou un même énoncé puissent signifier plusieurs choses (πλείω ... σημαίνειν) (165a 12-13). Le second facteur contre lequel Aristote met en garde est l'usage recherché par certains de façons de parler qui les

¹ « Οἱ ἐν τοῖς λόγοις ἀγωνιζόμενοι καὶ διαφιλονεικοῦντες [ceux qui rivalisent et ne font que chercher querelle dans les discussions] » (*Sophistici elenchi* 3, 165b 12-13).

feront paraître savants, alors qu'ils ne le sont pas. Deux facteurs « subjectifs » donc, propres aux interlocuteurs, sont énoncés pour expliquer les dérives de l'échange dialectique. L'un tient à leur inexpérience (διὰ τὴν ἀπειρίαν) (164b 26) ; sont alors essentiellement concernés ceux qui assument le rôle du répondant dans l'échange dialectique : ils se laissent tromper par ignorance, non pas des faiblesses de la langue, mais du « pouvoir » des mots (τῶν ὀνομάτων τῆς δυνάμεως) (165a 15-16). Ce pouvoir est lié à leur fonction qui est de signifier, et il faut, avec Aristote, distinguer signifiant et signifié. L'autre facteur tient à l'usage dévoyé, subversif que certaines personnes font du langage², essentiellement lorsqu'ils endossent le rôle de l'interrogateur. Le moyen d'échapper à ces deux pièges est de prendre conscience et connaissance des sources « objectives » d'erreurs : le « pouvoir » lié à la nature des mots (symboles en nombre insuffisant, leur pouvoir peut être pluri-sémantique) et les subtilités du raisonnement syllogistique. Le premier relève plus particulièrement d'un éclairage linguistique, les secondes d'un éclairage logique. Mais comme il se doit, logique et linguistique restent intimement liées dans ce traité, jusqu'au cœur-même du principe de non-contradiction grâce auquel Aristote spécifie la sorte de déduction qu'est la réfutation³.

C'est l'analyse linguistique développée par Aristote qui retiendra plus particulièrement notre attention. Après avoir examiné les cinq objectifs qu'il assigne aux amateurs de querelle, nous nous intéresserons au solécisme, dont on peut présumer qu'il relève typiquement d'une analyse linguistique – ce qu'il faudra néanmoins vérifier. Nous élargirons ensuite notre enquête au rôle qu'il attribue à la λέξις, « l'expression », dans l'analyse du premier des objectifs poursuivis par les éristiques : la réfutation apparente.

1. Les cinq objectifs poursuivis par les amateurs de querelles dialectiques

Dans un échange dialectique, les personnes inexpertes « sont trompées par de faux raisonnements », dit Aristote : παραλογίζονται (1, 165a 16).

² « Ἐστὶ τισὶ μᾶλλον πρὸ ἔργου τὸ δοκεῖν εἶναι σοφοῖς ἢ τὸ εἶναι καὶ μὴ δοκεῖν [pour certains, il est plus avantageux de sembler être savants que l'être et ne pas le sembler] » (*Sophistici elenchi* 1, 165a 19-20).

³ Voir l'« Introduction » de mon édition traduite et commentée des *Réfutations sophistiques* (Hecquet 2019, 22-37).

Ces raisonnements fallacieux sont notamment des arguments éristiques, qu'il définit au chapitre 2 :

« ἐριστικοὶ δ' οἱ ἐκ τῶν φαινομένων ἐνδόξων, μὴ ὄντων δέ, συλλογιστικοὶ ἢ φαινόμενοι συλλογιστικοὶ [sont éristiques les arguments qui déduisent une contradiction à partir de ce qui paraît être des opinions qui font autorité mais n'en est pas, ou qui déduisent en apparence une contradiction] » (*Sophistici elenchi* 2, 165b 7-8).

Les ἐνδοξα sont le matériau par excellence des « arguments dialectiques » qu'Aristote définit comme

« οἱ ἐκ τῶν ἐνδόξων συλλογιστικοὶ ἀντιφάσεως [ceux qui déduisent une contradiction à partir des opinions qui font autorité] » (*Sophistici elenchi* 2, 165b 3-4).

Les deux autres concepts qui apparaissent dans ces définitions – la déduction et la contradiction – sont précisément ce qui caractérise la réfutation, la déduction étant le genre dont relève la réfutation, et la contradiction sa différence spécifique, telle qu'Aristote la définit au début du traité :

« ἔλεγχος δὲ συλλογισμὸς μετ' ἀντιφάσεως τοῦ συμπεράσματος [une réfutation est une déduction dont la conclusion révèle une contradiction] » (*Sophistici elenchi* 1, 165a 2-3).

Ce qui sera ensuite repris plus simplement sous la forme de déduction d'une contradiction⁴.

De fait, la réfutation apparente est le principal but poursuivi par les éristiques comme l'annonce le chapitre 3⁵, ce qui explique en partie pourquoi l'essentiel du traité lui est consacré – l'importance du champ couvert, du nombre des espèces distinguées par Aristote (13 espèces de réfutations apparentes), mais aussi le rôle que joue, dans la constitution du savoir, la réfutation correcte telle qu'il l'établit dans ce traité, sont évidemment deux autres éléments de réponse importants. La raison de la prééminence de la réfutation peut être aisément devinée : dans la mesure où l'interlocuteur soutient une thèse A et qu'il est possible de déduire de certaines de ses opinions non-A – ou que, si l'on prend sa

⁴ « Ὁ γὰρ ἔλεγχος συλλογισμὸς ἀντιφάσεως [la réfutation est la déduction d'une contradiction] » (*Sophistici elenchi* 6, 168a 37-38 ; 9, 170b 1-2 et 10, 171a 4-5).

⁵ « Μάλιστα μὲν γὰρ προαιροῦνται φαίνεσθαι ἐλέγχοντες [en effet, ils préfèrent par-dessus tout être vus en train de réfuter] » (*Sophistici elenchi* 3, 165b 18).

thèse comme prémisse avec d'autres opinions qu'il admet, on peut déduire une conclusion impossible, absurde – la réfutation montre qu'il ne raisonne pas de manière cohérente et que l'on peut, à juste titre, douter de sa réelle connaissance du sujet débattu. Puis vient, dans les préférences des amateurs de querelle, le fait de montrer que l'interlocuteur commet une erreur (*ψευδόμενον τι δεικνύναι*) (3, 165b 19). La déduction d'une assertion *fausse* à partir de ce qu'admet le répondant révèle, en effet, que les prétendues connaissances de ce dernier ne sont pas réelles, puisqu'elles ne sont pas conformes à la vérité. Le troisième objectif visé par les éristiques consiste à amener l'interlocuteur à un paradoxe (*εἰς παράδοξον ἄγειν*) (165b 19-20). Ils montrent ainsi que l'interlocuteur est en désaccord avec ce que l'on *croit* généralement, même si l'on n'est pas parvenu à établir « la vérité » sur le sujet. Le poids accordé par Aristote au bon sens des humains entraîne donc le discrédit sur les idées « marginales » que le répondant semble avoir intégrées. La déduction d'un solécisme (*σολοικισμός*) (165b 14-15), l'un des deux derniers objectifs visés par les éristiques, montre un usage incorrect de la langue. Le cinquième objectif (165b 22), enfin, consiste à faire en sorte que l'interlocuteur répète et répète la même chose (*τὸ πλεονάκις ταὐτὸ λέγειν*)⁶. La déduction d'un verbiage semble ainsi attester que la pensée de l'interlocuteur tourne à vide, comme le révèle son usage du langage.

Les cinq objectifs poursuivis par les amateurs de querelles sont classés dans un ordre explicitement décroissant, manifestement en raison de la façon dont ils remplissent le but qu'Aristote a initialement assigné aux sophistes : celui de paraître savants sans l'être. En effet, en montrant que l'interlocuteur soutient des opinions contradictoires – i.e. en le réfutant –, l'interrogateur semble mieux maîtriser que lui le sujet débattu. Le deuxième objectif, à savoir amener à une assertion manifestement fausse, invalide également la position de l'interlocuteur. A propos du troisième but : amener à une assertion paradoxale, Aristote parlera plus loin – au chapitre 12, notamment – d'assertion « adoxale » (*ἄδοξον*), c'est-à-dire

⁶ Par exemple, « εἰ μὴδὲν διαφέρει τὸ ὄνομα ἢ τὸν λόγον εἰπεῖν, διπλάσιον δὲ καὶ διπλάσιον ἡμίσεος ταῦτό· εἰ ἄρα ἐστὶ ἡμίσεος διπλάσιον, ἔσται ἡμίσεος ἡμίσεος διπλάσιον [s'il n'y a aucune différence entre dire le mot seul ou dire la "formule" développée, et que "double" est la même chose que "double de la moitié", si donc il est double de la moitié, il sera double de la moitié de la moitié] » (*Sophistici elenchi* 13, 173a 34-36).

qui ne fait pas consensus. Il s'agit des questions sur lesquelles les opinions sont partagées – par exemple, faut-il obéir à ceux qui savent ou à son père ? (12, 173a 19-21). De fait, l'interrogateur montre ainsi que la position de l'interlocuteur est peu édifiante, et là encore, il semble mieux maîtriser le sujet débattu que celui qu'il a interrogé. Si ces trois premiers résultats semblent d'abord relever d'une pratique « logique », le quatrième : faire commettre un solécisme, nous ramène sur le terrain linguistique, à savoir grammatical et syntaxique, puisque l'interrogateur discrédite son interlocuteur en raison de sa façon incorrecte de s'exprimer (τῆ λέξει βαρβαρίζειν) (3, 165b 20-21). Enfin, enfermer l'interlocuteur dans un cercle vicieux de répétitions (τὸ ποιῆσαι ἀδολεσχηῆσαι τὸν προσδι-αλεγόμενον) (165b 15-16) est un procédé de nature à le ridiculiser, puisque sa parole tourne à vide. L'interlocuteur est donc disqualifié cette fois sur sa capacité à exprimer tout court, sur sa capacité à signifier. Mais plutôt que la réputation d'un savoir positif, constructif, le fait de le contraindre à un verbiage (ou psittacisme, comme le traduisent certains en faisant référence au perroquet) n'apporte vraisemblablement qu'une réputation d'habileté redoutable à l'interrogateur.

L'ordre de préférence attribué aux objectifs éristiques est manifestement fonction du résultat « pseudo-épistémique » qu'en tirent ces derniers, dans leur prétendue détention d'un savoir. Pourtant, il faut noter que, si le verbiage occupe alors la dernière place, Aristote inverse cet ordre lorsqu'il analyse plus précisément ces procédés, puisque la déduction d'un verbiage est traitée avant celle d'un solécisme dans les chapitres qui leur sont respectivement consacrés, à savoir les chapitres 13 et 31, et 14 et 32 pour le solécisme. Pourquoi opère-t-il cette permutation ? Nous venons de voir que, d'un point de vue « linguistique », le verbiage franchit une étape de plus que le solécisme : si ce dernier montre une incapacité à s'exprimer correctement, le verbiage dénonce une incapacité à exprimer tout court, à signifier. Mais que recouvre plus précisément le verbiage ? Sont ici essentiellement concernés les relatifs. Le problème tient au fait que le *definiendum* est inclus dans le *definiens* : le double est double de sa moitié, le désir est désir de l'agréable. Comme l'écrit Aristote, c'est le même problème qui se pose pour « les termes prédiqués de ce par quoi ils sont décrits » : « double de la moitié » n'est pas la même chose que « double », de même que « nez camus » n'est pas la même chose que « camus » (31, 181b 37), et c'est précisément parce que l'on ne fait pas la différence que l'une et l'autre « formules » donnent lieu à

des répétitions à l'infini : « double de la moitié de la moitié de la moitié... », ou encore « nez nez nez... concave ». En effet, dès lors que l'on définit « camus » par « nez concave », on peut substituer à « nez *camus* » « nez nez *concave* », et puisque « nez camus » équivaut à « nez concave », on peut substituer à « nez nez *concave* » « nez nez *camus* ». Alors on peut de nouveau recourir au premier type de substitution, ce qui donne « nez nez nez concave », et ainsi de suite. Peut-être est-ce en raison de ce que le verbiage est censé révéler sur le *raisonnement* de l'interlocuteur, qu'il passe devant le solécisme dans l'analyse d'Aristote. Le solécisme prendrait alors la dernière place parce que son enjeu ne repose que sur le seul langage et non plus sur le raisonnement logique. Mais il faut examiner cela de plus près et voir ce que recouvre le solécisme, un mot qui apparaît pour la première fois chez Aristote, et seulement dans les *Sophistici elenchi*, si l'on en croit le *Thesaurus Linguae Graecae*⁷

2. Le solécisme

Pour nous, un solécisme est une faute contre la *syntaxe* (« si j'aurais su, j'aurais pas venu » comme se plaint le petit Gibus dans l'adaptation bien connue de *La Guerre des boutons* de Louis Pergaud), et il se distingue de l'*in correction* qui est une faute contre la *grammaire* (par exemple, si l'on dit une entracte, une pétale, ...), in correction dont on dit pourtant qu'elle est un *léger solécisme* (cf. Mounin 1974). La notion aristotélicienne correspond-elle déjà à cela ?

(a) Voyons d'abord la définition qu'en donne Aristote ; (b) puis l'exemple qu'il tire du texte d'Homère au chapitre 14 des *Sophistici elenchi*, ce qui nous conduira à Protagoras auquel il fait référence. (c) Nous examinerons aussi le rapprochement opéré par Aristote entre le solécisme et le défaut lié à la *forme de l'expression* dans certaines réfutations apparentes, ce qui nous permettra de trancher le problème des interprètes qui se sont demandés si la question de fond repose sur le signifiant ou sur le signifié, (d) ainsi que celui qui a été soulevé par Benvéniste : les catégories d'Aristote sont-elles des catégories de langue ou des catégories de pensée ?

⁷ En revanche, le verbe $\sigma\lambda\omicron\iota\kappa\acute{\iota}\zeta\epsilon\iota\nu$ se trouve chez Hérodote, *Historiae* IV 117, 2, et chez Démosthène, *De corona oratio* 1, 30.6.

(a) *Définition du solécisme*

Après avoir énoncé les cinq objectifs poursuivis par les amateurs de querelles verbales, parmi lesquels le solécisme (165b 14-15), Aristote reformule cette liste en employant cette fois le verbe σολοικίζειν :

« τέταρτον δὲ σολοικίζειν ποιεῖν (τοῦτο δ'ἔστι τὸ ποιῆσαι τῇ λέξει βαρβαρίζειν ἐκ τοῦ λόγου τὸν ἀποκρινόμενον). [*« Ils préfèrent », en quatrième lieu, faire faire un solécisme (c'est-à-dire faire en sorte que le répondant commette une maladresse au niveau de l'expression, en partant de son argument) » (Sophistici elenchi 3, 165b 20-21).*]

Dans le *Dictionnaire étymologique de la langue grecque*, Chantraine précise que les anciens rattachaient tous les mots de la famille du verbe σολοικίζω au nom de la ville de Soles (Σόλοι) en Cilicie, dont les habitants parlaient un mauvais grec⁸. Selon Frisk 1972, en revanche, σολοικίζω aurait été forgé sur le modèle de ἀττικίζω. Mais cette étymologie est contestée par Holtz dans une étude de 1981 sur Donat (Holtz 1981, 136-162), et par Flobert dans un article de 1986 (Flobert 1986, 173-174). Ce dernier précise qu'une préoccupation puriste de la langue était parfaitement incongrue au VI^e siècle et il suppose plutôt une origine « asiatique » pour ce verbe. Chantraine ajoute pourtant que σόλοικος est le terme le plus anciennement attesté qui soit employé au sens de « barbare, étranger », « qui parle de façon barbare »⁹, et, de là, « qui fait une faute » en général¹⁰. Mais Flobert 1986 lui reproche d'avoir (comme d'autres) retenu pour sens premier de ce mot « qui parle mal », car s'il désigne les *sauvages* dans un fragment d'Hipponax, auteur de iambes du VI^e siècle avant notre ère, il qualifie aussi un *son grossier* dans un fragment d'Anacréon, à la même époque donc¹¹. Et l'application de ce terme au langage serait beaucoup plus récente et toujours couplée avec βάρβαρος¹². Le

⁸ Chantraine renvoie aux témoignages de Strabon, *Geographica* 14, 2, 28, et de Diogène Laërce, *Vitae philosophorum* 1, 51.

⁹ Chantraine renvoie à Hipponax d'Ephèse, fr. 27 et Anacréon, fr. 78 respectivement.

¹⁰ Sens que l'on trouve chez Hippocrate (cf. *De fracturis* 15, 30) ; Xénophon (cf. *Cyropaedia* I 8, 3.21) ; Aristote (cf. *Rhetorica* II 16, 1391a 4).

¹¹ Dans les autres attestations anciennes (à côté de Xénophon et Aristote, voir également Plutarque, *Moralia* 817 A), il qualifie toujours un comportement *grossier, gauche, maladroit* ; ou une « facture grossière », à propos d'une monnaie : chez Zénon, d'après Diogène Laërce, *Vitae philosophorum* 7, 18, σολοίκως ; ou une situation *absurde, incongrue* : Hippocrate, *De fracturis* 15 ; Cicéron, *Ad Atticum* 14, 6, 2.

¹² Avec Marc-Aurèle, *Ad se ipsum* 1, 10 ; Sextus Empiricus, *Adversus mathematicos* 1, 64 ; et Gellius, *Noctes atticae* 5, 20, 5.

verbe *σολοικίζω* signifie selon Chantraine « parler de façon incorrecte » ou « écrire de façon incorrecte » (notamment chez Hérodote, Démosthène, Aristote), mais aussi « faire des fautes » en général, et « être mal élevé » (chez Zénon, Plutarque, etc.). D'où le terme *σολοικισμός* « incorrection, solécisme » qui *pourrait avoir été forgé par Aristote*, écrit-il, mais il note à juste titre que ce dernier fait référence à Protagoras. Là encore, Flobert 1986 conteste cette analyse : pour lui, *σολοικίζω* signifie « avoir un comportement insolite », comme le prouvent les attestations les plus anciennes où il est certes question du langage, mais où le sens – non spécialisé – est précisé par le datif (τῆ) φωνῆ¹³. Flobert 1986 estime qu'avant d'être appliqué aux impropriétés syntaxiques, l'usage originel de ce terme « est manifestement logique chez Aristote et dans l'ancien stoïcisme », car dans les *Sophistici elenchi*, Aristote caractérise ainsi « non seulement les fautes d'accord, à propos du genre (...), au sujet de μῆνις » (Flobert 1986 renvoie à 14, 173b 20), « mais il caractérise aussi des fautes provoquées, contre la cohérence du discours » (et Flobert 1986 renvoie cette fois à la définition donnée en 3, 165b 20).

Mon interprétation de *σολοικίζειν* par « faire un solécisme » au chapitre 3 me semble pourtant justifiée, dans la mesure où Aristote précise ici ce qu'est le *σολοικισμός* annoncé quelques lignes auparavant (165b 14-15), et dans la mesure où il ne ressent pas la nécessité de compléter ce verbe par τῆ λέξει comme il le fait pour βαρβαρίζειν dans l'explication qui suit immédiatement. La précision τῆ λέξει n'est pas anodine, car, outre les précisions apportées par Flobert 1986, la λέξις est une notion importante dans l'analyse des réfutations apparentes proposée par Aristote puisqu'il subdivise ces dernières selon que leur vice est lié à l'expression (παρὰ τὴν λέξιν) ou extérieur à elle (ἔξω τῆς λέξεως) – c'est-à-dire, comme on l'apprend au cours du traité, quand il est lié au processus déductif qui n'a été qu'apparent (6, 169a 18-21). Le solécisme relèverait-il alors d'une analyse logique du raisonnement plutôt que d'une réflexion sur la langue chez Aristote ? Revenons à la définition du solécisme dans le texte du chapitre 3 cité ci-dessus (165b 20-21). Il est vrai qu'une approche logique sous-tend la taxinomie des cinq buts poursuivis par les amateurs de querelle verbale, car c'est de manière déductive (ou apparemment déductive) que chacun de ces cinq buts est atteint, lorsque l'interlocuteur est contraint d'admettre quelque chose de contradictoire,

¹³ Flobert renvoie à Hérodote, *Historiae* 4, 117 et Démosthène, *In Stephanum*, 30.

de faux, de paradoxal, etc. Et dans l'explication qu'Aristote donne du solécisme, il s'agit bien de contraindre l'interlocuteur à admettre une expression qui produit un effet « barbare », donc une incorrection linguistique (au sens large), et cette contrainte est opérée par le moyen d'un raisonnement déductif : à partir des propositions consenties par le répondant (ἐκ τοῦ λόγου), l'interrogateur le contraint d'admettre une expression incorrecte. Mais il faut distinguer le processus dialectique technique mis en œuvre et ce qui en fait l'objet : dans le faux ou le paradoxe, par exemple, la conclusion est invalidée en raison de son opposition à ce qui est admis comme vrai, ou à ce qui est généralement admis, et c'est cette opposition qui en fonde logiquement le rejet. En revanche, le *solécisme en soi* est bien une notion linguistique pour Aristote : τῆ λέξει βαρβαρίζειν.

(b) *Protagoras*

Voyons les autres emplois de *σολοικίζειν* chez Aristote. On retrouve ce verbe au chapitre 14 des *Sophistici elenchi* qui est consacré à la présentation du solécisme :

« σολοικισμὸς δ' οἷον μὲν ἐστὶν εἴρηται πρότερον· ἔστι δὲ τοῦτο καὶ ποιεῖν καὶ μὴ ποιοῦντα φαίνεσθαι καὶ ποιοῦντα μὴ δοκεῖν, καθάπερ ὁ Πρωταγόρας ἔλεγεν, εἰ “ὁ μῆνις” καὶ “ὁ πῆληξ” ἄρρεν ἐστίν· ὁ μὲν γὰρ λέγων “οὐλομένην” σολοικίζει μὲν κατ' ἐκεῖνον, οὐ φαίνεται δὲ τοῖς ἄλλοις, ὁ δὲ “οὐλόμενον” φαίνεται μὲν, ἀλλ' οὐ σολοικίζει. δῆλον οὖν ὅτι καὶ τὴν τέχνην τις τοῦτο δύναται ποιεῖν· διὸ πολλοὶ τῶν λόγων οὐ συλλογιζόμενοι σολοικισμὸν φαίνονται συλλογίζεσθαι, καθάπερ ἐν τοῖς ἐλέγχοις [nous avons dit auparavant quelle sorte de chose est le solécisme. Eh bien, il est possible d'en faire, et de paraître en faire sans en faire, et de ne pas sembler en faire quand on en fait, comme disait Protagoras, si ὁ μῆνις (“la colère”) et ὁ πῆληξ (“le casque”) sont du genre masculin ; car celui qui dit οὐλομένην (“meurtrière”) fait un solécisme selon lui, mais il ne paraît pas en faire pour les autres, tandis que celui qui dit οὐλόμενον (“meurtrier”) paraît faire un solécisme, mais n'en fait pas. Il est donc évident qu'en s'appuyant sur un art, on pourrait aussi provoquer cela. C'est pourquoi nombre des arguments qui ne sont pas déductifs paraissent déduire un solécisme, comme dans le cas des réfutations » (*Sophistici elenchi* 14, 173b 17-25).

« Il est possible d'en faire, et de paraître en faire sans en faire, et de ne pas sembler en faire quand on en fait » est une phrase *a priori* surprenante. Elle semble reprendre en partie ce qui avait été dit au chapitre 3, à

savoir que les amateurs de querelles poursuivent les cinq objectifs énoncés, « ou ce qui n'est pas mais paraît être chacun de ces résultats » (165b 17-18). C'est d'ailleurs sur cette considération que se termine le paragraphe : « nombre des arguments qui ne sont pas déductifs paraissent déduire un solécisme, comme dans le cas des réfutations » (165b 23-24). En effet, toutes les réfutations apparentes dont le défaut ne tient pas à l'expression ont une conclusion qui n'a été déduite qu'en apparence. Mais au chapitre 14, la situation est plus complexe, et l'explication vient avec la référence à Protagoras¹⁴ : « comme le disait Protagoras, etc. ». Μῆνις et οὐλομένην sont, bien sûr, les premiers mots des deux vers sur lesquels s'ouvre l'*Illiade*, et on notera l'intérêt du « philologue » Aristote qui s'est déjà manifesté à propos des réfutations apparentes liées à l'accentuation en 4, 166b 1-9, notamment, où il est aussi question d'une discussion sur un vers de l'*Illiade*. Dans l'usage commun de la langue, μῆνις et πῆληξ sont des mots féminins, et on apprend en *Rhétorique* III 5, 1407b 6-8 que c'est à Protagoras, apparemment, que revient le mérite d'avoir distingué le genre des mots. Ce chapitre du livre III s'ouvre sur la phrase suivante :

« ἔστι δ' ἀρχὴ τῆς λέξεως τὸ ἐλληνίζειν τοῦτο δ' ἐστὶν ἐν πέντε. [c'est le principe de base de l'expression que de parler correctement le grec. Et cela tient à cinq conditions] » (*Rhetorica* III 1, 1407a 20).

L'examen mené ici par Aristote porte donc bien sur la λέξις et non sur le raisonnement. Il poursuit un peu plus loin, en 1407b 6-9, après avoir annoncé ces cinq conditions :

« τέταρτον, ὡς Πρωταγόρας τὰ γένη τῶν ὀνομάτων διήρει, ἄρρενα καὶ θήλεα καὶ σκευή· δεῖ γὰρ ἀποδιδόναι καὶ ταῦτα ὀρθῶς· “ἡ δ' ἐλθοῦσα καὶ διαλεχθεῖσα ᾄχετο” [en quatrième lieu, comme Protagoras distinguait les genres des noms : masculins, féminins et “instruments”, il faut en effet rendre compte correctement des genres aussi : “celle-ci, après être venue et avoir discuté, s'en alla” » (*Rhetorica* III 1, 1407b 6-9).

Aristote n'ajoute pas d'autres précisions, mais on peut supposer que l'exemple qu'il donne illustre ainsi le bon accord des participes au féminin. Il s'agit, dans ce cas, d'une considération *grammaticale*¹⁵. Et l'on voit

¹⁴ Je suis la tradition manuscrite : ὁ Πρωταγόρας, avec l'article défini, et non la correction de Ross, qui propose un pronom relatif ὃ Πρωταγόρας ce qui me semble inutile.

¹⁵ A noter que la cinquième condition à remplir tient au fait de nommer correctement la multitude, la pluralité restreinte et l'unité, comme dans l'exemple « ceux qui étaient venus, me frappèrent ». Il s'agit manifestement cette fois de l'accord en nombre, et non plus en genre, et cette distinction n'est plus attribuée à Protagoras.

ici que le « solécisme » dont parle Aristote dans les *Sophistici elenchi* s'oppose, non pas à ἀττικίζειν comme le supposait Frisk 1972, mais plus largement à ἐλληγνίζειν (*Rhetorica* III 5, 1407a 20).

D'autre part, il écrit dans *Poetica* 21, 1458a 8-17 :

« αὐτῶν δὲ τῶν ὀνομάτων τὰ μὲν ἄρρενα τὰ δὲ θήλεα τὰ δὲ μεταξὺ, ἄρρενα μὲν ὅσα τελευτᾷ εἰς τὸ Ν καὶ Ρ καὶ Σ καὶ ὅσα ἐκ τούτου σύγκειται (ταῦτα δ' ἐστὶν δύο, Ψ καὶ Ξ), θήλεα δὲ ὅσα ἐκ τῶν φωνηέντων εἰς τε τὰ ἀεὶ μακρά, οἷον εἰς Η καὶ Ω, καὶ τῶν ἐπεκτεινομένων εἰς Α· ὥστε ἴσα συμβαίνει πλήθῃ εἰς ὅσα τὰ ἄρρενα καὶ τὰ θήλεα· τὸ γὰρ Ψ καὶ τὸ Ξ σύνθετά ἐστιν. Εἰς δὲ ἄφωρον οὐδὲν ὄνομα τελευτᾷ, οὐδὲ εἰς φωνῆεν βραχύ. Εἰς δὲ τὸ τρία μόνον, 'μέλι', 'κόμμι', 'πέπερι'. Εἰς δὲ τὸ Υ πέντε. Τὰ δὲ μεταξὺ εἰς ταῦτα καὶ Ν καὶ Σ [les noms, quant à eux, sont les uns masculins, les autres féminins, les autres encore *intermédiaires*. Sont masculins tous ceux qui se terminent par N, P, Σ et toutes les lettres qui se composent de cette dernière (celles-ci sont au nombre de deux, Ψ et Ξ). Sont féminins tous ceux qui se terminent par des voyelles, celles qui sont toujours longues comme Η et Ω, et par celles qui peuvent s'allonger, Α ; de sorte qu'il se trouve que sont égales en nombre les lettres par lesquelles se terminent les noms masculins et les noms féminins ; car le Ψ et le Ξ sont composés <avec Σ>. Aucun nom ne se termine par une lettre muette, ni par une voyelle brève. Trois seulement se terminent par Ι : μελί (miel), κόμμι (gomme), πέπερι (poivre). Cinq se terminent par Υ. Les intermédiaires se terminent par ces voyelles, par Ν et par Σ » (*Poetica* 21, 1458a 8-17).

Pour Aristote, donc, les noms masculins se terminent en -ν, -ρ, -ς (et les composés de ce dernier : -ψ et -ξ), les noms féminins en -η, -ω et -α, les « intermédiaires », enfin, en -ι, -υ, et surtout en -ν et -ς (je laisse pour l'instant de côté la terminologie et notamment le terme μεταξὺ). On comprend ainsi que les exemples donnés dans le chapitre 14 des *Sophistici elenchi* : μῆνις et πῆληξ devraient être masculins parce qu'ils se terminent par -ς, et par -ξ. Dès lors, ce qu'a voulu dire Aristote par « il est possible d'en faire, et de paraître en faire sans en faire, et de ne pas sembler en faire quand on en fait » devient clair. Il n'illustre pas la première situation qui va de soi : c'est le cas de l'enfant ou de l'étranger qui ne maîtrisent pas la langue et qui commettent des incorrections (par exemple, s'ils associent à un nom un adjectif dont la désinence n'est pas correctement accordée – que ce soit en genre, en nombre – ou n'est pas au même cas). En revanche, il illustre avec l'exemple de μῆνις et πῆληξ les deux autres situations : lorsqu'on paraît « faire un solécisme sans en faire », et lorsqu'on peut « ne pas sembler en faire quand on en fait », qu'il reprend sous forme de chiasme : « il est possible de *ne pas sembler*

faire <un solécisme> quand on en *fait* », lorsqu'on dit μήνιν... οὐλό-
μένην, car alors « on fait un solécisme selon Protagoras, mais on ne
paraît pas en faire pour les autres » ; puis « il est possible de *paraître* faire
<un solécisme> *sans en faire* », si l'on dit μήνιν... οὐλόμενον, car alors
« on paraît faire un solécisme <comprenez : pour les autres>, mais on
n'en fait pas <pour Protagoras> ».

On voit aussi en *Poetica* 21, 1458a 8-17 qu'au lieu de reprendre le terme
« protagoréen » σκευή, « instrument » (ou « objet » dans la traduction
de Dupont-Roc & Lallot 1980), pour désigner le *neutre*, Aristote utilise
le terme μεταξύ, « intermédiaire ». Dupont-Roc & Lallot 1980 avancent
l'hypothèse que, pour Aristote, « les mots neutres peuvent référer à des
êtres soit mâles, soit femelles (par exemple τὸ βρέφος, “le nourrisson” ;
τὸ τέκνον, “l'enfant” ; τὸ γύναιον, “la petite femme” ; τὸ μειράκιον,
“le jeune homme”), soit asexués », à savoir les « objets » de Protagoras.
Aristote montrerait ainsi que sexe et genre grammatical ne se recourent
pas. Selon Dupont-Roc & Lallot 1980, c'est le point de vue sémantique
qui prévaut en *Sophistici elenchi* 14, 173b 26 et sq., tandis que dans la
Poétique, ce serait plutôt le point de vue formel, les neutres ayant des
finales communes avec les masculins (ν et ζ) et avec les féminins (α), en
plus des finales qui leur sont propres (ι et υ). Ils notent que le texte fait
problème, néanmoins, car dans l'état actuel de sa transmission, les neutres
en α ou en ρ ne sont pas mentionnés, non plus que les féminins en ν, ρ,
ζ et ψ, ξ. Ils supposent que la mention des neutres en ρ a dû disparaître
accidentellement, tandis qu'Aristote « ne mentionne, délibérément, que
les finales tenues pour proprement, ou éminemment, *féminines* », et les
finales tenues pour proprement, ou éminemment, *masculines*. Ce qui les
amène à conclure que « tout donne à penser qu'Aristote prend ici sur la
langue un point de vue *normatif*, proche (...) de celui qui paraît avoir
été celui de Protagoras ». C'est ce que l'on voit en tout cas dans le texte
des *Sophistici elenchi*, où ils notent aussi qu'Aristote « ne donne pas à
entendre que <l'opinion de Protagoras> est absurde », et qu'« il montre,
à tout le moins, qu'il ne tient pas pour nul et non avenu le problème
soulevé par Protagoras ». En *Poetica* 21, « le silence sur les finales ν, ρ, ζ
des féminins peut s'interpréter comme la marque d'un refus *a priori*
d'admettre une intersection (...) entre finales masculines et féminines »¹⁶.

¹⁶ Ce texte de la *Poétique* est aussi jugé problématique parce que son utilité dans
l'exposé d'ensemble n'est pas bien perçue.

Je ne suis pas sûre que le point de vue développé par Aristote au chapitre 14 des *Sophistici elenchi* soit *sémantique* plutôt que *formel*, et il faudra y revenir. Il oppose là le point de vue de l'expert Protagoras à celui du simple usager de la langue, et témoigne de l'existence d'une discussion sur le « bon » ou le « mauvais usage » de la langue qui a probablement été initiée par Protagoras. Mais la façon dont il fait référence dans ce chapitre à Protagoras, à la fois sophiste et spécialiste du discours, laisse perplexe. On observe en effet l'absence de critique explicite à l'égard du sophiste en 173b 21-22, puisque Aristote sous-entend seulement les deux partis opposés : « celui qui dit οὐλόμενον paraît faire un solécisme, mais n'en fait pas ». Et il peut en résulter l'impression que ce qui l'emporte est l'avis du spécialiste contre l'usage commun de la langue. Quant à savoir si le mot σολοικισμός a été forgé par Protagoras ou Aristote, nous en sommes réduits à des conjectures. Seuls les textes des *Réfutations sophistiques* et de la *Poétique* associent le nom de Protagoras à la notion de solécisme. Mais peut-être Aristote aurait-il attribué explicitement l'origine de ce terme au sophiste lorsqu'il en donne la définition en *Sophistici elenchi* 3, s'il avait effectivement appartenu à la terminologie technique de Protagoras, puisque c'est ainsi qu'il procède en *Rhetorica* III 5, 1407b 6-9, lorsqu'il évoque la distinction des genres pratiquée par Protagoras. Or, on notera qu'Aristote définit σολοικίζειν en *Sophistici elenchi* 3, 165b 20-21 comme s'il introduisait une notion nouvelle : il l'explique en utilisant le terme βαρβαρίζειν (qui ne semble pas avoir été utilisé dans les fragments conservés de Protagoras). J'en déduirais volontiers que cet emploi terminologique nouveau de σολοικίζειν revient à Aristote et non à Protagoras.

Nous avons vu que pour Flobert 1986, l'usage originel du verbe σολοικίζω « est manifestement logique chez Aristote » (et non pas encore syntaxique), ce que j'ai contesté. Quant au mot σολοικισμός, il aurait lui aussi un sens logique à l'origine, c'est-à-dire dans les *Sophistici elenchi* où Aristote spéculé « sur le genre de μῆνις », et Flobert 1986 propose le sens d'« illogisme », considérant qu'il n'y a « aucune préoccupation de purisme dans tout cela ! ». Or il s'agit bien d'une réflexion linguistique sur la norme et sur l'usage chez Aristote. « Illogisme » est une notion suffisamment large pour pouvoir être retenue, mais à condition que le raisonnement fautif mis en cause soit reconnu comme portant sur la façon de s'exprimer et non pas sur la façon d'articuler des jugements ou des axiomes pour en tirer une conclusion, par exemple dans le cadre d'une

induction ou d'une déduction. Mais il faut aussi examiner le texte de l'autre traité d'Aristote dans lequel apparaît le verbe *σολοικίζω* : celui de *Rhetorica* III 5, 1407b 18, qui est assez difficile¹⁷. Aristote y déclare que « d'une manière générale, il faut que ce que l'on écrit soit facile à lire et à dire, qu'il s'agit de la même qualité, que n'ont pas les nombreuses conjonctions, non plus que ce qui est difficile à ponctuer », et il donne l'exemple d'Héraclite dont le texte n'est pas facile à ponctuer parce que l'on ne voit pas clairement à quel membre un mot se rattache, au suivant ou au précédent. Il ajoute alors :

« ἔτι τόδε ποιεῖ σολοικίζειν, τὸ μὴ ἀποδιδόναι, ἔὰν μὴ ἐπιζευγνύης ἀμφοῖν ὃ ἄρμόττει, οἷον [ἦ] ψόφῳ καὶ χρώματι τὸ μὲν ἰδὼν οὐ κοινόν, τὸ δ' αἰσθόμενος κοινόν [en outre, ceci fait commettre une erreur de langage : le fait de ne pas attribuer – si tu n'associes pas – aux deux ce qui est adapté <à l'un comme à l'autre>, par exemple “ayant vu” n'est pas commun à un son et à une couleur, tandis que “ayant perçu” l'est » (*Rhetorica* III 5, 1407b 18-21).

Tόδε me semble annoncer ce qui suit *σολοικίζειν*, et ἔὰν μὴ ἐπιζευγνύης est probablement une glose (ou peut-être une variante) de τὸ μὴ ἀποδιδόναι qui a été introduite dans le texte. Dès lors, le sens apparaît clairement : *σολοικίζειν* renvoie manifestement ici à un *autre type d'erreur* que ce qu'Aristote appelle « un solécisme » dans les *Sophistici elenchi*, à savoir une infraction à la grammaire ou à la syntaxe, puisqu'il s'agit ici de choisir une terminologie adaptée au contexte. Il faut donc postuler un sens relativement large pour ce verbe : « parler de façon incorrecte » comme le proposait Chantraine, plutôt que « commettre un solécisme », de manière plus restrictive. Ce qui n'empêche pas le nouveau terme *σολοικισμός*, qui apparaît dans les *Sophistici elenchi*, d'avoir, quant à lui, un sens plus étroit.

« εἰσι δὲ πάντες σχεδὸν οἱ φαινόμενοι σολοικισμοὶ παρὰ τὸ τόδε, καὶ ὅταν ἢ πτώσις μῆτε ἄρρεν μῆτε θῆλυ δηλοῖ ἀλλὰ τὸ μεταξύ. τὸ μὲν γὰρ “οὔτος” ἄρρεν σημαίνει, τὸ δ' “αὕτη” θῆλυ· τὸ δὲ “τοῦτο” θέλει μὲν τὸ μεταξύ σημαίνειν, πολλάκις δὲ σημαίνει κάκεινον ἐκότερον, οἷον “τί τοῦτο;” “Καλλιόπη, ξύλον, Κορίσκος”. τοῦ μὲν οὖν ἄρρενος καὶ τοῦ θήλεος διαφέρουσιν αἱ πτώσεις ἅπασαι, τοῦ δὲ μεταξύ αἱ μὲν αἰ δ' οὐ· δοθέντος δὲ πολλὰκις “τοῦτο”, συλλογίζονται ὡς εἰρημένου “τοῦτον”· ὁμοίως δὲ καὶ ἄλλην πτώσιν ἀντ' ἄλλης. ὁ δὲ παραλογισμὸς γίνεται διὰ τὸ κοινὸν εἶναι τὸ “τόδε” πλειόνων πτώσεων· τὸ γὰρ “τοῦτο”

¹⁷ Notamment à cause du verbe *ἀποδιδόναι* qui a été suspecté par Roemer.

σημαίνει ὅτε μὲν “οὗτος” ὅτε δὲ “τοῦτον”. δεῖ δ’ ἐναλλάξ σημαίνειν μετὰ μὲν τοῦ “ἔστι” τὸ “οὗτος”, μετὰ δὲ τοῦ “εἶναι” τὸ “τοῦτον”, οἷον “ἔστι Κορίσκος”, “εἶναι Κορίσκον”. καὶ ἐπὶ τῶν θήλεων ὀνομάτων ὡσαύτως, καὶ ἐπὶ τῶν λεγομένων μὲν σκευῶν, ἐχόντων δὲ θηλείας ἢ ἄρρενος κλήσιν. ὅσα γὰρ εἰς τὸ ο καὶ τὸ ν τελευτᾷ, ταῦτα μόνον σκευῶν ἔχει κλήσιν, οἷον ξύλον, σχοινίον· τὰ δὲ μὴ οὕτως ἄρρενος ἢ θηλεος, ὧν ἕνια φέρομεν ἐπὶ τὰ σκεύη, οἷον ἄσκος μὲν ἄρρεν τοῦνομα, κλίνη δὲ θήλυ. διόπερ καὶ ἐπὶ τῶν τοιούτων ὡσαύτως τὸ “ἔστι” καὶ τὸ “εἶναι” διοίσει. Φανερόν οὖν ὅτι τὸν σολοικισμὸν πειρατέον ἐκ τῶν εἰρημένων πτώσεων συλλογίζεσθαι [presque tous les solécismes apparents tiennent au τόδε (“cela”), c’est-à-dire quand la forme flexionnelle (πτώσις), ne montre ni un masculin ni un féminin, mais “l’intermédiaire” (τὸ μεταξύ). Car οὗτος (“celui-ci”) signifie un masculin, αὕτη (“celle-ci”) un féminin ; et τοῦτο (“ceci”) tend à signifier ce qui est intermédiaire, mais souvent il signifie l’un ou l’autre de ces derniers, par exemple “qu’est-ce que c’est ?” “c’est Calliopé, c’est du bois, c’est Coriscus”. De fait, toutes les formes flexionnelles du masculin et du féminin diffèrent, tandis que certaines formes flexionnelles de “l’intermédiaire” diffèrent et d’autres non. Souvent, après que τοῦτο <“ceci”> a effectivement été accordé, une déduction est faite comme si on avait dit τοῦτον. Et de même on dit aussi une forme flexionnelle à la place d’une autre. Et le paralogisme se produit parce que τόδε <“cela”> est commun à plusieurs formes flexionnelles. En effet, τοῦτο signifie tantôt οὗτος, tantôt τοῦτον. Et il faut qu’alternativement il signifie οὗτος après ἔστι et τοῦτον après εἶναι, par exemple ἔστι Κορίσκος, εἶναι Κορίσκον. Et il en va de même pour les noms féminins, et pour ce que l’on appelle les accessoires, mais qui ont une dénomination de féminin ou de masculin. Car tous ceux qui se terminent en omicron-nu ont, ceux-là seuls, une dénomination d’accessoires, par exemple, ξύλον <“bois”>, σχοινίον <“corde”>. Mais ceux qui ne se terminent pas ainsi ont une dénomination de masculin ou de féminin, et nous en attribuons quelques uns aux accessoires, par exemple le mot ἄσκος <“outre à vin”> est masculin, κλίνη <“lit”> est féminin. C’est pourquoi dans les cas de cette sorte aussi ἔστι <“est”> et εἶναι <“être”> vont faire différer <les formes flexionnelles> de la même façon] » (*Sophistici elenchi* 14, 173b 26 - 174a 11).

Après avoir repris les considérations de Protagoras sur les mots qui devraient être d’un autre genre que celui auquel on les utilise habituellement, Aristote aborde maintenant le cas de ce qu’il appelle les « intermédiaires », à savoir les *neutres*, à côté des masculins et des féminins. Τὸ μεταξύ est un terme très général que l’on trouve dans d’autres contextes chez Aristote (pour désigner par exemple ce qui est intermédiaire entre les contraires en *Metaphysica* Δ 22, 1023a 7), mais c’est un terme qu’il utilise aussi plusieurs fois dans la *Poétique* et dans les *Réfutations sophistiques*

pour désigner le *neutre*. On peut déjà noter qu'il se distingue ainsi de Protagoras qui employait le terme τὰ σκεύη pour désigner les neutres, ainsi que le montre le texte de *Rhetorica* III 5, 1407b 6-9. Mais Aristote préfère réserver ce terme aux *objets*, ainsi qu'on peut le voir en *Topica* I 15, 107a 18-20 :

« σκοπεῖν δὲ καὶ τὰ γένη τῶν ὑπὸ τὸ αὐτὸ ὄνομα, εἰ ἕτερα καὶ μὴ ὑπ' ἄλληλα. οἷον ὄνος τό τε ζῶον καὶ τὸ σκευός [Brunschiwig 1967 (mes italiques) : <il faut> regarder aussi les genres auxquels appartiennent *les êtres désignés par un même nom*, pour voir s'il ne se trouve pas qu'ils sont distincts et sans relation de subordination l'un avec l'autre. Tel est le cas pour *bélier*¹⁸, qui désigne tantôt un animal, tantôt *une chose*¹⁹] ».

C'est ce que l'on constate aussi plus loin, lorsque Aristote écrit :

« καὶ ἐπὶ τῶν θήλειων ὀνομάτων ὡσαύτως, καὶ ἐπὶ τῶν λεγομένων μὲν σκευῶν, ἐχόντων δὲ θηλείας ἢ ἄρρενος κληῖσιν. ὅσα γὰρ εἰς τὸ ο καὶ τὸ ν τελευτᾷ, ταῦτα μόνον σκευούς ἔχει κληῖσιν, οἷον ξύλον, σχοινίον [il en va de même pour les noms féminins, et pour ce que l'on appelle les accessoires, mais qui ont une dénomination de féminin ou de masculin. Car tous ceux qui se terminent en omicron-nu ont, ceux-là seuls, une dénomination d'accessoires, par exemple, "bois" (ξύλον), "corde" (σχοινίον)] » (*Sophistici elenchi* 14, 173b 39 - 174a 2).

Aristote semble faire allusion ici à la différenciation des trois genres opérée par Protagoras (cf. *Rhetorica* III 5, 1407b 6-8), en distinguant, à côté du masculin et du féminin, « ce que l'on appelle les accessoires » et que l'on pourrait comprendre comme désignant le *genre* neutre. Mais ce qui suit immédiatement, à savoir « qui ont une dénomination de féminin ou de masculin », montre que ce n'est pas le *genre* neutre qui est identifié, comme chez Protagoras, par le terme σκευός, mais une classe d'objets dont on attendrait précisément qu'ils soient désignés par des noms neutres. L'attribution de noms masculins ou féminins à des « accessoires » (nous dirions « des objets ») peut donc entraîner des solécismes, car on est tenté de parler de ces derniers en employant le neutre. Par conséquent, comme dans le texte de la *Poétique* que nous avons vu plus haut, Aristote prend manifestement quelque distance ici avec la terminologie de Protagoras, qu'il a cité nommément dans le paragraphe précédent à propos du genre de μῆνις et de πῆληξ : « ce que l'on appelle les accessoires, mais qui ont une dénomination de féminin ou de masculin ».

¹⁸ Littéralement « âne ».

¹⁹ Machine pour tirer ou soulever des fardeaux, ou pierre d'une meule.

Et il substitue au terme *σκευδός* celui de *μεταξύ*, « intermédiaire » entre le masculin et le féminin.

Voyons maintenant les explications qui sont fournies dans ce chapitre. J'ai repris le texte des manuscrits : *παρὰ τὸ τόδε καί*, en 173b 26-27, et non la correction de Ross : *παρὰ τόδε* (τὸ n'est omis que dans le manuscrit C²⁰). Ross a dû être gêné par le fait que, dans la phrase qui suit, Aristote utilise le pronom *τοῦτο* (τὸ δὲ “τοῦτο” θέλει μὲν τὸ μεταξύ σημαίνειν) et non plus *τόδε* comme il semblait l'avoir annoncé. Pourtant la même expression est reprise quelques lignes plus loin, en 173b 35 (ὁ δὲ παραλογισμὸς γίνεται διὰ τὸ κοινὸν εἶναι τὸ “τόδε” πλείονων πτώσεων). Là aussi, je conserve *τόδε*, le texte des manuscrits ABDu²¹, et non *τοῦτο* qui est le texte corrigé de C2. Ce *τόδε* fait écho, d'une certaine manière, à l'expression *τόδε τι* qui désigne « un certain ceci », une chose individuelle concrète que l'on pourrait désigner du doigt. Le *τόδε* de 173b 26-27 et 35 désigne, pour Aristote, l'usage d'un déictique neutre, comme lorsque l'on dit en français : « c'est moi ». Il donne ensuite un exemple avec le pronom neutre *τοῦτο* qu'il compare au masculin : contrairement au neutre, *οὗτος* change de désinence à l'accusatif, *τοῦτον*, et il en va de même pour le pronom féminin. Les exemples donnés au chapitre 32, qui est consacré à la résolution de ce type de paralogisme, permettent d'en éclairer le fonctionnement :

« ἄρ' ὁ λέγεις ἀληθῶς, καὶ ἔστι τοῦτο ἀληθῶς; φῆς δ' εἶναι τι λίθον· ἔστιν ἄρα τι λίθον [ce que tu dis avec vérité, est-ce véritablement aussi²² ? Mais tu dis que quelque chose est une pierre <λίθον, accusatif appelé par la syntaxe de la proposition infinitive> ; donc quelque chose est λίθον <accusatif au lieu du nominatif requis, λίθος : l'éristique déduit un solécisme de ce que le répondant a préalablement admis>] » (*Sophistici elenchi* 32, 182a 10-11).

²⁰ C = le *Parisinus Coislinianus* gr. 330, XI^e s. jusque 176b 17.

²¹ A = l'*Urbinas* gr. 35, IX^e-X^e s. ; B = le *Marcianus* gr. 201, a. 954 ; D = le *Parisinus* gr. 1843, XII^e s. ; u = le *Basileensis* 54 (F II 21), XII^e s. Michel d'Ephèse aussi lisait τὸ τόδε en 173b 26-27 et en 173b 35 (107.2 et 21). A noter que V (= le *Vaticanus Barberinianus* gr. 87, 168a 38 (τοῦ συμβεβηκότος) - 184b 8 X^e s., 164a 20 - 168a 38 (συλλογισμὸς) XV^e s.) partage avec C1 avant correction le texte *τοῦτο ταῦτο* à la place de *τόδε* : il s'agit manifestement d'une glose qui a été introduite dans le texte.

²² La question semble porter sur l'adéquation entre « dire vrai » et « dire ce qui est » (voir notamment *Metaphysica* Γ 7, 1011b 26-27 – et c'est plutôt parce que ce que l'on dit est conforme à ce qui est que l'on dit vrai) ; d'où un effet probable de surprise chez le répondant lorsque l'interrogateur se désintéresse ensuite de l'objet de la question pour déduire en apparence un solécisme.

Aristote poursuit :

« ἢ τὸ λέγειν λίθον οὐκ ἔστι λέγειν ὃ ἀλλ' ὄν, οὐδὲ τοῦτο ἀλλὰ τοῦτον. εἰ οὖν ἔροιτό τις, “ἄρ' ὄν ἀληθῶς λέγεις, ἔστι τοῦτον;”, οὐκ ἂν δοκοίη ἐλληνίζειν [bien plutôt, dire λίθον <i.e. l'accusatif> n'est pas dire ὃ, mais ὄν, c'est-à-dire non pas τοῦτο, mais τοῦτον. Alors si quelqu'un demandait : “est-ce que τοῦτον – au lieu de οὗτος – que tu dis avec vérité, est ?”, il ne semblerait pas parler grec (ἐλληνίζειν)] » (*Sophistici elenchi* 32, 182a 11-12).

Ou encore :

« οὐδ' εἰ ὃ φῆς εἶναι τοῦτον, ἐστὶν οὗτος, φῆς δ' εἶναι Κλέωνα, ἐστὶν ἄρα οὗτος Κλέωνα· οὐ γὰρ ἐστὶν οὗτος Κλέωνα· εἰρηται γὰρ ὅτι ὃ φημι εἶναι τοῦτον, ἐστὶν οὗτος, οὐ τοῦτον [et il n'est pas nécessaire non plus, si celui-ci (οὗτος) est ce que tu dis que celui-ci est (τοῦτον <accusatif appelé par la structure infinitive>), et que tu dis qu'il est Cléon (Κλέωνα <même remarque>), que donc celui-ci (οὗτος) soit Cleona <au lieu du nominatif requis>. Car οὗτος n'est pas Κλέωνα. En effet, ce qui a été dit, c'est que οὗτος, non τοῦτον, est ce que je dis qu'il est] » (*Sophistici elenchi* 32, 182a 31-33).

Le principe est le même dans cet exemple, mais on a sans doute aussi, ici, un jeu sur la forme du prénom tel qu'il apparaît à l'accusatif : Κλέωνα, et qui pourrait être confondue avec la forme flexionnelle d'un prénom féminin au nominatif. Cela n'est pas sans rappeler le passage des *Nuées* d'Aristophane où Socrate montre à Strepsiade que ce qu'il tenait pour un nom masculin : Amynias, est en fait un nom féminin, puisque s'il interpelle cette personne, il utilisera le vocatif Ἀμυνία ! – ce à quoi Strepsiade répond qu'en effet, ce dernier n'a pas fait son service militaire, et que par conséquent, ce n'est pas un homme (*Nubes* 690-692). L'explication donnée par Aristote dans le texte que nous venons de voir est un peu laborieuse, mais elle est claire. Ne disposant pas d'une terminologie appropriée pour désigner le « nominatif » et « l'accusatif », il décrit le changement de cas à l'aide des variations flexionnelles du masculin.

Je reviens rapidement sur les termes πτώσις et κλήσις. Dans la *Poétique*, Dupont-Roc & Lallot traduisent πτώσις par « cas »²³, respectant ainsi une tradition qui remonte au latin : *casus* est une traduction littérale, suivant l'étymologie qui rattache ce nom à l'idée de « chute ». Ils notent qu'Aristote serait (là aussi) le premier à donner à ce mot un sens grammatical (Dupont-Roc & Lallot 1980, 332 note 10). Mais cette traduction

²³ Voir aussi Fait 2007 : « il caso ».

est trop ambiguë. Aristote écrit ici que presque tous les solécismes apparents sont produits quand la *πτῶσις* ne montre ni un masculin ni un féminin, mais un neutre : ce n'est pas le « cas » dans le sens où nous l'entendons aujourd'hui (avec le nominatif, l'accusatif, etc.), mais la forme flexionnelle, celle ici qui montre un genre²⁴. De même, il écrit plus loin que toutes les *πτῶσεις* du masculin et du féminin diffèrent, mais que dans le cas du neutre, les unes diffèrent et les autres non : là encore, ce ne sont pas les cas qui diffèrent tous pour le masculin et le féminin, mais la forme flexionnelle. Dans la *Poétique*, *πτῶσις* indique la forme flexionnelle tant nominale que verbale : c'est la désinence qui indique le genre, le nombre, le cas grammatical, ou pour un verbe la personne, le temps, le mode, la voix, etc. (*Poetica* 20, 1457a 18-23) – mais dans notre texte des *Sophistici elenchi*, les verbes ne sont pas concernés.

Un texte du *De Interpretatione*, cependant, pose problème :

« τὸ δὲ Φίλωνος ἢ Φίλωνι καὶ ὅσα τοιαῦτα οὐκ ὀνόματα ἀλλὰ πτώσεις ὀνόματος. λόγος δὲ ἐστὶν αὐτοῦ τὰ μὲν ἄλλα κατὰ τὰ αὐτά, ὅτι δὲ μετὰ τοῦ ἔστιν ἢ ἦν ἢ ἔσται οὐκ ἀληθεύει ἢ ψεύδεται, –τὸ δ' ὄνομα αἰεί,– οἷον Φίλωνός ἐστιν ἢ οὐκ ἔστιν· οὐδὲν γάρ πω οὔτε ἀληθεύει οὔτε ψεύδεται [Dalimier 2007 : *de Philon, à Philon* et tous les mots de ce genre, ne sont pas des noms, mais des *noms fléchis*. Pour tout le reste leur définition est la même que celle du nom mais, alors que le nom accompagné de *est, était, sera*, dit toujours vrai ou faux, avec *est, était, sera*, les noms fléchis ne disent ni vrai ni faux. Par exemple, *est* ou *n'est pas de Philon* : il n'y a encore là rien de vrai ni de faux] » (*De interpretatione* 2, 16a 32 - 16b 5).

Si l'on comprend comme dans la traduction de Tricot que les *πτώσεις* sont des « cas », ce texte semblerait exclure le nominatif des « cas » en question. Mais Catherine Dalimier a eu raison de traduire *πτώσεις* par « des mots fléchis ». Le point de vue est différent ici, puisqu'il s'agit de définir à quelles conditions un énoncé est une assertion vraie ou fausse. En revanche, dans le texte de la *Poétique* les nominatifs ne semblent pas exclus :

« πτώσις δ' ἐστὶν ὀνόματος ἢ ῥήματος ἢ μὲν κατὰ τὸ “τούτου” ἢ “τούτω” σημαῖνον καὶ ὅσα τοιαῦτα, ἢ δὲ κατὰ τὸ ἐνὶ ἢ πολλοῖς, οἷον “ἄνθρωποι” ἢ “ἄνθρωπος” [une flexion est une forme d'un nom ou d'un verbe, l'une concerne ce qui signifie la possession ou l'attribution, et tout ce qui est de ce genre, l'autre le singulier ou le pluriel, par exemple, *ἄνθρωποι* (“hommes”) ou *ἄνθρωπος* (“homme”)] » (*Poetica* 20, 1457a 18-21).

²⁴ Cf. déjà Dorion 1995 : « flexion ».

Il en va de même dans les *Premiers analytiques*, où Aristote déclare que les prémisses doivent être prises « en tenant compte des flexions pour chaque cas » (κατὰ τὰς ἐκάστου πτώσεις) ; et il donne comme exemple le datif, le génitif, ou le nominatif :

« ἀπλῶς γὰρ τοῦτο λέγομεν κατὰ πάντων, ὅτι τοὺς μὲν ὄρους ἀεὶ θετέον κατὰ τὰς κλήσεις τῶν ὀνομάτων, οἷον ἄνθρωπος ἢ ἀγαθόν ἢ ἐναντία, οὐκ ἄνθρωπου ἢ ἀγαθοῦ ἢ ἐναντίων, τὰς δὲ προτάσεις ληπτέον κατὰ τὰς ἐκάστου πτώσεις· ἢ γὰρ ὅτι τούτω, οἷον τὸ ἴσον, ἢ ὅτι τούτου, οἷον τὸ διπλάσιον, ἢ ὅτι τοῦτο, οἷον τὸ τύπτον ἢ ὄρων, ἢ ὅτι οὗτος, οἷον ὁ ἄνθρωπος ζῶν, ἢ εἴ πως ἄλλως πίπτει τὸ ὄνομα κατὰ τὴν πρότασιν [Cru-bellier 2014, légèrement modifiée : nous disons cela de façon simple pour tous les cas : qu’il faut toujours poser les termes selon leur dénomination²⁵, par exemple *homme, bien ou contraires*, et non pas *de l’homme, du bien ou des contraires* ; par contre il faut déterminer les prémisses en tenant compte des flexions pour chaque cas : soit “à cela” (par exemple pour *égal*), soit “de cela” (par exemple pour *double*), soit “cela” (par exemple pour *qui frappe* ou *qui voit*), soit “celui-là” (par exemple, *l’homme est un animal*), ou toute autre forme fléchie du nom qui puisse être requise selon la pré-misse. » (*Analytica priora* I 36, 48b 40 - 49a 5).

Il faut admettre une certaine souplesse d’approche, dans un domaine d’investigation qui n’a pas encore été bien balisé et pour lequel Aristote ne s’est pas encore doté d’une terminologie suffisamment précise : cela ne sera fait que très progressivement par les grammairiens qui lui succèderont.

Quant à κλήσις, dans les phrases : « les accessoires (...) qui ont une κλήσις de féminin ou de masculin » et « tous ceux qui se terminent en ο-ν ont, ceux-là seuls, une κλήσις d’accessoires » : sa traduction ne va pas de soi non plus, et cela est probablement lié au problème de ce que recouvre le terme πῶσις, dont on a pu croire qu’il excluait le cas du nominatif comme nous venons de le voir. Dorion traduit κλήσις par « terminaison » et « terminaison caractéristique » sans le commenter ; Paolo Fait le traduit par « la forma nominativa », et précise en note que κλήσις indique la forme utilisée pour nommer, c’est-à-dire le nominatif. Nous avons vu que dans le texte des *Analytica priora* I 36, 48b 40 - 49a 5, Aristote fait la distinction entre les termes (ὄρους) qui doivent être posés κατὰ τὰς κλήσεις τῶν ὀνομάτων, et les prémisses qui doivent être

²⁵ Les manuscrits A et B donnent le texte κλίσεις, « flexion », au lieu de κλήσεις, attesté dans Cdn (d = le *Laurentianus* 72.5, XI^e s. ; n = l’*Ambrosianus* 490 <L 93 sup.>, IX^e s.) et Alexandre. Il s’agit manifestement d’une erreur due à l’itacisme.

prises κατὰ τὰς ἐκάστου πτώσεις, par exemple le datif, le génitif, ou le nominatif. Il me semble donc que κλησις ne doit pas désigner le *cas* nominatif, mais plutôt la *forme conventionnelle*, l'*appellation hors contexte*, telle qu'elle est donnée aujourd'hui par les dictionnaires (au nominatif singulier pour un nom), celle en l'occurrence qui fait apparaître, la plupart du temps, le genre du mot : masculin, féminin ou neutre. D'où cette remarque en 173b 39-40 sur les « accessoires » qui ont une κλησις de féminin ou de masculin. C'est pourquoi je l'ai traduit par « dénomination »²⁶.

(c) *Le solécisme et la forme de l'expression*

Revenons maintenant au solécisme. Flobert considérait que l'emploi fait par Aristote des mots σολοικίζω et σολοικισμός est *logique* et non pas *grammatical*, ce que j'ai contesté. Mais à un niveau que nous qualifierons plus généralement de « linguistique », des interprètes se sont aussi demandé si le fond de la question sur le solécisme repose sur le *signifiant*, comme on l'a vu avec le texte de *Poetica* 21, 1458a 8-17, c'est-à-dire sur la *forme linguistique*, la *désinence* qui indique par exemple un autre genre que celui qui a été assigné au mot, ou si le fond de la question repose sur le *signifié*. En effet, Glenn Most écrit, dans un article de 1986, intitulé « Sophistique et herméneutique », que la critique de Protagoras repose sur le fait que la colère, μῆνις, serait un sentiment typiquement masculin (tout comme le casque est un objet typiquement masculin). Je le cite :

« il est impossible que la passion virile d'Achille soit annoncée, dans le premier mot de la littérature grecque <entendez *Illiade*>, par un substantif féminin ; mieux vaut violer la tradition, la grammaire et la métrique, et émender μῆνιν ... οὐλόμενον » (Most 1986, 239).

Il me semble plutôt que Protagoras prétendait réformer la grammaire sur le genre à appliquer désormais à μῆνις, pour ne plus commettre de solécisme selon lui. Et la fin du chapitre 14 permet de trancher en faveur de cette explication :

« καὶ τρόπον τινὰ ὁμοίως ἔστιν ὁ σολοικισμὸς τοῖς “παρὰ τὸ τὰ μὴ ὁμοία ὁμοίως” λεγομένοις ἐλέγχοις. ὥσπερ γὰρ ἐκεῖνοις ἐπὶ τῶν πραγμάτων, τούτοις ἐπὶ τῶν ὀνομάτων συμπίπτει σολοικίζειν· ἄνθρωπος γὰρ

²⁶ Voir déjà, dans un sens général, Platon, *Politicus* 262d 5 ou 262e 2, par exemple.

καὶ λευκὸν καὶ πῶγμα καὶ ὄνομά ἐστιν [et d'une certaine manière, le solécisme est semblable aux réfutations dont nous avons dit qu'elles tenaient au fait que des choses qui ne sont pas semblables sont dites de la même manière²⁷. Car comme on le fait pour celles-là <c'est-à-dire pour les réfutations apparentes liées à la forme de l'expression> sur les objets, il se produit que l'on "solécise" pour celles-ci sur les mots²⁸. De fait, "homme" et "blanc" sont à la fois un "objet" <signifié> et un mot] » (*Sophistici elenchi* 14, 174a 5-9).

Aristote rapproche le solécisme des réfutations apparentes liées à la « forme de l'expression », et dit que pour ces dernières, on « solécise » (en quelque sorte) sur les objets, alors que dans le cas du solécisme proprement dit, on « solécise » sur les mots. Nous avons déjà là un premier élément de réponse.

Qu'est-ce qu'une réfutation apparente liée à la *forme de l'expression* ? La première chose à remarquer est que, dans le cadre de la taxinomie bifide des réfutations apparentes qu'a établie Aristote, il s'agit d'un type de réfutation apparente liée à l'expression (παρὰ τὴν λέξιν), et non au raisonnement déductif, comme c'est le cas pour toutes les réfutations apparentes qui ne dépendent pas de l'expression (ἔξω τῆς λέξεως), comme en témoigne ce texte :

« πάντες οἱ τόποι πίπτουσιν εἰς τὴν τοῦ ἐλέγχου ἄγνοιαν, οἱ μὲν οὖν παρὰ τὴν λέξιν, ὅτι φαινομένη <ή> ἀντίφασις, ὅπερ ἦν ἴδιον τοῦ ἐλέγχου, οἱ δ' ἄλλοι παρὰ τὸν τοῦ συλλογισμοῦ ὄρον [tous les lieux des réfutations apparentes tombent sous l'ignorance de la réfutation, ceux qui tiennent à l'expression parce que la contradiction, dont nous avons dit, précisément, qu'elle était le propre de la réfutation, n'est qu'apparente, et les autres parce qu'ils ne respectent pas la définition de la déduction] » (*Sophistici elenchi* 6, 169a 18-21).

Les commentateurs ont trouvé arbitraire cette réduction des deux genres de réfutations apparentes à la définition de la réfutation (« une déduction d'une contradiction »). Mais il faut comprendre que, de manière générale, les réfutations apparentes qui tiennent à l'expression jouent sur une identité des mots ou des propositions, et ne déduisent que ce qui paraît être la proposition contradictoire de la thèse initiale du répondant. Le problème repose de façon typique sur un quiproquo entre l'interrogateur et

²⁷ Il s'agit des réfutations liées à la forme de l'expression (cf. 4, 166b 10-19).

²⁸ Voir ma note à 173b 19-20. Je découvre trop tardivement di Lascio 2007, qui examine ce texte 202-203.

le répondant, car *l'objet sur lequel ils ont discuté n'est pas le même*²⁹. En revanche, dans les réfutations apparentes qui ne tiennent pas à l'expression, c'est la forme même de la déduction qui n'est pas respectée : la conclusion n'est pas réellement déduite.

Regardons maintenant le texte dans lequel Aristote présente ce qu'est une réfutation apparente liée à la *forme de l'expression* :

« οἱ δὲ παρὰ τὸ σχῆμα τῆς λέξεως συμβαίνουσιν ὅταν τὸ μὴ ταῦτὸ ὡσαύτως ἑρμηνεύηται, οἷον τὸ ἄρρεν θῆλυ ἢ τὸ θῆλυ ἄρρεν ἢ τὸ μεταξὺ θάτερον τούτων, ἢ πάλιν τὸ ποιὸν ποσὸν ἢ τὸ ποσὸν ποιόν, ἢ τὸ ποιοῦν πάσχον ἢ τὸ διακείμενον ποιεῖν, καὶ τᾶλλα δ' ὡς διήρηται πρότερον· ἔστι γὰρ τὸ μὴ τῶν ποιεῖν ὄν ὡς τῶν ποιεῖν τι τῇ λέξει σημαίνειν. οἷον τὸ ὑγιαίνειν ὁμοίως τῷ σχήματι τῆς λέξεως λέγεται τῷ τέμνειν ἢ οἰκοδομεῖν· καίτοι τὸ μὲν ποιόν τι καὶ διακείμενόν πως δηλοῖ, τὸ δὲ ποιεῖν τι. τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων [les arguments qui tiennent à la forme de l'expression se produisent chaque fois que ce qui n'est pas la même chose est exprimé de la même façon, par exemple le masculin est exprimé comme un féminin ou le féminin comme un masculin, ou le neutre comme l'un ou l'autre de ces derniers, ou encore la qualité est exprimée comme une quantité ou la quantité comme une qualité, ou l'action comme une passion ou l'état comme un "agir"³⁰, et ainsi de suite, selon les distinctions qui ont été faites précédemment. En effet, il est possible de signifier par l'expression ce qui ne relève pas des "agir" comme un des "agir" ; par exemple ὑγιαίνειν ("être en bonne santé") est dit de la même façon par la forme de l'expression que τέμνειν ("couper") ou οἰκοδομεῖν ("construire") ; cependant le premier (ὑγιαίνειν) montre une qualité et un certain état, alors que les autres montrent un "agir". Et il en va de même pour les autres <catégories>] » (*Sophistici elenchi* 4, 166b 10-19).

Ce type de réfutation apparente se produit « chaque fois que ce qui n'est pas la même chose » <on parle donc ici de l'objet signifié> « est exprimé de la même façon » <au niveau du signifiant>, « par exemple le masculin est exprimé comme un féminin ou le féminin comme un masculin, ou le neutre comme l'un ou l'autre de ces derniers » : il faut comprendre qu'un objet de nature masculine est formulé comme s'il était d'une nature féminine, et ainsi de suite. Or, la morphologie du nom devrait nous renseigner sur la nature de l'être. Dans la « forme de l'expression »,

²⁹ Le bon déroulement de l'argumentation dépend, en effet, de la coordination hypothétique de deux pensées. Or, cela est rendu difficile par l'ambiguïté du langage, et bien sûr par la situation « agonistique ».

³⁰ Comme signalé dans l'apparat critique de mon édition, je retiens le texte ποιεῖν en 166b 14 (forme que l'on retrouve d'ailleurs en 166b 18), au lieu de ποιοῦν, qui répète simplement la forme participiale donnée en 166b 13. Cela ne change rien pour le sens.

la réfutation est donc basée sur la non-adéquation entre la forme du signifiant et la nature de l'objet qu'il « signifie par l'expression » (τῆ λέξει σημαίνειν) (*Sophistici elenchi* 4, 166b 15-16), comme l'écrit Aristote un peu plus loin, c'est-à-dire quand le genre d'un mot indique pour son objet une nature différente. Si nous revenons maintenant au quatrième but poursuivi par les sophistes et les amateurs de querelles, nous pouvons donc écarter l'interprétation de Glenn Most qui, à propos du solécisme tel que le présente Aristote avec l'exemple de μῆνις et πῆληξ, considère que, selon Protagoras, « il est impossible que la passion virile d'Achille soit annoncée, dans le premier mot de la littérature grecque, par un substantif féminin ». Cette observation de Most sur le caractère viril de la colère s'intégrerait mieux dans les considérations qui président à l'analyse des réfutations apparentes liées à la forme de l'expression. Mais Aristote ne donne pas d'exemples pour illustrer, dans le cadre d'une réfutation apparente, cette non-adéquation entre la forme du signifiant et le signifié quand il s'agit du genre. On comprend simplement, à l'aide de ce qui suit et qui renvoie aux catégories, que la morphologie du mot devrait nous renseigner sur la nature de l'être, et non pas, comme dans le cas du verbe ὑγιάειν, par exemple, indiquer une action puisqu'il se termine comme τέμνειν, alors qu'il s'agit d'une qualité et d'un certain état (ποιόν τι καὶ διακείμενόν πως). A hauteur de la ligne 166b 14, en effet, Aristote renvoie aux « distinctions qui ont été faites précédemment », à savoir les « catégories » telles qu'il les a présentées, notamment dans le premier livre des *Topiques* (I 9, 103b 21-23). Dans les exemples donnés, l'ambiguïté tient à la forme flexionnelle du signifiant qui renvoie à une catégorie différente de celle dont relève le signifié. On comprend mieux l'enjeu de cette analyse avec le chapitre 22 qui est consacré à la résolution de ce type de paralogrammes. En effet, les exemples qu'Aristote donne là montrent une identité d'expression complète (et non pas limitée à la forme flexionnelle). Ils se produisent, soit quand l'usage commun ne respecte pas la forme spécifique qui permettrait, par exemple, de distinguer le renvoi à une substance, qui est signifiée par le pronom relatif simple ὃ et le renvoi à une quantité signifiée par le pronom ὅσον. C'est le cas décrit plus loin, au chapitre 22 précisément :

« εἰ ὃ τις ἔχων ὕστερον μὴ ἔχει, ἀπέβαλεν· ὁ γὰρ ἕνα μόνον ἀποβαλὼν ἀστράγαλον οὐκ ἔξει δέκα ἀστράγαλους”. ἢ ὃ μὲν μὴ ἔχει πρότερον ἔχων, ἀποβέβληκεν, ὅσον δὲ μὴ ἔχει ἢ ὅσα, οὐκ ἀνάγκη τοσαῦτα ἀποβαλεῖν; ἐρωτήσας οὖν ὃ ἔχει, συνάγει ἐπὶ τοῦ ὅσα· τὰ γὰρ δέκα ποσά.

εἰ οὖν ἦρετο ἐξ ἀρχῆς, “εἰ ὅσα τις μὴ ἔχει πρότερον ἔχων, ἄρα γε ἀποβέβληκε τοσαῦτα;”, οὐδεὶς ἄν ἔδωκεν, ἀλλ’ ἢ τοσαῦτα ἢ τούτων τι. καὶ ὅτι δοίη ἄν τις ὃ μὴ ἔχει· οὐ γὰρ ἔχει ἓνα μόνον ἀστράγαλον [“si quelqu’un n’a plus ce qu’il avait, il l’a perdu ; car celui qui a perdu uniquement un seul osselet n’aura plus dix osselets”. Bien plutôt, il a perdu ce qu’il n’a plus et qu’il avait auparavant, mais il n’est pas nécessaire qu’il ait perdu la même quantité ou le même nombre de choses qu’il n’a plus³¹ ; de fait, alors que la question a porté sur ce qu’il a, le raisonnement se conclut sur combien il a. Car dix est une quantité. Donc si l’interrogateur avait demandé au début : “si quelqu’un n’a plus *tout* ce qu’il avait auparavant, est-ce bien la *même quantité* qu’il a perdue ?”, personne n’aurait donné son accord, mais on aurait accordé que c’est soit la même quantité soit une partie de ce qu’il avait] » (*Sophistici elenchi* 22, 178a 29-38).

Autre exemple – et nous abordons ici un enjeu philosophique particulièrement sensible – ce type de réfutation apparente tient aussi à l’absence d’une flexion spécifique qui permettrait de distinguer le mot qui désigne une *substance*, et celui qui désigne la *qualité* dans le cas de l’argument du troisième homme :

« καὶ ὅτι ἔστι τις τρίτος ἄνθρωπος παρ’ αὐτὸν καὶ τοὺς καθ’ ἕκαστον· τὸ γὰρ ἄνθρωπος καὶ ἅπαν τὸ κοινὸν οὐ τὸδε τι ἀλλὰ τοιονδε τι ἢ πρὸς τι ἢ τῶν τοιούτων τι σημαίνει [il y a aussi l’argument selon lequel il y a un troisième homme à côté de l’homme en soi et des individus. Car “homme”, et tout prédicat commun, signifient non pas *un certain “ceci”*, mais *une certaine qualité*, ou une relation, ou une des choses de ce type] » (*Sophistici elenchi* 22, 178b 36-39).

Ce qui est complété immédiatement après :

« οὐ τὸ ἐκτίθεσθαι δὲ ποιεῖ τὸν τρίτον ἄνθρωπον, ἀλλὰ τὸ ὅπερ τὸδε τι εἶναι συγχωρεῖν· οὐ γὰρ ἔσται τὸδε τι εἶναι, ὡσπερ Καλλίας, καὶ ὅπερ ἄνθρωπος ἔστιν. οὐδ’ εἴ τις τὸ ἐκτιθέμενον μὴ ὅπερ τὸδε τι εἶναι λέγοι ἀλλ’ ὅπερ ποιόν, οὐδὲν διοίσει· ἔσται γὰρ τὸ παρὰ τοὺς πολλοὺς ἐν τι, οἷον τὸ ἄνθρωπος [ce n’est pas le fait de poser “homme” à part qui produit le troisième homme, mais d’accorder que ce qu’il est précisément est un certain “ceci”. Car ce qu’est Callias, c’est-à-dire ce qu’est un homme, il ne sera pas possible que ce soit *un certain “ceci”*³². Et cela ne fera aucune

³¹ Reformulation de l’échange : est-ce que *ce que* quelqu’un possède et plus tard ne possède plus, il l’a perdu ? Mais si quelqu’un possède dix osselets et n’en perd qu’un seul, il ne possède plus dix osselets ; donc il a perdu dix osselets. – Comme Pacius ou Poste, je conserve, en 178a 32, le texte transmis par la tradition manuscrite : ὅσον et ἢ, contre celui que préfère Ross et qu’il tire de la paraphrase de Sophonias : ὅσα et ἢ.

³² Je reviens au texte des manuscrits en 179a 5 (ὅπερ ; voir aussi 179a 4 ἔσται), contre la correction de Ross (ὡσπερ) généralement acceptée par les interprètes, mais qui me

différence non plus, si l'on dit que ce qui est posé à part n'est pas ce qui est un certain "ceci", mais ce qui est une qualité. Car ce qui est à côté du multiple sera quelque chose d'un, par exemple "l'homme"] » (*Sophistici elenchi* 22, 179a 3-8).

Parmi les différentes versions de l'argument du troisième homme envisagées par Alexandre dans son commentaire à *Metaphysica* A 9, 990b 15-17, voici celle qui correspond à l'analyse développée par Aristote ici : si ce qui est prédiqué avec vérité de plusieurs choses est quelque chose d'autre à côté de ce dont il est prédiqué, une fois qu'il en est séparé (comme le sont les Idées), si on peut le prédiquer à son tour à la fois des individus et de l'Idée, alors il y aura un troisième homme à côté des individus et de l'Idée, et ainsi de suite (cf. *In Metaphysica* 84.21 - 85.3). La réfutation d'Aristote consiste donc à tirer des fondements de ce raisonnement la conséquence absurde que l'on pourrait admettre également l'existence d'une *idée de l'idée* de l'homme. Or il faut faire une différence entre poser à part l'universel, et le considérer comme un certain « ceci ». Car une substance particulière ne peut pas être prédiquée d'un sujet. L'erreur, comme le dit ici Aristote (cf. 22, 179a 4 et 8-10), réside dans le fait de considérer l'universel (ou l'Idée chez Platon) comme « un certain "ceci" », comme une substance individuelle. De fait, un prédicat ou un attribut commun – tel « homme » – n'est pas un ceci, mais une substance seconde et, à ce titre, une sorte de qualité. Il ne peut donc pas être posé à part comme quelque chose d'un³³. Or, c'est précisément l'absence de marque flexionnelle qui entraîne ce risque d'erreur dans les raisonnements : on ne distingue pas par la *morphologie* l'expression qui signifie un universel, une sorte de qualité, par opposition à celle qui signifie un particulier. Il s'agit ici d'un problème lié non plus à l'usage courant de la langue, comme dans le cas du pronom relatif (cf. 22, 178a 29, etc.), mais à un usage philosophique.

Revenons maintenant au solécisme. Ce qui distingue donc la déduction apparente liée à la forme de l'expression et la déduction d'un solécisme, c'est que la première amène le répondant à se contredire. Par exemple, s'il a accordé que ce que quelqu'un n'a plus alors qu'il l'avait auparavant,

semble inutile (dans ce cas, on comprend : « ce que <l'>homme est ne peut pas être un certain "ceci", comme Callias »).

³³ Voir *Categoriae* 5, 3b 10-23 sur la différence entre substance première et substance seconde.

il l'a perdu, il sera bien obligé de reconnaître que celui qui a perdu uniquement un seul osselet possède encore neuf osselets, et donc qu'il possède encore <une partie de> ce qu'il avait auparavant. En revanche, la déduction d'un solécisme discrédite seulement le répondant sur sa *façon de parler*, sur son non-respect du genre masculin indiqué par la forme flexionnelle en -ς par exemple, qui doit conduire à dire ὁ μῆνις et non pas ἡ μῆνις. D'ailleurs, Aristote n'évoque pas la distinction des *catégories* à propos du solécisme, mais se limite à des considérations sur le genre des *signifiants*.

(d) *Catégories de langue ou catégories de pensée*

Cela nous amène à la célèbre thèse de Benveniste sur « Catégories de langue et catégories de pensée » (Benveniste 1958). Dans cet article, il réfléchit sur l'usage relativement inconscient qui est fait du langage dans une pratique où pensée et langue ne peuvent pas être dissociées ; il se demande si la pensée a néanmoins des caractéristiques qui lui sont propres et ne doivent rien à l'expression linguistique et il aborde ce problème par la voie des « catégories », qui ne présentent pas le même aspect selon qu'elles sont des catégories de langue, c'est-à-dire des attributs d'un système que l'on a reçu, ou des catégories de pensée qui, elles, pourraient être générées librement. Et il examine le matériau fourni par Aristote : l'inventaire des propriétés prédicables d'un objet, sorte de « liste de concepts *a priori* qui (...) organisent l'expérience. » Ce sont tous les prédicats que l'on peut affirmer de l'être, et Benveniste y voit d'abord des catégories de *langue*. Je ne reprendrai pas le détail de son analyse³⁴. Mais il écrit :

« inconsciemment <Aristote> a pris pour critère la nécessité empirique d'une *expression* distincte pour chacun des prédicats. Il était donc voué à retrouver sans l'avoir voulu les distinctions que la langue même manifeste entre les principales classes de formes, puisque c'est par leurs différences que ces formes et ces classes ont une signification linguistique. Il pensait définir les attributs des objets ; il ne pose que des êtres linguistiques : c'est la langue qui, grâce à ses propres catégories, permet de les reconnaître et de les spécifier » (Benveniste 1958, 425-426).

³⁴ Par exemple, lorsque Benveniste écrit que les six premières catégories se réfèrent toutes à des formes nominales (Benveniste 1958, 423), les quatre suivantes étant verbales : je ne suis pas sûre qu'il ait raison de qualifier les premières de « nominales ».

Je conteste l'appréciation exprimée par « inconsciemment ». Je dirais en effet que c'est bien une réflexion sur la langue, et même sur la λέξις, qui a permis à Aristote de distinguer les différentes catégories liées à la prédication. Et plus précisément, c'est vraisemblablement l'analyse des sources de parallogismes qui l'a amené à distinguer, par exemple, entre le pronom relatif qui renvoie à une substance et celui qui renvoie à une quantité, ou ce qui relève de l'agir et ce qui relève du subir (comme dans l'exemple du verbe ὀρᾶν dont la forme flexionnelle l'apparente à τέμνειν, un « agir », alors qu'il signifie une perception, et donc un « subir »).

Ce dont témoigne ce texte :

« τῶν δὲ παρὰ τὸ σχῆμα διὰ τὴν ὁμοιότητα τῆς λέξεως. χαλεπὸν γὰρ διελεῖν ποῖα ὠσαύτως καὶ ποῖα ὡς ἑτέρως λέγεται (σχεδὸν γὰρ ὁ τοῦτο δυνάμενος ποιεῖν ἐγγύς ἐστι τοῦ θεωρεῖν ἀληθές, μάλιστα δ' ἐπίσταται συνεπινεύειν), ὅτι πᾶν τὸ κατηγορούμενόν τινος ὑπολαμβάνομεν τὸδε τι, καὶ ὡς ἐν ὑπακούομεν· τῷ γὰρ ἐνὶ καὶ τῇ οὐσίᾳ μάλιστα δοκεῖ παρεπεσθαι τὸ τὸδε τι καὶ τὸ ὄν. διὸ καὶ τῶν παρὰ τὴν λέξιν οὗτος ὁ τρόπος θετέος, πρῶτον μὲν ὅτι μᾶλλον ἢ ἀπάτη γίνεται μετ' ἄλλων σκοποῦμενοις ἢ καθ' αὐτούς (ἢ μὲν γὰρ μετ' ἄλλου σκέψις διὰ λόγων, ἢ δὲ καθ' αὐτὸν οὐχ ἤττον δι' αὐτοῦ τοῦ πράγματος)· εἶτα καὶ καθ' αὐτὸν ἀπατᾶσθαι συμβαίνει, ὅταν ἐπὶ τοῦ λόγου ποιῆται τὴν σκέψιν· ἔτι ἢ μὲν ἀπάτη ἐκ τῆς ὁμοιότητος, ἢ δ' ὁμοιότης ἐκ τῆς λέξεως [quant aux réfutations apparentes liées à la forme de l'expression, la tromperie a lieu à cause de la ressemblance de l'expression, car il est difficile de distinguer quelles choses sont dites de la même manière et lesquelles sont dites de manière différente – de fait, celui qui est capable de faire cela est presque sur le point de contempler la vérité, et c'est lui qui sait le mieux donner son accord³⁵ –, parce que nous supposons que tout ce qui est attribué à un sujet est un certain *ceci*, et nous l'entendons comme une chose une. En effet, c'est avec une chose une, à savoir la substance, que semble le plus aller de pair le fait d'être un certain *ceci* et un étant. C'est pourquoi aussi il faut ranger ce mode de tromperie parmi ceux qui tiennent à l'expression : d'abord parce que la tromperie a lieu pour ceux qui procèdent à un examen avec d'autres plutôt que pour ceux qui procèdent par eux-mêmes (car l'examen que l'on mène avec d'autres passe par des énoncés, alors que l'examen que l'on mène par soi-même passe au moins autant par l'objet examiné lui-même) ; ensuite parce qu'il arrive de se tromper également par soi-même, chaque fois que l'on construit l'examen sur la base de l'énoncé ; en outre, la tromperie provient de la ressemblance, et la ressemblance provient de l'expression] » (*Sophistici elenchi* 7, 169a 29 - 169b 2).

³⁵ Celui qui est si proche de la vérité et qui, de plus, ne se laisse pas induire en erreur par l'apparence parfois trompeuse du langage parce qu'il sait correctement distinguer entre les catégories, est le mieux placé pour soutenir la mise à l'épreuve peirastique de ce qu'il prétend savoir.

Aristote insiste sur l'appartenance de ce type de paralogismes à la sphère linguistique. Benveniste aurait donc pu tirer argument de ce texte pour montrer que les catégories dont relèvent ces confusions sont bien des catégories de langue – à ceci près, néanmoins, que l'usage qu'Aristote a fait des spécificités de la langue pour distinguer les catégories ne peut plus être qualifié d'inconscient dans ce cas. Selon Aubenque, la distinction entre logique et grammaire ne remonte pas en-deçà des stoïciens (Aubenque 1980, ix). Pourtant la distinction établie dans les *Sophistici elenchi* entre le solécisme et la réfutation apparente liée à la forme de l'expression me semble montrer le contraire. L'examen des différentes sortes de paralogismes a permis à Aristote de développer son analyse de la langue, de même que leur analyse logique lui a permis de poser les règles syllogistiques de la réfutation. L'analyse linguistique n'est d'ailleurs pas absente non plus de son étude des réfutations apparentes, et la λέξις (« l'expression » – nous reviendrons sur ce terme) semble même y avoir joué un rôle essentiel, puisque c'est en fonction de lui qu'Aristote a construit sa taxinomie. Il est vrai que, comme je l'ai montré dans un article en 1993 (Hecquet 1993), Aristote y corrige et complète une analyse préexistante des paralogismes, mais c'est précisément pour y mettre en valeur la distinction entre ce qui relève de la langue et ce qui relève de la logique. Et c'est parce qu'il soumet l'ensemble aux règles dont il dote la réfutation (des règles non seulement logiques, mais aussi sémantiques, grammaticales et syntaxiques) qu'il réduit cette taxinomie à l'ignorance de la réfutation au chapitre 6. L'examen de son analyse des réfutations apparentes liées à l'expression (παρὰ τὴν λέξιν) va nous permettre de compléter cette étude de l'intérêt porté par Aristote aux phénomènes linguistiques dans les *Sophistici elenchi*.

3. Les réfutations apparentes liées à l'expression

Nous avons vu qu'Aristote distingue deux types de réfutations apparentes, selon qu'elles sont liées à l'expression (παρὰ τὴν λέξιν) ou qu'elles en sont indépendantes – ou plus littéralement, lui sont « extérieures » (ἔξω τῆς λέξεως). Dès le premier chapitre, il insiste sur l'importance du facteur linguistique dans les pratiques dialectiques défectueuses. Pour lui, le risque d'erreur vient essentiellement de l'homonymie et de l'amphibolie, et cela explique pourquoi ces facteurs sont les premiers mentionnés dans l'ensemble des réfutations apparentes liées à l'expression. Les réfutations apparentes qui tiennent à l'homonymie (παρὰ τὴν ὁμωνυμίαν)

sont clairement liées à l'ambiguïté lexicale. Par exemple, κύων désigne l'animal qui aboie, mais aussi un poisson et une constellation (4, 166a 16). Dans ce cas, l'ambiguïté a un caractère objectif, c'est-à-dire qu'elle repose sur des faits de langue : « <ces mots> signifient plusieurs choses au sens propre » (κυρίως σημαίνει πλείω) (166a 16). Aristote ajoute cependant que peuvent être mises aussi en cause nos façons habituelles de parler (ὅταν εἰωθότες ὦμεν οὕτω λέγειν) (166a 17) ; ainsi on utilise aussi l'expression ὁ κάμνων, « le malade », pour désigner une personne qui a été malade, mais qui est maintenant rétablie. Les réfutations apparentes qui sont liées à l'amphibolie (παρὰ τὴν ἀμφιβολίαν) reposent, quant à elles, sur l'ambiguïté syntaxique : par exemple τὸ βούλεσθαι λαβεῖν με τοὺς πολεμίους (« vouloir que je capture l'ennemi » / « vouloir que l'ennemi me capture »). Là encore, les expressions possèdent un caractère objectivement ambigu, c'est-à-dire qu'il repose sur des faits de langue.

D'autres réfutations apparentes sont dues aussi à la composition artificielle ou à la division artificielle d'un énoncé dans une phrase complexe (παρὰ τὴν σύνθεσιν / παρὰ τὴν διαίρεσιν) ; un exemple de composition : si tu l'as vu être *frappé de tes propres yeux*, alors c'est par tes yeux qu'il a été frappé ; et pour la division, si 5 c'est 2 et 3, alors 5 c'est 2 et 5 c'est 3, et cinq est pair et impair. Une cinquième source d'ambiguïté est liée à l'accentuation (παρὰ τὴν προσφθίαν). – Il faut se souvenir que les textes écrits de cette époque ne portaient généralement pas de signe d'accentuation. Par conséquent, rien ne permettait de distinguer, *a priori*, le pronom relatif au génitif οὗ et la négation οὐδ, dans l'exemple tiré de l'*Illiade* que donne Aristote (4, 166b 5). – Et enfin, la source de confusion qui est liée à la « forme de l'expression » (παρὰ τὸ σχῆμα τῆς λέξεως) tient, comme nous l'avons vu, à la morphologie déficiente des mots.

Jusque là, on suit assez facilement l'analyse proposée par Aristote. Pourtant, il précise au début du chapitre 6 que la non-identité d'objet est masquée par une identité d'expression réelle dans l'homonymie, l'amphibolie et la forme de l'expression, et une identité d'expression qui n'est qu'apparente dans la composition, la division et l'accentuation. Cela a posé de sérieux problèmes aux interprètes, car s'il y a clairement identité d'expression dans le cas de l'homonymie et de l'amphibolie, cela ne semblait pas être le cas pour la « forme de l'expression », dans la mesure où l'identité d'expression paraissait d'abord se limiter à la partie flexionnelle du mot (4, 166b 16-18). Inversement, si l'on comprend facilement

pourquoi l'identité d'expression n'est qu'apparente dans le cas de l'accentuation : ὄρος avec un esprit doux n'est pas ὄρος avec un esprit rude, elle semble bien réelle dans les cas de la composition (« tu l'as vu être frappé de tes propres yeux ») et de la division (« 5 c'est 2 et 3 »). Comprendre la façon dont Aristote analyse ces cas nous permettra de mieux saisir sa perception des phénomènes linguistiques et le cadre conceptuel dans lequel il a développé son analyse de l'expression.

Comme nous l'avons vu, on trouve au chapitre 22, consacré à la résolution des paralogismes tenant à la forme de l'expression, la clé qui permet d'expliquer pourquoi Aristote range ces derniers parmi les paralogismes dont l'expression est réellement identique : tel que nous l'utilisons, le pronom relatif ὃ désigne à la fois une substance, « ce que c'est » (par exemple, ce que l'on avait et que l'on a perdu : un osselet) et une quantité (tout ce que l'on avait, à savoir dix osselets). L'expression est donc bien identique. De même, l'expression « homme » est ambiguë, dans la mesure où elle désigne à la fois l'universel et le particulier.

L'analyse développée par Aristote montre donc que pour lui, la morphologie des mots doit nous renseigner sur la nature de l'être. Or, bien souvent, la valeur de la flexion n'est pas cohérente avec le sens du mot (comme dans le cas du verbe ὑγιαίνειν) ; ou l'usage de la langue est incorrect (il existe bien un pronom relatif dont la forme est propre à signifier une quantité : ὅσον ou ὅσα, mais les Grecs utilisent de façon abusive le pronom relatif ὃ dont la fonction première est de signifier une substance) ; ou alors le mot est utilisé pour désigner ce qui relève d'une autre catégorie, mais n'a pas reçu de marque flexionnelle propre, comme nous venons de le voir, lorsque le philosophe veut désigner un concept, donc une qualité, par opposition à une substance première. – Et la forme de l'expression ne doit pas être confondue avec l'homonymie où les différents objets signifiés peuvent appartenir à une même catégorie (par exemple κύων, l'animal qui aboie, le poisson ou la constellation). Dans ce qui relève de la forme de l'expression, les objets signifiés par le même mot n'appartiennent pas à la même catégorie, ou comme dans le cas d'ἄνθρωπος, au même sous-ensemble de la catégorie de la substance, première ou seconde.

Dans ces trois cas, donc, l'identité d'expression est bien réelle, contrairement aux trois autres espèces de réfutations apparentes liées à l'expression. Un parallèle qu'Aristote établit entre les cas de composition et de division d'un côté, et le cas de l'accentuation de l'autre (20, 177b 1-7),

permet, en dépit des difficultés qu'il a entraînées pour les interprètes, d'expliquer pourquoi la composition et la division sont des cas d'ambiguïté apparente, contrairement à l'amphibolie. Aristote souligne le fait que les problèmes d'accentuation concernent surtout les textes écrits. Et les exemples montrent que les arguments examinés sont ceux de mauvais interprètes, qui vont jusqu'à accuser Homère, le poète par excellence, d'absurdité³⁶ – comprenons : d'incohérence. Il ne s'agit donc plus, ici, de réfutations apparentes élaborées dans un jeu de demandes et de réponses, mais il est toujours question de tentatives plus ou moins agonistiques pour montrer une contradiction (une « absurdité »). De fait, il s'agit dans ce cas d'une « pratique dialectique » moins spectaculaire, celle de la critique littéraire. Aristote s'en prend ici aux mauvais « philologues », et comme le montre son analyse, aux mauvais « paléographes » : dans un cas, le mot OY a été mal interprété, en l'absence de signes diacritiques dans les « livres » (i.e. les rouleaux) qui ont transmis le texte homérique³⁷. Le rôle joué par les mauvais interprètes est mis sur le même plan que celui des interrogateurs éristiques, et le rôle de l'interrogé, qui revient au poète dont on examine les sentences, est partagé avec l'interprète qui tente de résoudre la difficulté soulevée, à savoir l'interprétation absurde ou jugée irrecevable. Dans ces cas d'interprétation littéraire, l'ambiguïté vient de l'imprécision du système d'écriture, et il est particulièrement intéressant pour le paléographe qu'Aristote précise à propos de ὄρος et ὄρος :

« ἀλλ' ἐν μὲν τοῖς γεγραμμένοις τὸ αὐτὸ ὄνομα, ὅταν ἐκ τῶν αὐτῶν στοιχείων γεγραμμένον ἢ καὶ ὡσαύτως (κάκει δ' ἤδη παράσημα ποιῶνται), τὰ δὲ φθεγγόμενα οὐ ταῦτά [s'il s'agit bien du même mot dans ce qui est mis par écrit, chaque fois qu'il se trouve écrit avec les mêmes lettres et de la même façon – mais dans ce cas précisément, on met désormais des signes à côté –, ce qui est prononcé n'est pas identique] » (*Sophistici elenchi* 20, 177b 4-7).

L'ambiguïté apparente est donc liée dans ce cas à une déficience du système diacritique de l'écriture. Autrement dit, Aristote considère qu'il

³⁶ « Καὶ τὸν Ὅμηρον ἔνιοι διορθοῦνται πρὸς τοὺς ἐλέγχοντας ὡς ἄτοπον, εἰρηκότος “τὸ μὲν οὐ καταπύθεται ὄμβρω” [quelques uns corrigent même Homère pour répondre à ceux qui le réfutent comme insensé pour avoir dit : “<Un tronc de chêne ou de pin> qui n'est pas putréfié par la pluie”] » (4, 166b 3-5 ; *Ilias* XXIII, 328).

³⁷ 4, 166b 1-9. Dans l'autre cas, nous voyons à l'œuvre une critique médiocre, d'inspiration éthique, qui n'admet pas qu'un dieu puisse préférer des paroles mensongères.

ne s'agit pas réellement d'une ambiguïté de l'expression, mais seulement de sa transcription. Quant à la composition et à la division, Aristote les a présentées juste après l'amphibolie, très vraisemblablement parce qu'il faut prendre garde à ne pas les confondre avec l'ambiguïté syntaxique réelle. Le texte du chapitre 20, 177a 36 - 177b 9 permet de comprendre ce qui les différencie : dans le cas de la composition, par exemple « tu l'as vu être-frappé-de-tes-propres-yeux », il suffit de re-diviser les éléments de la phrase qui ont été fallacieusement associés pour faire disparaître toute ambiguïté et le procédé inverse vaut également pour la division fallacieuse d'une expression, alors que composer ou diviser un énoncé amphibolique ne permet pas de lever son ambiguïté fondamentale ou structurelle (comme dans le cas de βούλεσθαι λαβεῖν με τοὺς πολεμίους). La compréhension de l'analyse de ce type d'argument a été compromise, non seulement par la formulation elliptique de l'analogie avec le cas de l'accentuation, mais aussi par le caractère inattendu des critères aristotéliens. Aristote considère en effet comme différentes des expressions qui, à la lecture, semblent parfaitement identiques. Mais ce que donne à comprendre le rapprochement avec le cas de l'accentuation, c'est que le texte qui lui sert de référence n'est pas le texte écrit mais le texte proféré. Lorsque nous parlons, nous délimitons les groupes de mots indépendants qui font sens par une légère pause : le rythme donné à la phrase énoncée suffit à lever l'ambiguïté que présentent les textes écrits. La « langue de référence » est donc pour Aristote celle que l'on parle et non pas celle que l'on écrit, contrairement à notre attente qui est liée à notre pratique actuelle. La langue écrite n'est pour lui qu'une transcription imparfaite de la langue orale : Aristote appartient encore au monde de l'oralité. Le concept de λέξις sous lequel sont rangées les six espèces de réfutations apparentes que nous examinons renvoie donc à « l'énonciation » (« l'expression orale ») dans son sens à la fois le plus étroit comme dans le cas de l'homonymie et le plus large comme dans le cas de l'amphibolie, de la composition et de la division, et inclut la « façon fautive de s'exprimer » comme dans le cas de la « forme de l'expression ».

Mais revenons encore sur le cas de l'accentuation. L'intérêt d'Aristote pour l'exégèse des textes transmis explique une part importante de son étude des facteurs d'illusion liés à l'expression. En *Rhetorica* III 5, 1407b 11-18, il dit que la « lisibilité » d'un texte est compromise par la multiplication des conjonctions et parce qu'il n'est pas facile à ponctuer, et il cite en exemple Héraclite. Pour Dion Chrysostome, la critique et la grammaire

sont nées avec Aristote (*De Homero oratio*, 1). Ajoutons à l'appui de cette affirmation qu'Aristote serait l'auteur d'une liste de « difficultés d'interprétation » du texte homérique³⁸ dont Porphyre a préservé 38 citations dans ses *Quaestiones Homericae* (Fragmenta 142-179 Rose). La lecture, l'exégèse, la correction et le jugement, qui constituent traditionnellement les quatre parties du travail du grammairien dans l'Antiquité, ne sont donc pas étrangères, manifestement, aux préoccupations d'Aristote³⁹. Pourtant les « outils » qu'il s'est donnés n'ont pas toujours été compris parce qu'ils ne correspondent pas tous à nos critères d'analyse habituels de la langue. En témoigne ce passage du chapitre 4 de notre texte :

« ἄρ' ἔστι σιγῶντα λέγειν; » διττὸν γὰρ καὶ τὸ σιγῶντα λέγειν, τὸ τε τὸν λέγοντα σιγᾶν καὶ τὸ τὰ λεγόμενα [“est-ce que le dire est possible pour ce qui est silencieux ?”. En effet, “le dire... pour ce qui est silencieux” a deux sens : à la fois “celui qui dit est silencieux” et “ce qui est dit est silencieux”] » (*Sophistici elenchi* 4, 166a 12-14).

Pour analyser l'ambiguïté syntaxique d'un exemple d'amphibolie comme ἄρ' ἔστι σιγῶντα λέγειν; (« est-ce qu'il est possible de parler en se taisant », ou « est-ce qu'il est possible de dire des choses silencieuses ? »), Aristote explique simplement que l'expression a deux sens : à la fois « celui qui dit est silencieux » et « ce qui est dit est silencieux » (τό τε τὸν λέγοντα σιγᾶν καὶ τὸ τὰ λεγόμενα). A défaut des concepts de sujet et de complément d'objet du verbe (Aristote n'a pas de termes pour désigner ces fonctions des mots dans la phrase, ni pour désigner les formes flexionnelles qui leur sont associées, le nominatif et l'accusatif), il s'appuie implicitement dans le texte que je viens de citer sur les notions d'actant et d'objet de l'action qui, elles-mêmes, reposent sur les catégories d'action et de passion. Le mot « amphibolie » acquiert un sens nouveau, comme l'a montré Jean Lallot, pour qui « l'idée de base paraît être que le mot “se porte vers” ou “donne sur” deux sens différents »⁴⁰. Je propose d'analyser ce terme de deux façons : il signifie ou « le fait de poser

³⁸ Ἀπορήματα Ὀμηρικά (Diogène Laërce, *Vitae philosophorum* 5, 26); ou τὰ Ὀμήρου προβλήματα (*Vita vulgata* 3).

³⁹ Les sophistes s'étant également intéressés à la poésie épique et archaïque, il n'est pas étonnant qu'Aristote ait voulu répondre aux difficultés soulevées par ces derniers. Protagoras, dans le dialogue que lui a consacré Platon, affirme qu'une part très importante de l'éducation doit porter sur la connaissance de la poésie (cf. Plato, *Protagoras*, 338e et sq.).

⁴⁰ Cf. Lallot 1988, 34 et sq. : le sens fut d'abord spatial (ἀμφιβάλλειν « mettre des deux côtés, entourer, embrasser » chez Homère, ἀμφίβολος « pris entre deux feux » chez Eschyle, ἀμφιβολία « manoeuvre enveloppante » chez Hérodote) ; chez Platon, ἀμφίβολος

les deux », ou « le fait d’entourer, d’envelopper »⁴¹. S’il signifie « le fait de poser les deux », le phénomène consiste à « poser les deux sortes d’étant à la fois », à savoir l’actant et l’objet de l’action ; et s’il signifie « le fait d’entourer, d’envelopper », le phénomène consiste à « entourer, envelopper le verbe », de telle sorte qu’on ne distingue plus l’actant et l’objet de l’action. Dans la mesure où il ne s’agit pas de l’ambiguïté d’une expression simple, c’est plutôt la seconde interprétation qu’il faut choisir, et elle nous donne un indice pour comprendre la manière dont Aristote appréhendait ce phénomène linguistique. En effet, il inverse les deux formes verbales pour faire de λέγειν un participe substantivé (« celui qui dit » ou « ce qui est dit »), et de σιγῶντα un infinitif. De fait, la voix active ou passive de la forme participiale du verbe lui permet de mettre en évidence le genre de σιγῶντα : dans notre exemple, s’il est masculin, il est plutôt compris comme se rapportant à l’agent de l’action, d’où, après la « transformation » opérée par Aristote, le recours à la voix active pour le participe de λέγειν (« celui qui dit est silencieux ») ; s’il est neutre, il est plus naturellement interprété comme l’objet de l’action, d’où le passage de λέγειν à la voix passive du participe (« ce qui est dit est silencieux »). La « transformation » de la proposition ainsi opérée et qui a pour résultat, dans le cas d’un participe complément d’objet dans la première structure, sa restitution à la voix passive dans la seconde après déplacement de la « focalisation », et son maintien à la voix active dans le cas du participe apposé au sujet dans la proposition initiale, éclaire donc l’ambiguïté de l’énoncé. Aussi surprenant que cela puisse paraître, l’explication donnée par Aristote repose sur un procédé analogue aux techniques de ce qui deviendra la « grammaire transformationnelle » !

Aristote a donc investi le champ des recherches linguistiques de manière particulièrement efficace, reprenant notamment certaines investigations déjà menées par Protagoras à propos du genre des mots, ou l’analyse très insuffisante des paralogismes dont il ne nomme pas les auteurs (τινες) lorsqu’il la réfute au chapitre 10 : ils n’avaient fait qu’opposer l’échange fondé sur ce qu’ont à l’esprit les interlocuteurs à celui qui s’arrête aux

est appliqué au mot, et donc à l’ambiguïté sémantique (cf. *Cratylus* 437 a, à propos d’ἐπιστήμη).

⁴¹ Cf. Chantraine 2009, 162 : « Ἄμφι- (...) en composition (...) : 1) “des deux côtés” ou “double” (...); 2) “tout autour”, par ex. ἀμφιβάλλω ; 3) “au sujet de ” (...).» (p. 80) ; ἀμφίβολουσ “entouré de tous côtés” et d’autre part “douteux”, etc. ».

mots. Fondée sur une pragmatique du discours, elle présentait une analyse fonctionnaliste et non pas essentialiste. Aristote a repris l'idée d'arguments qui jouent sur les mots pour la développer, mais en montrant qu'il n'y a pas que l'homonymie qui peut rendre un échange dialectique opaque (l'ambiguïté lexicale donc), mais aussi l'ambiguïté syntaxique, ou grammaticale. A cela il a ajouté les problèmes de transcription insuffisamment précise de la langue, et bien sûr, toutes les règles formelles auxquelles doit se plier le raisonnement dans un système syllogistique, un savoir dont il revendique fièrement la création.

4. Conclusion

On me permettra de conclure sur cette remarque à propos du titre du traité des *Sophistici elenchi* : c'est l'analyse de la pratique « sophistique » qui a permis à Aristote d'inventorier les différentes sources d'erreur ou de tromperie dans l'échange dialectique – quoi qu'il faille réellement entendre par « sophistique », puisque Aristote vise aussi bien les éristiques que certains grands sophistes, comme Protagoras, ou même des philosophes comme Platon ; le dénominateur commun qui justifie ce qualificatif « générique » réside sans doute dans leur prétention de détenir un savoir.

S'appuyant sur l'expérience sophistique, l'étude des sources d'erreurs liées au « pouvoir des mots » a donc conduit Aristote à poser de solides fondations non seulement pour la logique du discours, le raisonnement, mais aussi et plus largement pour la science du langage. Il a en effet mis en valeur de nombreuses distinctions : entre signifiant et signifié, entre ambiguïté lexicale et ambiguïté syntaxique, entre facteurs d'ambiguïté réelle et facteurs d'ambiguïté apparente (témoignant par là de son intérêt pour l'exégèse des textes, notamment ceux d'Homère et d'Héraclite, comme le montre le rapprochement généralement incompris qu'il opère entre les réfutations apparentes liées à l'accentuation et celles qui sont liées à la composition ou à la division). Il a dénoncé tant l'inexpérience que l'usage subversif du pouvoir des mots, ce qui a une incidence importante sur la détermination des responsabilités de l'interrogateur et du répondant lors d'un échange « peïrastique », notion qu'Aristote met en place aussi dans ce traité. C'est en fonction de la λέξις, encore, qu'il distingue entre les réfutations apparentes liées à l'expression et celles dont les facteurs d'illusion en sont indépendants, distinction qui reste,

malgré sa subordination au critère d'analyse plus englobant de la syllogistique, au chapitre 6, celui qui structure l'ensemble de son traité. Enfin, à côté de son analyse des réfutations apparentes, il a aussi développé l'analyse du solécisme en contraste avec la source d'illusion liée à la forme de l'expression. Ses analyses l'ont souvent amené à proposer une terminologie plus adaptée, ouvrant ainsi la voie à une véritable discipline linguistique, dans le prolongement de travaux peut-être moins systématiques, tels ceux qu'avait développés Protagoras, auxquels il rend hommage d'une certaine façon.

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Ο ΑΠΕΙΡΟΣ ΠΡΩΤΟΣ ΤΗΝ ΨΗΦΟΝ ΒΑΛΕΤΩ.
LEAVING NO PEBBLE UNTURNED IN *SOPHISTICI ELENCHI*, 1*

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A Claudio Majolino, con amicizia e ammirazione : siamo tutti, in certa misura, specialisti di qualcuno o di qualcosa, Magister M è specialista di tutto e di tutti.

« Was soll man nun dazu sagen, wenn jemand, statt diese Arbeit, wo sie noch nicht vollendet scheint, fortzusetzen, sie für nichts achtet, in die Kinderstube geht oder sich in ältesten erdenkbaren Entwicklungsstufen der Menschheit zurückversetzt, um dort wie J. St. Mill etwa eine Pfefferkuchen- oder Kieselsteinarithmetik zu entdecken ! » (G. Frege, *Die Grundlagen der Arithmetik*, VII).

CAVEAT. Even though Aristotle speaks often about language, his remarks do not fall within the province of any given discipline, let alone belong to the same subject matter or amount to a *πραγματεία* of their own¹. Rather, they are somewhat scattered across the Aristotelian

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¹ *Πραγματεία* is a notoriously difficult expression to translate in scientific English (or to deal with in most modern languages, for that matter) – all the more so because Aristotle did not care to state what it meant exactly. On a first approximation, it encompassed specific, relatively self-contained – occasionally overlapping – inquiries that investigate or concern themselves with identifiable and arguably unified subjects. It so happens that Porphyry explained – in his conceited, self-promotional account of Plotinus' life – that when his master entrusted him with the edition of his writings he imitated (μιμησάμενος) Andronicus of Rhodes' thematic arrangement of Aristotle's (and Theophrastus) works :

corpus and are to be gleaned from a vast array of texts, including ethical and political writings (where language plays a remarkable role in shaping human sociability), treatises on natural history (where Aristotle outlines the physiology of phonation in some animals such as birds and human beings), books on the soul (where Aristotle describes how language is intertwined with perception, imagination and thought) and works on dialectics, poetics and rhetoric (where linguistic expression is described as a powerful means of both persuasion and deception). Moreover, however relevant and to the point, what Aristotle has to say about language is, for the most part, accessory in nature and purpose : as a rule, Aristotle looks at language for the sake of something other than language itself.

SACRA PAGINA. The prologue to the *Sophistical Refutations* is no exception :

[URTEXT] *Aristotelis Sophistici elenchi* 1, 164a 20 - 165a 17 : « περὶ δὲ τῶν σοφιστικῶν ἐλέγχων καὶ τῶν φαινομένων μὲν [21] ἐλέγχων, ὄντων δὲ παραλογισμῶν ἄλλ' οὐκ ἐλέγχων, λέγωμεν [22] ἀρξάμενοι κατὰ φύσιν ἀπὸ τῶν πρώτων. [23] Ὅτι μὲν οὖν οἱ μὲν εἰσὶ συλλογισμοί, οἱ δ' οὐκ ὄντες [24] δοκοῦσι, φανερόν. ὥσπερ γὰρ καὶ ἐπὶ τῶν ἄλλων τοῦτο [25] γίνεται διὰ τινος ὁμοιότητος, καὶ ἐπὶ τῶν λόγων ὡσαύτως [26] ἔχει. καὶ γὰρ τὴν ἕξιν οἱ μὲν ἔχουσιν εὖ, οἱ δὲ φαίνονται, [27] φυλετικῶς φουσησαντες καὶ ἐπισκευάσαντες αὐτούς, καὶ [164b 20] καλοὶ οἱ μὲν διὰ κάλλος, οἱ δὲ φαίνονται, κομμάσαντες [21] αὐτούς. ἐπὶ τε τῶν ἀψύχων ὡσαύτως· καὶ γὰρ τούτων τὰ [22] μὲν ἄργυρος τὰ δὲ χρυσός ἐστιν ἀληθῶς, τὰ δ' ἔστι μὲν οὐ, [23] φαίνεται δὲ κατὰ τὴν αἴσθησιν, οἷον τὰ μὲν λιθαργύρινα [24] καὶ καττιτέρινα ἄργυρᾶ, τὰ δὲ χολοβάφινα χρυσᾶ. [25] Τὸν αὐτὸν δὲ τρόπον καὶ συλλογισμὸς καὶ ἔλεγχος ὁ μὲν [26] ἔστιν, ὁ δ' οὐκ ἔστι μὲν, φαίνεται δὲ διὰ τὴν ἀπειρίαν· οἱ [27] γὰρ ἄπειροι ὥσπερ ἂν ἀπέχοντες πόρρωθεν θεωροῦσιν. ὁ μὲν [165a] γὰρ συλλογισμὸς ἐκ τινῶν ἐστι τεθέντων ὥστε λέγειν ἕτερον [2] ἐξ ἀνάγκης τι τῶν κειμένων διὰ τῶν κειμένων, ἔλεγχος δὲ [3] συλλογισμὸς μετ' ἀντιφάσεως τοῦ συμπεράσματος. οἱ δὲ [4] τοῦτο ποιοῦσι μὲν οὐ, δοκοῦσι δὲ

« ὁ <scilicet Ἀνδρόνικος ὁ Περιπατητικός> δὲ τὰ Ἀριστοτέλους καὶ Θεοφράστου εἰς πραγματείας διεἴλε τὰς οἰκείας ὑποθέσεις εἰς ταῦτ' ὁμογενῶν· οὕτω δὴ καὶ ἐγὼ κτλ. [Boys-Stones 2018, 36 : Andronicus the Peripatetic divided the works of Aristotle and Theophrastus into treatises, bringing related topics together. For my part, etc.] » (*Vita Plotini* 24, 9-11). Understandably enough, the notion of *πραγματεία* has come under close scrutiny by Aristotelian scholars discussing early stages of the Aristotelian corpus' transmission : Moraux 1951 and 1973, 45-141 ; Gottschalk 1987 ; Barnes 1997 ; Drossaert Lulofs 1999 ; Lengen 2002 (in fact, a loose collection of linguistic-savvy, albeit unrelated, case studies) ; Primavesi 2007 ; Chiaradonna 2011 ; Hatzimichali 2013 ; Tutrone 2013 ; etc. On the Late Ancient commentators' strictly disciplinarian (as in discipline-oriented) exegetical approach and its ancient (and modern) assets and liabilities, cf. Gazziero 2019.

διὰ πολλὰς αἰτίας· ὧν εἷς [5] τόπος εὐφυέστατός ἐστι καὶ δημοσιώτατος, ὁ διὰ τῶν ὀνομάτων. [6] ἐπεὶ γὰρ οὐκ ἔστιν αὐτὰ τὰ πράγματα διαλέγεσθαι [7] φέροντας, ἀλλὰ τοῖς ὀνόμασιν ἀντὶ τῶν πραγμάτων [8] χρώμεθα συμβόλοις, τὸ συμβαῖνον ἐπὶ τῶν ὀνομάτων καὶ ἐπὶ τῶν [9] πραγμάτων ἡγοῦμεθα συμβαίνειν, καθάπερ ἐπὶ τῶν ψήφων [10] τοῖς λογιζομένοις. τὸ δ' οὐκ ἔστιν ὁμοιον· τὰ μὲν γὰρ [11] ὀνόματα πεπέρανται καὶ τὸ τῶν λόγων πλῆθος, τὰ δὲ [12] πράγματα τὸν ἀριθμὸν ἄπειρά ἐστιν. ἀναγκάϊον οὖν πλείω [13] τὸν αὐτὸν λόγον καὶ τοῦνομα τὸ ἐν σημαίνειν. ὥσπερ οὖν [14] κάκεῖ οἱ μὴ δεινοὶ τὰς ψήφους φέρειν ὑπὸ τῶν ἐπιστημόνων [15] παρακροῦνται, τὸν αὐτὸν τρόπον καὶ ἐπὶ τῶν λόγων οἱ τῶν [16] ὀνομάτων τῆς δυνάμεως ἄπειροὶ παραλογίζονται καὶ αὐτοὶ [17] διαλεγόμενοι καὶ ἄλλων ἀκούοντες [Hasper 2013, 13-14 : now we must discuss sophistical refutations, that is, arguments that appear to be refutations, but are in fact fallacies rather than refutations. In accordance with the nature of things, however, we must start from the primary things. That some arguments do constitute deductions, while others seem to, but in fact do not, is clear. For just as in other cases this comes about because of a certain similarity, so too with arguments. For also with regard to their condition some people are really in good shape, whereas others only appear to be because they have decked themselves out as tribesmen and have equipped themselves ; and some people are beautiful because of their beauty, while others appear to be so because they have dressed up. It is like this also with lifeless things, for some of them are really made of gold or silver, whereas others are not, but appear so to the senses : things made of litharge or of tin, for example, appear to be made of silver, and yellow-coloured things of gold. In the same way, one argument constitutes a real deduction or a real refutation, while another does not, even though it appears to due to our lack of experience. For those without experience are like people remaining at a distance and judging from far away. For a deduction is an argument based on certain granted points, such that it states, by way of necessity, something different from the points laid down because of them, while a refutation is a deduction together with the contradictory of its conclusion. But some arguments do not achieve this, even though they seem to on various grounds – of which one type of argumentation is very fertile and popular, the one based on words. For since it is impossible to have a discussion while adducing the things themselves, and we use words as symbols instead of the things, we assume that what follows for words, also follows for the things (just as with stones for those who do calculations). It is not the same, however, since the words are limited, just like the number of sentences, whereas the things themselves are unlimited in number. It is then inevitable that the same sentence or a single word signify several things. Just as in calculation, those who are not versed in moving stones around are tricked by the experts, so too those without experience of the possibilities of words are deceived by means of fallacies, both when themselves participating in a discussion and when listening to others] ».

[URTEXT]'s focus is clearly on argumentation : its whole point is to lay the groundwork for the study of fallacies, namely arguments which, despite looking good on the outside, turn out to be defective after all – treacherous, in fact : their appearance belies their reality, insofar as they actually fail to bring about the conclusion they force upon the incompetent and the untrained. There's no reason not to take [URTEXT] at face value and acknowledge that, if language is part of the picture in any way, it is factored in as a source of illusion and misdirection. What makes language interesting in this context is that it accounts for the numerous drawbacks that discursive reasoning and argumentation are prone to and more than a few predicaments they are lumbered with.

Aristotle might as easily have either elaborated upon the fact that we simply cannot dispense with language, or have expounded in greater detail how we rely on it each and every time a symbolic substitute is easier to handle than the real thing. Instead, he mentions both facts only in passing, while making another point altogether – the « ἐπεὶ γὰρ κτλ. » clause makes it pretty clear ([URTEXT], 165a 6-10). The point being : to the extent that we use linguistic signs as placeholders for the things and facts which we talk about, we are easily tricked into thinking that whatever is the case for words and word-compounds (sentences and the like), also goes for the things and facts they refer to. But if we believe that, then we are in for a big surprise – several, in fact. As the cruel tribesmen of old ([URTEXT], 164a 27) used to say – no doubt, while inflating and even stuffing their offerings with straw to make them look bigger and fatter than they actually were² – « trust in words is easily misplaced and, more often than not, it turns out to be a recipe for disaster : it welcomes deception, error, misjudgement – you name it ». To make a long story short, as far as [URTEXT] is concerned, language as such does not truly matter or, at least, it does not seem to matter for itself. What really counts is the fact that unscrupulous debaters and rogue dialecticians take advantage of some of its features to cheat their way in and out of arguments. If we come to understand how they manage to get away with it, we'll do a better job at stopping fallacy-mongers or, if we feel so inclined, we'll be able to turn the tables on them weasels. That being said, even though

² The *tribuliter inflantes* (φυλετικῶς φυσήσαντες) scam which Aristotle hints at in [URTEXT], 165a 27 definitely caught Latin commentators' imagination, for they indulged in all sorts of anatomical and even surgical details calling on « Alexander »'s notoriously spurious authority (relevant texts in Ebbesen 1981, I, 351-357).

Aristotle spends more time explaining why linguistic expression derails the ordinary course of our arguments than trying to figure out what language is and how words and sentences actually work, since it is no accident that language puts arguments in harm's way³, it is definitely worthwhile to try and extrapolate out of [URTEXT] as much of Aristotle's views on language as we possibly can⁴.

WHERE DO WE START (AND WHERE DO WE GO FROM THERE) ? Making a virtue out of necessity – or a vice... in fact, a bit of both – seems to be the right thing to do, insofar as Aristotle's answer to the question « what do we need language for in the first place ? » is not so different from his answer to the question « what can possibly go wrong due to the way we talk to each other ? ». There are more things in heaven and earth than we can dream of ; a great many ghosts linger from the past and at least as many loom over the future ; wicked souls carry within them more wicked things than we care to count and the same goes for blessed people and blessed things, as well as for everyone and everything in between. Still, we have very little to show when we bring all of the above to someone else's attention. This is where words come in handy : you wish to trade granny's valuables for some quality time with your neighbour's daughters... fair enough, start a proper conversation, even if you'll probably have to meet them half-way, for – despite going by the same name – your idea of fun probably involves a different scenario than theirs ; besides, no one really knows what Grandma's earrings and necklace look like (she keeps telling everyone they made her look like the Queen on her wedding day, but – if they ever existed at all – only God knows where she locked them up after Grandpa passed away). We can get all cultivated and sophisticated about it (and we will) but, bottom line, [URTEXT] conveys the kind of plain, down-to-earth message that anyone can easily grasp and hold on to. That is, words stand for more stuff than you can shake a stick at – which is fine, considering we can hardly put on display the countless things, facts and personal commotion we bring

³ As usual, Paolo Fait hit the nail on the head : « language is easily misused and turned into a source of paralogisms. Such availability is not an accidental but a regular feature of language on account of its symbolic nature » (Fait 1996, 181).

⁴ All the more so – one might add – since the prologue of the *Sophistici elenchi* has not received as much scrutiny as other Aristotelian texts. At any rate, [URTEXT] has not been studied as much as it deserves – even by scholars who take stock of related matters as speech (Modrak 2001), homonymy (cf. e.g., Shields 1999) and meaning (Charles 2000).

up for discussion. There's a flip side to it – there always is. You can hardly take a word's meaning for granted, quite the contrary. The same linguistic item can refer to different things – which is not so fine, considering there's not much we can do about it apart from running the appropriate tests to determine whether a given word or sentence has more than one meaning or not⁵.

NOTULAE (MAIORES). Although we're not going to depart from the general idea that – as far as Aristotle is concerned – there's nothing mysterious or complicated about language, a few issues still deserve to be addressed in a more technical vein, starting with a handful of straightforward questions about Aristotle's choice of words.

Πράγματα ([URTEXT], 165a 6-7, 9 and 12). As interpreters have observed on a number of occasions⁶, [URTEXT] leaves readers with a distinct sense of déjà-vu. Most likely, it is just another illusion⁷ – still, we can't help

⁵ We have already touched upon language's unpredictable features in the « Introduction », so no particular reminder is needed here, apart from the trivial observation that the whole treatment of fallacies due to expression in the *Sophistical Refutations* (as well as a good deal of related materials in the *Topics* and elsewhere) rests on the assumption that linguistic diagnosis is both a reliable tool and a case-by-case matter. It is a reliable tool, insofar as no linguistic flaw is supposed to go undetected, as long as we stick to Aristotle's grid that is, which he deemed – and declared – to be inductively and deductively fool-proof (*Sophistici elenchi* 4, 165b 28-29 with Di Lascio 2013 who, for as long as her health permitted, really was the most brilliant Aristotelian scholar of the young generation). It is a case-by-case routine, insofar as those who do not know their way around words are said to be lacking in experience rather than, say, knowledge or intelligence – which means that there's nothing wrong with their understanding ; rather, their predicament has to do with their failure to look at all the facts (*De generatione et corruptione* I 2, 316a 5-11) and to look at them closely enough to discern what's what ([URTEXT], 164b 26-27).

⁶ Cf. e.g. Belardi 1975, 144 ; Chiesa 1991, 212-214 and 2013, 54 ; Whitaker 1996, 11 ; Levine Gera 2003, 134.

⁷ There's little chance that Jonathan Swift turned to Aristotle for inspiration. Language planning stood out prominently in his immediate background (cf. Knowlson 1975, Cohen 1977, Kelly 1978, Salmon 1983, Reed 1989 and Mulhall 2002) and provided him with all the elaborate schemes and enthusiastic schemers he could possibly need to poke fun at (amongst language reformers, John Wilkins and his characteristics have repeatedly been identified as Swift's most conspicuous targets, notably by Walker 1973 and Probyn 1974). At any rate, no Swift specialist has suggested an « Athenian » connection – neither Kelly 1988 who dealt with Swift's manifold linguistic interests in a plain and concise way, nor Baker Wyrick 1988, Francus 1994, Söderlind 1970, etc. In view of some of the suggestions, one wishes they had. For instance, it is difficult – for the layman at least – to figure out what to make of fabrications like Gierl 2008's, who – on an illustrious cyberneticist's whim and some fifty Google (not even Yahoo's, to add insult to injury) hits upon the clock to « support this notion » (p. 317) – has written, and published, an essay on Swift's Lagadian and Leibniz's Prussian Academy (« Lagadogs, do you want to live forever ? »).

feeling that what [URTEXT] rules out as impossible bears an uncanny resemblance to a literary episode of which so many of us have such fond memories : namely, the brazen linguistic expedient devised by the same Lagado's Projectors who went to great lengths to extract sunbeams out of cucumbers (good luck with that), restore weekly shitloads of poo back to its pristine undigested state (good luck with that too), erect buildings starting from the roof and working downwards (if bees can do it, why not humans ?), use spiders instead of silk-worms (this one might actually work), etc. In this particular instance, Swift's Academics set their minds to achieve precisely what Aristotle says can't be done : for the sake of brevity and out of concern for speech fatigue and lung consumption, Lagado's best minds planned to give up words as substitutes for things and elected to stick to the things themselves instead. What things did Swift have in mind exactly ? Presumably, the kind that lead readers to cough up a hearty laugh⁸. If Lagado's professors believe that it is « more convenient for all Men to carry about them such things as were necessary to express a particular business they are to discourse on », then how much better to cast the whole lot in a buffoonish light than to grant them their wish and leave them doing the heavy-lifting which words freely offer to the ordinary folk⁹ ? Unsurprisingly enough, we learn next that the « scheme for entirely abolishing all Words whatsoever » had the Wise look like pedlars struggling under the burden of the sum of things to say, which they – quite literally – packed on their shoulders. Whatever we are to think of the idea of letting things speak for themselves¹⁰, there's

⁸ To be sure, the fact that most references to abstract or semi-abstract items would be lost altogether is another serious shortcoming of Lagado's linguistic scheme : try to teach your children the Lord's Prayer and convey the exact meaning of « τὸν ἄρτον ἡμῶν τὸν ἐπιούσιον δὸς ἡμῖν σήμερον » by pointing at the sky and showing them a loaf of bread. It simply won't work. Whatever ὁ ἄρτος ὁ ἐπιούσιος means here, there's more to it than making sandwiches on a daily basis. But where's the fun in that ?

⁹ J. Swift, *Gulliver's Travels* III, 5 – no wonder women and common people (« such constant irreconcilable Enemies to Science ») saved the day : « this Invention would certainly have taken Place, to the great Ease as well as Health of the Subject, if the Women in Conjunction with the Vulgar and Illiterate, had not threatened to raise a Rebellion, etc. » (p. 271).

¹⁰ In small doses, the notion is as respectable as it gets and, in the right hands, more than a little effective. Here's an instructive anecdote Aristotle told in his books on politics « φασὶ γὰρ τὸν Περιανδρον εἰπεῖν μὲν οὐδὲν πρὸς τὸν πεμφθέντα κήρυκα περὶ τῆς συμβουλίας, ἀφαιροῦντα δὲ τοὺς ὑπερέχοντας τῶν σταχῶν ὀμαλῶναι τὴν ἄρουραν· ὅθεν ἀγνοοῦντος μὲν τοῦ κήρυκος τοῦ γιγνομένου τὴν αἰτίαν, ἀπαγγείλαντος δὲ τὸ συμπεσόν, συννοῆσαι τὸν Θρασύβουλον ὅτι δεῖ τοὺς ὑπερέχοντας ἄνδρας ἀναρεῖν

little doubt that Swift was referring to very tangible things – solid stuff we can put under each other’s nose or throw at each other’s head if need be. Is it safe to assume that Aristotle’s *πράγματα* carry the same ontological weight in [URTEXT] ? It is tempting to read into Aristotle’s text a similarly strong commitment to the cumbersome realities of everyday life¹¹, if only to do justice to its deliberate accumulation of concrete details and situations : bodily vigour both genuine and counterfeit, legitimate beauty and cosmetic charm, true and fool’s gold, authentic silver as opposed to tin and litharge, botched abacus calculations and personal gain through fraudulent moneymaking. Sure enough, in most cases, there’s no need to seek any further than the actual objects which discussions and calculations are about – especially ordinary talks and honest-to-God tabs. That being said, Aristotle makes no noticeable effort to either include or, for that matter, exclude any particular sort of things. More to the point, there’s no clear indication that the text calls for a restriction of the notoriously wide range of realities *πράγμα* can refer to¹² : robust particulars as well as not-so robust universals (*De interpretatione* 7, 17a 39 - 17b 1), all kinds of actions and deeds as well as their representation as events occurring in a literary plot (*Ethica nicomachea* II 3, 1105b 5 and *Poetica* 14, 1453b 1-6 respectively), what we think about when we use a word (*Topica* I 18, 108a 18-26) or the image associated with it (*Rhetorica*, III, 2, 1405b 11), the formal content of productive and theoretical sciences (*Metaphysica*, Λ, 9, 1075a 1-3), hard facts as opposed to idle speculations (*De generatione et corruptione* I 8, 325a 17-19), states of affairs that either occur as often as not or, on the contrary, never obtain (*Metaphysica*

[Reeve 1998, 90 : Periander said nothing to the messenger who had been sent to him for advice, but levelled a cornfield by cutting off the outstandingly tall ears. When the messenger, who did not know why Periander did this, reported what had happened, Thrasybulus understood that he was to get rid of the outstanding men] » (*Politica* III 13, 1284a 28-33). Herodotus (*Historiae* V, 92) and Diogenes Laertius (*Vitae philosophorum* I, 100) tell more or less the same tale, except that – according to their version – Thrasybulus did the gardening whereas Periander did the house cleaning rather than the other way around. On how the two different versions of the story might be related, see Forsdyke 1999.

¹¹ Tweedale 1987, 421, Whitaker 1996, 10-11, Wheeler 1999, 211, Lo Piparo 2003, 184 and Crivelli 2004, 88 as well as 2015, 193 are not explicitly committed to the view (Whitaker came pretty close though), nonetheless their vocabulary – « external objects » (Whitaker), « real things » (Tweedale, Wheeler), « things in the world » (Wheeler), « non-mental objects », « worldly entities » (Crivelli) and « sheep-pragma » (Lo Piparo) – definitely suggests something along those lines.

¹² Useful surveys of the different meanings of *πράγμα* may be found in De Rijk 1987, 36-39 (≈ de Rijk 2002, 111-114) and Pritzl 1998, 183-186.

Δ 29, 1024b 17-21), etc. Accordingly, the educated guess is that, in [URTEXT], *πράγματα* cover pretty much everything we can think of and convey through words : actual things first and foremost, of course, but also anything else we can set our mind to and put into words, whether it exists or not, and – if it exists – whether it is abstract, concrete or all shades of grey in between¹³.

As it happens, we don't have to look far for confirmation :

[T1] *Aristotelis Sophistici elenchi* 7, 169a 37 - 169b 1 : « μάλλον ἢ ἀπάτη γίνεται μετ' ἄλλων σκοπούμενοις ἢ καθ' αὐτούς (ἢ μὲν γὰρ μετ' ἄλλου σκέψις διὰ λόγων, ἢ δὲ καθ' αὐτὸν οὐχ ἦττον δι' αὐτοῦ τοῦ πράγματος). εἶτα καὶ καθ' αὐτὸν ἀπατᾶσθαι συμβαίνει, [169b] ὅταν ἐπὶ τοῦ λόγου ποιῆται τὴν σκέψιν [Hasper 2013, 22 : deception occurs more often for those investigating with others than for those doing so by themselves (for the investigation with others is through sentences, whereas that by oneself is just as much through the object itself). Next, even by oneself, one ends up being deceived when one conducts the investigation at the level of a sentence] ».

Whatever one deems to be language's involvement in private musings and ruminations – and, as far as mental argumentation and its presentation are concerned, thought and speech get along famously¹⁴ – the fact

¹³ That *πράγματα* stand here for all kinds of things we can speak of – those we've got on our mind no less than those we perceive through our senses – has been suggested more than once. To start with, the idea fits, nicely, ancient narratives about how things got their names in the first place : mostly because people gave them one irrespective of their being related to reasoning or perception – cf. e.g. Boethius' account (which stands out as the least imaginative if not outright whimsical... think of the assembly of the wise, the *χορὸς σοφῶν ἀνδρῶν* who – according to Olympiodorus' *Prolegomena*, 21.32-38 – gathered on several occasions to name things, first, and to name names next) : « prima igitur illa fuit nominum positio, per quam vel intellectui subiecta vel sensibus designaret [such was the first imposition of names through which things pertaining either to reasoning or perception were referred to] » (*In Categorias commentaria*, 159b). As demonstrated time and again over the last thirty years, on the Porphyrian ancestry of names' institution(s) and its late ancient and mediaeval aftermath, along with Hoffmann 1987 which is definitely in the same league, Sten Ebbesen is the most prolific and reliable guide : Ebbesen 1990, 2003, 2005, 2007 and 2019. In more recent times, Hadot 1980, 310-311 has become the standard reference. Courtine 2004, 1076 is the most convincing advocate of the view that « the expression “the things themselves” does not refer primarily to an extra-mental and a-semantic reality – a stone, an ox, or an ass (which in fact it would often be difficult to bring into the discussion) – but to the affair at issue » – cf. already Wieland 1962, 159-160 (discussing the « *πράγμα* vs *ὄνομα* » issue in *Sophistici elenchi* 16, 175a 5 et sq.) and Nuchelmans 1973, 33-36 ; as well as Berti 1994, 120 ; De Rijk 1996, 118-119 (developed further in de Rijk 2002, 104-111) and Di Mattei 2006, 14-15.

¹⁴ I see no compelling reason to open that particular can of worms – only a fool would be in a rush to quote on « mental language » in a footnote, where the wise are reluctant to

remains that he who thinks things over for himself does not get any smarter with his hands or, for that matter, with his wits. He may well be better off on his own, at least insofar as he is less liable to linguistic deception than those who, being in a sharing mood and all, depend more on oral or written communication ; yet, he does not get to manipulate things – whether in the flesh or not – any more than those who debate on the same subject. All things being equal, he who processes problems all by himself does not so much have a better understanding of whatever he is after as he simply does not have to worry about dialogical etiquette, especially the confusions it begets when, out of the blue, « strangers » become « odd people », dogs stop barking and start shining bright, and a « good » death, which is its own reward, turns out to be a « well-deserved » one too just because all of the above happen to share the same names : ξένοι, κύνες and ἄξια respectively¹⁵. More to the point, assuming

even recommend themselves. A few bare texts will suffice to drive home the point that public and private argumentation follow pretty much the same compositional pattern which starts with uncombined thoughts and uncombined linguistic expressions (*De interpretatione* 1, 16a 10-15), builds up to form mental as well as spoken statements – be they affirmative or negative compounds – (*De interpretatione* 1, 16a 10-15 again, along with 14, 23a 33-36 and 24b 2-6), and leads to full-fledged deductions and demonstrations which occur either inwardly or outwardly (*Analytica posteriora* I 10, 76b 24-27). Moreover, as far as discursive content and process go, inner and outer speech share the same basic semantic requirements – most notably, a strict univocity or, to be more accurate, a strictly regulated polysemy (*Metaphysica* Γ 4, 1006b 7-11). But then again, who am I to deny serious readers their pound of chosen books and selected papers ? Here they are, down to the last ounce : Nuchelmans 1973, 36-39 ; Mignucci 1975, 203-206 ; Polansky and Kuczewski 1990 ; Chiesa 1992 ; Matelli 1992, 52-55 ; Panaccio 1999, 36-52 ; Di Mattei 2006 ; Duncombe 2016 ; Chriti 2018 ; McCready-Flora 2019. If one were to single out the most influential ancient interpreter on the issue of mental and oral discursivity, Boethius' name – in one of his many pages of Porphyrian observance (cf. *In De interpretatione commentarium. Editio secunda*, 30.3 and sq.) – would be the first to spring to mind. Magee 1989, 64-141 and Suto 2011, 77-113 – in some of their pages of Ebbesenian observance (cf. Ebbesen 1981, I, 133-170) – will provide readers, even the voracious type, with as much food for thought as they can possibly bite off and chew over in one or more sittings.

¹⁵ Of course, there's more to what I dubbed « dialogical etiquette » than meets the eye. Aristotle covers its many niceties when he portrays how dialecticians are supposed to handle specific lines of argument on their own and around people (cf. e.g. *Topica*, VIII, 1, 157b 34 - 158a 2) or when he describes how demonstrations – and argumentation at large – fare when you go through the moves in your head and when you vent them out (cf. e.g. again *Analytica posteriora* I 10, 76b 24-27). Even though no additional bibliography is required at this stage, let's recall the most influential assessment of the specificity of dialectical argumentation, namely Moraux 1968 – through the usual bibliographical threads follow up routine, interested readers should be able to trace forward the most representative works (Brunschwig 1986 ; Dorion 1990 ; Wolff 1995 ; etc.).

the solitary thinker is ahead of the pack, this has little to do with him getting any closer to actual things – or abstract ones for that matter. A few Aristotelian digressions may be construed to imply that language blurs precisely the distinction between the two, making it hard for us to cope with the ontological variety beneath the even surface of words, especially when we expect hard things to be what we cogitate and discuss and are deceived by our expectations :

[T2] *Aristotelis Sophistici elenchi* 33, 182b 13-16 and 22-25 : « ἐν τοῖς παρὰ τὴν ὁμωνυμίαν, ὅσπερ δοκεῖ τρόπος εὐηθέστατος εἶναι τῶν παραλογισμῶν, τὰ μὲν καὶ τοῖς τυχοῦσιν ἐστὶ δῆλα (καὶ γὰρ οἱ λόγοι σχεδὸν οἱ γελοῖοι πάντες εἰσὶ παρὰ τὴν λέξιν, οἷον κτλ. [...]). τὰ δὲ καὶ τοὺς ἐμπειροτάτους φαίνεται λανθάνειν (σημεῖον δὲ τούτου ὅτι μάχονται πολλάκις περὶ τῶν ὀνομάτων, οἷον πότερον ταῦτ' σημαίνει κατὰ πάντων τὸ ὄν καὶ τὸ ἔν, ἢ ἕτερον· τοῖς μὲν γὰρ δοκεῖ ταῦτ' σημαίνειν τὸ ὄν καὶ τὸ ἔν, οἱ δὲ τὸν Ζήνωνος λόγον καὶ Παρμενίδου λύουσι διὰ τὸ πολλαχῶς φάναι τὸ ἐν λέγεσθαι καὶ τὸ ὄν) [Hasper 2013, 50 slightly modified : with those dependent on homonymy – which seems to be the most simple-minded mode of fallacy – some arguments are clear even to any chance person (for jokes too are almost all dependent on the expression, for example etc.) ; while others appear to go unnoticed even by the most experienced people. (A sign of this is that these people often quarrel about words, for example, whether “being” and “one” signify the same thing in all cases or something different. For some hold that “being” and “one” signify the same thing, while others solve the argument of Zeno and Parmenides by claiming that “one” and “being” are said in many ways)] ».

[T3] *Aristotelis Sophistici elenchi* 7, 169a 22-25 : « ἡ δ' ἀπάτη γίνεται τῶν μὲν παρὰ τὴν ὁμωνυμίαν καὶ τὸν λόγον τῷ μὴ δύνασθαι διαιρεῖν τὸ πολλαχῶς λεγόμενον (ἐνια γὰρ οὐκ εὐπορον διελεῖν, οἷον τὸ ἐν καὶ τὸ ὄν καὶ τὸ ταῦτόν) [Hasper 2013, 22 : the deception in refutations depending on homonymy and amphiboly comes about through not being able to draw distinctions in the case of what is said in many ways. For with some terms, it is not easy to draw distinctions, for example, with “one”, “being” and “the same”] ».

[T4] *Aristotelis Sophistici elenchi* 6, 168a 23-26 : « τῶν μὲν γὰρ ἐν τῇ λέξει οἱ μὲν εἰσι παρὰ τὸ διττόν, οἷον ἢ τε ὁμωνυμία καὶ ὁ λόγος καὶ ἡ ὁμοιοσχημοσύνη (σύνηθες γὰρ τὸ πάντα ὡς τότε τι σημαίνειν), κτλ. [Hasper 2013, 20 : among the apparent deductions and refutations due to the expression, some depend on equivocation, such as homonymy, amphiboly and similarity in form of expression (for customarily one signifies everything as something individual), etc.] ».

[T5] *Aristotelis de sophisticis elenchis* 7, 169a 30-36 : « χαλεπὸν γὰρ διελεῖν ποῖα ὡσαύτως καὶ ποῖα ὡς ἑτέρως λέγεται (σχεδὸν γὰρ ὁ τοῦτο

δυνάμενος ποιεῖν ἐγγύς ἐστι τοῦ θεωρεῖν τἀληθές, μάλιστα δ' ἐπίσταται συνεπινεύειν), ὅτι πᾶν τὸ κατηγορούμενόν τινος ὑπολαμβάνομεν τόδε τι, καὶ ὡς ἔν ὑπακούομεν· τῷ γὰρ ἐνὶ καὶ τῇ οὐσίᾳ μάλιστα δοκεῖ παρέπεσθαι τὸ τόδε τι καὶ τὸ ὄν [Hasper 2013, 22 : it is difficult to distinguish which things are said in the same way and which are said differently. For someone who can do that is practically on the verge of knowing the truth. However, what especially lures us into assenting is that we assume that everything predicated of something is an individual and understand it as one thing. (For individuality and being seem most of all to go together with substance and what is one thing)] ».

At this juncture, it is immaterial to decide whether or not [T2] is a – presumably early – instance of the ἀπορῆσαι ἀρχαϊκῶς sleight of hand Aristotle pulled elsewhere on Parmenides and the Platonists who thought they could outsmart Parmenides at his own game¹⁶. It is also of little consequence whether we emphasize differences or similarities between homonymy, amphiboly and figure of speech in the other texts¹⁷. Rather, what deserves here to be underscored is the fact that – despite what our linguistic habits would have us believe – the things which actually come in all shapes and sizes are neither the only ones nor the most intriguing we can occupy our mind with or bring up for debate.

Λόγοι ([URTEXT], 164a 25, 165a 11, 13, 15). Even though later Aristotelian scholars either scorned the issue or ignored it altogether¹⁸, in their ancient and mediaeval heyday, commentators took very seriously Aristotle's claim that there are only so many linguistic expressions we can rely on in order to refer to the countless things out there (« and in

¹⁶ Parmenides' old-fashioned views are criticized in *Physica* I 2, 186a 23 et sq. (cf. Berti 1990, Castelli 2018). Fellow Academics are blamed for setting problems in an obsolete way in *Metaphysica*, N 2 1088b 35 et sq. (cf. Merlan 1967, Leszl 1973, Dorion 2011).

¹⁷ It is easy enough to do both in the footsteps of Ancient and Mediaeval sources on « actual » and « imaginary » equivocity – homonymy being tantamount to using one word with multiple meanings and form of expression having to do with words whose similar morphology tricks us into believing they refer to the same things or kind of things (cf. Gazziero 2016, 252-255).

¹⁸ Agostino Nifo – for one – only saw the potential for fun, since he settled for a good laugh rather than a convoluted explanation (cf. *Expositiones in libros De sophisticis elenchis*, 5vb). As a matter of fact, he dismissed a legitimate issue (why πράγματα are supposed to be infinite whereas λόγοι – and ὀνόματα – are supposed to be limited in number ?) with a joke (for no one ever went to the trouble of counting them, no one really knows whether there are more things than linguistic expressions or the other way around, for that matter). Giulio Pace – for another – hardly gave the problem any thought either, since he did not even touch upon it, however briefly, in his influential *Commentarius analyticus* on Aristotle's *Organon*.

here », says me pointing to little Nahida's forehead). One could hardly blame them for doing so : after all, for Aristotle himself, the fact that *πράγματα* and *ὀνόματα* along with *λόγοι* do not always add up is the main reason why we end up on the losing side of a number of phony arguments. As may be expected from experts whose relentless questioning was only matched by their eagerness to tear each other's views apart, all possible readings have been expounded at some point or another. Besides stating the obvious (namely, that there actually are fewer linguistic expressions than things and states of affairs, period), interpreters have come up with several other, more imaginative, solutions. According to some, neither things nor linguistic expressions are really infinite ; according to others, they both are ; according to others still (sometimes the same, endorsing different solutions) the former are more infinite than the latter or vice versa¹⁹. Despite their differences and nuances, commentators of old were in general agreement that – whether in short supply or not – what Aristotle referred to as *λόγοι* are ordinary sentences or statements. Had the traditional consensus not been breached in recent times, we might leave it at that and willingly move on. As it happened though, a few translators and Aristotelian scholars – philosophers and linguists alike – have interpreted [URTEXT] as if *λόγοι* meant definitions or accounts instead of ordinary pieces of verbal communication and argumentation²⁰, at least in 165a 11 and 13 – which, by the way, never augurs anything

¹⁹ Interested readers will find an edition of relevant texts and a critical survey of who's who in Gazziero 2021.

²⁰ A few otherwise dependable translators have *λόγοι* stand here for definitional formulas. Pickard-Cambridge 1928, 536 : « names are finite and so is the sum-total of formulae, while things are infinite in number. Inevitably, then, the same formulae, and a single name, have a number of meanings » (revised, for the worse, by Barnes 1984, 278 : « names are finite and so is the sum-total of accounts, while things are infinite in number. Inevitably, then, the same account and a single name signify several things ») and Tricot 1939, 3 « les noms sont en nombre limité, ainsi que la pluralité des définitions, tandis que les choses sont infinies en nombre. Il est, par suite, inévitable que plusieurs choses soient signifiées et par une même définition et par un seul et même nom ». While sensible interpreters have resisted the temptation to explore the new path (cf. e.g. Robinson 1941, 144-145 or McKeon 1947, 29-31), more than a few eminent philosophers have followed the translators' lead and explained the text along the same lines : Hintikka 1959, 146 and Aubenque 1962, 107-108 and 118-120, whose Aristotelian credentials were impeccable, are – unquestionably – the most influential. A number of philosophically inclined linguists or linguistically inclined philosophers – many of them Italians – have gone down the same road, most notably Pagliaro 1962, 44 and 47-48 ; Belardi 1975, 138-139 and 1976, 81-82 ; Coseriu 1979, 432-436 ; Lo Piparo 2003, 183 ; and Gusmani 1986, 535 note 2, 1993, 111 and 2004, 155 note 12.

good : cherry picking where, just a few lines apart, a given word occurs with the same meaning and where it doesn't look pretty suspicious, to say the least. Here's one more reason why, in this particular instance, we should dismiss novelty as a serious step back rather than a bold step forward : to start with, the whole point of [URTEXT] 165a 10-13's clause (« τὰ μὲν γὰρ [11] ὀνόματα πεπεράνται καὶ τὸ τῶν λόγων πλῆθος ... σημαίνειν ») is that the numerical imbalance between the countless things we can bring up for discussion and the limited linguistic means at our disposal leads to confusion and deception. As soon as we acknowledge that we're dealing with ambiguity as a distinctive linguistic liability²¹, we can confidently rule out the possibility that the multiple reference involved in [URTEXT] has anything to do with the rather innocuous – in fact, very useful – feature of Aristotelian definitional accounts, which are supposed to apply to more than one individual thing without becoming equivocal in the process²². Should they turn out to be ambiguous after all, then equivocation would be the norm rather than the exception... nothing wrong with that either, of course ; but it certainly does not have an Aristotelian ring to it, not even a tinkle. Let's stick to our guns then and trust our elders on this one.

NOTULAE (MINORES). On the rare occasions Aristotle gives it to them straight, interpreters – pros and amateurs alike – should count their blessings and be content with the plain sense of what they read. Before we turn to [URTEXT]'s most peculiar feature, namely its analogy between those who are involved in pebble reckoning, on the one hand, and those

²¹ Pace Aubenque 1962, 119 ; Coseriu 1979, 434 ; Bellemare 1982, 273 ; Chiesa 1991, 230-232 ; Gusmani 1993, 111 ; Berti 1994, 123-124 ; etc. this is precisely what *πλείω σημαίνειν* means here. As vigorously pointed out by Leszl 1970, 32 and Dorion 1995, 207-208, *πλείω σημαίνειν* in [URTEXT], 165a 12-13 is synonymous with *πολλαχῶς λέγεσθαι* (*Sophistici elenchi* 19, 177a 9-11) or *πολλὰ σημαίνειν* (10, 170b 20-22) and it means equivocity. Let's not forget either that, as often as not, syntactical ambiguity or amphiboly is simply dubbed *λόγος* by Aristotle (cf. 4, 165b 29 ; 6, 168a 25 and 7, 169a 22-23 with García Yebra 1981, 44 and Fait 1996, 183 note 3).

²² Whether or not Aristotelian definitions are said in many ways (and there are more pros and cons to either position than any Aristotelian scholar who hasn't taken leave of her senses would care to admit in a footnote – cf. e.g. Charles 2010 and Deslauriers 2007 for a book-length defence of each side of the debate), it is still true that a formula's plural reference never puts its univocity at risk, even when we struggle to define peculiar individuals – namely, those who are both eternal and one of a kind (*ἄτιστα καὶ μοναχά*), like the sun or the moon : God forbid, should two suns rise tomorrow instead of one, the same – unambiguous – definition would be common to both, as Aristotle claims in *Metaphysica* Z 15, 1040a 28 - 1040b 2.

who are involved in argument-driven discussions, on the other hand, let's briefly engage in one last round of lexical probing, which will help us lay further the groundwork for our reconstruction of Aristotle's main line of argument in [URTEXT].

Σύμβολα ([URTEXT], 165a 8). As with about everything else in Aristotle, Aristotelian σύμβολα come with a few strings attached²³. [URTEXT] is the welcome exception, insofar as there is not much insight to be gained by asking, say, to what precise extent linguistic symbols are either by nature or by convention, or whether there's good reason to set spoken symbols and written ones apart, or again how straightforward or how layered a relation symbol's signification actually is, etc.²⁴ Rather, what

²³ A bibliographical due diligence process might start by looking into three monuments of Swiss (and Franco-Swiss) philology: Müri 1931, Meier-Oeser 1998, 712-713 and De Libera & Rosier Catach 2004, 1159-1164. It will consider next the Greco-Roman « tesserae hospitales » (cf. Knippschild 2002, 152-157) whose affinity with linguistic symbols has not gone unnoticed by attentive Aristotelian readers (cf., e.g., Bellemare 1982, 268-271; Magee 1989, 39-40; Gusmani 2004, 156-157 and Baghdassarian 2014, 55-56). Overviews worth mentioning should include at least a few more items, that is Belardi 1999, 12-14; De Angelis 2002, 18-22; Suto 2012, 45-51 and Viltanioti 2015, 34-41. It is hard to tell what to do exactly with Lo Piparo 2003 highly unconventional take on Aristotle and linguistic symbolism, besides saying, first, that – as Franco Lo Piparo himself, in not so many words, warns his readers right off the bat (Lo Piparo 2003, 2) – his translations are so unorthodox (« non-canonical » he calls them) one wonders eventually whether we're reading the same texts and, second (and more to the point), that his whole notion of a non-conventional non-substitutional symbol (cf. Lo Piparo 2003, 43, 62, 184 emphasis on « non-substitutional ») – especially when applied to the prologue of the *Sophistici elenchi* – is simply too far off the mark to warrant discussion.

²⁴ Those are, of course, perfectly legitimate questions and have been debated forever – they simply do not have much bearing on [URTEXT]. In recent times, they have been conflated with another issue, namely the alleged nuance to be made between linguistic symbols (σύμβολα) and linguistic signs (σημεία) – « alleged » insofar as ancient commentators made no difference between the two: most notably Ammonius who stated that the Philosopher used them interchangeably (*In De interpretatione commentarius*, 20.6-7 with Brunschwig 2008, 61-66) and Boethius who translated both σύμβολα and σημεία as *notae* (*De interpretatione. Translatio Boethii*, 5.6 and 8 with Magee 1989, 49-63 and Suto 2012, 43-76). Since Kretzmann 1974 forcefully argued that they are not synonyms, the issue has become a powerful catalyst and has received a huge amount of scholarly attention. With very few exceptions (Sedley 1996, 89 note 8 declined to battle his way through the rival interpretations; Wheeler 1999, 198 declared himself neutral; Tselemani 1985, 194-198 was both critical and supportive of Kretzmann's views but – as far as I know – has not made good yet on his promise to provide a more positive and constructive account), Aristotelian specialists have felt compelled to take sides and either rallied round Kretzmann's standard (Pépin 1985; Chiesa 1986 and 1991, 285-309; De Angelis 2002; Walz 2006; etc.), or fought against the rising tide of Kretzmann's supporters (Weidemann 1982; Arens 1984, 27; Magee 1989, 36-49; Polansky & Kuczewski 1990; Wolanin

Aristotle made sure we don't miss in [URTEXT] is that symbols serve in a subsidiary capacity. We use them as a makeshift solution – as it happens, a permanent fix, but a fix nonetheless, with a few flaws of its own to boot. Accordingly, granted that we simply can't do without language as a much-needed substitute for whatever we aren't able to bring directly to each other's consideration, we should not put too much stock in linguistic expression either. At the very least, we are advised to keep tabs on it, lest it ends up creating more problems than it actually helps us solve. More to the point – and this is the peculiar feature of linguistic symbols which [URTEXT] brings to the fore – despite being a rare commodity, words are ten a penny ; they are as cheap as the pebbles Aristotle compares them to and, as it turns out, every bit as tricky !

Τῶν ὀνομάτων δύναμις ([URTEXT], 165a 16). The very concept of δύναμις – along with its manifold relations to other Aristotelian notions (actuality, substance, movement, generation and change to name a few) – has a scholarly record second to none²⁵. Yet, its association with ὀνόματα in the prologue of the *Sophistici elenchi* is hardly mentioned at all in recent literature²⁶. This though should come as no surprise – for, as it occurs in [URTEXT], the compound is self-explanatory, to a certain extent. In addition, it has very little to do with exciting – and excitingly fashionable – topics such as the hazardous chemistry involved in many linguistic

1995 ; Modrak 2001, 19-20 ; Di Mattei 2006 ; Noriega-Olmos 2013, 55-59 ; Raspa 2018 ; etc.).

²⁵ To begin with, its bibliography speaks for itself. Crubellier, Jaulin, Lefebvre & Morel 2008 and Lefebvre 2018, by and large, deserve to be mentioned as the top contenders in their respective categories (team and solo effort). As it happens, Cleary 1998, 32's most promising reference to the « power of speech (De Juv. 469a 3) » turns out to be a *lapsus calami* in an otherwise flawless essay – as a matter of fact, speech plays no special role in Aristotle's treatise on the cycle of life and no role at all in the cardiocentric account of animal sustenance and development : « φανερόν τοίνυν ὅτι μίαν μὲν τινα ἐργασίαν ἢ τοῦ στόματος λειτουργεῖ δύναμις, ἑτέραν δ' ἢ τῆς κοιλίας, περὶ τὴν τροφήν [it is clear that, as far as nutrition is concerned, the mouth has the faculty of performing one function, whereas the stomach has the faculty of performing a different function] » (*De iuventute et senectute* 3, 469a 2-4 ; King 2001, 71-73 distinctive « life process » focused approach studies nutrition as a case in point).

²⁶ Considering the results, one wonders whether scholars ought to have left it alone altogether. For instance, Belardi 1975, 171 allusion is entangled in a dubious operation of Saussurian revamp. Gusmani 1992, 20 (≈ Gusmani & Quadrio 2018, 58) comments boil down to one problematic claim : δύναμις in [URTEXT], 165a 16 pertains to « referential polyvalence », i.e. the trivial fact that words refer to more than one thing belonging to the same class (sharing the same account, that is) – which, for reasons pointed out above, is plainly wrong.

interactions²⁷. To be sure, the spell words and speeches cast – especially on audiences²⁸ – was a concept Aristotle and his contemporaries were

²⁷ Should one wonder whether « chemistry » is the right word here, let him be reminded that, as a matter of course, the power of speech had long been compared to the property of remedies and poisons (φάρμακα). Gorgias, for one, had drawn a parallel between the effects – both good and bad – of speech on the soul, on the one hand, and the actions of drugs – whether healing or noxious – on the body, on the other : « τὸν αὐτὸν δὲ λόγον ἔχει ἢ τε τοῦ λόγου δύναμις πρὸς τὴν τῆς ψυχῆς τάξιν ἢ τε τῶν φαρμάκων τάξις πρὸς τὴν τῶν σωμάτων φύσιν. ὥσπερ γὰρ τῶν φαρμάκων ἄλλους ἄλλα χυμοὺς ἐκ τοῦ σώματος ἐξάγει, καὶ τὰ μὲν νόσου τὰ δὲ βίου παύει, οὕτω καὶ τῶν λόγων οἱ μὲν ἐλύπησαν, οἱ δὲ ἔτερψαν, οἱ δὲ ἐφόβησαν, οἱ δὲ εἰς θάρσος κατέστησαν τοὺς ἀκούοντας, οἱ δὲ πειθοῖ τινι κακῇ τὴν ψυχὴν ἐφαρμάκυσαν καὶ ἐξεγοίτευσαν [Laks & Most 2016, 179-181 : the power of speech has the same relation with the arrangement of the soul as the arrangement of drugs has with the nature of bodies. For just as some drugs draw some fluids out of the body, and others other ones, and some stop an illness and others stop life, in the same way some speeches cause pain, others pleasure, others fear, others dispose listeners to courage, others drug and bewitch the soul by some evil persuasion] » (*Encomium Helenae* 14). Relevant literature includes Segal 1962, Verdenius 1981, Leszl 1985, Mourelatos 1987, Porter 1993, Noël 1994 and 2008, Valiavitcharska 2006, Pratt 2015 and Bourgeois 2017. Let it be noted that the pharmaceutical metaphor occurs in Plato's *Cratylus* as well, where δύναμις however has less to do with the emotional response linguistic expressions may trigger than with their discriminatory power – which, interesting though it is (cf. already Bury 1894 and Souihé 1919, 82-84), is hardly relevant here : « ποικίλλειν δὲ ἔξεστι ταῖς συλλαβαῖς, ὥστε δόξει ἂν τῷ ἰδιωτικῶς ἔχοντι ἕτερα εἶναι ἀλλήλων τὰ αὐτὰ ὄντα· ὥσπερ ἡμῖν τὰ τῶν ἰατρῶν φάρμακα χρώμασιν καὶ ὄσμαῖς πεποικιλμένα ἄλλα φαίνεται τὰ αὐτὰ ὄντα, τῷ δὲ γε [394b] ἰατρῷ, ἅτε τὴν δύναμιν τῶν φαρμάκων σκοπομένῳ, τὰ αὐτὰ φαίνεται, καὶ οὐκ ἐκπλήττεται ὑπὸ τῶν προσόντων. οὕτω δὲ ἴσως καὶ ὁ ἐπιστάμενος περὶ ὀνομάτων τὴν δύναμιν αὐτῶν σκοπεῖ, καὶ οὐκ ἐκπλήττεται εἴ τι πρόσκειται γράμμα ἢ μετέκειται ἢ ἀφήρηται, ἢ καὶ ἐν ἄλλοις παντάπασιν γράμμασιν ἔστιν ἢ τοῦ ὀνόματος δύναμις [Reeve 1997, 112-113 : because of variation in their syllables, names that are really the same seem different to the uninitiated. Similarly, a doctor's medicines, which have different colours and perfumes added to them, appear different to us, although they are really the same and appear the same to a doctor, who looks only to their power to cure and isn't disconcerted by the additives. Similarly, someone who knows about names looks to their force or power and isn't disconcerted if a letter is added, transposed, or subtracted, or even if the force a name possesses is embodied in different letters altogether] » (*Platonis Cratylus* 394a 5 - 394b 6 with Barney 2001, 85-86 ; Sedley 2003, 81-86 ; Ademollo 2011, 167-178 ; Smith 2014).

²⁸ The vagaries of mass communication as opposed to the more controlled environment of cross-examination – or questions and answers driven exchange – were not lost to ancient theorists and practitioners. Let's stay close to our main example ([T6]) and take full advantage of it. Blurring the boundaries between fiction and reality in subtle enough ways to have us wonder to this day whether we should take his word for it and to what extent [a], Thucydides had the Athenian envoys' set the tone of the so-called Melian dialogue along these lines precisely [b]. In particular, holding all the cards of the negotiation, Athenian representatives had no qualms about the Melian dignitaries stopping the uninterrupted – or rather unchecked – flow of their eloquence in front of the Melian people : « ἐπειδὴ οὐ πρὸς τὸ πλῆθος οἱ λόγοι γίνονται, ὅπως δὴ μὴ ζυνεχεῖ ῥήσει οἱ

perfectly familiar with. In particular, they all knew too well that some

πολλοὶ ἐπαγωγὰ καὶ ἀνέλεγκτα ἐσάπαξ ἀκούσαντες ἡμῶν ἀπατηθῶσιν (γινώσκομεν γὰρ ὅτι τοῦτο φρονεῖ ἡμῶν ἢ ἐς τοὺς ὀλίγους ἀγωγῆ), ὑμεῖς οἱ καθήμενοι ἔτι ἀσφαλέστερον ποιήσατε. καθ' ἕκαστον γὰρ καὶ μηδ' ὑμεῖς ἐνὶ λόγῳ, ἀλλὰ πρὸς τὸ μὴ δοκοῦν ἐπιτηδείως λέγεσθαι εὐθὺς ὑπολαμβάνοντες κρίνετε. καὶ πρῶτον εἰ ἄρ᾽ ἔσκει ὡς λέγομεν [86] εἶπατε [Mynott 2013, 379 : we see that our discussions are not to take place before the popular assembly – no doubt to prevent us from deceiving the people at large with one continuous presentation of persuasive arguments that would go unchallenged (for we do realise that this is the point of your bringing us before this smaller body). Why then don't you who sit before us adopt yet one further safeguard ? Why don't you too deal with the issues point by point rather than in just one speech and take up straightaway anything you object to in what we say ? And you can begin by saying if this proposal is acceptable to you] » (*Thucydides Historiae* V, 85-86 with Frazier 1997 and Tsakmakis 2006 but, *pace in terra agli uomini di buona volontà*, without Spina 2019). [a] « THUCYDIDES ON THINGS SAID ». The nature of Thucydides' reports of words traded on different memorable – and not so memorable – occasions has been debated forever. West 1973a provides a handy description and listing of Thucydides speeches (a detailed synopsis is also to be found in Mynott 2013, 624-628) ; Rood 2015 offers an all-purpose survey of – and rich bibliography about – the reception of the so called « archaeological » section (most notably I, 22) where Thucydides is quite forthcoming about how much invention he resorted to in order to supplement available evidence. In fact, Thucydides is so candid about the approximation issue that – as Pelling 2000, 115 aptly put it – « the only feature which most interpreters share is their confidence in their interpretation, and their utter bemusement that others should not see it the same way ». Wilson 1982 – arguably one of the most lucid assessments of Thucydides' authenticity claim – will serve here as a convenient *terminus a quo* for a few bibliographical bearings : Loriaux 1982 ; Dover 1983 ; Plant 1988 and 1999 ; Orwin 1989 ; Bicknell 1990 ; Develin 1990 ; Porter 1990 ; Badian 1992 ; Rengakos 1996 ; Garrity 1998 ; Nicolai 1998 and 2011 ; Tsakmakis 1998 ; Porciani 1999 and 2007 ; Winton 1999 ; Farber & Fauber 2001 ; Greenwood 2006, 57-82 ; Scardino 2007, 399-416 ; Moles 2010 ; Schutrumpf 2011 ; Dorion 2013 ; Feddern 2016 and 2018 ; Liberman 2017, 49-64. Despite not making the chronological cut, we should also mention, at the very least, a bibliography that covers one hundred years of previous Thucydidean scholarship on speeches, West 1973b, a note on the most problematic aspect of the debate, namely the meaning of τὰ δέοντα μάλιστα' εἰπεῖν in I, 22.4, Winnington-Ingram 1965, plus Huart 1973 and Cogan 1981. For some reason, Thucydides' portrayal of Nicias – the superstitious old fart whose weak leadership and inferior military skills have been held largely responsible for the Syracusan disaster – has enjoyed a considerable amount of scholarly attention and interest. His speeches, letters and battlefield addresses have been studied as a case in point for assessing Thucydides' fairness as a more or less informed observer by Westlake 1941, Murray 1961, Adkins 1975, Del Corno 1975, Marinatos 1980, Lateiner 1985, Zadorojnyi 1998, Morrison 2006, Niedzielski 2017, Tompkins 2017 and Titchener & Damen 2018. [b] « THE MELIAN AFFAIR ». If one does not dismiss the whole episode as a later interpolation – a neat trick if you ask me, albeit a bit controversial : in recent times, Hemmerdinger 1948 actually came up with this rather elegant solution to the Melian conundrum, but few have followed in his footsteps, apart Canfora 1970, 1971 and 1992 (as well as one of Canfora's pupils, namely Cagnazzi 1983) – then he or she's in for the bibliographical ride of a lifetime... « there is no keeping up with the bibliography » dispiritingly declared Andrewes 1970, 182, taking his cue from Wassermann 1947, 18 note 1 (« there is hardly any book

words are not to be trifled with, lest they mess with your head the way « dishonour » (τὸ αἰσχρὸν καλούμενον – a powerful catchword indeed) played tricks on the mind of Melian leaders – at least according to Thucydides' account of the negotiation which paved the way for the islanders' swift demise :

[T6] *Thucydides Historiae* V, 111 : « οὐ γὰρ δὴ ἐπὶ γε τὴν ἐν τοῖς αἰσχροῖς καὶ προύπτοις κινδύνοις πλεῖστα διαφθείρουσαν ἀνθρώπους αἰσχύνην τρέψεσθε. πολλοῖς γὰρ προορωμένοις ἔτι ἐς οἷα φέρονται τὸ αἰσχρὸν καλούμενον ὀνόματος ἐπαγωγῷ δυνάμει ἐπεσπάσατο ἥσσηθεῖσι τοῦ ῥήματος ἔργω ζυμφοραῖς ἀνηκέστοις ἐκόντας περιπεσεῖν καὶ αἰσχύνην [4] αἰσχίῳ μετὰ ἀνοίας ἢ τύχῃ προσλαβεῖν. ὃ ὑμεῖς, ἦν εὖ βουλευήσθε, φυλάξεσθε, καὶ οὐκ ἀπρεπὲς νομιεῖτε πόλεώς τε τῆς μεγίστης ἥσασθαι μέτρια προκαλουμένης, ζυμμάχους γενέσθαι ἔχοντας τὴν ὑμετέραν αὐτῶν ὑποτελεῖς, καὶ δοθείσης αἰρέσεως πολέμου πέρι καὶ ἀσφαλείας μὴ τὰ χεῖρω φιλονικῆσαι [Mynott 2013, 384 : surely you will not be drawn into that sense of shame which is quite fatal when it is danger and dishonour that are staring you in the face. For many people, even though they can see the dangers they are being led into, are still overcome by the power of a name – this thing we call “dishonour” – and, victims of a word, in fact fall of their own accord into irreversible disaster and so bring on themselves a dishonour all the more shameful because it comes more from their folly than their misfortune. That is the outcome you will be well advised to avoid and you should realise that there is no loss of face in

or article on Thucydides which does not mention the Melian Dialogue, etc. »). Skipping over international relations, political and security studies whose dubious or inexistent philology and the occasional lack of concern for getting at least the facts straight should deter even the most compulsive reader (e.g., Lunstroth 2006, 99 : « the “Melian Dialogue”, a debate between two Athenian generals and members of the Melian “magistrates and the few”, etc. » where does Thucydides say that “two generals” – presumably Cleomedes and Teisias – spoke for the Athenian expeditionary corps ? this is not what is suggested in V, 84 : « λόγους πρῶτον ποιησομένους ἔπεμψαν πρέσβεις κτλ. » Alas, Lunstroth did not care to share where this particular insight came from – is it just possible that this precious piece of information [sic] lingered in one of the several Wikipedia entries Lunstroth took the trouble to look up ? ... there, I said it. A pedant might offer Dionysius of Halicarnassus στρατηγοί at *De Thucydide*, VII, 40 as a tentative source, but to what avail ? there's nothing to be salvaged anyway), also leaving aside anachronistic perspectives (cf., e.g., Alker 1988's « neoclassical polymetrics » or Mara 2008's, 46-54 « psychological » and « game-theoretic » gimmicks), we'll narrow it down to the body of studies devoted to the literary aspects of the alleged exchange between Athenian envoys and Melian oligarchs : De Sanctis 1930 ; Méautis 1935 ; Deininger 1939 ; Hudson-William 1950 ; Andrewes 1960 ; Stahl 1966, 158-171 ; Amit 1968 ; Liebeschuetz 1968 ; Volk 1971 ; MacLeod 1974 ; Radt 1976 ; Rengakos 1984 ; Gomez-Lobos 1989 ; Seaman 1997 ; Vickers 1999 ; Morrison 2000 ; Roman 2007 ; Greenwood 2008 ; Vimercati 2008 ; Boyarin 2012 ; Von Reden 2013 ; Kurpios 2015 ; Fragoulaki 2016 ; Ponchon 2017, 286-314.

submitting to a great power which is offering reasonable terms – namely, for you to become allies, retaining your own territory on payment of tribute – and that when you have a choice between war and safety you should not be so contrary as to insist on the worse option] ».

Artful a fabrication though it is likely to be – and the whole speech definitely smacks of invention supplementing evidence (emphasis on invention)²⁹ – the unmitigated brutality and verbose callousness of the Athenian spokesmen in the so-called Melian dialogue present us with an interesting linguistic pattern nonetheless. As Thucydides had it, Athenians

²⁹ If we are to believe Thucydides and get along with the idea that Melians were actually offered terms and that those terms were not so harsh that no amount of pedagogy would have convinced them to comply (« μέτρια προκαλουμένη » at [T6] 111.4 might suggest just that ; on the other hand, V, 91-92 puts Melian submission in a far bleaker light, as does V, 97 : καταστραφήναι sounds pretty ominous to me), then we have to admit that envoys on both sides got off to a bad start and basically had it all backwards. What follows is merely a cautionary tale about the dangers of reading too much into the dialogue (as did, among others, Price 2001, 195-204 and Viansino 2007 who construed it as a communication breakdown of tragic proportion between irreconcilable worldviews ; and Coleman 2010, 82 who went so far as to make of Melos' talks the paradigm of « incommensurable conceptual schemes » clashing together, which is outright extravagance). On the one hand, Athenians should have known better than to take seriously the last simpletons of a kind that had long become a laughing stock all over Greece (III, 83 : « οὐτὼ πᾶσα ἰδέα κατέστη κακοτροπίας διὰ τὰς στάσεις τῶ Ἑλληνικῶ, καὶ τὸ εὐηθές, οὐδὲ τὸ γενναῖον πλεῖστον μετέχει, καταγελασθὲν ἠφανίσθη [Mynott 2013 : simplicity of spirit, which is such an important part of true nobility, was laughed to scorn and vanished] » with Crane 1998 and Williams 1998). How do you expect to reason with people eager to gamble their very survival on a bunch of poor assumptions about the righteousness of their cause, the goodwill of the Gods (or the Spartans' for that matter) and the amenability of their foes to sail back home empty handed but fully enlightened about the wickedness of their ways – as if anybody mounted educational expeditions and dispatched ships by the dozens just to teach their neighbours a lesson in political realism ? On the other hand, what is there to say about the Melians, apart from the fact that they could not have botched it any worse had they done it on purpose ? What were they thinking ? You simply don't get in the way of a charging bull – this only pits your weakness against its strength. What do you do instead ? Nothing. As long as rebellion or resistance get you nowhere, you bide your time in shame, the same exact way Athens' other allies were biding theirs (as foreshadowed in V, 91), bearing in mind that if you leave bullies to their own devices, they will self-destruct sooner than later, screw up big time and butcher their lives – just like Aussie legend Steve-o-Bradbury did back in 2002 (<https://youtu.be/5fFnSRKUBFU>). Then – and only then – you are welcome to join the lynch mob and have all sorts of fun, starting with the kind of retribution Athenians fretted over after the Sicilian failure (VIII, 1) and, even more so in the wake of the Aegospotami defeat (Xenophon, *Hellenica* II, 1.30-32, 2.3 and 6-10), when such retribution was allegedly (Ehrhart 1970 ; Bommelaer 1981, 103-115 ; Wylie 1986 ; etc.) – but most likely (Strauss 1983 ; Robinson 2014 ; Kapellos 2019) – visited upon them, to some extent at least (Spartans can be such killjoys sometimes).

pursued a conscious strategy consisting, primarily, in downplaying the emotional response morally loaded words like « justice », « injustice », « courage », « piety », « honour », « shame », « uprightness », « bravery », etc. were supposed to elicit from any self-respecting Greek individual. Accordingly, from the very start, they strove to neutralize the power of such « alluring expressions », claiming – for instance – that they would neither rely on them (V, 89 « ἡμεῖς τοίνυν οὔτε αὐτοὶ μετ’ ὀνομάτων καλῶν, κτλ. [as far as we’re concerned, we won’t resort to fine words, etc.] »), nor allow their Melian counterparts to use them in order to talk their way out of their current predicament (V, 89 : « οὐθ’ ὑμᾶς ἀξιούμεν ὡς ἡμᾶς οὐδὲν οἴεσθαι πείσειν κτλ. [we don’t expect you to think that you can convince us either, etc.] »). [T6] achieves this process of linguistic demystification : since the Melians, being the pompous asses that they were, proved utterly impervious to the recommendation to steer clear of all idle talk about justice and honour as irrelevant and beside the point (V, 89 : « ἐπισταμένους πρὸς εἰδότας ὅτι δίκαια μὲν ἐν τῷ ἀνθρωπέῳ λόγῳ ἀπὸ τῆς ἴσης ἀνάγκης κρίνεται, κτλ. [Hornblower 2008, 233 : we both know that in the discussion of human affairs, justice enters only when there is a corresponding power to enforce it, etc.] »), the Athenians urged them to resist the power of seduction of such deceptive words (ὀνόματος ἐπαγωγῶν δύναμις), lest they succumb to their charm (ἤσσηθεῖσι τοῦ ῥήματος ἔργῳ) and, hell-bent on living up to their own pious incantations, they end up losing everything. Truth be told – but we enter here into uncharted territory without much reason to do so – as [T6]’s subtle wordplay (αἰσχρὸν, αἰσχύνη, αἰσχίω) suggests, Athenians went further still : not only did they strip all the καλὰ ὀνόματα the Melians could muster of the sentimental value and emotional associations they ordinarily conveyed, but they also reassessed them in the light of the situation at hand by shifting the traditional standards of praise and blame from slavish submission (V, 86 : δουλεία ; V, 92 : δουλεῦσαι ; V, 100 : δουλεύοντες) to doing whatever it takes to avoid enslavement (V, 100 : πᾶν πρὸ τοῦ δουλεῦσαι ἐπεξελεθεῖν), namely taking up arms in order to preserve one’s own freedom. If the Melians were to listen to the Athenians, then doing the honourable thing – that is, holding their ground in the face of impossible odds instead of giving in to fear and despair – would have been a shame more shameful (αἰσχύνη αἰσχίω) than demeaning themselves by surrendering and living on in shame. For the Athenians’ insinuation to pay off, the word « αἰσχρὸν » had to retain its power and

convey the moral stigma it carried before, so that people might still be goaded into avoiding whatever the word came to be attached to. Accordingly, what changed was not so much the meaning of the word, but its reference through the self-serving reappraisal of the way it applied to deeds. Of course, Athenians were neither the first nor the only ones to wreak such abuse upon language. What happened to αἰσχρὸν in Melos was not so different from what happened in Corcyra (and elsewhere) to ἀνδρεία and other fine words caught in the linguistic turmoil which, according to Thucydides, matched the upheaval and excesses of the conflict turning to ubiquitous civil strife : « τὴν εἰωθυῖαν ἀξίωσιν τῶν ὀνομάτων ἐς τὰ ἔργα ἀντήλλαξαν τῇ δικαίῳσει. τόλμα μὲν γὰρ ἀλόγιστος ἀνδρεία φιλέταιρος ἐνομίσθη, κτλ. [Mynott 2013, 212 : men assumed the right to reverse the usual values in the application of words to actions. Reckless audacity came to be thought of as comradely courage, etc.] » (III, 82)³⁰.

Working a linguistic angle on opponents and audience, especially by telling them what they wanted to hear, was not outside the dialectical compass of well-trained practitioners, by any stretch of the imagination³¹.

³⁰ Language as a collateral victim of the violent disruption brought about by civil war is yet another favourite topic in Thucydidean studies (« the most celebrated aspect of Thucydides' presentation of stasis is his discussion of the debasement of language », as Orwin 1988 put it). Amongst those who have insisted on the axiomatic import of the ἀξίωσις τῶν ὀνομάτων ἐς τὰ ἔργα in III, 82, we should mention : Müri 1969 (whose early suggestion that there is more to III, 82 than simple μετονομασία was remarkably on the mark as was his comparison between Greek during the iron age of στάσις and German under Nazi rule ; at any rate, it is far more convincing than the alleged analogies with Orwell's Newspeak and Spanish propaganda drawn by Edmunds 1975, 834-835 and Thompson 2013, 273-274 and 286-288 respectively) ; Hogan 1980 (whose interest in the partisan « judgment of worth or estimation » perverting the « customary use of words to assess worth, to praise and blame » was also much to the point) ; Wilson 1982b (whose idea that post-stasis rhetoric cashed in on the usual meaning of words, which did not change, is germane to the point we've just made) ; Loraux 1986 (developing Hogan's and Wilson's views and introducing an interesting parallel with *Rhetorica* I 9, 1367a 33 - 1367b 4). A few more references to complete the picture : Solmsen 1971 ; Macleod 1979 ; Worthington 1982 ; Swain 1993 ; Piovan 2017 (in fact, an English translation of an essay in Italian published the same year or the other way around) ; Spielberg 2017.

³¹ Whether he asked questions or answered them, it was in the dialectician's best interest to cultivate an unthreatening demeanour (on Aristotelian « irony » cf. e.g. *Sophistici elenchi* 12, 172b 21-24 as well as *Topica*, VIII, 1, 156b 4-9 and 18-20), lest he got both the competition and the assistance all riled up, which would only make it harder to get the right answers out of his respondent and to get a sympathetic ear from the very people who were going to assess his performance. In particular, whenever they might have raised the suspicion of flying in the face of well-accepted views, dialecticians were well advised not

That being said, the power of words expert dialecticians were expected to harness in [URTEXT] – if they hoped to avoid running into all sorts of discursive hazards – carries little or no emotional weight. The δύναμις of a word or its worth is but its meaning, that is the thing or things it can stand for, irrespective of whatever the word itself makes people feel like when they either utter or hear it. Our claim rests both on contextual and internal evidence, which – as we briefly pass it in review – will lead us to [URTEXT]’s main thread, namely the pebble analogy we’ll discuss next.

To start with, the equivalence between what a word means and what a word is worth is well attested both in Aristotle and contemporary sources :

[T7] *Lysiae In Theomnestum* 7, 90.24 - 91.5 : « ἐγὼ δὲ οἶμαι ἡμᾶς, ὧ ἄνδρες δικασταί, οὐ περὶ τῶν ὀνομάτων διαφέρεισθαι ἀλλὰ τῆς τούτων [91] διανοίας, καὶ πάντας εἰδέναι ὅτι, ὅσοι <ἀπεκτόνασί τινας, καὶ ἀνδροφόνοι εἰσί, καὶ ὅσοι> ἀνδροφόνοι εἰσί, καὶ ἀπεκτόνασί τινας. πολὺ γὰρ <ἀν> ἔργον ἦν τῷ νομοθέτῃ ἅπαντα τὰ ὀνόματα γράφειν ὅσα τὴν αὐτὴν δύναμιν ἔχει· ἀλλὰ περὶ ἑνὸς εἰπὼν περὶ πάντων ἐδήλωσεν [Todd 2000, 105 : but in my view, gentlemen of the jury, you must decide on the basis not of the words but of their meaning (διάνοια) : you all recognize that those who kill people are also man-slayers, and those who are man-slayers have also killed people. It would have been a considerable task for the lawgiver to write all the words that have the same meaning (δύναμις), but by talking about one of them, he made clear his views about them all] ».

[T8] *Aristotelis Rhetorica* III 2, 1405b 4-7 and 15-17 : « κάλλος δὲ ὀνόματος τὸ μὲν ὡσπερ Λικύμνιος λέγει, ἐν τοῖς ψόφοις ἢ τῷ σημαινόμενῳ, καὶ αἶσχος δὲ ὡσαύτως. [...] τὰς δὲ μεταφορὰς ἐντεῦθεν οἰστέον, ἀπὸ καλῶν ἢ τῆ φωνῆ ἢ τῆ δυνάμει κτλ. [the beauty of a word lies, as Licymnius says, either in its sound or in the thing the word stands for, and the same goes for its ugliness. (...). Therefore, metaphors should be drawn from words whose beauty lies either in the vocal sound or in their meaning, etc.] ».

[T9] *Aristotelis Analytica priora* I 39, 49b 3-9 : « δεῖ δὲ καὶ μεταλαμβάνειν ἢ τὸ αὐτὸ δύναται, ὀνόματα ἀντ’ ὀνομάτων καὶ λόγους ἀντὶ λόγων καὶ ὄνομα καὶ λόγον, καὶ ἀεὶ ἀντὶ τοῦ λόγου τοῦ ὄνομα λαμβάνειν· ῥᾶων γὰρ ἢ τῶν ὄρων ἔκθεσις, οἷον εἰ μὴδὲν διαφέρει εἰπεῖν τὸ ὑποληπτὸν τοῦ δοξαστοῦ μὴ εἶναι γένος ἢ μὴ εἶναι ὅπερ ὑποληπτὸν τι τὸ δοξαστὸν (ταυτὸν γὰρ τὸ σημαινόμενον), ἀντὶ τοῦ λόγου τοῦ λεχθέντος τὸ ὑποληπτὸν καὶ τὸ δοξαστὸν ὄρους θετέον [Smith 1989, 56 : one ought also to

only to reassure their public on the spot (cf. *Topica* VIII 1, 156b 20-23), but also to sound as little exotic as they possibly could (on Aristotle’s linguistic « conservatism » cf., e.g., *Metaphysica* α 3, 994b 32 - 995a 3 and *Rhetorica* III 2, 1404b as well as 13, 1414b 15-18).

substitute things which have the same value for one another (words in place of words, phrases in place of phrases), whether a word or a phrase, and always to take the word instead of the phrase : for the setting out of terms will be easier. For example, if there is no difference between saying that the believable is not the genus of the opinable and that what is opinable is not just a certain kind of believable (for what is signified is the same), then “believable” and “opinable” should be put as terms in place of the phrase stated] ».

As Lysias states in [T7] – and will illustrate through a remarkably aggressive exemplification³² – different words have the same δύναμις as long as they have the same meaning. Accordingly, in the eyes of the law, blaming someone for beating his mother or accusing him of battering the woman who gave him birth should not be treated differently ; in the same vein, the accusation of throwing away one’s shield should carry the same exact weight as the reproach of abandoning or relinquishing it – why ? because, even though the actual wording differs, what is referred to boils down to the same thing³³. That is to say – with Aristotle’s [T9]³⁴ – whenever the σημαίνόμενον of two linguistic expressions – however different they are – is the same (ταὐτὸν), they have the same meaning or signify the same thing (ταὐτὸ δύναται). For all practical purposes, δύναμις and

³² Lysias’ accumulation of misdeeds and misnames has a characteristic comical effect, as interpreters have pointed out time and again (most recently : Todd 2007, 671-674 ; Colla 2012 ; Kastle 2012 ; Larran 2014 ; etc.).

³³ The linguistic tenets of Lysias’ distinction between the letter and the substance of the law are all the more interesting since – in [T7] – δύναμις is roughly synonymous with διάνοια or, at any rate, it serves the very same purpose, insofar as they are both set against ὄνομα and refer to what ὄνομα stands for in the mind of the speakers. A similar opposition between διάνοια and ὄνομα is to be found in Aristotle as well, who – notoriously – rejected a competing classification of fallacies according to which these are to be arranged in two main families which alternatively aim at the thought (διάνοια) or at its verbal expression (ὄνομα) : « οὐκ ἔστι δὲ διαφορὰ τῶν λόγων ἢν λέγουσί τινες, τὸ εἶναι τοὺς μὲν πρὸς τοῦνομα λόγους, ἑτέροισ δὲ πρὸς τὴν διάνοιαν· ἄτοπον γὰρ τὸ ὑπολαμβάνειν ἄλλους μὲν εἶναι πρὸς τοῦνομα λόγους, ἑτέροισ δὲ πρὸς τὴν διάνοιαν, ἀλλ’ οὐ τοὺς αὐτοὺς [Hasper 2013, 25 : the distinction that some postulate between arguments does not exist : that there are arguments related to the word and arguments related to the thought. It is absurd to suppose that some arguments are related to the word, while others are related to the thought, without these being the same arguments] » (*Sophistici elenchi* 10, 170b 12-16 with Hecquet 1993).

³⁴ For the most recent – and most detailed – survey of what analytical ἐκθεσις is about, cf. Crubellier, Marion, McConaughy & Rahman 2019 ; one will welcome the great novelty of the novelty part and, for the benefit of the binge reader, add to the already rich bibliography a couple of antiquarian curiosities (Rescher & Parks 1971 and Hintikka 1978) and at least as many landmark studies (Mignucci 1991 and Ierodiakonou 2002).

σημαινόμενον – as opposed to vocal sound – may thus be treated as synonyms, as Aristotle does in [T8]³⁵.

[URTEXT] warrants a similar conclusion. We use linguistic expressions – ὀνόματα for short³⁶ – instead of things as their symbols. For there are only so many linguistic items available at any given time, it is inevitable that some expressions have more than one meaning. Those who ignore it, are likely to be preyed upon by those who are familiar with the power names have not so much to hurt, elate or demean as to refer indiscriminately to different things.

* * *

PROLEGOMENA DE ABACO. Not entirely convinced ? Aristotle himself must have thought that the point deserved further clarification, for he came up with a compelling analogy between the way we do a sum and the way we conduct an argument, which he used first – in [URTEXT], 165a6-10 – to explain why we labour under the delusion that, if our findings sound convincingly argued for or look good on the pebble-board, then we must be right and then – in [URTEXT], 165a 13-15 – to illustrate why we are likely to be taken advantage of when we lack the proper dialectical and computational training. How to best make sense of Aristotle's comparison between the way we mishandle counters, on the one hand, and the way we lose our way with words, on the other ? If the question is worth asking at all, it should come as no surprise that getting to the bottom of it will involve challenging a few entrenched ideas. It will also require that we either add new pieces of information or highlight previously neglected ones. As usual, a combination of both is what we need in order to explain the abacus facts behind Aristotle's simile. Hence, after we bulldoze our way through a few false assumptions about ancient reckoning boards' arrays and inscriptions, we'll focus on two of its most

³⁵ As far as [T8] is concerned, Zanker 2016, 67 note 106 has already made the point abundantly clear.

³⁶ Characteristically, Aristotle does not burden [URTEXT] with subtleties he displays elsewhere. In this particular instance, the distinction he makes in *De interpretatione* 3, 16b 6-7 between ὀνόματα (names) and ῥήματα (verbs or predicates) – which is all the more understandable since, to an extent, it is a distinction in name only : « αὐτὰ μὲν οὖν καθ' ἑαυτὰ λεγόμενα τὰ ῥήματα ὀνοματὰ ἔστι καὶ σημαίνει τι [by themselves and said for themselves, verbs are names and signify something] » (3, 16b 20-21). See Graffi 2020, 80-88 for a recent survey of relevant issues in Aristotle and Ademollo 2015 for a similar overview as far as Ancient Philosophy at large is concerned.

distinctive features. Whilst one (i.e. the abacus being a positional system through and through) holds little mystery for the educated crowd, the other (i.e. the abacus' place value system being hybrid in more than one sense, as opposed to it being abstract and homogeneous) has not yet received the attention it deserves. For obvious reasons, the latter deeply affects our understanding of the former : by and large, the nature of the abacus' scale and arrangement determines what its positionality is all about. Therefore, taking it into account is likely to result in a new way of looking at an old problem.

RAIDERS OF THE LOST ABACUS. A great deal of guesswork and no small amount of amateurism have gone into the reconstruction of ancient counting boards. Another partisan review of the past and current status of abacus studies would only add confusion to an already confused field. More to the point, it would neither achieve much by itself nor shed much light on Aristotle's pebble analogy. For one thing, we can hardly fall back on the all-too-perfunctory surveys provided in past years by non-specialists like J.P. Pullan (who, apparently, never divulged his first name) or Parry Moon³⁷. For another, we would not be better off were we to put our stock in recent endeavours which display more courage than wisdom and turn out to be highly speculative at best and very much mistaken at worst. Since it has a reputation as the « most comprehensive », « valuable », « timely », etc. treatment of Greek counting boards and is especially praised for « presenting an astonishingly extensive record of everything one can find in Ancient Greek literature on the subject »³⁸, Schärliig 2001 (Prix F. Zappa 2003) is definitely a force to be reckoned with³⁹. And – no doubt – when it comes to pushing the philological

³⁷ Pullan 1968, 16-29 ; Moon 1971, 21-28. For all their good will and conciseness, there's not much to go on here and, more to the point, very little we can actually use to explain Aristotle's analogy. If we were to go all the way back and begin at the beginning, we would be rewarded with some fine pieces of early abacus scholarship : Saglio 1877 ; Hultsch 1893 ; Nagl 1899, 1903, 1914 and 1918. Time travellers are advised to expect some turbulence though, especially while going through the Pritchett-Lang controversy back in the sixties and the fifties : Lang 1968 (cf. already Lang 1956), 1965, 1964 and 1957 ; Pritchett 1968 and 1965 ; Wyatt 1964.

³⁸ Cf. e.g. Cuomo 2004, Ribémont 2001, Ineichen 2002 and Fromentin 2003.

³⁹ It would be remiss of me if I singled out Alain Schärliig for criticism and, doing so, I missed the wood for the tree. The truth is that, for all its exuberance, the forest that has outgrown Schärliig's milestone study is of much superior quality – certainly – but, more often than not, it concerns itself with local (or tangential) issues : Knoepfler 2001, 78-81 ; Mathé 2009 ; Marcellesi 2013, Rousset 2013 ; Doyen 2014 ; Schärliig 2014 (which is as

envelope as well as going against the grain, Schärlich 2001 truly is in a league of its own. Its conspicuous inaccuracies and preposterous suggestions should give even the layman reader pause⁴⁰. They certainly go a long way towards explaining why it has never been so tempting to refine the whole abacus-thing out of existence. Amongst those who think we should dispense with it altogether, Reviel Netz is arguably the most extreme, according to whom « ultimately, the very notion of the abacus as a clearly defined artefact is misleading » or, at any rate, « designated abaci are less important than the skills that make them so easy to construct and use on an ad hoc basis »⁴¹. Yet another case of a remedy worse than the disease ? One thing is for sure : if the abacus is not so much a material device as a « state of mind », then we are simply left with nothing to be right or wrong about Aristotle's analogy. In fact, for it to work, there must be more to manipulating the pebbles on a reckoning board than Netz' mere arithmetic skills at play⁴².

much about ancient accounting as it is about, say, ancient horse breeding or ancient swordsmanship).

⁴⁰ In the historians' business, it is the details that sell the story and, as often as not, Alain Schärlich gets them wrong. Even if one leaves out the occasional misattribution (Schärlich 2001, 181 : Aristotle is quoted, almost chapter and verse, from a work, the *Sand Reckoner* or *Ψαμμίτης* (*Arenarius*), whose authorship is commonly ascribed to Archimedes) as well as the trivial embroidery (Schärlich 2001, 28 : where does the discussion about tides, in Alexis' fragment 15, come from anyway ?), literary forgery is where old fashioned readers usually draw the line : what are we to make of Schärlich's most egregious blunder (Schärlich 2001, 25), namely the longish and tedious (no kidding : « longue et fastidieuse ») description of how we use fingers for numbers in the « Esperanto of sorts » Aristotle must have learned buying vegetables or whatever he was purchasing at the Athenian marketplace where people notoriously did business all day despite the fact they did not speak the same language ? If you can't recall where exactly Aristotle dealt with finger-numbering and would like to find out, you'll have to ask Schärlich himself, for he's probably the only one who knows for sure. (Hunain ibn Ishaq, whose Arabic paraphrase of the peripatetic physical problems Schärlich, ever the erudite, did not care to mention, would certainly have had a few interesting things to contribute ; unfortunately, he's not been around for a long time and – God rest his soul – did not divulge where the whole fingers stretching and bending digression – *Problemata physica arabica* XVI 2, 648.56 et sq. – came from). Admittedly, philological sloppiness – a venial sin, if a sin at all – is no indication as to whether Schärlich's account of the ancient abacus is flawed too. We have at least a couple of reasons to believe it is and we'll get there in a moment.

⁴¹ Netz 2002a, 327, minus a « perhaps » at the beginning of the sentence.

⁴² It might seem a bit unfair to turn tables on Reviel Netz and nit-pick him apart while relying – heavily at that – on his brilliant characterisation of Ancient Greek numeracy. Guilty as charged, Your Honour ! we're all in Netz' debt and he's most likely forgotten more about these matters than your average scholar is likely to ever learn. More to the point, even if he's not the first (already in the late Eighties, Høyrup 1989's notion of « sub-scientific mathematics »

So, where does this leave us ? The long answer would be somewhere between a rock and a hard place, for nobody in their right mind would either abide by Netz' suggestion and throw the baby out with the bath-water or follow in Schärli's footsteps and throw good money after bad. Luckily for us, the short answer skirts the problem altogether. In fact, strange though it may sound, Netz' easy way out of the predicament of piecing together how the ancient abacus actually worked and Schärli's headlong rush into it have more than meets the eye in common. To start with, they share two related, albeit mutually exclusive, misconceptions. The first is the odd idea that – for all practical purposes – the abacus' arrangement mirrored the decimal system, its columns and rows conveniently matching units, tens, hundreds, thousands, etc. The second is the even odder idea that the inscriptions on several of the surviving abaci were a nuisance to the extent that, being inconsistent to a fault with the decimal system itself, they made actual calculations harder than they already were (as opposed to making them easier, as one would expect). The first assumption – the « decimal bias » (hereafter referred to as [BASE-10 BIAS]) – is simply mistaken and betrays little or no awareness of the epigraphic and literary evidence. The second assumption – the « booby-trapped abacus bias » (henceforth noted [COMPLICATION BIAS]) – simply defeats the purpose of resorting to the abacus in the first place and betrays a poor understanding of the abacus' practical vocation which, most assuredly, was not to add to the very problem it was meant to solve.

PARS DESTRUENS (MALLEUS ABACISTARUM). Before we discard both misgivings, let's dwell a little longer and in modest detail on each :

[BASE-10 BIAS]. As it will become clear through a cursory survey of the literary and epigraphic evidence, relevant sources and surviving abaci – at least those which still bear inscriptions – typically refer to non-decimal monetary or weight values (as in « so and so much worth of etc. »). As a matter of fact, with so few exceptions as to make no difference, no known document alludes to numeric values as such in connexion with the abacus, let alone abstract units, their multiples or fractions.

covered pretty much the same ground), he's certainly taken « Greek practical mathematics » (another convenient label for roughly the same field by Asper 2003 and 2009, 108-114) to an all different level, starting with the « counter culture » pun, which – in the words of Giordano Bruno – « se non è vero è molto ben trovato ».

Although most of the available evidence points in the opposite direction, Alain Schärliig and Reviel Netz take it for granted that the ancient abacus was the practical implement of an abstract, homogeneous calculation system. « Abstract » insofar as lines and spaces between – columns, for short – stood for abstract numeric digits. Or so the story goes. « Homogeneous » insofar as the abacus layout was a plain arithmetic scale, each column standing in the same relationship to the next and its value consistently increasing – or decreasing – by the same factor : times 10 no doubt. Or so the story goes again.

Truth be told, the idea of a « decimal abacus » (Schärliig 2001, 182) is not so new. On the contrary, it is as tough as old boots, more's the pity it hasn't got a leg to stand on then. Some thirty-five years before the discovery of the first abacus in Salamis, Delambre 1811, 205 (a loose English adaptation of a French *mémoire* of 1807) already suggested that its columns stood for units, tens, hundreds and thousands. Nagl 1914, 5 and 1918, 5 took the notion for gospel ; as did Heath 1921, 46 ; Smith 1921, 7-8 and 1925, 158 ; Cajori 1928, 22 ; and Thomas 1939, 35. The idea still lingers here (Sugden 1981 ; Vilenchik 1985 ; Swiderek 1998) and there (Teeuwen 2003, 353 ; Molland 2013, 517 ; Woods 2017, 419-420), and it will for the foreseeable future – if only because Reviel Netz lent it considerable credit :

« the ancient Mediterranean abacus – the normal instrument for any calculation in Archimedes' world – simply was a decimal, positional system. [...]. In other words, the instrument consists of a series of scratches dividing rows to which the calculator assigns, for the given calculation, values such as "units", "fives", "tens" and onwards » (Netz 2003, 260 ; cf. Netz 2002a, 326-327 and Netz 2002b, 275-276).

[COMPLICATION BIAS]. If the facts don't fit the theory, change the facts or, failing that, explain them away. Unlike other – more result-driven – scientists, historians usually deem tampering with the evidence beneath them. On occasion, however, all they have to offer as an explanation is so far-fetched that one can't help but wonder whether they're really any better off for it. This must be one of those occasions. As a matter of fact, it defies reason to suggest that rational people – and certainly Ancient Greeks were as reasonable as you and me – would knowingly mess up their abacus for no other reason than to make their computational routine more exciting. Incongruous though this is, it is precisely what a number of specialists fall back on when they realize that, first, it is not possible

– by any stretch of the imagination – to match the surviving abacus' monetary (and ponderal) inscriptions with a decimal scale and, second, for that very reason, [BASE-10 BIAS] simply cannot be defended on factual ground. Clutching at straws, they came up with the not so brilliant notion that, for all their smartness, Ancient Greeks built a flaw into their abacus design. Worse yet, in spite of the obvious and most unfortunate drawbacks (we're talking about counting money and goods, for crying out loud), they never cared to fix the issue – which is, by the way, as strong an indication as any that there never was anything wrong with it in the first place.

Lest I give the impression that I'm swinging at a strawman of my own construction, let him speak for himself. In the words of the greatest abacist of recent times :

« to begin with, let it be known that one talent was worth six thousand drachmas. As a result, Ancient Greeks did not pass from thousands to tens of thousands ; on the contrary, they went from thousands to sixtains of thousands. This was a breach of the base-10 routine and a pitfall on the abacus. [...]. More departures from the base-10 norm (and, consequently, more traps on the abacus !), below the drachma this time : one drachma was worth six obols and one obol was worth eight coppers » (Schärlig 2001, 47).

With friends like that, who needs enemies ? If we were to follow Schärlig's reconstruction, we would end up with more misleading symbols on the abacus' edges than dependable ones – which is downright absurd or « it is not a bug, it is a feature » kind of hilarious (truly, some things never change !). Why on earth – if you don't mind my asking – would anyone have suffered to be misled more often than not when he laid eyes on the abacus ? Because this is precisely what would happen if a good half of the abacus' inscriptions turned out to be at odds with its alleged computational standard.

Truth be told again, the idea of a counting board riddled with « complications » (Schärlig 2001, 182, 208) is not that new either. Quite the opposite, its pedigree is as old as the first recorded archaeological discovery, for Alexandros Rizos Rangavis – who described the Salamis abacus as early as 1846 – was well aware that the inscriptions it bears are acrophonic symbols of sorts, yet he could not make out how they were supposed to make it easier to work with numbers : « we don't know much about such boards. That being said, if we are to believe that their arrangement was meant to help with arithmetical operations, then our

slab does not seem to have served such purpose in the least » (Rangabé 1846, 297)⁴³. And rightly so, one might add, at least as long as our focus is on « arithmetical operations » as such rather than on the more specialized calculations we'll bring into the picture later on⁴⁴. Unsurprisingly, classicists and historians of mathematics did not think much of the Salamis abacus. They occasionally dismissed it as a crude approximation of what a proper reckoning board should look like (Nagl 1918, 6), and – for lack of a better one (which, of course, no one is going to dig up any time soon) – they came to the rather disheartening conclusion that « the Greeks, in fact, had little need of the abacus for calculations » (Heath 1921, 51), thank you very much !

⁴³ Rizos Rangavis made the exact same point a few years later (cf. Rangabé 1855, 590), as though Jean Antoine Letronne's answer (Letronne 1846) and Alexandre Joseph Hidulphé Vincent's comments (Vincent 1846) in the meanwhile had been to little or no avail and had left him as unconvinced as he was to start with. Unless we break the mould, history is going to repeat itself, eventually. Abacus studies are no exception and the Laurion specimen (Laurion Museum, 90) presents us with a later – and slightly more complicated – example of the same conundrum. Although West 1992b made short work of Themelis 1989 allegation that the abacus inscription was a musical notation of sorts, he could not make out why the abacus' numerical symbols did not follow a tidy numerical pattern. « They do not continue the mathematical series correctly », he complained, « $1/2 = 0.5$, but then we ought to have $1/20 = 0.05$, and in the second line 1 ought to be followed by $1/10$ and $1/100$. However, they do seem to represent an attempt to continue the series with successively smaller fractions. The sage has simply used symbols current for subdivisions of the drachma and obol, going down to the minimal chalkous (X), instead of being fastidious in his arithmetic and having to find notations for unfamiliar fractions » (West 1992b, 27-28). Either I am much mistaken or this whole talk about discontinued or incorrect numerical series is completely off-target. If the Laurion abacus – as well as several others – is inscribed with the subsequence « 1 drachma, 3 obols (= a half-drachma), 1 obol, 4 coppers (= a half-obol), 1 copper », this was no coincidence – it was no mistake either, nor the whim of a poorly trained individual : it simply speaks volumes in favour of the commercial and financial nature of the abacus assisted operations, in fact transactions (I definitely side with Spuridés 1993, 66-72 on this one).

⁴⁴ Chiesa 1991, 226-236 paved the way for this line of approach with his translation (p. 226 : « nous supposons que ce qui se passe dans les mots se passe aussi dans les choses comme il arrive à ceux qui comptent les suffrages en utilisant des cailloux ») and focus on « vote counting » rather than calculation at large (p. 228 : « there is an analogy between the sophistical understanding of language and the process of vote casting, where pebbles allow voters to make their electoral choices known »). We'll show that this cannot possibly be the kind of specialized reckoning Aristotle – who, by the way, was perfectly familiar with the role counters and court abaci played in juridical and political voting procedures – had in mind. Nevertheless, even if Chiesa 2013, 53-59 will give up on it later on, his original effort to pin down the precise notion of computation involved in Aristotle's simile is instrumental in getting its meaning right.

Despite Schärliig's brave effort, the whole concept might have been conveniently left to wither on the vine, had Reviel Netz not revived it, in rather a bold fashion at that :

« for the abacus, one should note a complication – actually a rather minor one. As was already seen for obols and drachmas (and as is largely true for the higher denominations, minas and talants), the units involved do not fall into a simple decimal pattern, etc. » (Netz 2002a, 332).

Reviel Netz should have left it at that and let people trust him implicitly – as did Schärliig, who never bothered to ask why deviant inscriptions are the rule and regular ones are the exception (odd, isn't it ?). But the more brilliant a scholar, the more likely he is to forget that it is not an honest mistake that gets him into trouble – nay, it is the fancy footwork to fix it or to cover it up that does the damage. I'll have to call Mr Netz on this one, albeit reluctantly, and use his poor excuse for an explanation as a case in point. Let's go through his steps and see what happens :

« the reason for this complicated pattern lies outside Greek history : coin denominations are parasitic upon earlier weight systems which go back to the Ancient Near East. For obvious reasons, such metrological systems are extraordinarily conservative, and even today it takes enormous efforts by governments to effect conversions into decimal systems. Thus, all Ancient Mediterranean metrological systems ultimately derived from Mesopotamian temples, whose arithmetical culture was perhaps the most sophisticated the world has ever known. The peoples of the Mediterranean had to cope somehow with a numerical system designed by highly trained scribes, masters of sexagesimal operations » (Netz 2002a, 332).

So far so good, even if the Babylonian connection strikes me as a trifle too straightforward to be taken at face value. That being said, since the ultimate origin of the non-decimal abacus' layout has no immediate bearing on the issue at hand, there's no harm in taking Netz' word for it. Which leaves us with the real question – namely how did all this come to affect the ancient abacus ? And therein, as the Bard would have it, lies the rub :

« [a] this of course would make calculations somewhat difficult, but coin and weight calculations were effected by exactly the same [333] methods as purely arithmetical calculations. [b] Perhaps, in fact, this is why the abacus tended to be unmarked. An unmarked series of lines could serve equally well to represent “fives”, “tens”, “fifties”, etc., or, say, “obols”, “drachmas”, “ten-drachmas”, “minas”, etc. [c] Several literary references to the abacus envisage just that, while some of the numerical markings on the

edges of abaci belong to this family of symbols. [d] All one needed to do was to adjust, mentally, to the correct equivalences between neighbouring lines – and one had enormous experience with such equivalences, in daily economic life » (Netz 2002a, 332-333).

First things first, no literary reference – known to me – suggests, let alone implies, that unmarked abaci were more fashionable than marked ones ([b] : « the abacus tended to be unmarked »). In fact, there might be more of these (inscribed abaci) than a conservative estimate allows. Inscriptions were either engraved, and therefore permanent, or painted. A few traces of such temporary inscriptions still survive as in the case of the painted columns of a Corinthian abacus (SEG XI 188) used for public accounting during the Hellenistic period (cf. Donati 2010, 10a and 21a). Of course, we cannot make much out of it, but it stands to reason to assume that ephemeral inscriptions bore more of the same and that they too were pecuniary in nature and purpose⁴⁵. Again, no literary reference – known to me – suggests, let alone implies, that one had to shift – however easily – between decimal and non-decimal systems ([c] referring back to [b] : « “fives”, “tens”, “fifties”, etc., or, say, “obols”, “drachmas”, “ten-drachmas”, “minas”, etc. »). In fact – with one possible exception⁴⁶ – ancient Greek sources consistently stuck to the monetary standard and to the monetary standard alone.

⁴⁵ The argument’s circularity notwithstanding, the fact remains that there are a few more surviving abaci with monetary markings without columns than the other way around – and this should be telling. That being said, I’m afraid I’ll have to concede a stalemate here.

⁴⁶ *Euripidis (quod fertur) Rhesus*, 309-313 : « στρατοῦ δὲ πλῆθος οὐδ’ ἂν ἐν ψήφου λόγῳ θέσθαι δύναι’ ἄν, ὡς ἕπλατον ἦν ἰδεῖν, πολλοὶ μὲν ἰππῆς, πολλὰ πελταστῶν τέλη, πολλοὶ δ’ ἀτράκτων τοξόται, πολὺς δ’ ὄχλος γυμνῆς ἀμαρτῆ, Θρηκίαν ἔχων στολήν [Kovacs 2002, 387 : you could not count his host even by reckoning with pebbles, so ungraspable was it. Many were the cavalry, many the companies of shield bearers, many the shooters of arrows, and many the light troops in Thracian gear] ». The wording ἐν ψήφου λόγῳ θέσθαι is unusual (even a bit awkward as suggested by Fraenkel 1965, 238 and, more recently, by Liapis 2012, 147 and Fries 2014, 233), but the reference to the counters « positioned » on the abacus is transparent enough. Still, the Messenger’s allusion to accurate calculation by means of pebbles does not give us the first clue as to how the ancient abacus worked. For all we know, the hyperbole might just as well be understood as a reminder of the large amounts of currency abacus assisted calculations could easily handle (contrary to what some seem to believe – most notably Fait 1996, 186 quoted below – there’s no reason to assume that ancient Greeks expected their reckoning boards to compute infinite sums and products). Just the same, it is only reasonable to think that pebbles did stand here for soldiers and units of soldiers. As a result, an unmarked abacus or a decimal engraved one – if it ever existed – would have done the job nicely – as one

Be that as it may, it is the whole notion that the abacus' numerical markings made calculations somewhat more difficult ([a]) and required of the user constant mental adjustment ([d]) that is asinine and should be dismissed, full stop. To begin with, it makes no practical sense whatsoever : what's the point of using an abacus in the first place if you end up taking your calculations mentally off the board ? Money and weight calculations follow the exact same rules as purely arithmetical ones – fair enough. Now, try to preach the virtues of cognitive recalibration to a busy bunch of fishmongers, slave-traders and moneylenders working out monthly rates of interest or haggling over the price of anchovies and Phrygian beauties. More to the point, try to convince them that they are supposed to « adjust, mentally, to the correct equivalences between neighbouring lines » at the exact moment they're taking care of their main priority, namely getting paid. Chances are that all you're going to get is a colourful suggestion about where your mental gymnastics with recalcitrant notations belongs. Serious people doing serious business have a lot on their minds as it is ; the last thing they need is another aggravation, as if disloyal competitors and stingy customers did not make their life miserable enough. Why in the world should they let constant mental catching-up get in the way when all they need to do is to look at the markings on the edges of the abacus ? You do not mentally adjust when what you see is what you get (or what your customer thinks he gets) and, to be sure, honest businessmen (and dishonest ones too, especially the fishmongers) would not have it any other way.

All in all, it makes a lot more sense to think of the abacus' monetary inscriptions the other way around. It is not so much that they demanded mental adjustment each time calculators had to pretend that counters in a given column stood for some other value or arithmetical ratio than those spelled out in capital letters under their eyes. In fact, it is just the opposite : abacus' monetary inscriptions saved people the trouble of compensating for decimal discrepancies between neighbouring (and not so neighbouring) columns. Instead of calling for extra-attention at every turn – which is a sheer waste of time and energy to no particular avail – the inscriptions

can gather from Porter 1916, 60-61. Since it is immaterial for my purpose and I have very little to contribute anyway, I will not bring up the topic of the work's authorship, which – as early as Ritchie 1964 and without interruption ever since – has been debated to quite a remarkable extent (see Manousakis & Stamatatos 2018 for a recent *status quaestionis* and an interesting combination of traditional and non-traditional authorship analysis).

were put there for exactly the opposite reason : that is, to spare people the hassle of wrapping their heads around the most common operations involving different ratios (times eight, six, five, twelve, sixty, and of course times ten – in whatever order the reckoning at hand called for). After all, it is easy enough to count numbers, even big numbers, as long as they stand in the same relationship (say, a neat decimal one). It is a whole different story to make out figures, even small ones, as soon as they run across scales (say, coppers, half-obols, obols, drachmas, staters, minas or talents). Reason enough, methinks, to drop the idea of a flawed abacus altogether. Ancient Greeks knew better than to play havoc with their everyday tools. All things considered, it is past time we acknowledge that abacus' inscriptions are not so much part of the problem as they are part of the solution. If nothing else, we'll stop embarrassing ourselves trying to play them down. More to the point, as soon as we do away with the silly notion that abacus' inscriptions were a liability, we may start using them as the asset they were in order to figure out how the ancient abacus operated and what purpose did it actually serve. But before we turn to the literary and epigraphic evidence which has only been hinted at so far, there's at least one question we should not leave unanswered – two in fact : what do all these biases have in common and, more important still, how do they hinder our understanding of why, exactly, Aristotle brought words and counters together in the prologue of the *Sophistici elenchi* ?

HOW DID IT COME TO THIS (AND WHY DOES IT MATTER) ? For all their differences and nuances, contemporary views on ancient counting boards labour under the same basic assumption and, as a consequence, they share the same shortcomings :

- on the one hand, once pebble-boards are equated with a « state of mind » and the abacus functions as a catchword for the maths rather than the reckoning skills required to operate it ;
 - on the other hand, when the admittedly meagre epigraphic and literary evidence is either simply ignored or summarily laid aside ;
- ∴ in both cases, it becomes all too easy to lose sight of the abacus' hybrid nature and to conceive it in a rather abstract way, namely as if it were the material transcription of a plain arithmetic system (further on abbreviated as [ARITHMETICAL BIAS]).

Despite being almost universally accepted – most notably, among Aristotelian scholars who adopted it wholesale – such a view is misleading.

At the very least, it calls for qualification – or so we claim. This will be provided shortly, along the lines of a more specialized notion of abacus computation, involving first and foremost monetary calculations (ordinary currency conversions, routine accounting, everyday merchant transactions and the like) – which only makes sense, considering that, in ancient sources, the abacus is most commonly associated with counting money. (A fact that has been completely overlooked by Aristotelian commentators so far).

How is it then that [ARITHMETICAL BIAS] is so popular and comes so naturally to us that we take it for granted instead of asking ourselves whether it isn't, after all, just another way of looking at the facts of the matter? As with every issue worth discussing, the question brings its own answer along with it: there's nothing more compelling in the traditional picture than our need to deal with things on familiar terms. More to the point, we don't realize that there's more to Aristotle's analogy than the arithmetical routine of adding, dividing, multiplying and subtracting (in whatever order and combination) simply because we've always looked at it that way. As a matter of fact, Aristotle's comparison between linguistic expressions and pebbles has largely been understood – or, rather, misunderstood – as if being skilled at moving the counters around boiled down to having a knack for arithmetical calculation as such. A page from Agostino Nifo's book – an impressive piece of Aristotelian scholarship in its own right, especially when it comes to familiarity with both Eastern and Western Aristotelian commentators⁴⁷ – is as good a landmark as any and better than most. As a matter of fact, it epitomizes the view that had long become the standard story in the Latin and the Byzantine traditions alike, and convincingly passed it down to generations to come⁴⁸:

[T10] *Augustini Niphi expositiones in libros De sophisticis elenchis*, 6ra :
« QUEMADMODUM IGITUR ET ILLIC, QUI NON SUNT IDONEI CALCULOS SUBSTINERE,

⁴⁷ While interest in Agostino Nifo as an Aristotelian commentator has steadily grown in recent years (though a trifle grandiloquent, Pattin 1991's title has a ring of truth to it; more eloquently, De Bellis 2005 welcomed Nifo amongst Aristotelian interpreters who have achieved book-length bibliography status) – apart from a few exceptions (e.g. Ashworth 1976 and De Bellis 1997) – stakes in his logical production have not paid many dividends, yet.

⁴⁸ THE TRUTH AND NOTHING BUT THE TRUTH – YET NOT THE WHOLE TRUTH. Whoever happens to be interested in the full story – including the edition of all the relevant sections in the Latin commentary tradition as well as a tribute to its unsung heroes (most notably,

A SCIENTIBUS DECIPIUNTUR ET IPSI DISPUTANTES ET ALIOS AUDIENTES”. Epilogat ea quae dixit et dicit : “QUEMADMODUM IGITUR ET ILLIC”, scilicet in supputationibus “QUI NON SUNT IDONEI CALCULOS SUBSTINERE” ut sunt numerandi scientiae imperiti, “A SCIENTIBUS” artem numerandi “DECIPIUNTUR” scilicet in supputationibus et subaudi ita etiam “IPSI DISPUTANTES” qui opponunt “ET ALIOS AUDIENTES” qui scilicet respondent, subaudi decipiuntur cum ignoraverint virtutes nominum ab iis qui eas sciunt [“JUST LIKE THOSE WHO ARE NOT GOOD AT CALCULATIONS, THOSE <who have little knowledge of the power of words> ARE DECEIVED BY THE EXPERTS BOTH WHEN THEY PARTAKE IN A DISCUSSION AND WHEN THEY LISTEN <to one>”. Aristotle recapitulates what he has previously stated and says : “JUST AS IN THE CASE OF”, namely just like with computations, “THOSE WHO ARE NOT GOOD AT MAKING CALCULATIONS”, insofar as they are ignorant of the science of reckoning, “ARE DECEIVED” namely <are deceived> when they calculate, “BY THOSE WHO MASTER” the science of reckoning, the same happens – understand – to those “PARTAKING IN A DISCUSSION” – engaged, that is, in opposing <an argument> ; as well as to those who are “LISTENING” or play the role of those who answer <to the former’s questions>, for – understand – they are deceived because they know little about the power of words and, for that reason, are taken in by those who know how this power works] ».

The fact that modern commentators have reached divergent – in fact, opposite – conclusions about the nature and purpose of Aristotle’s pebble analogy should not prevent us from looking at their differences as variables bound to the same constant. As a matter of fact, [ARITHMETICAL BIAS] is so embedded in the fabric of contemporary understandings of Aristotle’s simile that one simply has to tug at the thread to see their alleged variety unravel to reveal a common pattern. Admittedly, analysis grids – even broad and compelling ones – are a dime a dozen. This particular one, however, delivers more than the usual bang for your buck. If nothing else, because it comes with a routine check – provided by the text itself⁴⁹ – which allows to set different readings at variance (insofar as

the Anonymus Bavaricus and William of Ockham, who got the analogy just about right, pebbles and all !) – will have to wait for the mediaeval instalment of the saga (Gazziero forthcoming).

⁴⁹ There are, of course, exceptions to every rule, and [« τὸ δ’ οὐκ ἔστιν ὁμοίον » TEST] has a few of its own. These are hard to come by, however, and they are best accounted for as people taking liberties with the text or relying on gross mistranslations. As for the former (exegetical liberties), cf. e.g. Rescher 2006, 108 : « The Inexhaustibility of Fact. The point is that there is every reason to think that language cannot keep up with reality’s realm of actual existence. And this important point is not all that new. For the unbridgeable gulf between language and reality was already noted by Aristotle : “It is impossible in a discussion to bring in the actual things discussed : we use their names as

their conclusions are actually at odds) while laying bare their fundamental

symbol instead, and we suppose that what obtains in the names obtains in the things as well... But the two cases are not alike. For names are finite and so are their combinations, while things are infinite in number. Inevitably, then, the same words, and a single name, have a number of meanings” (Aristotle, *Sophistici elenchi*, 165a 5-13). The crux is that facts need not be exhausted by truths, etc. »... so much for the analogy between names and counters. That being said, it is pretty clear how Nicolas Rescher tested as far as [« τὸ δ’ οὐκ ἔστιν ὅμοιον » TEST] is concerned. Truth be told, he wasn’t the first to go down that road – Lugarini 1963, 332 had already deconstructed the text in similar fashion. He won’t be the last either – Wey 2014, 324 cut Rolfes 1925’s translation of Aristotle’s text along the very same lines and read it accordingly : « man kann beim Disputieren nicht die Dinge selbst hernehmen, sondern gebraucht statt ihrer, als ihre Zeichen, die Worte. [...] Aber hier fehlt die Gleichheit usw. » ; as does Cosci 2014, 349 with Zanatta 1995’s : « poiché non è possibile discutere adducendo le cose stesse, ma ci serviamo dei nomi come di simboli in luogo delle cose, riteniamo che quel che accade per i nomi accade anche per le cose, [...]. Ma la somiglianza non sussiste etc. »). As for the latter (i.e., mistranslations), cf. e.g. Walz 2006, 244 : « an analogy that Aristotle makes in *Sophistical Refutations* may be helpful for grasping the significance of this latter point. He says : “For one cannot discuss by bringing in the things themselves, but we use names as symbols instead of the things, and we suppose that what follows about the names follows also about the things, just as those who calculate suppose about their pebbles. But it is not alike. For names and the quantity of calculations are limited, whereas things are unlimited in number. It is necessary, then, that the same calculation and one name signify for many” ». Even if one disregards the rather infelicitous rendering of « πλείω σημαίνειν » (« signify for many », as opposed to the more sensible « have a number of meanings » or « signify several things »), whatever λόγος means in [URTEXT], 165a 11-13 – and we haven’t heard the last of the feud between those who understand it as « account » or « definition », on the one hand, and those who understand it as « sentence » or « utterances », on the other hand – it surely does not stand for « calculation ». If, this late in the game, one still feels like asking why, I’m not sure he or she would understand the answer anyway. Even if it is hardly part of their job description any more, a few modern translators have gone beyond and, in a few cases, above the call of duty and have made it plain where their sympathies lay. Forster 1955, 13, for one, sided with the most traditional view. His translation of [URTEXT] reads : « for, since it is impossible to argue by introducing the actual things under discussion, but we use names as symbols in the place of the things, we think that what happens in the case of the names happens also in the case of the things, just as people who are counting think in the case of their counters. But the cases are not really similar ; for names and a quantity of terms are finite, whereas things are infinite in number ; and so the same expression and the single name must necessarily signify a number of things. As, therefore, in the above illustration, those who are not clever at managing the counters are deceived by the experts, in the same way in arguments also those who are unacquainted with the power of names are the victims of false reasoning, both when they are themselves arguing and when they are listening to others ». Forster’s choice of words (« in the case of things », « in the case of counters », « but the cases are not really similar ») strongly suggests that he understood the « τὸ δ’ οὐκ ἔστιν ὅμοιον » clause as if Aristotle were opposing how we use words, on the one hand, and how we use counters, on the other hand ; that is to say, along the lines of a fundamental lack of similarity between the two. Pickard-Cambridge 1928, 535-536, for another, provided extra clarity by spelling out what is what in « τὸ δ’ οὐκ ἔστιν ὅμοιον », that is « names » and

agreement (insofar as they are, in reality, committed to the same underlying assumption).

[« Τὸ δ' οὐκ ἔστιν ὅμοιον » TEST]. Whoever skims – however cursorily – through [URTEXT] and the relevant literature, will acknowledge that there is no way around the puzzling « τὸ δ' οὐκ ἔστιν ὅμοιον [but this is not the same] » (165a 10) Aristotle squeezed between the first mention of those who manipulate the counters for reckoning purposes and the main reason why those who use words for the sake of arguments should not trust them at every turn. As usual, – barring the occasional reader too clever for his own good (and anyone else's) – everybody agrees that Aristotle's reasoning ties up nicely. How it is so, however, is a matter of some controversy. In a nutshell : how much stock did Aristotle put in his own simile ? Are we to take him at his word – « καθάπερ ἐπὶ τῶν ψήφων » (165a 9-10), « τὸν αὐτὸν τρόπον καὶ ἐπὶ τῶν λόγων » (165a 15) – and understand the analogy literally (linguistic expressions are to argumentation as counters are to abacus calculation, hence the way we mishandle the latter sheds some light on how we misuse the former) ? Or, should we assume that computational and linguistic symbols work at cross purposes and the analogy is to be understood as if it meant the opposite (linguistic expressions and counters simply don't get along, hence how we put the latter to good use when we work figures out may cast some light on how the former let us down when we argue) ?

[DISANALOGY VIEW] : TOO MANY CHIPS, NOT ENOUGH WORDS. Despite being counterintuitive, the idea that Aristotle mentioned abacus' tokens in order to explain how linguistic items do not work, rather than the other way

« things » : « it is impossible in a discussion to bring in the actual things discussed : we use their names as symbols instead of them ; and therefore we suppose that what follows in the names, follows in the things as well, just as people who calculate suppose in regard to their counters. But the two cases (names and things) are not alike. For names are finite and so is the sum-total of formulae, while things are infinite in number. Inevitably, then, the same formulae, and a single name, have a number of meanings. Accordingly, just as, in counting, those who are not clever in manipulating their counters are taken in by the experts, in the same way in arguments too those who are not well acquainted with the force of names misreason both in their own discussions and when they listen to others » (Barnes 1984 will undo Pickard-Cambridge's efforts, for the revised translation reads : « but the two cases are not alike. For names are finite etc. » – one step forward, two steps back). For all that Jules Tricot's French translation usually does not look its best when compared to more recent endeavours, it is only fair to acknowledge that, in this particular instance, it definitely stands comparison : « or, entre noms et choses, il n'y a pas de ressemblance complète : les noms sont en nombre limité, ainsi que la pluralité des définitions, tandis que les choses sont infinies en nombre etc. » (Tricot 1939, 3).

around, has been remarkably successful. As a matter of fact, it has held sway amongst Aristotelian pundits since forever. It has also resonated with historians of linguistic theories and linguists alike, most notably through the corollary that calculations, as opposed to arguments, enjoy a direct, indeed a one-to-one relationship with what they are calculations about.

Norman Kretzmann expounded [DISANALOGY VIEW] very concisely – and very effectively – in his mainstream « History of Semantics »⁵⁰ :

« ambiguity, Aristotle maintained, is theoretically unavoidable, [363] for since “names and the sum-total of formulas [λόγοι] are finite while things are infinite in number... the same formula and a single name must necessarily signify a number of things”. This will, however, give us no trouble unless “we think that what happens in the case of the names happens also in the case of the things, as people who are counting think of their counters”, which are in a one-to-one correspondence with the things counted (*Sophistical Refutations* 165a 5) » (Kretzmann 1967, 362-363).

In so many words, he claims that people who reckon have good reason to think that the result of their calculations obtains out there, whereas those who use words instead of pebbles have little reason to be that confident. And – before you ask – pebble-pushers are usually right and word-spinners aren't because pebbles stand in a one-to-one relationship with the things they count, whereas words do not stand in so straightforward a relationship with the things they mean. Explanations in the same vein have achieved, on occasion, comparable accuracy and terseness⁵¹. They

⁵⁰ Since we have already dealt with the minutiae of the text, there's no point in taking up again for discussion the curious claim that Aristotle's homonymy results from the fact that the same name and the same definition applies to a number of things, a rather straightforward consequence of translating λόγος in [URTEXT], 165a 13 as if it meant « formula » or « account » rather than « sentence » or « statement ». Only one thing worth noting here. Even though Norman Kretzmann was not, by far, the only one to operate under this particular delusion, he should have known better, given his impeccable credentials as a mediaevalist. As a matter of fact, neither Michael of Ephesus nor Latin commentators thought for one second that Aristotle could possibly be referring to ordinary names and definitions here. Robert of Hautecombe, for instance, made it pretty clear that : « et si dicatur quod illae nominantur nomine communi, non propter hoc sequitur nomen esse aequivocum quamvis unum nomen commune plures res comprehendat [and if one were to say that those things are named by means of a common name, it does not follow that, because of that, the name is equivocal, even if each common name refers to a plurality of things] » (*Commentarium in Sophisticos Elenchos*, 136ra / 2va). Mediaeval Aristotelians knowing their business and all, no one ever bothered to make the same point about formulae or accounts.

⁵¹ No doubt, Michel Foucault and Louis-André Dorion achieved both, which – Foucault being Foucault and Dorion being Dorion – is hardly surprising : « <the difference

may even exhibit a higher degree of technicality, but the outcome is pretty much the same : what sets counters apart from words is that they are mere embodiments of abstract computational operands (units, tens, hundreds, thousands, etc.) which are dealt with in accordance with abstract computational rules (basic operations and ratios).

Italian scholars have been particularly fond of this narrative, which they have perfected over the years⁵².

Antonino Pagliaro – one of the very first to see the merits of the « τὸ δ' οὐκ ἔστιν ὁμοίον » proviso⁵³ – set the tone in the early Sixties. He drove home a peculiar but telling point : that is, « Aristotle sets forth a clear-cut distinction between the language of numbers and the language of spoken words » (Pagliaro 1962, 45)⁵⁴. He argued – on a general principle –

between names and things> consists in the fact that there is a finite number of names and an infinite number of things, that there is a relative scarcity of words ; that we cannot establish a bi-univocal relation between words and things. In short, the relation between words and what they designate is not isomorphic to the relation that enables one to count » (Foucault 1971, 44) – « (*ad* 165a 3) the case of the names we use instead of things is not exactly similar or even analogue to the case of the pebbles we use when we reckon. Because, for a reason Aristotle will introduce immediately afterwards, between words and things there's not the one-to-one relationship there is between counters and the unities constitutive of numbers » (Dorion 1995, 206). Others achieved a poetic concision of sorts, most notably Larkin 1971, 10 : « the reason for using names is that we cannot calculate with the things themselves »... whatever that means.

⁵² Precursors (and outsiders) rather than epigones will be our main concern here (with one exception : Pagliaro's clone mentioned below, note 54). Accordingly, we'll not touch upon more recent avatars of [DISANALOGY]. Amongst others, Gusmani 1993, 111 and 2004, 155 ; Lo Piparo 2003, 183-186 (the section's heading says it all though : « Le parole non sono sassolini ») ; Sorio 2009, 301 ; Gusmani & Quadrio 2018, 58.

⁵³ Picking a quarrel with McKeon 1947's translation : « the two cases (of names and things), however, are not alike, for names are finite as is the sum-total of assertions, while things are infinite in number » – which in our book is as good a translation as it gets and counts as two strikes (« names and things », strike one, and « sum-total of assertions » strike two) – Pagliaro 1962, 45 note 11 sensed that much was at stake here : « according to this reading the dissimilarity implied by the τὸ δ' οὐκ ἔστιν ὁμοίον refers to an opposition between words and things, whereas we understand it as a dismissal of our belief (ἡγούμεθα συμβαίνειν) that what goes for words also goes for things, just like it happens with numbers, and the pebbles which stand for them, for they both refer directly to things ».

⁵⁴ Di Cesare 1981a made the same exact point some twenty years later : « most notably, Aristotle sets verbal language and numeric language apart » – all the more reason to put them in the same bag, considering that her main arguments are the same (Pagliaro 1962 is suitably mentioned twice p. 23 note 6 and, more to the point, p. 24 note 8), almost to the letter (Pagliaro 1962, 45-46 : « differenza netta tra il linguaggio dei numeri e il linguaggio fonico », « l'uno e l'altro non operano direttamente con gli oggetti particolari », « nel rapporto tra il numero e le cose vi è un rapporto fisso, nel senso che il numero, applicandosi esclusivamente all'aspetto puramente quantitativo del reale, opera secondo

that numbers and their symbolic counterparts match things, no matter how many there are out there. Words, on the contrary, as made perfectly clear by Aristotle, are always in short supply. In addition, he resorted to an enthralling example to back up such claim :

« clearly, the difference between those who speak and those who count or reckon with pebbles (the affinity between the two does not extend any further than the fact that neither deal directly with the things themselves) consists in the fact that, as far as numbering is concerned, symbols and things are in a straightforward relationship with one another – one pebble stands for one book, two pebbles for two books. On the contrary, language makes use of signs, which – as such – have a remarkable latitude when it comes to meaning something. As a matter of fact, linguistic signs refer to concrete objects which they determine both through connotation and extension : e.g., not only the word “book” can be used for books whose shape and content may differ, but it can also refer to one, two, three books or all of them (for we say: “the book contributes to the dissemination of culture”). Fallacies arise from within the scope of such meaning, understood as a concept » (Pagliaro 1962, 46).

Sure enough, Antonino Pagliaro’s take on Aristotle’s homonymy and its origin was way off the mark : whether conceptual or not, the unity of meaning of the word « book » has nothing to fear from the fact that it stands not only for all kinds of books but also for all quantities thereof – one, two, three or the whole lot of them for that matter, needless to say : in whatever shape, size and content they come. That being said, what Pagliaro lacked in Aristotelian orthodoxy and, arguably, in semantic insight tout court, he made up for in critical acumen, for his appreciation of the exegetical options available, as well as his preference for the idea that pebbles and words have next to nothing in common, were to shape later readers’ views starting with the decision about what side of the [$\ll \tau\acute{o} \delta' \omicron\upsilon\kappa \xi\sigma\tau\iota\nu \delta\mu\omicron\iota\omicron\nu \gg$] fence it is better to be sitting on.

determinazioni ben stabilite », « nella numerazione concreta il rapporto del simbolo con la cosa è diretto, nel senso che il legame sul piano dell’estensione è univoco », « nel caso del linguaggio si opera con segni, che per sé hanno una grande latitudine connotativa e all’oggetto concreto si applicano, attraverso una duplice determinazione, connotativa e estensiva », etc. ; Di Cesare 1981a, 22-24 : « distinzione tra linguaggio verbale e linguaggio numerico », « entrambi usano simboli al posto di degli oggetti particolari », « il numero ha un rapporto univoco con l’oggetto, dato che tale rapporto è determinato quantitativamente e perciò è fisso », « il nome che possiede una grande latitudine connotativa, si riferisce all’oggetto concreto attraverso una determinazione connotativa e denotativa », etc.) – more of the same in Di Cesare 1981b, 16-20.

Walter Belardi took up where Antonino Pagliaro left off without adding much new, except for the fancy « onomata : pragmata = psêphoi : pragmata » proportion – a flawed one at that, as it turns out :

« while “psêphoi : pragmata” may be interpreted as a one-to-one (1:1) relationship, insofar as there are as many pebbles or calculi as there are things they stand for (it is a numerical representation, that is to say a reckoning), “onomata : pragmata” is a different kind of relationship altogether, insofar as it is a one-to-many relationship (1:n, where n stands for a whole number whatsoever). From a “linguistic” point of view, a single sign, for instance the word “man”, stands for infinite men (it is a symbolic representation, that is to say a word). Accordingly, “psêphoi : pragmata” is a relationship where quantity is identical ; on the other hand, “onomata : pragmata” is a relationship where quantity differs and is indeterminate, indeed undeterminable because of the infinite latitude of things the name applies to, insofar as it can refer to whichever of the infinite (or, more accurately, the infinite number of possible) homogeneous individuals it stands for by virtue of the abstract generic notion these individuals amount to » (Belardi 1975, 141-142 = Belardi 1976, 83).

It appears that Walter Belardi too took a wrong turn somewhere, for there’s no way a word can get us in trouble for just referring to multiple individuals of the same kind (this is precisely what « homogeneous » means here, if we are to take his cue). On the other hand, his account of why (and how) counters and words do not add up is a nice variation on an old favourite : one-on-one and one-too-many are formulas whose appeal is seldom lost and arithmetic gadgets cut a nice figure and all, but we definitely are on familiar ground here, even if it is a slippery slope.

Even though Eugenio Coseriu did not fix the alleged polysemy bug that had plagued his two predecessors (if anything, he made things worse with a highly unorthodox translation), he nevertheless pushed the commitment to [ARITHMETICAL BIAS] a step further – which, so it appears, he upheld in its purest form⁵⁵ – the decimal friendly sort (« ein einziger Rechenstein auch bestimmte Gruppen von Sachen – z. B. 10, 100, 1000 davon – vertreten kann, usw. ») :

« there’s no analogy between the relationship “names-things” and the relationship “counters-things”. Counters and things stand in a one-to-one relationship (regardless of whether a counter can stand for a given set of things

⁵⁵ Anecdotal evidence suggests that, since at least July 1977, Eugenio Coseriu believed numbers’ univocity to be a literal quotation from the prologue of Aristotle’s *Sophistici elenchi* – cf. Garcia Yebra 1981, 33-34.

as well, e.g. ten, one hundred, one thousand). It is a direct relationship : counters simply stand for things. They have no “meaning”. Their only function is to represent things or to refer to them directly. Not so with names. A name does not stand directly for this or that thing. What it stands for is a unity, a single meaning. Accordingly, through such meaning, it can refer to multiple things (basically, it can refer to everything that matches its meaning, that is to say everything that is what the name means or possess the feature the name refers to). For precisely this reason, “those who are not familiar with the power of words” run into all kinds of problems » (Coseriu 1979, 436).

Interestingly enough, Eugenio Coseriu allowed counters to stand for more than one thing. Even so, he did not let it affect the margin of error for counter-assisted calculations, which hardly increased at all. As a matter of fact, it makes no difference how much a pebble is worth (be it one, ten, one hundred or one thousand, as Eugenio Coseriu revealingly put it). « Why ? » would be an interesting question to ask – considering that, as it will be argued later on, first and foremost Aristotle’s analogy is about failure : failure to handle counters no less than failure at juggling with words. For the time being, however, we’d like to point out instead that Coseriu’s concession only makes sense as long as computational symbols work as mere placeholders in the strictly controlled environment of numbering as such or purely arithmetical calculation. Stripped of all meaning, counters become perfectly safe to work with. Virtually indistinguishable from numbers themselves, they are in fact expected to operate at the same level of transparency and compliance to smooth arithmetical routines.

TENGO NA ANALOGIA TANTA. Is saddling Aristotle with a « mistaken analogy » the best we can do⁵⁶ ? The standard story has been told for so very long that the question may appear, *prima facie*, more provocative than it actually is. Truth be told, not only has the issue been raised before, but we already have the answer or, at the very least, a good half of it. On the face of it (but feel free to scrape the surface and dig all you like), [DISANALOGY VIEW] bears two tell-tale signs. On the one hand, there is [DISANALOGY], or the idea that Aristotle’s pebble analogy is an analogy in name only. On the other hand, there is [ARITHMETICAL BIAS], namely

⁵⁶ Albeit misguided and a tad naive, Schreiber 2003, 12 « mistaken analogy » label – his most noteworthy contribution on this issue – rings ominously true. If naming is nothing like counting, then – maybe – we’d better just let them go their separate ways instead of forcing one on the other while doing violence to both.

the idea that pebbles are of no interest by themselves and carry no particular significance – other than, of course, reminding us that people who toss them around are more or less proficient with numbers and calculations. If one does not particularly like this picture and wishes to replace it with a new one, he basically has two options. He can either reject the [DISANALOGY] part of [DISANALOGY VIEW], while going along with the overall [ARITHMETICAL] narrative itself, or he can get rid of the whole caboodle and discard not only [DISANALOGY], but also – and especially – the [ARITHMETICAL BIAS] it is embedded with.

The first option has been brilliantly argued for by Fait 1996 – hands down the finest piece of scholarship ever written on the subject⁵⁷. While making quick work of [DISANALOGY]’s flaws, Paolo Fait must have felt there was no need to tear down its conceptual framework in the process. As a result, instead of turning the page of the old narrative once and for all, his criticism of [DISANALOGY] lead to a more refined version of the same old story. In Fait’s view, the « computational analogy » – as he calls it (which itself speaks volumes) – suffers no restrictions. On the contrary, it provides a powerful way of illustrating how calculation as such and language can shed light on each other. To begin with, it is supposed to clarify Aristotle’s premiss and help us understand why we can’t have actual things speak for themselves :

« the factual claim that it is impossible to display the things themselves when we talk about them gains greatly in clarity if we take into consideration its arithmetical counterpart : as long as small numbers are concerned, we can add things up directly, without resorting to counters. On the other hand, once we reach amounts that transcend the human ability for numerical representation, a positional system’s usefulness becomes obvious on account of its symbolic spareness » (Fait 1996, 185).

More to the point, the simile accounts for the success language and calculation achieve in dealing with an infinite number of different items by virtue of a finite number of tools, words and counters respectively⁵⁸.

⁵⁷ Though we’ll end up disagreeing (*amicus Paulus, etc.*), it is only fair to acknowledge Paolo Fait’s breakthrough : in hindsight, he deserves all the credit for having almost singlehandedly brought down [DISANALOGY] bias, the main stumbling block on the way of an adequate understanding of Aristotle’s counters comparison.

⁵⁸ It is a bit of a pity that emphasis on success – rather than on failure, as one would expect – is the lesson readers have drawn from Fait’s authoritative contribution (cf. e.g. Laspia 2004, 112).

And this is precisely, according to Paolo Fait, what makes the analogy worthwhile :

« the analogy between words and counters also explains better the opposition between language, which is finite, and reality, which is infinite. As a matter of fact, the numerical notation systems ancient Greeks were familiar with had to resort to ever new symbols as the numbering went on. On the contrary, nine counters are, in principle, all you need to display any number on the abacus. In the precise and concise words of Hermann the Cripple (Hermann von Reichenau), author of a well-known treatise on the abacus : column by column, “usque in infinitum progreditur” multiplying by ten over and over again. Since this feature of the abacus undoubtedly goes hand in hand with the counters’ “ambiguity” – on which the *Elenchi*’s comparison rests entirely – it is not hard to grasp the remarkable analogy between the fact that a few pebbles is all it takes to represent the infinite series of numbers and the idea that a limited number of linguistic items suffice to refer to an infinity of meanings » (Fait 1996, 186-187).

No wonder Paolo Fait conveys the kind of lame stereotypes we have already challenged – most notably, the myth of a « decimal abacus »⁵⁹ and the belief that ancient counting boards were used for calculations making little allowance for concerns other than purely arithmetical⁶⁰. Nor does it come as a surprise that the meagre evidence he presents may be either dismissed as irrelevant or construed as implying the contrary⁶¹.

⁵⁹ In addition to the passages just quoted, cf. Fait 1996, 182-183 : « it is likely that the type of abacus ancient Greeks used had a number of columns which stood for different orders of magnitude (to keep it simple, think of these as units, tens, hundreds, etc.) ».

⁶⁰ Since there is no conclusive evidence, I won’t tackle here the issue of whether the ancient abaci were actually built to handle open-ended calculations. That being said, all the circumstantial evidence I’m aware of (and which will be provided shortly) is not consistent with Paolo Fait’s suggestion.

⁶¹ Predictably enough, Salamis’ abacus is the only counting board Paolo Fait shows any interest in (Fait 1996, 182). We have already cast some doubts on the literature he relies on (in particular, Cantor 1863, Heath 1921 and Smith 1921), so we will leave it at that. Predictably enough as well, an all too known passage from the Aristotelian *Problemata* is the only literary source Paolo Fait mentions at this juncture – Fait 1996, 187 : « as a confirmation of the fact that Aristotle was fully aware of the properties of a positional system we may adduce a passage from the Aristotelian *Problemata* <XV 3, 910b 38 - 911a 1> where Aristotle offers as a possible explanation of the success the decimal system has with all people, Greek and barbarian alike : “or is it because all people were born with ten fingers ? So having as it were their own number of counters, they count other things with this quantity as well ?” ». As of this moment, it is our word against Paolo’s. In a page or two, we hope to show that this very text tells quite a different story and is better understood as an explanation of the reason why decimal abaci weren’t built, despite the fact ancient calculators were perfectly familiar with the decimal system itself.

PARS CONSTRUENS (ABACUS ANTIQUORUM). We can now turn to the literary and epigraphic evidence that will provide the much-needed background [ARITHMETICAL BIAS] – for reasons that should be obvious by now – has no interest in taking into account. Since our aim here is to spell out the reasons why Aristotle resorted to the pebble analogy in the first place and to assess, accordingly, the implications for his views on how language occasionally fails us, we won't indulge in a full-fledged reconstruction of the ancient abacus – specialists have long run out of educated guesses and ours, semi-educated at best, are no great shakes – nor will we go into too many details – which we are in any case lacking – as to why, for all its strengths and sophistication, the abacus was an accident waiting to happen (to the unwary and the untrained, that is). A minimalist account of what reckoning boards must have looked like, interspersed with a summary survey of the literary and epigraphic evidence, will do for the purpose of illustrating the abacus' features which Aristotle's simile presupposed and relied upon.

As far as we can tell, ancient abaci were crude but effective reckoning devices. Even if we do not go so far as to claim that any ruled board – or flat surface for that matter – along with a handful of tallies might have easily qualified as such, it is safe to assume that abaci came in all shapes and sizes, ranging from bulky, stationary items to light, portable ones. At almost five feet long, two and a half feet wide and as many inches thick, the Salamis abacus, with its 400 pounds of Pentelic marble, is firmly on the heavy side – as are, understandably enough, most of the thirty-odd other surviving stone specimens⁶². No small-scale counting board of old has survived⁶³, so we have precious little to go on, besides the fact that

⁶² As Rousset 2013, 290 note 8 pointed out not so long ago, an accurate (and complete) description (as well as inventory) of ancient Greek abaci is still a desideratum. For the time being, we'll have to implement and cross-check lists, additions and the occasional rectification from different sources ; most notably : Lang 1957 and 1968 ; Pritchett 1968 ; De Grazia & Kaufman Williams 1977 ; Buchholz 1984, 562-563 ; Immerwahr 1986, 198 note 7 ; Schärli 2001, 61-95 (the most complete catalogue to date) ; Knoepfler 2001, 78-81 ; Chaniotis, Corsten, Stroud & Tybout 2001 ; Mathé 2009, 173 ; Marcellesi 2013, 413-414. As far as the Salamis board is concerned (IG II2, 2777), the best preserved and first to be discovered, it was described for the first time by Rangabé 1846. Pritchett 1968, 194 note 10 pointed out an error in previous drawings (Rangabé 1846, 296 ; Nagl 1899, 357 ; Heath 1921, 50 ; as well as Lang 1964, in fact the only one he cared to catch out) – all three sets of numerals (« money units » of course, as acknowledged by W.K. Pritchett himself) should be facing outwards rather than inwards – it figures.

⁶³ The converted roof tiles and potsherds described in Lang 1956, 19 and Lang 1976, 22 must have come pretty close to the real thing. The counting table painted on the so-called Darius volute-crater comes in a distant second. It certainly is about the right size

they were easily summoned and put to use on the spot, as a comedic argument over the price of a dinner amongst friends is to suggest :

[T11] *Athenaei Naucraticae Deipnosophistae* III, 117e 3-7 : « ἐν δὲ Ἀπε-
γλαυκωμένῳ συμβολὰς τις ἀπαιτούμενός φησι· <A> Παρ' ἐμοῦ δ', ἐάν
μὴ καθ' ἐν ἑκαστον πάντα † δ' ὡς †, χαλκοῦ μέρος δωδέκατον οὐκ ἄν
ἀπολάβοις. δίκαιος ὁ λόγος. <A> ἀβάκιον, ψῆφον. λέγει [Douglas
Olson 2006, 57-59 : in *The Man Who Had a Cataract* <Alexis, fr. 15>,
someone being asked to pay his share of the expenses for a dinner party
says : <A> unless † ... † every item individually, you wouldn't get a penny
out of me. fair enough. <A> bring an abacus and some counting pebbles !
Go ahead !] ».

There's been a bit of controversy over who said what at the beginning of Alexis' fragment, as reported by Athenaeus⁶⁴. However, it makes no difference who took the initiative of fetching the abacus in order to settle accounts, be it the guest arguing the toss (A) or his associate intent on setting the record straight (B). Whichever character called for the reckoning board, he certainly expected a slave or a servant to hand it to him as easily as the handful of counters that went with it⁶⁵, rather than lead him to one. That being said, it might just as well have come down to the same thing : whatever the actual shape and size of the abacus (wooden frame or table, stone slab, even the occasional dust or sand tray⁶⁶), counters would have been added to the corresponding column and moved around

and is often referred to as a reckoning board (cf. Sugden 1981, 7 ; Cuomo 2001, 11-13 ; Chankowski 2014). That being said, even if the pro abacus party has grown stronger of late, doubts linger whether it was a reckoning board to begin with rather than just a convenient desk for counting actual coins (cf. already Smith 1909, 193-195 and 1925, 161).

⁶⁴ Modern editions, as the one we adopted here for the editor's candour, usually follow Schweighaeuser 1802, 323, and have (A) ask for the abacus. On the other hand, Kaibel 1887 and Desrousseaux 1942, 53 have (B) – rather than (A) – speak the words : « δίκαιος ὁ λόγος. ἀβάκιον, ψῆφον » (117e 7). Arnott 1996, 88 discusses the issue, very briefly, and takes (B) solution's side, which indeed seems slightly more plausible : (B), who has just acknowledged that (A) has every right to ask where the money has gone, makes it clear that the calculation will be run strictly by the book.

⁶⁵ As noted by Schweighaeuser 1802, 323, followed by Desrousseaux 1942, 53-54, we don't need, strictly speaking, a plural here, since the singular ψῆφον may as well have a collective connotation.

⁶⁶ While ideal for tracing geometric figures, dust abaci would have been a hindrance more than a help when it comes to reckoning, unless impressions in the sand were erased as one went along (a cumbersome process all the same). Pushing pebbles would only make it worse – as Pullan 1968, 18 shrewdly observed : « it is not so easy to imagine counters being moved easily from place to place on a sandy surface, and grooves would only add to the difficulty of moving them ».

as (B) talked (A) through the bill. As a matter of fact, even without pressing the point too hard, it is worth noticing that designs and inscriptions on diminutive or vestigial abaci matched those on larger, official ones, being in every case monetary symbols⁶⁷ (more about that shortly).

« INDULGE ME ». For there's wisdom in asking to see a negative before providing a positive, let's start with the abacus' opposite number and

⁶⁷ Cf. e.g. Lang 1976's E6 (= Lang 1956's n°79) : an « informal abacus, with the symbols serving as headings for the placement of pebbles : 5 (drachmas), 1 (drachma), 1 (obol), 1/2 (obol), 1/4 (obol) » (Lang 1976, 22). Since we have already mentioned it, it is worth noticing all over again that – though somewhat atypical (cf. Tybout 1978 for a discussion of the peculiar symbols involved, in particular the letter Ψ for 1000, usually noted X (χιλίοι)) – the eight letters inscription on the Darius vase is monetary through and through (I would be hard pressed to say what to do exactly with Massa Pairault 1996, 239-240 contention that the letters are in fact a cipher reminding Histiaeus' plot to start the Ionian uprising against the Persians) : T stands for τεταρτημόριον, that is a quarter obol ; O is the initial letter for ὀβολός, namely an obol ; chances are that the unusual « < » sign, placed as it is between T and O, is worth a ἡμιωβέλιον, i.e. an half-obol, etc. This might carry little weight though, for the painter – that's my two cents – had another agenda altogether : the whole scene is not so much a snapshot of an actual ongoing calculation. Rather, it simply states the price of the vase which the Darius painter spelled out in unconverted obols (1340 obols, by my math : that is 5 (O) + 1×5 (Π) + 3×10 (Δ) + 3×100 (H) + 1×1000 (Ψ à la béotienne)), which by the way is not unheard of (cf. e.g. similar amounts expressed in Delian inscriptions both as « δραχμάν, ὀδελοῦς δύο ἡμιωδέλιον » (FD, III, 15) and « ὀβολοῦς ὀκτώ ἡμιωδέλιον » (FD, III, 16)). Since Pouzadoux 2009, 259 also worked out the figures, but they do not tally with mine [a], it is hard to say whether she made the same suggestion or not – for sure, she did not understand the epigraphic evidence along the same lines, namely as a standard whose unit is the obol rather than the drachma (which saves us the trouble of reading either too much or too little into the Π symbol and allows us to construe it as a most unexotic abbreviation for 5... 5 obols, that is – instead of the botched scratch it is usually thought to be). Anyway, whether I got her suggestion right or wrong [b] and for what it's worth – I first picked up the idea from her : « if the overall picture catches the gist of a tax collection scene and presents us with the last piece of the Persian royalty in Alexander's times, a closer look would have revealed the letters and their provenance. This might just be the piece of misdirection that allowed the painter to give away his origin and his work's worth » (Pouzadoux 2009, 259). [a] Pouzadoux 2009, 259 : « the outcome of the operation, as depicted in the scene, might be 1235 drachmas and 5 obols (1000×1+ 100×3+10×3+5×1+1×5) ». In fact, 1335 drachmas and 5 obols, for we counted them again over the phone. [b]. As it happened, more wrong than right, for what Claude Pouzadoux had in mind was more of a symbolic nature : the hyperbolic figures the accountant is working his way up to – and, for sure, he's nowhere near the final result, one hundred talents, as indicated in the diptych he holds in his left hand – epitomize the painter's high opinion of his own work and craftsmanship. Admittedly, the figures I come up with may still be a bit on the expensive side (for comparison purposes, Alexis' blow-out budget, as partially (?) recorded in [T15], was anything between fifty and sixty obols), but they should not shock even the harshest critics of the « fine pottery » lobby and their most conservative estimates (cf. notably Vickers 1990, 613 note 6, confirmed in Gill & Vickers 1995, 227).

work our way from there. Despite the fact that they bore the same name, the pebble board (ἄβαξ) – as well as the pebbles (ψῆφοι) – used in everyday calculations were quite different from those used, say, in Athenian courts of justice and assemblies :

[T12] *Aristotelis Atheniensium respublica* 69, 1 : « πάντες δ' ἐπειδὴν ὅσι διεψηφισμένοι, λαβόντες οἱ ὑπηρεταί τὸν ἀμφορέα τὸν κύριον, ἐξερωσιν ἐπὶ ἄβακα τρυπήματα ἔχοντα ὅσαιπερ εἰσὶν αἱ ψῆφοι, καὶ ταῦτα ὅπως αἱ κυρίαί προκείμεναι εὐαρίθμητοι ὄσιν, καὶ τὰ τρυπητὰ καὶ τὰ πλήρη. οἱ δὲ ἐπὶ τὰς ψήφους εἰληχότες διαριθμοῦσιν αὐτὰς ἐπὶ τοῦ ἄβακος, χωρὶς μὲν τὰς πλήρεις, χωρὶς δὲ τὰς τετρυπημένας. καὶ ἀναγορεύει ὁ κῆρυξ τὸν ἀριθμὸν τῶν ψήφων τοῦ μὲν διώκοντος τὰς τετρυπημένας τοῦ δὲ φεύγοντος τὰς πλήρεις· ὁποτέρῳ δ' ἂν πλείων γένωνται, οὗτος νικᾷ, ἂν δὲ ἴσῃ, ὁ φεύγων [Rhodes 2017, 171-173 : when all the jurors have voted, the attendants take the jar that is to count, and empty it on to a board which has as many holes as there are ballots, so that the votes that matter may be laid out for easy counting, both the hollow and the solid. The men in charge of the ballots count them on the board, the solid and the hollow separately ; and the herald proclaims the numbers of the votes, the hollow for the plaintiff and the solid for the defendant. Whoever has the greater number wins ; if they are equal the defendant wins] ».

As it happened, Athenian officials went to great lengths to prevent ambiguity : so many jurors, so many counters, so many votes. More to the point, [T12] makes it plain that forensic abaci were positional, albeit in a peculiar way. As there were exactly as many holes on the counting board as ballots to be counted (« ἄβακα τρυπήματα ἔχοντα ὅσαιπερ εἰσὶν αἱ ψῆφοι »), each pebble had its own unique (i.e. unequivocal) position and – until it was removed along with the others to be counted according to its kind, that is separately (οἱ δὲ ἐπὶ τὰς ψήφους εἰληχότες διαριθμοῦσιν αὐτὰς ἐπὶ τοῦ ἄβακος, χωρὶς μὲν ..., χωρὶς δὲ ...) – it was not supposed to leave its spot on the abacus, let alone trade places with any other. Moreover, by Aristotle's time, differences in value or meaning were conveyed upfront, by means of counters which had different shapes, either pierced or solid (καὶ τὰ τρυπητὰ καὶ τὰ πλήρη). In short⁶⁸, it would have taken an inordinate amount of ingenuity and a great

⁶⁸ As a general rule, the best place to look for details is still Rhodes 1981, *ad loc.* (in this case, p. 733-734), who however did not pay much attention to the ψῆφοι (δημοσίαι) – possibly because Boegehold 1963, 367-372 had been thorough enough a few years back. The same Alan L. Boegehold, in Boegehold 1976, discusses a number of dikastic ballots found in and around Athens (according to *Atheniensium respublica*, 57, 3 Zea's court was where citizens accused of killing or wounding somebody defended themselves speaking

deal of dexterity to doctor the figures involved in a vote. No doubt, had a sleight of hand for tricking people into either believing that a hole hosted no pebble when it did (or the other way around) or mistaking pierced tokens for solid ones (or vice-versa) ever been successful, we would have heard about it. Since we have not, it is only reasonable to think that everybody – including Aristotle – took the verdict of forensic pebble-reckoning at face value. Which is the exact opposite of what Aristotle's comparison in [URTEXT] is all about, for its whole point is to suggest that, contrary to what one would expect ([URTEXT], 165a 8-10 : τὸ συμβαῖνον κτλ.), when dealing with words and counters, what you see is not – always – what you get.

ABACI VESTIGIA. Different tools have different uses, and both archaeological and literary evidence suggest that everyday abaci operated on an entirely different principle than those used in tribunals :

[T13] *Polybii Historiae* V 26, 12-13 : « βραχεῖς γὰρ δὴ πάνυ καιροὶ πάντας μὲν ἀνθρώπους ὡς ἐπίπαν ὑποῦσι καὶ πάλιν ταπεινοῦσι, μάλιστα δὲ τοὺς ἐν ταῖς βασιλείαις. [13] ὄντως γάρ εἰσιν οὗτοι παραπλήσιοι ταῖς ἐπὶ τῶν ἀβακίων ψήφοις· ἐκεῖναί τε γὰρ κατὰ τὴν τοῦ ψηφίζοντος βούλησιν ἄρτι χαλκοῦν καὶ παραυτίκα τάλαντον ἰσχύουσιν, οἱ τε περὶ τὰς ἀλλὰς κατὰ τὸ τοῦ βασιλέως νεῦμα μακάριοι καὶ παρὰ πόδας ἐλεεινοὶ γίνονται [Paton 1923, 73 : so brief a space of time suffices to exalt and abase men all over the world and especially those in the courts of kings, for those are in truth exactly like counters on a reckoning board. For these at the will of the reckoner are now worth a copper and now worth a talent, and courtiers at the nod of the king are at one moment universally envied and at the next universally pitied] ».

[T14] *Diogenis Laertii Vitae philosophorum* I 59, 1-5 : « ἔλεγε δὲ τοὺς παρὰ τοῖς τυράννοις δυναμένους παραπλησίους εἶναι ταῖς ψήφοις ταῖς ἐπὶ τῶν λογισμῶν· καὶ γὰρ ἐκείνων ἐκάστην ποτὲ μὲν πλείω σημαίνειν, ποτὲ δὲ ἥττω· καὶ τούτων τοὺς τυράννους ποτὲ μὲν ἕκαστον μέγαν ἄγειν καὶ λαμπρόν, ὅτε δὲ ἄτιμον [*Solon*] used to say that those who have influence with tyrants are like the pebbles used in calculations ; for just as each pebble some times is worth more some times is worth less, so the tyrant treats them some times as great and illustrious, some times as worthless] ».

[T15] *Athenaei Naucraticae Deipnosophistae* III, 117e 7 - 118a 13 : « <A> ἀβάκιον, ψῆφον. λέγε. ἔστ' ὀμοτάριχος πέντε χαλκῶν. <A> λέγ' ἕτερον. μῦς ἐπτά χαλκῶν. <A> οὐδὲν ἀσεβεῖς οὐδέπω. λέγε. τῶν ἐχίνων ὀβολός. <A> ἀγνεύεις ἔτι. ἄρ' ἦν μετὰ ταῦθ' ἦ

to the judges from a boat). As did Lang 1995 and, more recently, Lopez-Rabatel 2019, 45-53.

ράφανος, ἦν ἐβοᾶτε; <A> ναί· χρηστή γὰρ ἦν. ἔδωκα ταύτης δὺ' ὀβολούς. [118a] <A> τί γὰρ ἐβοᾶμεν; τὸ κύβιον τριωβόλου. <A> † ονεῖλκε χειρῶν γε † οὐκ ἐπράξατ' οὐδὲ ἔν. οὐκ οἴσθας, ὦ μακάριε, τὴν ἀγοράν, ὅτι κατεδηδόκασιν τὰ λάχαν' <αἰ> τρωξαλλίδες. <A> διὰ τοῦτο <τὸ> τὰριχος τέθεικας διπλασίου; ὁ ταριχοπώλης ἐστίν· ἐλθὼν πυνθάνου. γόγγρος δέκ' ὀβολῶν. <A> οὐχὶ πολλοῦ. Λέγ' ἔτερον. τὸν ὀπτὸν ἰχθὺν ἐπριάμην δραχμῆς. <A> παπαῖ, ὥσπερ πυρετὸς ἀνήκεν, εἶτ' † ἐν ἐπιτέλει †. πρόσθεσ τὸν οἶνον, <ὄν> μεθυόντων προσέλαβον ὑμῶν, χοᾶς τρεῖς, δέκ' ὀβολῶν ὁ χοῦς [Douglas Olson 2006, 59 : <A> bring an abacus and some counting pebbles ! Go ahead ! there's raw-saltfish for five chalkoi. <A> next item ! mussels for seven chalkoi. <A> you haven't committed any sacrilege so far. Next item ! an obol for the sea-urchins. <A> you're still clean. wasn't what came after that the cabbage you kept shouting for ? <A> yeah – it was good. I paid two obols for it. <A> so why did we shout for it ? the cube-saltfish cost three obols. <A> didn't he charge anything for [corrupt] ? my dear sir, you don't know how matters are in the marketplace ; the locusts have consumed the vegetables. <A> is that why you've charged double for the saltfish ? that's the saltfish-dealer ; go ask him about it. Conger eel for ten obols. <A> that's not much. Next item ! I purchased the roast fish for a drachma. <A> Damn ! It dropped like a fever, then † corrupt †. add the wine I bought when you were drunk : three choes, at ten obols per chous] ».

Each in its own way, [T15] as well as [T13] and [T14]⁶⁹ are a testament to the ancient abacus' versatility.

[T15] achieves its peculiar comic effect as the deadbeat character praises one moment the expenses his crony presents him with only to curse them the next. (A) does not mind the five coppers worth of one variety of saltfish nor the three obols worth of another, neither does he

⁶⁹ Polybius metaphor in particular – alone or along with Solon's maxim to the same effect – has been quoted too many times to count, starting with Rangabé who had no sooner discovered the very first (and best preserved) abacus in Salamis than he mentioned already Polybius as a meaningful connexion between the archaeological finding he was the first to describe and ancient literary evidence (Rangabé 1846, 296-297) – in fact, [T13]'s relevance predates Rangabé's finding, for already Yates 1842, 2 pointed out : « that the spaces of the abacus actually denoted different values, may be inferred from the following comparison in Polybius (V 26) etc. ». Since it keeps showing up at every turn of the page, Polybius' text is more conspicuous for its absence than for its presence, as in the case of Adkins 1956, which provides a number of references to the abacus in Greek literature. Appendix IV, 307-308 gets Aristophanes, Diogenes Laertius, Theophrastus and even Plutarch right, but – inexplicably enough – says nothing about Polybius. On the misfortunes Apelles – the powerful schemer who inspired Polybius' disparaging comparison – brought upon himself, cf. Errington 1967, Herman 1997 and Miltisios 2013, 97-99.

seem to begrudge the seven coppers for the mussels, the obol for the sea-urchins, or the ten obols for the eels. At two obols, he's not pleased with the cabbage, while the whole drachma spent on the roast fish definitely gets him all worked up. For all we have is a fragment, we don't know what reaction the 30 obols for the wine to wash everything down – on top of the beverage that had already intoxicated him and his fellow-revellers – elicited from him. Be that as it may, we are to assume that the reckoning board allowed for such swift swings of mood and then some, for it made no difference in what order pebbles for coppers, obols and drachmas were added to the tally or how many times counters shifted back and forth between columns⁷⁰.

[T13] and [T14] make essentially the same point : pebbles had no value in themselves and one had to decide time and again how much each one of them was worth ([T13] : κατὰ τὴν τοῦ ψηφίζοντος βούλησιν). In addition, [T13] and [T14] emphasize the fact it was the very same tokens ([T13] : ἐκεῖναί, [T14] : ἐκείνων ἐκάστην) that varied in value ([T14] : ποτὲ μὲν πλείω σημαίνειν, ποτὲ δὲ ἥττω), the scope of such variations being – on occasion – remarkably wide ([T13] : ἄρτι χαλκοῦν καὶ παραν-τίκα τάλαντον ἰσχύουσιν)⁷¹. Moreover, [T13] underscores that such

⁷⁰ This is why we probably should not read too much into Herodotus comparison between the way Greeks and Egyptians wrote and reckoned (left-wise and right-wise respectively) : « γράμματα γράφουσι καὶ λογίζονται ψήφοισι Ἕλληνες μὲν ἀπὸ τῶν ἀριστερῶν ἐπὶ τὰ δεξιὰ φέροντες τὴν χεῖρα, Αἰγύπτιοι δὲ ἀπὸ τῶν δεξιῶν ἐπὶ τὰ ἀριστερά [Waterfield 1998, 110 : as Greeks write and do their sums they move their hands from left to right, but Egyptians move from right to left] » (*Herodoti historiae* II 36, 4). For one thing, there's always the possibility – and a strong one at that – that Herodotus was just referring to the way operations and their results were recorded rather than processed on the abacus (Griffiths 1955, 141-144 has built an interesting case in favour of the letter-letters and letter-numbers hypothesis ; in recent years, he's been followed by Lloyd 1989, 261 and 1994, 161). For another, it is irrelevant whether we proceed from left to right (or contrariwise) when working out figures on the abacus : the whole point of using one was to pick up the right column, whatever side it happened to be in relation to the preceding step or steps of an ongoing calculation.

⁷¹ A rough estimate – indexed on the Attic standard – would allow for a 1 : 288.000 odd ratio between the two denominations (that is to say, 1 talent is worth 288.000 coppers) : 1 (τάλαντον), times 60 (μναί), times 100 (δραχμαί), times 6 (ὀβολοί), times 8 (χαλκοί) – cf. Walbank 1957, 560 for the maths. For there's no such thing as coincidence, Cantor 1863, 141-142 noticed a long time ago that Polybius' chosen denominations matched the highest (T = τάλαντον) and the lowest (X = χαλκοῦς) end of the Salamis abacus' scale range : « I'd like to emphasize that the end-values mentioned here, that is copper and talent, correspond exactly to the inscriptions on the Salamis table ». Ten years later, Edmond Saglio observed to the same effect that « both the lowest and the highest

changes happened all at once (βραχεῖς, παρὰ πόδας), which goes well with the idea that pebbles actually traded places on the counting board, as is also suggested by a few other turns of phrase which convey the idea that handling the counters involved moving them around rather than simply laying them down⁷². This is a possibility backed up by archaeological

monetary units – namely, the copper and the talent – are inscribed each at one end of the scale for everyone to see, etc. » (Saglio 1873, 2-3).

⁷² Should one feel that Aristotle's τὰς ψήφους φέρειν ([URTEXT], 165a 14) is too close to home for comfort, a quick background check might help him see that there's nothing to be suspicious about. Whilst Plato's parallel between questions and answers interplay, on the one hand, and checkers strategy, on the other hand, has little to contribute to the matter (this much is controversial, but it will have to wait), the association of ability (ὕπο τῶν πεττεῦειν δεινῶν), tokens and arguments (οὐκ ἐν ψήφοις ἀλλ' ἐν λόγοις) with the verb φέρειν is relevant. Plato's ψῆφοι were supposed to move on the board, even if – at some point – they had nowhere to go : « καὶ ὁ Ἀδεϊμαντος, Ὡ Σώκρατες, ἔφη, πρὸς μὲν ταῦτά σοι οὐδεὶς ἂν οἶός τ' εἶη ἀντειπεῖν. ἀλλὰ γὰρ τοιόνδε τι πάχουσιν οἱ ἀκούοντες ἐκάστοτε ἃ νῦν λέγεις· ἠγοῦνται δι' ἀπειρίαν τοῦ ἐρωτᾶν καὶ ἀποκρίνεσθαι ὑπὸ τοῦ λόγου παρ' ἑκαστον τὸ ἐρώτημα σμικρὸν παραγόμενοι, ἄθροισθέντων τῶν σμικρῶν ἐπὶ τελευτῆς τῶν λόγων μέγα τὸ σφάλμα καὶ ἐναντίον τοῖς πρώτοις ἀναφαίνεσθαι, καὶ ὡσπερ ὑπὸ τῶν πεττεῦειν δεινῶν, οἱ μὴ, τελευτῶντες ἀποκλείονται καὶ οὐκ ἔχουσιν ὅτι [487c] φέρωσιν, οὕτω καὶ σφεῖς τελευτῶντες ἀποκλείεσθαι καὶ οὐκ ἔχειν ὅτι λέγωσιν ὑπὸ πεττείας αὖ ταύτης τινὸς ἐτέρας, οὐκ ἐν ψήφοις ἀλλ' ἐν λόγοις [Reeve 2004, 180 : and Adeimantus replied : “no one, Socrates, would be able to contradict these claims of yours. But all the same, here is pretty much the experience people have on any occasion on which they hear the sorts of things you are now saying : they think that because they are inexperienced in asking and answering questions, they are led astray a little bit by the argument at every question, and that when these little bits are added together at the end of the discussion, a big false step appears that is the opposite of what they said at the outset. Like the unskilled, who are trapped by the clever checkers players in the end and cannot make a move, they too are trapped in the end, and have nothing to say in this different kind of checkers, which is played not with pieces, but with words”] » (*Platonis Respublica* VI, 487b 1 - 487c 3). In addition to the standard πεττεία references (e.g., Kurke 1999 and Guéniot 2000), it's definitely worth mentioning Conche 1986, 446-447 who – in his commentary on Heraclitus' fragment 130 (52) – provides a very interesting discussion of ancient checkers as opposed to other board games involving a random element, κυβεία most notably. That pebbles were moved around and not simply placed on the abacus is also suggested by other turns of phrase which may be construed as implying motion, e.g. « ἔλκειν τὰς ψήφους » used by Simonides (*Hibeh Papyri Simonidis sententiae*, 65.23-25 : « τὸ δὲ ἀναλωθὲν ὀλίγου μὲν εἴληπται, προσαναλίσκεται δὲ τὸ διπλάσιον· διὸ δεῖ ἔλκειν τὰς ψήφους [Grenfell & Hunt 1906, 65 : expenditure is reckoned of slight account, and twice as much is spent again ; so one should draw back the counters] » – as suggested by Gilbert Smyly 1908, 149-150, the expression ἔλκειν τὰς ψήφους is more likely to refer to moving counters from one area of the abacus to another, where assets and expenditures were calculated separately, rather than between columns) and Theocritus (*Theocriti epigrammata*, 14.1-5 : « ἀστοῖς καὶ ξείνοισιν ἴσον νέμει ἦδε τράπεζα· θεῖς ἀνελεῦ ψήφου πρὸς λόγον ἐλκομένης, ἄλλος τις πρόφρασιν λεγέτω· τὰ δ' ὀθνεῖα Κάϊκος χρήματα καὶ νυκτὸς βουλομένοις ἀριθμεῖ [Gow 1952, 247 : this bank

evidence as well. As a matter of fact, twelve or so surviving abaci – amongst them the one from Salamis (as first noted by Pritchett 1968, 189) – have raised rims built into their structure⁷³, a feature which is definitely consistent with the assumption that counters were moved around : the raised rims preventing them from being knocked off the table while switching position on the reckoning board.

If we now take [T13], [T14] and [T15] together and compare what they say with what survives today of the ancient abaci themselves, a couple of features (henceforth referred to as [POSITIONALITY] and [HYBRIDITY] respectively) stand out, which are of paramount importance for getting Aristotle's pebble simile straight.

[POSITIONALITY]. First things first, [T13] and [T14] make it very clear that the abacus' tokens had no intrinsic value of their own ; their worth had to be determined according to a place value system which was either left to the reckoner's discretion or indexed on the headings inscribed on either edge of the counting board itself (occasionally on more than one side of the abacus). Counters – usually pebbles of roughly the same shape and size – symbolized figures, be they units (e.g. coin or weight measures : drachmas, for instance), subunits (to stick with the same monetary and ponderal standard, by far the best attested one – in fact, the only one we know of for sure : obols, half-obols and coppers) or superunits (staters, minas and talents) as determined by the column in which they were placed at one step or another of whatever sequence of operations was being processed. As the reckoning proceeded ([T15]), they were alternatively added to or removed from any column of the abacus. The very same pebbles could also be transferred from one column of the abacus to any other ([T13]). Each and every time their position on the abacus changed, counters were assigned a new value accordingly, which was therefore entirely contingent upon the place they held on the counting board at any given moment of an ongoing calculation.

[HYBRIDITY]. Whilst Aristotelian scholarship has eventually come to terms with the fact that a pebble's worth on the abacus was inherently positional and that – for the same reason – the abacus itself was a position-

serves native and foreigner alike. Deposit, and then withdraw according to the reckoning when an account is made up. Others may make excuses, but Caicus, at need, transacts foreign business even after dark] »).

⁷³ In fact more, if we are to add the Volos abaci (Bakhuizen 1972, 406 and 1992, 263-264) to Rousset 2013, 294's list.

value system through and through⁷⁴, there has been little or no interest in – and therefore little or no effort put into – making out what the positions on the counting board actually stood for and, consequently, what the abacus' positionality was ultimately about. First of all, as far as evidence goes – and there's really no point in either ignoring available data or extrapolating anything except more of the same – we can definitely rule out that the abacus' layout and markings were designed to meet the needs of an abstract, arithmetical system. Needless to say, there's nothing wrong with the notion itself. There's nothing anachronistic either. Aristotle for one – or somebody so close to his school as to make guilt by association plausible enough⁷⁵ – knew everything there is to know about it or, at any rate, as much as it takes to ask why – barring a few half-wits of Thracian descent – everybody had fallen in love with the decimal number system :

[T16] *Aristotelis quod fertur Problemata* XV 3, 910b 23-31 and 910b 38 - 911a 4 : « διὰ τί πάντες ἄνθρωποι, καὶ βάρβαροι καὶ Ἕλληνες, εἰς τὰ δέκα καταριθμοῦσι, καὶ οὐκ εἰς ἄλλον ἀριθμόν, οἷον β', γ', δ', ε', εἶτα πάλιν ἐπαναδιπλοῦσιν, ἐν πέντε, δύο πέντε, ὥσπερ ἑνδεκα, δώδεκα; οὐδ' αὖ ἐξωτέρω παυσάμενοι τῶν δέκα, εἶτα ἐκεῖθεν ἐπαναδιπλοῦσιν; ἔστι μὲν γὰρ ἕκαστος τῶν ἀριθμῶν ὁ ἔμπροσθεν καὶ ἐν ἡ δύο, καὶ οὗτος

⁷⁴ Merit where merit is due – as we've already pointed out above, Fait 1996 deserves to be regarded – in this respect – as a watershed in Aristotelian studies, for it truly marked a turning point in our understanding of Aristotle's pebble analogy.

⁷⁵ Preferably if someone else is to draw the inference, that is. Truth be told, what follows is a bit speculative and, strictly speaking (i.e., as per the requirements of the argument at hand), beyond – if not above – the call of duty. Accordingly, without claiming any credit for it (nor avoiding any blame – and there's always plenty to pass around), I'm content to go along with one of the most likely – and widely accepted – authorship scenarios. Specifically, I follow Zucker 2010, 35 note 38 : « as it stands, the *Problemata* collection cannot be ascribed to Aristotle, even if it is Aristotelian in both essence and methodology ». Concerning the plausibility of an Aristotelian Urcompilation (as alluded to by Aristotle himself on seven or eight occasions, most notably in *De generatione animalium* IV 4, 772a 37 - 772b 12 referring to *Problemata*, X, 14 and 41, as well as in *Meteorologica* II 6, 363a 24-25 referring to XXVI), cf. e.g. Louis 1991, XXIII-XXXV or Mayhew 2011, XVIII-XX (if you don't read French or are in a hurry – or both, as is generally the case). On our hands being man's « natural abacus », cf. Caveing 1997, 229. *Problemata*, book XV's title, program and general interpretation have elicited a keen interest : Acerbi 2011, Mayhew 2012 and Bowen 2015 will help you get off the starting blocks. Bodnar 2011, is an excellent general introduction to the collection of Aristotelian problems. For the history of the text (Greek tradition) : cf. Marengi 1961, Mansfeld 1992 (translated and slightly revised in Mansfeld 2009) and Bertier 2003 ; and for its mediaeval legacy : De Leemans & Goyens 2006 and Brouillette & Giavatto 2010. More bibliography in Ulacco 2011.

ἄλλος τις, ἀριθμοῦσι δ' ὅμως ὀρίσαντες ἄχρι τῶν δέκα. οὐ γὰρ δὴ ἀπὸ τύχης γε αὐτὸ ποιοῦντες φαίνονται καὶ ἀεὶ· τὸ δὲ ἀεὶ καὶ ἐπὶ πάντων οὐκ ἀπὸ τύχης, ἀλλὰ φυσικόν. [...] ἢ ὅτι πάντες ὑπῆρξαν ἄνθρωποι ἔχοντες δέκα δακτύλους; οἷον οὖν ψήφους ἔχοντες τοῦ οἰκείου [911a] ἀριθμοῦ, τούτῳ τῷ πλήθει καὶ τᾶλλα ἀριθμοῦσιν. μόνοι δὲ ἀριθμοῦσι τῶν Θρακῶν γένος τι εἰς τέτταρα, διὰ τὸ ὡσπερ τὰ παιδιά μὴ δύνασθαι μνημονεύειν ἐπὶ πολὺ, μηδὲ χρῆσιν μηδενὸς εἶναι πολλοῦ αὐτοῖς [Mayhew 2011, 457-459 : why do all people, both barbarians and Greeks, count up to ten, and not to another number, such as 2, 3, 4, 5, and then repeat them again, one-five, two-five, just as (they count) eleven, twelve ? Or again, why do they not stop (at some number) beyond ten, and then repeat from there ? For each of the numbers is the preceding (number) plus one or two, and this is some other (number), but nevertheless they count by setting the limit up to the tens. For indeed, it is not from chance that all people plainly do in truth do this and always ; but what is always the case and for all people is not from chance, but natural. (...). Or is it because all people began (counting) with ten fingers ? So having as it were their own number of counters, they count other things with this quantity as well. But a certain race of Thracians alone count up to four, because just like children they cannot remember for long, nor do they use much of anything] ».

As [T16] implies, a decimal abacus was beyond neither the technological capabilities nor the intellectual grasp of anybody interested in building one. In a sense, the thing itself had been around forever, albeit not as an artefact. For longer than people cared to remember, fingers had always provided them with a natural abacus of sorts (a digital abacus, if you like). This might help explain, to some extent at least, why Ancient Greeks expected more of their abaci than simply to assist them with operations their hands could easily take care of, i.e. operations whose numeric values – even and especially when they changed – stood in one and the same relationship (say again, a neat decimal one). Be that as it may, the fact remains that the ancient abacus wasn't bound to any specific arithmetical basis (most certainly not a decimal one), exclusive of others. On the contrary, if the reckoning board's vestigial markings mean anything – and they have to, since they were put there for a purpose (other than being purely decorative, which they were not) – they consistently mirrored non-decimal monetary conventions rather than plain numerical arrays. (Mark the words « non-decimal » and « conventional », for they'll come in handy soon enough). As a matter of fact, without exception, ancient reckoning boards neither laid out numerical values as such nor did they arrange numbers according to a purely arithmetical order (whichever its basis happened to be, provided the abacus'

inscribed figures consistently stuck to the same numerical sequence, which they did not). As it happened, counting tables were labelled with monetary symbols instead – or their weight equivalents (as in “so much worth of wine, olive oil, lupini beans or whatever your houseboy was buying on that fine day”)⁷⁶. When they were labelled at all, that is. Without claiming to be exhaustive, a fairly comprehensive list of monetary scaled abaci would include findings from Athens⁷⁷, Epidaurus⁷⁸, Eretria⁷⁹, Hosios Loukas⁸⁰, Imbros⁸¹, Korinthos⁸², Laurion⁸³, Minoa⁸⁴, Oropos⁸⁵, Rhamnous⁸⁶, Thyrrheum⁸⁷ and,

⁷⁶ For obvious reasons (it being their proper function), the close association of monetary and ponderal standards is most evident in the case of σηκόματα (*mensae ponderariae*), which however we will have to disregard here. The best-studied measuring table was discovered in Naxos in the 1870s (IG XII 5 99) : it displays a row of monetary signs for tallying purposes as recorded and described by Dumont 1873, 46 and discussed by Lang 1968, 242 and, more recently, by Cioffi 2014. Those in Delos have also attracted their fair share of scholarly attention – starting with Deonna 1938, 167-185 and down to Chankowski & Hasenohr 2014.

⁷⁷ IG II 2 2778, 2779, 2780 and 2781. Another alleged board, a Pentelic marble fragment found around 1933 in a previous excavation’s dump, is mentioned by Lang 1968, 242-243.

⁷⁸ IG IV, 984 and IG IV 2, 1 159. Cf. Pritchett 1968, 189-190.

⁷⁹ IG XII 9 894. Petrakos 1981, 330 describes two more abaci whose inscriptions range – standardly enough – from the highest to the lowest monetary denomination – up to T (talents) and down to X (chalkous), that is.

⁸⁰ Rousset 2013, 290-291. The Hosios Loukas’ abacus shares a peculiar feature with the Thyrrheum boards (cf. below note 87), that is it includes the stater (Σ = στατήρ) in its standard. On the other hand, it seems to be the only abacus on record lacking a sign for the drachmas, as pointed out by Rousset 2013, 293 in his masterly reconstruction of the « Δ (δέκα μναί), Π (πέντε μναί), Π (μνᾶ), Δ (δέκα στατήρες), Π (πέντε στατήρες), Σ (στατήρ), Ο (όβολός), Η (ήμιωβέλιον), Τ (τεταραμόριον), Χ (χαλκοοῦς) » inscribed sequence.

⁸¹ IG XII 8 61 and IG XII 8 62.

⁸² SEG XI 188 and SEG XXVI 401. Broneer 1933, 563-565 (discovery) ; De Grazia & Kaufman Williams 1977, 72-73 and 76 (description and discussion as item 28 and 29 of his catalogue of findings) ; Immerwahr 1986, 200-201 and Donati 2010, 10, 20-23 (further discussion).

⁸³ Cf. note 43 above.

⁸⁴ IG XII 7 282.

⁸⁵ IG VII 762, 763 and 765. Cf. Leonardos 1926, 44-45 for the three of them (labelled each as λογιστικὸς ἄβαξ, items 156, 157 and 159 respectively).

⁸⁶ Petrakos 1999, 121.

⁸⁷ IG IX 12 362, 363, 364. Cf. Woisin 1886, 4 ; Tod 1912, 112 ; Nagl 1914, 20 ; Rhomaios 1916, 48. *Contra* Schärlig 2001, 94-95 (« A bogus abacus : Acarnania II »), we follow Tod 1927, 144-145 and 1947, 26 epigrammatic interpretation (most notably, Σ is for στατήρ and Τ is for τριώβολον) of the inscription as a monetary scale rather than a given amount of money (16.666 drachmas) as previously believed by Cousin 1886, 179-180 and Dittenberger 1897, 121 (= IG IX 1 488).

of course, Salamis⁸⁸. While markings and their exact patterns may be slightly different from one abacus to another⁸⁹, they all have in common one feature, namely they all are symbols for monetary denominations – which, as everyone is well aware, were both conventional and non-decimal (more about that in a moment). So, the question is not so much « what did abacus inscriptions mean precisely ? » – we know that all too well⁹⁰ – but, rather, « why ancient abacists inscribed their reckoning boards with monetary units and monetary signs instead of abstract numbers and scales ? ». Might it be that the abacus was used, first and foremost, for counting money and was labelled accordingly ? Simple as that. And

⁸⁸ IG II2, 2777. The undisputed star in our list. Cf. note 62 above for its description, depiction and relevant bibliography.

⁸⁹ E.g., usually « F » was the symbol for drachmas, but Epidaurus (IG IV, 984) and Korinthos (SEG XXVI 401) abaci had « O » instead. Drachmas were most commonly followed by obols, yet Eretria abacus (IG XII 9 894) had an added 3 obols or half-drachma sign « Ϛ » between « F » and « - » (which is also a relatively peculiar symbol for obols). Marcus Niebuhr Tod's authoritative contributions to Ancient Greek numeral systems (and their so called « acrophonic » – Keil 1894, 253 note 1 – notations) are to this day the best place to start looking into the matter (cf. Tod 1912, 1913, 1927, 1937 and 1950). Schmandt-Besserat 1996 (a summary of Schmandt-Besserat 1992) will provide the scrupulous reader with a broader perspective on numerical writing in general.

⁹⁰ That abacus inscriptions have to do – exclusively or almost exclusively – with monetary numerals is a very well-known fact, at least amongst archaeologists, epigraphists and French historians of Greek mathematics. Antoine-Jean Letronne (a fine archaeologist in his prime), Marcus Niebuhr Tod (a distinguished epigraphist his whole life) and Maurice Caveing (one of the greatest, if not the greatest historian of ancient mathematics, whose only fault was that he wrote in a doomed vernacular, now moribund) said it all a long time ago. Reading is believing and one cannot but rejoice at how good these scholars were and just how easy it is to look at things standing on their shoulders. Letronne 1846, 306 : « its <the Salamis abacus> is a numerical scale which, twice, starts its sequence with the figure 500 and, once, with the talent (6.000). It always ends up with the chalkous (a copper coin), that is the smallest monetary denomination of old. For what we have here are monetary amounts and nothing else ». Tod 1945, 113 : « especially significant is the abacus from Salamis, now in the Epigraphical Museum at Athens (IG II2 2777), on which are engraved three series of monetary signs (not pure numbers) in descending order of value ». Caveing 1997, 229 : « first and foremost, the abacus was a tool for accounting, whose columns stood for monetary units (...). Therefore, we should not look at it as a substitute for pure, abstract numbers ». It is worth noting that even William Kendrick Pritchett – who staunchly opposed the idea that the same abacus Letronne, Tod and Caveing had in mind, that is the Salamis table, was a reckoning board – did not challenge the fact that « the chief reason for assuming that the table was an abacus seems to have been the series of monetary numerals at the edges » (Pritchett 1968, 200), that is : « the numeral signs are arranged in descending order, ranging from 1,000 drachmai to 1/8 obol, the two additional characters being ΓϚ (= 5,000 drachmai) and T (= talent or 6,000 drachmai). The lowest and highest money units are at the two ends of the scale. The system of notation is that employed regularly by the Athenians » (Pritchett 1968, 195).

rightly so : stating the obvious – « most Greek abaci seem to have been set up to handle monetary calculations, etc. » (Wyatt 1964, 269)⁹¹ – is always the best answer to a question that deals with the most ordinary tools of everyday life. And – make no mistake about it – the ancient abacus was just another run-of-the-mill gizmo common people used one moment and forgot all about it afterwards – unless, of course, something weird happened right next to it⁹². Besides, it is only reasonable to assume that

⁹¹ Based on Letronne's archaeological data and analysis alone (the Salamis abacus file, for short), Moritz Cantor, who could still read French, drew a similar conclusion according to which all signs (monetary numerals, huge dimensions and sturdily built) supported the inference that the Salamis table was a « Zahltisch eines Wechslers », that is a money-changer's counter (Cantor 1863, 133).

⁹² There's nothing particularly inspiring about ancient abacuses and one has no problem understanding why people did not fancy the kind of chores they were supposed to help with. Some things never change and computational duties have always been a pain in the neck (ἐνέργεια λυπηρά) : « ἡ μὲν οἰκεία ἡδονὴ ἐξακριβοῖ τὰς ἐνεργείας καὶ χρονιωτέρως καὶ βελτίους ποιεῖ [...]. φθειροῦσι γὰρ τὰς ἐνεργείας αἱ οἰκείαι λῦπαι, οἷον εἰ τῷ γράφειν ἀηδὲς καὶ ἐπίλυπον ἢ τὸ λογίζεσθαι· ὁ μὲν γὰρ οὐ γράφει, ὁ δ' οὐ λογίζεται, λυπηρὰς οὖσης τῆς ἐνεργείας [the proper pleasure of an activity makes it accurate, last longer and improves it. (...). Pain that belongs by itself to an activity, on the other hand, destroys it. For example, someone loathes and can't stand writing or doing sums – well, he'll neither write nor will he do sums, because he finds it annoying] » (*Ethica nicomachea* X 5, 1175b 13-15 et 17-20). For the sake of decorum, we won't dwell upon the secret life of ancient abaci. That being said, if one were to dig for unsavoury details, he would unearth the usual amount of dirt and then some. One always does, especially when bankers are involved and money changes hands faster than you can count. A short fragment from Lysias will suffice to remind us of the close proximity – if not intimate kinship – between whoring and banking, two of the oldest and most lucrative trades of the civilized world : « ἐφ' ἑτέρου μὲν γὰρ εἴρηται ὑπὸ Λυσίου ἐν τῷ ὑπὲρ Καλλισίχρου, “μετ' ἀβακίου δὲ καὶ τραπεζίου πωλῶν ἑαυτὸν” [the word “abacus” is used in still another sense by Lysias in his *On behalf of Callaeschrus* : “selling himself between an abacus and a counter”] » (*Pollucis onomasticon* X 105, 221.12-14). Already Johann Georg Baiter and Hermann Sauppe suggested – p. 191 of their 1850 edition of the Attic orators – that the word ἀβάκιον does not mean here « gaming table (*tabula lusoria*) » but « counting table ». They went even further and suspected without much proof, as Carey – p. 418 of his 2007 edition of Lysias orations and fragments – rightly pointed out, that the *servus argentarii* was the employee servicing both the *mensula* and the *mentula* (the syntagma πολεῖν ἑαυτὸν, as it occurs in the Lysias' fragment possibly for the first time, has been discussed with references to Lysias and later sources by Colla 2012, 50-51). True enough, it is immaterial to ascertain here whether the hired hand worked both jobs or not, and I may have made the point a bit flippantly, but, folks, there's a serious issue here : the moral of the story is that wherever banking counters were to be found [a], abaci were not far away. Not to mention the fact that τράπεζα and ἄβαξ are occasional synonyms and therefore may refer at times to the same thing, as the epigraphic evidence from one of the Corinthian surviving specimens (SEG XI 188) shows : « ΔΑΜΟΣΙΑ ΚΟΡΙΝΘΙΩΝ » is inscribed on the lower right corner of the abacus, that is to say : δαμοσία <τράπεζα> – as Donati 2010, 10a-b took good notice : « the δαμοσία Κορινθίων

Ancient Greeks gave up finger counting and set up the abacus when they needed to, that is when they had to go through lengthy calculations or work out figures based on both decimal and non-decimal ratios. Needless to say, this is precisely what happened each and every time they reckoned to any degree of precision how many coppers make up how many obols and how many of these you need to have such and such amount of drachmas, minas or talents.

IF YOU PAY BEANS, YOU GET JURORS. A cautionary tale, which Aristophanes has one of his most level-headed and likeable characters tell, might just spell it out for us. How do you rip off your opinionated and gullible senior citizens? Easy busy jurors squeezey – you set them on your political foes in court and you keep the whole lot both happy and hungry, feeding them scantily the leftovers from the pie you and your cronies have lavishly helped yourselves to :

[T17] *Aristophanis Vespaie*, 655-664 : « <Βδελυκλέων :> ἀκρόασαί νυν, ὃ παπίδιον, χαλάσας ὀλίγον τὸ μέτωπον. καὶ πρῶτον μὲν λόγισαι φαύλως, μὴ ψήφοις ἀλλ' ἀπὸ χειρός, τὸν φόρον ἡμῖν ἀπὸ τῶν πόλεων συλλήβδην τὸν προσιόντα, κᾶξω τούτου τὰ τέλη χωρὶς καὶ τὰς πολλὰς ἑκατοστάς, πρυτανεῖα, μέταλλ', ἀγοράς, λιμένας, μισθώσεις, δημιόπρατα· τούτων πλήρωμα τάλαντ' ἐγγὺς δισχίλια γίγνεται ἡμῖν. ἀπὸ τούτου νυν κατάθεες μισθὸν τοῖσι δικασταῖς ἐνιαυτοῦ, ἐξ χιλιάσιν – “κοῦπω πλείους ἐν τῇ χώρᾳ κατένασθεν”. γίγνεται ἡμῖν ἑκατὸν δῆπου καὶ πεντήκοντα τάλαντα. <Φιλοκλέων :> οὐδ' ἢ δεκάτη τῶν προσιόντων ἡμῖν ἄρ' ἐρίγνεθ' ὁ μισθός [Henderson 1998, 305 : <Loathecleon :> then listen, pop, and relax your frown a bit. First of all, calculate roughly, not with your counters but on your fingers, how much tribute we receive altogether from the allied cities. Then make a separate count of the taxes and the many one percents, court dues, mines, markets, harbours, rents, proceeds from confiscations. Our total income from all this is nearly two thousand talents. Now set aside the annual payment to the jurors, all six thousand of them, “for never yet have more dwelt in this land”. We get, I reckon, a sum of one hundred and fifty talents. <Lovecleon :> so the pay we've been getting doesn't even amount to a tenth of the revenue] ».

identifies the counting table as the property of the Corinthian state [10b] with the feminine singular gender of *δαμοσία* alluding to *τράπεζα* (table) and not the masculine *ἄβαξ* (abacus) ». [a] As a matter of fact, we know where the Athenian counters were traditionally located, somewhere in the northwest corner of the Agora (cf. Thompson & Wycherley 1972, 171 note 12) – a corner Socrates and Hippias were pretty familiar with, as evidenced by Plato's *Apology* (17c 7-9 : ἐν ἀγορᾷ ἐπὶ τῶν τραπέζων) and *Hippias minor* (368b 2-5 : ἐν ἀγορᾷ ἐπὶ ταῖς τραπέζαις).

Whilst it is just possible that the dutiful son character wishes to keep the pebbles out of his father's reach and sight, lest he gets too excited all over again and relapses even before his sobering up could begin, no one – in the last two hundred years – has missed the fact that Aristophanes set apart rough off-hand reckoning (λογίζομαι φασύλως, ἀπὸ χειρός) from accurate pebble computation (λογίζομαι ψήφοις)⁹³. Few, on the other hand, seem to have noticed that the digital calculations Bdelukleōn is running by his old man stick to the same monetary denomination : as a matter of fact, however conspicuous, the approximate sums (ἐγγύς δισχίλια, ἑκατὸν δῆπου καὶ πεντήκοντα) are all expressed in talents (τάλαντα). As a result, although the domestic whistle-blower is keeping track of a whole lot of coin, no fancy conversion is called for and even his intoxicated, delusional jury-duty fiend of a father has no problem following the money and figuring out that he's been seriously bamboozled. Just the same, few have taken notice of the fact that when Philokleōn finally catches up and realises he and his fellow minions have been feasting on crumbs⁹⁴, he takes the figures of the racket he's been involved in and rounds them up to the nearest decimal, a tithe precisely – give or take fifty talents, that is (which is, by the way, more than he would earn in several lifetimes as a juror).

⁹³ By contemporary standards the « Dean Ireland Scholarship for the promotion of classical learning and taste »'s test is definitely elite philologists' stuff – how many people, apart from Sten Ebbesen, Philippe Hoffmann and a chosen few, do you know who would be comfortable with translating off-hand, either in Latin hexameters or in Greek iambs, stanzas from Spenser's *The Faery Queene* ? When it was established back in 1825 (cf. *Parecholiae*, 1846, 203-207), it was meant for undergraduate students (who, by the way, were no longer eligible to take it after their sixteenth term, that is beyond their fourth year). As it happened, [T17] caught the examiners' imagination around 1844, for they required that year's candidates to translate Aristophanes verses and comment, albeit shortly, on their content – technically-wise if we are to judge from their other requirements... for instance, that same year, Fufidius' scam (cf. *Horatii satirae*, I, 2.14 : « quinas hic capiti mercedes exsecat [Rushton Fairclough 1926, 19 : five times the interest he slices away from the principal] ») was to be assessed according to Roman moneylending customs and laws : « what was the usual rate of interest at Rome ? Mention some of the laws by which it was regulated ».

⁹⁴ As suggested in a scholium (*Scholia in Aristophanis Vespas, ad 663*), Bdelukleōn worked out the figure on the basis of jurors daily pay (τριώβολον τῆς ἡμέρας), times the number of jurors (ἕξ χιλιάσιν), times the number of available months in a year (δέκα μῆνας). While the reasoning is sound and the τριώβολον as well as the number of jurors are solid enough figures (MacDowell 1971, 222 ; Sommerstein 1983, 198 ; Biles & Olson 2015, 293), three hundred court days – year in, year out – is undoubtedly more often than the Athenian calendar actually allowed and the jurors – all six thousand of them – could actually stand if they were to attend every day (Hansen 1979 reduced these figures significantly, whether he went too far or not, he was definitely headed in the right direction, as pointed out by Harris 1986).

WHEN DID YOU GET TO PULL THE PEBBLES OUT OF THE BAG THEN ? The answer to that question should be clear by now : you pick up the counting board when you cannot trust your fingers to do the job, either because you run out of digits before the calculation is over or because the ongoing computation involves more variables than your hands can handle on their own⁹⁵. Albeit in short supply, literary evidence points precisely in this direction (and in this direction only) : the abacus main strength and, as a result, its primary utility and overall interest laid in its reliability in carrying on long-drawn-out reckonings, especially when they involved back and forth permutations between decimal and non-decimal operands. Alexis' carousers – whom we've already met ([T11] and [T15]) – and the bull artist from Theophrastus' portrait gallery⁹⁶ offer a fascinating glimpse into the abacus' workings :

[T18] *Theophrasti Characteres* XXIII 6, 130.20 - 132.26 : « και ἀγνώτων δὲ παρακαθημένων κελεύσαι θεῖναι τὰς ψήφους ἕνα αὐτῶν και ποσῶν

⁹⁵ That much should be uncontroversial – but it isn't. Who disagrees ? Franco Lo Piparo, for one, is of a different mind altogether. Admittedly, there's subtle and there's too subtle – and some at least of Lo Piparo's distinction are so subtle they're lost on me – for instance, the distinction between an Aristotelian notion of « symbol » and its opposite un-Aristotelian number : « our text does not claim that words are symbols of facts. Rather, it says that – when discussing – we use words-that-are-symbols » (Lo Piparo 2003, 184). His examples, on the other hand, are delightful – even when they prove exactly the opposite of what they are supposed to show. In this particular instance, let's follow Lo Piparo to the market and meddle in his salesman's business. Hermogenes buys and sells sheep and uses counters to keep track of his transactions. Does he really need them ? Better safe than sorry... but let Lo Piparo tell us more about it : « this is how our salesman keeps accounts : he matches sheep and pebbles so that he puts one of these in his bag each and every time he buys one of those and does the opposite when he sells instead of buying. If Hermogenes does not make a mess of it (that is if he does not get drunk and miss the one-to-one relationship between sheep and pebbles), at the end of the day he'll have as many sheep in his barn as he has pebbles in his bag. By my math, ten pebbles equal 10 sheep (that is the four sheep Hermogenes bought to start with, minus the two he sold at some point, plus the eight more he purchased before calling it a day) » (Lo Piparo 2003, 184). Let me ask again : does one need an abacus or even a bunch of pebbles to count up to ten (add four, subtract two, add eight... equals ten – attaboy !) ? Whatever the answer, unless one can't be bothered to properly match one pebble and one sheep as need be while keeping track of both at one and the same time (in Lo Piparo's terse scientific prose : « se non ha fatto errori nell'operazione della messa in corrispondenza uno-a-uno di pecore e sassolini, alla fine dei suoi affari avrà tante pecore quanti sono i sassolini che si trovano nella sua bisaccia »), then he has no business counting them at all, with or without an abacus !

⁹⁶ It is worth noticing that Theophrastus mentioned the abacus on no less than three different occasions. As a matter of fact, in addition to the boastful man ([T18]), the abacus reveals peculiar features of two other characters : the moron (XIV 2, 106.3-5) and the arrogant man (XXIV 12, 134.15-17). While the former's absentmindedness is farcical and heartening, the latter's high-handedness is more informative, i.e. more supportive of the

κατὰ χιλίας [a] καὶ κατὰ μίαν καὶ προστιθεὶς πιθανὰ ἑκάστοις τούτων ὀνόματα ποιῆσαι καὶ δέκα τάλαντα· καὶ τοῦτο φῆσαι εἰσηνηγοῦναι εἰς ἔρανους αὐτῶν· καὶ τὰς τριηραρχίας εἰπεῖν, ὅτι οὐ τίθησιν, οὐδὲ τὰς λειτουργίας, ὅσας λελειτούργηκε [Diggle 2004, 131 : when he finds himself sitting next to complete strangers he will ask one of them to work the calculator, and then he does an addition counting from the thousand-drachma to the one-drachma column, and putting a plausible name to each item, and reaches as much as ten talents, and says that these are the sums he has contributed towards loans for friends – and he has not included the trierarchies and all his other compulsory public services] ». [a] κατὰ χιλίας is Wilamowitz 1898's, 522 conjecture. It is widely accepted on account of the fact that, on the one hand, ancient abaci lacked a 600 drachmas column (whereas they actually had one for the 1000 drachmas) and, on the other hand, the figure 600 (καθ' ἑξακοσίας) may be explained as a confusion between the alphabetic and the acrophonic values of X (it being understood that abaci's markings are usually consistent with the acrophonic system).

[T18] and [T15] deal with similar situations : Theophrastus' braggart and Alexis' partygoers – ἔραμισταί both, as it happened – were in for more than a few rounds of additions and conversions.

Ὁ ἀλαζών. On top of the five talents worth of charities he handed out during the famine (5) as well as the civic contributions he's burdened with as the wealthy citizen he pretends to be (6), Theophrastus' fraud boasts about the ten talents he allegedly spent helping out friends in need. And our friendly neighbour certainly has been busy comforting indigent pals, for he's making up stories about liberalities whose figures are supposed to add up as high as ten talents, that is as much as sixty thousand drachmas. True enough, [T18] doesn't say much about the average amount of such loans⁹⁷, but – as Diggle 2004, 439 observed – the « κατὰ

monetary and commercial agenda I've been pushing all along – see [T23] below. Millett 2007 (in particular 69-70) and Pertsinidis 2018 are two short, student-friendly introductions to Theophrastus work. Cf. Lane Fox 1996 for a more detail-oriented, almost book-length study (in particular, 134-135).

⁹⁷ For what it is worth, Demosthenes (or, perhaps, Apollodoros himself, which is somewhat ironic considering there was no love lost between the two) recorded two such loans granted to Nicostratos, a friend turned foe, for an amount of 300 (which the former eventually condoned) and 1000 drachmas (an ἔρανος contribution for the latter's ransom) : « τὰς τε τριακοσίας, ἃς τῷ ἀδελφῷ αὐτοῦ ἔδωκα ἐφόδιον ὅτε ἐπορεύετο ἐπὶ τοῦτον, ἀφιεῖν αὐτῷ, χιλίας τε δραχμὰς ἔρανον αὐτῷ εἰς τὰ λύτρα εἰσίοισιμι [Bers 2009, 59-60 : I forgave the loan of three hundred drachmas that I gave his brother when he travelled to get him and said I would contribute a thousand drachmas towards his ransom] » (*Contra Nicostratum* 8, 204.20-23). Demosthenes again – in an early speech against his guardians over his father's squandered estate – listed amongst the assets that should

χιλίας καὶ κατὰ μίαν » suggests that loans covered the full range of columns. If this is true or even half true, it does not matter how clever with their hands Theophrastus' mythomaniac and his audience were supposed to be ; only an abacus would have allowed them to navigate through the fairly long string of operations involved in [T18]'s reckoning divagations.

ἽΟι ἐραμισταί. Even under the best of circumstances, dinner arrangements are a sensitive matter to say the least, and you'd better discuss them beforehand, lest you get into an argument as soon as the party's over and party animals start turning on each other. This is precisely what makes [T15] an awkward and potentially hilarious situation : instead of sleeping off the booze or having it off with the flute girl⁹⁸, as any decent bloke would have done instead, A and B picked up a fight over the price of mussels, cabbage and sea-urchins – what's wrong with you people ? One thing they got right though : whether they went at each other intoxicated or not, there's no way they got to the bottom of the matter relying

have been bequeathed to him a number of loans : « ναυτικά δ' ἑβδομήκοντα μνᾶς, ἔκδοσιν παρὰ Ξούθου, τετρακοσίας δὲ καὶ δισχιλίας ἐπὶ τῇ τραπέζῃ τῇ Πασίωνος, ἑξακοσίας δ' ἐπὶ τῇ Πυλάδου, παρὰ Δημομέλει δὲ τῷ Δήμωνος υἱεὶ χιλίας καὶ ἑξακοσίας, κατὰ διακοσίας δὲ καὶ τριακοσίας ὁμοῦ τι τάλαντον διακεχρημένον. καὶ τούτων αὐτῶν χρημάτων τὸ κεφάλαιον πλέον ἢ ὀκτὼ τάλαντα καὶ πεντήκοντα μναῖ γίνονται [MacDowell 2004, 24 : in maritime assets he left 70 minas on loan to Xuthus, 2.400 drachmas at Pasion's bank, 600 at Pylades', 1.600 with Demomeles son of Demon, and various loans of 200 or 300 amounting to about a talent. The total sum of this money comes to more than 8 talents 50 minas] » (*Prima in Aphobum oratio* 11, 45.11-18). Korver 1941, 14-15, Thompson 1979, 227 and Millett 1991, 157 note 38 have suggested that the twenty odd loans Demosthenes mentions amongst his non-earning assets did not yield interests and are to be considered ἔρανος-like credits (Bogaert 1986, 22 disagrees). In which case, the amount of operations Theophrastus' schmoozer has his occasional acquaintance lay down on the abacus might be ridiculously high – hardly out of character, ain't it ? Be that as it may, sums may well be imaginary, the computation is not – Theophrastus' fraud may be fabricating names and contriving figures, but he calculates as if the amounts were all too real, on the abacus that is.

⁹⁸ Admittedly, there is more about ancient musician women than meets the classicist eye (cf. e.g. Burton 1998, Harmon 2005, Goldman 2015, etc.), starting with the label itself – « flute girl » – which may well be an anachronistic fabrication (cf. West 1992a, 1). That being said, Old Comedy clichés apart (cf. e.g. Gianvittorio 2018), Alexis' characters – especially A (a man after my own heart) – strike me as they would not think twice before going for Philokleōn's bold manoeuvre and snatch the ἀλλητρίς for their personal comfort... *Vespae*, 1345-1347 : « ὄρας ἐγὼ σ' ὡς δεξιῶς ὑφειλόμην μέλλουσας ἦδη λεσβιεῖν τοῦς ξυμπότας· ὦν εἶνεκ' ἀπόδος τῷ πέει τῷδὶ χάριν [Henderson 1998, 391 : did you see how handily I sneaked you away just when you were supposed to start sucking the guests ? for that you owe my cock here a favor] » (you can quote me on that).

only on their fingers for adding seven coppers of this, one drachma of that, three of those at ten obols each. etc. We ignore whether eventually A and B found some sort of closure (for all we know, they might still be quibbling and tossing the pebbles around). If they ever did, they had to thank the non-decimal notations on the abacus they called for and put to good use to add and convert – as needs be – non-decimal monetary denominations like coppers, obols and drachmas.

* * *

WHAT DO [POSITIONALITY] AND [HYBRIDITY] TELL US ABOUT ARISTOTLE'S PEBBLE ANALOGY ? For the sake of brevity, we have left aside a few additional allusions to the abacus and a number of passing mentions of the counters in ancient Greek literature – they sing pretty much the same tune anyway⁹⁹. All in all, if I'm right or even half right, then the best way to make sense of Aristotle's analogy is also the most natural, insofar as it is consistent with most of the epigraphic and literary evidence available. Specifically, everything we've gathered so far warrants two related claims. The first is that – contrary to what [ARITHMETICAL BIAS] would have us believe – there's more to the abacus comparison than just plain arithmetic. Insofar as abacus assisted calculations were first and foremost pecuniary transactions, they routinely involved operations and conversions related to monetary and weight standards. More to the point, if plain numbers and plain arithmetical rules entered the Aristotelian picture at all, they didn't do so for their own sake (wherefore the [PROXY] label our first assumption will henceforth go by). Our second claim is that Aristotle was not so much interested in comparing calculation and argumentation as such (let alone language at large), as he was in comparing why (and how) they both fail. As a matter of fact, the whole point of the pebble analogy is failure ; in this particular instance, failure to detect and

⁹⁹ For instance, Pindar's tenth *Olympian* opening strophe relies heavily on ancient accounting jargon : indebtedness (χρέος) and repayment with interests (τόκος), etc. Several scholars have thus come to the conclusion that the poet chose the ψᾶφος metaphor accordingly, that is in reference to the pebbles used in money-calculations (Norwood 1974, 111 ; Kromer 1976, 426-428 and Faraguna 2008, 36-37). Others have been more nuanced (Verdenius 1987, 60). All in all, the poet seems to have conflated two images when he mentions the flow of his song washing away his debt : on the one hand, the clearing of the counters off the counting table after the reckoning has been successfully carried out and, on the other hand, the washing away of the pebbles swept by the ever-rolling wave.

prevent abusive value shifts affecting words and counters (wherefore the [FAILURE] label etc.)¹⁰⁰.

Before we expound [PROXY] and [FAILURE] in more detail, let us first clear a technical hurdle involved in shifting the focus of Aristotle's analogy away from the arithmetical bias that has traditionally plagued its interpretation : is Aristotle's choice of words consistent with the idea that merchant arithmetic and bean counting were the kind of calculations he had in mind when comparing poor reckoning and poor debating skills ? In so many words, yes.

Λογίζομαι (ἐπὶ τῶν ψήφων). If one were to ask what exactly Aristotle's « λογιζόμενοι » ([URTEXT], 165a 9-10) were counting, the answer would be as vague as the verb is rich in nuances – most likely a jest (« the counters, you silly ») or a shrug (« just about anything and everything the counters can stand for, I guess »). So late in the game, an attempt at narrowing down the polysemy of the expression by virtue of its association with the pebbles would look like cheating or begging the question, to an extent. That being said, the fact remains that, whether the counters are explicitly mentioned or not, λογίζομαι was used to refer to all sorts of practical computations, for the most part involving money. To stay in character, supportive fathers do not fare much better than abusive ones in Aristophanes' family sagas, especially when their offspring develop expensive addictions ; their financial problems, however, were referred to and assessed in the same terms, as Strepsiades – the onanist opsimath who got in deep with the sharks and thought philosophy was

¹⁰⁰ For we lack conclusive evidence concerning how calculations were actually performed on the abacus, we haven't indulged in a thorough, albeit tentative, reconstruction of what could have possibly gone wrong on the counting board when chips were pushed around. If I were to single out the one line of speculation that – in another life – I'd pursue, I would say that, for all practical purposes, tracking pebbles on the abacus must have been nearly impossible to begin with. As far as we know, the abacus simply did not allow one to display anything but the outcome of the reckoning. As [T18] and [T15] are to suggest, we can safely assume that most calculations run on the abacus went through more than just one step – why bother otherwise to get out the counters and set up the reckoning board in the first place ? So many steps, so many manipulations resulting over and over in a different configuration of the counters on the abacus. Each successive arrangement on the pebble-board modified and replaced the one it resulted from and was superseded by the one it led to. Since we are not aware that the abacus would record any previous stage of a calculation, short of working them backwards and comparing (mental) notes along the way, it must have been extremely difficult to nail down exactly what went south. And, to be sure, a number of things could have gone wrong : a displaced counter, or a shortcut replacement between non-adjacent columns, etc.

the easy way out (think again !) – put it when prompting the houseboy to bring him the ledger on a sleepless, anguish-fuelled night¹⁰¹ :

[T19] *Aristophanis Nubes*, 16-20 : « ὁ δὲ κόμην ἔχων ἱπάζεται τε καὶ ξυνωρικεῦται ὄνειροπολεῖ θ' ἵππους. ἐγὼ δ' ἀπόλλυμαι ὄρων ἄγουσαν τὴν σελήνην εἰκάδας· οἱ γὰρ τόκοι χωροῦσιν. ἄπτε, παῖ, λύχνον κᾶκ-φερε τὸ γραμματεῖον, ἵν' ἀναγνῶ λαβῶν ὀπόσοις ὀφείλω καὶ λογίσωμαι τοὺς τόκους [Halliwell 2015, 21 : he lets his hair grow long and his life's an obsession with horses and chariot-racing – he even dreams of horses. Meanwhile I'm distraught as I watch the moon reach the twentieth day of the month. All that interest mounting up! Hoy, slave, a lamp! And bring me out my accounts. I want to read how many my creditors are and work out the interest] ».

People being people, they hold grudges over money more than over anything else : now and then, family members fritter away their next of kin's heritage, trade partners turn on each other, bankers rob their clients blind – business as usual. It is hardly surprising then that ancient legal courts offer a wealth of lexical evidence ; and λογίζομαι figures prominently in all kinds of financial litigations : embezzlement of funds and goods, misappropriation of estates and revenues, miscalculation of profits and costs, concealment of property, creative accounting – you name it¹⁰².

[T20] *Lysiae De bonis Aristophanis ad aerarium* 9-10, 184.23 - 185.3 : « συκοφαντούμεθα καὶ κινδυνεύομεν περὶ ὧν οἱ πρόγονοι ἡμῖν κατέλιπον κτησάμενοι ἐκ τοῦ δικαίου. καίτοι, ὧ ἄνδρες δικασταί, ὁ ἐμὸς πατήρ ἐν ἅπαντι τῷ βίῳ πλείω εἰς τὴν πόλιν ἀνήλωσεν ἢ εἰς αὐτὸν καὶ τοὺς οἰκείους, διπλάσια δὲ ἢ νῦν ἔστιν ἡμῖν, ὡς ἐγὼ [10] λογιζομένῳ αὐτῷ πολλάκις παρεγενόμην. μὴ οὖν προκαταγιγνώσκετε ἀδικίαν τοῦ εἰς αὐτὸν μὲν μικρὰ δαπανῶντος, ὑμῖν δὲ πολλὰ καθ' ἕκαστον τὸν ἐνιαυτὸν, κτλ. [Todd 2000, 203-204 : we are being attacked by sycophants and are on trial for the property which our ancestors justly possessed and handed down to us. And yet throughout his life, gentlemen of the jury, my father spent more on the city than on himself and the members of his family : twice what we now possess, as I often heard him calculate. Do not convict prematurely of wrongdoing the person who spends little on himself but a great deal every year on you, etc.] ».

¹⁰¹ On Strepsades' financial troubles as an « outstanding Athenian example of a “consumption loan” », cf. Millett 1991, 66. A representative selection of material evidence about money circulation and loans, is gathered in Bogaert 1976, who previously studied the world of Greek credit in Bogaert 1968 (cf. in particular 37-60 for a study of ancient banking vocabulary). For a more recent survey – building on Bogaert – cf. Shipton 2008.

¹⁰² I defer to Cuomo 2001, 20-24 who has already reviewed and discussed the evidence I hint at here, and refer the reader to Cuomo 2013 for a few sound suggestions about ancient numeracy, accounting and accountability (cf. already Davies 1994).

Being under suspicion as an accessory in a scheme involving a transfer of seizable assets, Lysias' client may or may not be trusted implicitly – all the more so since he seems to have been the only witness of his father's reckoning. That being said, we have no reason to think that the jurors understood the λογιζομένῳ αὐτῷ as referring to anything else but the process of calculating the expenses the defendant's old man incurred on behalf of the city.

More to the point, when both words (λογίζομαι and ψῆφοι) occurred in the same sentence, before you know it, you are counting money or someone is counting money for you. Demosthenes – referring back to Aeschines – and Theophrastus said it all :

[T21] *Aeschinis Contra Ctesiphontem*, 59.3-9 : « ὅσπερ ὅταν περὶ χρημάτων ἀνηλωμένων διὰ πολλοῦ χρόνου καθεζώμεθα ἐπὶ τοὺς λογισμούς, ἐρχόμεθα δὴ που ψευδεῖς οἴκοθεν ἐνίοτε δόξας ἔχοντες· ἀλλ' ὅμως ἐπειδὴν ὁ λογισμὸς συγκεκριαίωθῃ, οὐδεὶς ἐστὶν οὕτω δύσκολος τὴν φύσιν ὅστις οὐκ ἀπέρχεται τοῦτο ὁμολογήσας καὶ ἐπινεύσας ἀληθὲς εἶναι, ὅτι ἂν αὐτὸς ὁ λογισμὸς αἰρή [Carey 2000, 185 : when we take our seats at an audit session for expenditure over a long time, we may sometimes come from home with false impressions, but still when the account is reckoned up there is none of you of so grudging a disposition that he leaves without admitting and agreeing that the figure proved by the reckoning is true] ».

[T22] *Demosthenis De corona oratio*, 227.1-5 : « εἴτα σοφίζεται καὶ φησὶ προσήκειν ἧς μὲν οἴκοθεν ἦκετ' ἔχοντες δόξης περὶ ἡμῶν ἀμελήσαι, ὥσπερ δ', ὅταν οἰόμενοι περιεῖναι χρήματά τῳ λογίζησθε, ἂν καθαραὶ ᾄσιν αἱ ψῆφοι καὶ μηδὲν περιῆ, συγχωρεῖτε, οὕτω καὶ νῦν τοῖς ἐκ τοῦ λόγου φαινομένοις προσθέσθαι [Yunis 2005, 87 : next, he <Aeschines> made a very clever suggestion : you are to disregard the opinion that you had of us when you came here from home, and, just as when you audit people for supposedly retaining surplus funds but acquit them if the figures balance and there is no surplus, so in this case too you are to concur with the evident force of the argument] ».

[T23] *Theophrasti Characteres* XXIV 12, 134.15-17 : « ἀμέλει δὲ καὶ λογιζόμενος πρὸς τίνα τῷ παιδί συντάξαι τὰς ψήφους διαθεῖναι καὶ κεφάλαιον ποιήσαντι γράψαι αὐτῷ εἰς λόγον [Diggle 2004, 135 : and you may be sure that when the arrogant man is reckoning someone's account he instructs his slave to do the calculations, work out a total, and write him out an invoice for that amount] ».

As is well known, Aeschines and Demosthenes did not get along very well¹⁰³. Still, they would have agreed between them – and with

¹⁰³ On character assassination and Aeschines and Demosthenes rivalry, cf. Worman 2004, 2008, 213-274, 2018 and Kamen 2020, 60-86. Since the winner takes it all, on Demosthenes portrait of his foe as a Theophrastean character – a comic one of course –

Theophrastus – on one thing : whomever the finger of blame should be pointed at, λογισμοί, λογίζομαι and ψῆφοι definitely belong together and have a distinct reek of money about them.

Παρακρούω. If we are to believe ancient lexicographers¹⁰⁴, a similar case might be argued for the other expression associated with the counters in [URTEXT], namely the verb παρακρούω :

[T24] *Harpocratonis Lexicon in decem oratores*, Π 28 : « παρακρούεται· ἄντι τοῦ ἐξαπατᾶ. πολὺ δ' ἐστὶ παρά τε τοῖς ἄλλοις Ἀττικοῖς καὶ παρὰ Δημοσθένει ἐν τοῖς Φιλιππικοῖς, μετῆκται δὲ τοῦνομα ἀπὸ τοῦ τοῦς ἰσάντας τι ἢ μετροῦντας κρούειν τὰ μέτρα καὶ διασειεῖν ἕνεκα τοῦ πλεονεκτεῖν, ὡς καὶ Σοφοκλῆς ποῦ “ὡς μῆτε κρούσης μῆθ' ὑπὲρ χεῖλος βάλῃς” [παρακρούεται (strike aside, mislead) for ἐξαπατᾶ (deceive)]. It occurs often both in the other Attic <orators> and in Demosthenes' *Philippics*. The word is a metaphor derived from how people who weigh or measure something flick the measures and shake them to obtain a profit – as Sophocles says somewhere : “that you neither flick nor exceed the rim” ».

Did Aristotle actually use παρακρούω in [URTEXT], 165a 15 to convey the idea that smart pebble-movers take advantage of less experienced ones by fixing the counters ? Tempting though this is – after all, meddling with the counters for profit is not so different from tipping the scales – we'll leave it at that and will only allow that nothing in [URTEXT] rules out the possibility that παρακρούω means cheating unwary people out of their money through a wicked sleight of hand.

[PROXY]. Despite the overwhelming epigraphic and literary evidence suggesting the opposite and against a solid consensus amongst some of the best archaeologists, numismatists and historians of Greek mathematics – [ARITHMETICAL BIASED] interpreters have long been labouring under the wrong assumption that the purpose of Aristotle's pebble analogy was to draw a parallel between computation and speech tout court – as if the way we work out numbers in general could shed any light on how we misuse words. This is, of course, misleading on several counts. First if not foremost, nowhere does Aristotle compare numbers and linguistic expressions as such, their features or their relations to the things we talk

cf. Rowe 1966 ; stylistic and linguistic issues of the crown speech have been addressed in Yunis 2001 and, more recently, in Murphy 2016.

¹⁰⁴ On Harpocraton's glossary, cf. Dickey 2007, 94, both concise and much to the point. Same entry in Photius (Π 253), Suda (Π 373), Lopadiota (Π 18), etc.

and make calculations about. In fact, [URTEXT] offers little support to the idea that, when Aristotle referred to counters, he was leaning on a kinship of sorts – or any kinship, for that matter – between calculation and speech themselves. He wasn't. As [COMPLICATION BIAS] and [HYBRIDITY] discussions have made it abundantly clear, leisure calculation or counting for the sake of crunching numbers – not to speak of more abstract forms of ancient logistic¹⁰⁵ – were anything but a priority for those who conceived and built the counting tables which have survived to this day¹⁰⁶. In fact, if these are any indication of what ancient designers and users looked for in their abacus, then it is safe to assume that all they cared about was the

¹⁰⁵ The kind of higher, more speculative disciplines investigating the true nature of numbers, their many properties and relations, which Plato had already set apart as a matter of course while separating the theoretical requirements of philosophers interested in numbers theory from the all too practical needs of ordinary people busy measuring and counting off everyday things (*Philebus*, 56d 4 - 57a 4). It is not always easy to determine whether Plato thought of philosophical logistic as a science all unto itself and to what extent exactly it was germane to other branches of human knowledge and overlapped with them – most notably arithmetic (cf. e.g. *Gorgias*, 451a 8 - 451c 5 and *Respublica* VII, 525a 10 - 527c 10). Insofar as neither is to be mistaken with counting and measuring crafts – the only maths vulgar calculators were supposed to know and arguably cared about anyway – we won't try to address the issue here. Klein 1934-1936 brilliantly raised the problem and went a long way toward solving it ; half the story though it is, Majolino 2012 may be considered the final word on this as well as on a number of related matters, most notably ancient dislike for fractions – also addressed most competently in Knorr 1982, Vitrac 1992, Mendell 2008 and Acerbi 2019. It is a little out of our jurisdiction and we probably should trust our layman's instincts and leave it out, but Boyer 1968, 66 may have something there : « it is likely that the widespread use of the abacus accounts at least in part for the amazingly late development of a consistent positional system of notation for integers and fractions ». As a matter of fact, as pointed out by Carl Boyer himself, insofar as « the abacus can be readily adapted to any system of numeration or to any combination of systems » (Boyer 1968, 66), it made it perfectly natural to treat fractions as multiple subunits : on the counting board, a chalkous does not look anything like an eighth of an obol... rather, it takes eight coppers coins to make one obol. Likewise, on the abacus, an obol is not a sixth of a drachma, but six obols make one drachma, and so on and so forth. For it stands out as the most astute description of how abacus computations were likely to be performed, let's hear it from Henry Mendell : « I may need to divide 2 drachmas equally among 5 people. Well, I multiply 2 drachmas by 6 obols per drachma to get 12 obols, which, in division, gives me 2 obols per payee with 2 remainder. But I multiply these by 8 coppers per obol to get 16 coppers, so that I can disperse 2 obols 3 coppers. The remaining copper is not worth much, so I will just give it to anyone » (Mendell 2018, 205-206).

¹⁰⁶ Instead of skimming through the exhibits all over again, let all be reminded that even the most [ARITHMETICAL BIASED] abacus specialist – in a moment of great insight – acknowledged that « the Salamis abacus <IG II2, 2777> is inscribed with three sequences of numerals, *monetary* numerals as it is *always* the case with abaci's numerals » (Schärlig 2001, 66 – his emphasis).

comfort of merchants, retail-traders, accountants and other money handlers who dealt with numbers for no other reason than to buy and sell goods, charge interest rates or exchange currencies. Counting coin is where pebble boards really shone and proved most useful, so it definitely stands to reason that we assume arithmetical operations by themselves hardly entered the picture for Aristotle. If they came into play at all, it was by proxy : while there ain't no such thing as two arithmetics, if Aristotle's pebbles were to be meaningful in any way, knowing one's numbers properly was not the same as moving counters around on the reckoning board. Provided that we understand Aristotle's abacus simile along the lines of the epigraphic and literary evidence available – as we should – it become obvious then that it presupposed numeracy all right, but it was not about numeracy itself. To begin with, granted that coin and weight calculations follow now and then the same arithmetical rules through and through, the fact remains that they do not reflect arithmetical procedures alone. Monetary and ponderal conventions are at least as important and they have their own set of rules concerning conversions between different denominations : it is not because one and one is two and three times four equals twelve that, say, an obol was worth eight coppers in Athens and twelve in Aegina or that it took seventy drachmas here and one hundred there to make a mina – this is simply the way monetary standards work, to the fishmongers' delight if we are to believe ancient humour¹⁰⁷. Moreover, just as Aristotle took for granted that dialectical

¹⁰⁷ For a most succinct introduction to ancient Greek standards and the long-standing dissensions amongst scholars, see Duyrat 2014 and De Catallataj 2017. Marcellesi 2000 tackles a few practical problems Hellenistic monetary standards confronted ancient traders and accountants with on a daily basis. On the divergence between Aeginetan and Attic standards in particular, cf. *Pollucis Onomasticon* IX 76, 168.17-19 : « τὴν μὲν Αἰγιναιῶν δραχμὴν μείζω τῆς Ἀττικῆς οὖσαν – δέκα γὰρ ὀβολοὺς Ἀττικοὺς ἴσχυεν – Ἀθηναῖοι παλαιὰν δραχμὴν ἐκάλουν, μίσει τῶν Αἰγινητῶν Αἰγιναιῶν καλεῖν μὴ θέλοντες [since the Aeginetan was larger than the Attic drachma (in fact, its worth was ten Athenian obols), Athenians preferred to call it the “big drachma” rather than the “Aeginetan drachma”, for they loathed Aeginetans] ». Athenaeus (VI 224c - 227b) relays several comic tirades against fishmongers, most notably a fragment from Diphilus' *Busybody* : « ὄμην ἐγὼ τοὺς ἰχθυοπώλας τὸ πρότερον εἶναι πονηροὺς τοὺς Ἀθήνησιν μόνους. τότε δ', ὡς ἔοικε, τὸ γένος ὡσπερ θηρίων ἐπίβουλόν ἐστι τῇ φύσει καὶ πανταχοῦ. ἐνταῦθα γοῦν ἔστιν τις ὑπερηκοντικῶς, κόμην τρέφων μὲν πρώτων ἱερὰν τοῦ θεοῦ, ὡς φησὶν· οὐ διὰ τοῦτό γ', ἀλλ' ἐστιγμένους πρὸ τοῦ μετώπου παραπέτασμα' αὐτὴν ἔχει. οὗτος ἀποκρίνεται, ἂν ἐρωτήσης “πόσου ὁ λάβραξ”, “δέκ' ὀβολῶν”, οὐχὶ προσθεὶς ὀποδαπῶν. ἔπειτ' ἐὰν τάργυριον αὐτῷ καταβάλῃς, ἐπράξεται' Αἰγιναιῶν· ἂν δ' αὐτὸν δέη κέρματ' ἀποδοῦναι, προσαπέδωκεν Ἀττικά. κατ' ἀμφοτέρωθεν δὲ τὴν καταλλαγὴν

patsies had basic language proficiency and at least minimal argumentational awareness, it is only fair to assume that he also presupposed that inept calculators had at least crude numerical understanding and elementary computational training. However inexperienced and little acquainted with semantic subtleties, inferior debaters had to know enough Greek and questions and answers routine to follow a discussion, indeed to be involved in one ([URTEXT], 165a 15-17). Likewise, incapable though they were of carrying out digital feats with the counters on their own and poorly equipped to spot them on the abacus, incompetent calculators must nonetheless have known enough maths to sit at a counting table to start with and toss the occasional pebble around ([URTEXT], 165a 14-15). That being said, Aristotle's simile did not dwell on either, that is to say : it is neither primarily nor specifically about numeracy and computational articulateness as such, any more than it is about literacy and discursive fluency per se¹⁰⁸. What is Aristotle's pebble analogy all about then ? Pebbles... what else ? And this is precisely the feature [ARITHMETICAL BIAS] has traditionally taken out of the equation, namely the fact that Aristotle compared logistical and linguistic symbols insofar as they are

ἐχρει [Douglas Olson 2006, 17 : I used to think it was only the fish-sellers in Athens who were no good. But apparently this breed is like wild animals : their very nature makes them treacherous everywhere. Here, at any rate, there's one who's outdone them all ; he's growing his hair long, first of all, as an act of piety – so he says. That's not the reason ; he's been tattooed, and he uses his hair as a screen to cover his forehead. If you ask him “how much for the sea-bass ?”, he answers “ten obols”, without specifying the currency. Then if you pay him the money, he charges you on the Aeginetan standard ; and if he has to give change, he offers Attic coins ! Either way, he makes money on the deal] » (*Deipnosophistae* VI, 225a 6 - 225b 10). On fishmongers' bad reputation, see Davidson 1993 and Paulas 2010.

¹⁰⁸ It is perfectly possible to have a decent grasp of arithmetic calculations and still get into trouble with the pebbles for exactly the same reason average people – that it is to say people who have no problem at all grasping the general principles of verbal communication and dialectical disputation – are tricked on a regular basis by those who know better. Following a different line of argument and without cluttering up his minds (or the readers') with mentions of exotic historical evidence, McCready-Flora 2019, 55-56 has arrived to this very same conclusion, which I endorse without reservation : « a person could be great at doing sums, but baffled by moving stones around ... verbal naïfs go wrong in the same way that leads to bad stone-movers getting cheated. Mathematical error, though, is not what separates marks from their money. What the hustlers understand (epistēmēnōn <no point in messing with the Smurf – if you get it wrong, mate>) and weaponize is how to move stones (psēphous pherein) ... all this entails that what lets the hustlers cheat is an instrumental failure distinct from the cognitive capacity to do sums. If the inept stone-mover suffers instrumental failure and the same goes for word-novices, then the errant word-novice also suffers instrumental failure » – my point exactly !

useful tools but require a degree of *savoir-faire* and must be handled with care. As a matter of fact, there can be little doubt that Aristotle's turn of phrase lays stress on the counters and those who used (and misused) them rather than on computation as an art or on reckoning at large. In other words, the emphasis of the analogy is definitely on the pebbles, the handling of which is the area of expertise – or, rather, the lack thereof – around which the whole simile revolves. Why else, of all calculators, would Aristotle have singled out those who are good – and not so good – at moving the stones ? One might object that we're taking a liberty with the text when we claim that Aristotle's experts are not so much accomplished arithmeticians as they are individuals skilled at pushing the counters around. Granted, but let's turn the question around : what precisely do Aristotle's « ἐπιστήμονες » ([URTEXT], 165a 14) know that « οἱ μὴ δεινοὶ τὰς ψήφους φέρειν » (165a 15) don't ? Precisely. In fact, while anyone who picks up the counters shares, at least to a degree, the belief that we can depend on them, it is how deftly or clumsily we manipulate them that makes all the difference in [URTEXT]. Skilled and unskilled calculators alike put at least a measure of trust in their pebbles (otherwise, why use them in the first place ?), but only the former could trust themselves to come out on top of every transaction, especially the unfair ones.

[FAILURE]. Once we relinquish the idea that calculation as such took centre stage in Aristotle's abacus simile, it becomes easier to pinpoint what its terms were and why Aristotle brought pebbles and words together in the first place. More to the point, it is possible to turn the analogy on its head and set it back upon its feet by shifting its focus from trying to explain why computation and language succeed to trying to explain why pebble reckoning and dialectical argumentation fail – which, by the way, is so much more in character with the subject matter [URTEXT] is supposed to introduce us to, that is fallacies, paradoxes, falsities, improprieties and babbling. In fact, while [URTEXT] does not provide much in the way of comparing linguistic and computational habits *per se* (after all, we don't calculate with words any more than we speak in numbers, etc.), it definitely tells us that they both rely on symbols and – for this very reason – share the same liability : linguistic and computational substitutes alike are prone to inconspicuous and yet momentous variations, which we will fail to prevent as long as we do not come to terms with the fact that both linguistic expressions and counters

may have different values. For this is the core of Aristotle's analogy : linguistic expressions are to argumentation as counters are to computation insofar as their worth may change without us always being able to keep up or keep track. Hence, linguistic symbols (ὀνόματα, λόγοι) and computational ones (ψηφοί) play similar roles and, more to the point, have the same shortcomings. The problem with words is the same as the problem with counters – not because there's a however intimate or loose relation between argumentation and calculation, let alone between the way we talk and the way we reckon, but because words and counters fail us the same exact way when their value or their meaning as symbols shifts at the hands of unscrupulous debaters and malicious calculators without us taking duly notice or having the proper understanding of how it happens.

[EPILEGOMENA]. How well do verbal and computational prestidigitation compare and, more importantly, what do they teach us about Aristotle's views on language and its workings ? Provided that we understand Aristotle's pebble analogy on its own terms as the kind of heavy-duty comparison people were expected to figure out without racking their brains, it fares well enough to drive home an important, albeit unsophisticated, truth about language – and what it tells us about language is that it is, by and large, a matter of savoir-faire : after all is said and done, the answer to the question « what do we ask of words ? » is not so different from the answer to the question « what do we ask of counters ? ». In a nutshell, we ask them both to be worth something and to allow us to go about our conversational and computational business on the assumption that this is going to be the case as long as we don't change our mind and agree to use either words or counters with a different value altogether. All that is required for it to work then is that we play by the rules, keep an eye out for those who don't and pay as much attention when we speak as we do when we give the change or check our balance. Where's the excitement in all that ? Beats me, but to quote again Aristotle's tribesmen of old ([URTEXT], 164a 27) : « it is better to be bored and right than to get robbed and outsmarted at every turn » – Amen to that.

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LA QUESTION DU LANGAGE DANS LE PREMIER LIVRE DE LA RHÉTORIQUE D'ARISTOTE

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La spécificité du présent projet est d'examiner la question du langage telle qu'elle est traitée dans les œuvres ou parties d'œuvre d'Aristote, dans une démarche d'observation et d'induction, en évitant de plaquer des *a priori* et de faire dériver la lecture d'interprétations préalables.

Mais en même temps, surtout quand la relecture envisagée est soumise à l'ordre du texte, on ne peut chercher complètement à l'aveugle ni sans avoir défini, sinon des hypothèses, du moins un objet et un cadre.

L'objet est relativement clair : le langage humain, et plus spécialement la communication orale, à savoir la rhétorique telle que son nom grec la définit, ῥητορικὴ (sc. τέχνη), soit l'art ou la technique¹ de la parole publique émise par un orateur² face à un public en contexte politique³.

La définition du cadre sera le plus large et le plus ouverte possible, mais elle requiert quelques explications supplémentaires, liées au statut de la rhétorique, qui est chez Aristote un statut de dépendance. En tant que simple technique, dépourvue de caractère architectonique, elle est

¹ Pour une définition aristotélicienne de la technique, technique poétique (productrice d'objet) ou pratique (codifiant une pratique), dotée d'une fin, ordonnant des moyens à cette fin, et apte à connaître les raisons de ses échecs, voir par exemple *Rhetorica* I 1, 1354a 7-12.

² Le mot ῥήτωρ est souvent employé à l'époque classique pour désigner le politicien, voir note suivante.

³ Ce contexte est induit par les genres traités par Aristote (*Rhetorica* I 3) : il inclut non seulement le discours politique dans le sens qui nous est familier (délibératif) mais aussi le discours judiciaire et le discours de cérémonie, ces deux derniers adressés eux aussi aux πολῖται (citoyens), qu'ils soient réunis en jurys ou en public. La référence au spectateur à propos de l'épidictique (1358b 6) évoque le théâtre, genre doté lui aussi d'un caractère politique.

subordonnée à des sciences capables, elles, de se donner une véritable fin (τέλος), en l'occurrence la politique et l'éthique⁴.

L'intérêt porté par Aristote à la question du langage a de fait plusieurs moteurs : compte tenu de l'importance cruciale de la pratique oratoire dans un régime, la démocratie, qui fait de la parole l'instrument politique par excellence (Vernant 1962), cet intérêt s'inscrit d'abord dans la tradition sophistico-platonicienne, et – plus prosaïquement – dans la compétition entre intellectuels de la période classique pour la formation rémunérée des élites démocratiques⁵. Il est lié également au caractère encyclopédique d'une recherche axée sur les savoirs (cf. Crubellier & Pellegrin 2002). Mais son moteur principal est probablement éthico-politique. L'innovation majeure d'Aristote, dans le champ politique, est de subordonner l'éthique – la question de la vertu – à l'organisation de la vie collective, l'homme ne réalisant pleinement ses potentialités naturelles⁶ propres que quand il vit harmonieusement avec ses semblables, dans une cité. Le langage, dans ce cadre, est à la fois le signe de cette prédisposition politique, et le moyen de la réaliser, en permettant aux citoyens d'échanger sur le bien et le mal, bref de partager leurs visions de la vertu.

En effet, par rapport à Platon, la spécificité des *Politiques* d'Aristote est que le Stagirite ne vise pas à définir et à décrire *a priori* une cité idéale. Son point de vue est essentiellement pratique. Au départ il y a certes un « azimuth », l'homme accompli, réalisant pleinement sa nature d'être social. Mais les circonstances, divers obstacles, d'autres tendances peuvent mettre un frein à un tel épanouissement. Le langage fait partie de ces instruments à la fois « incontournables », imparfaits, mais perfectibles, dont l'usage peut être « optimisé ». La réalisation de ce programme implique la collaboration des trois acteurs qui président, en général, à l'action politique, le philosophe, qui saura définir en théorie la meilleure cité, le législateur qui saura tirer de ces principes les moyens d'éduquer les citoyens par la loi, compte tenu des circonstances et des contraintes locales, le magistrat, enfin, chargé de faire connaître et appliquer les lois.

⁴ Voir sur ce point la fin de *Rhetorica* I 4, 1359b 1 et sq.

⁵ Cette compétition apparaît de manière explicite dans un libelle d'Isocrate, le *Contre les sophistes*, apparemment contemporain de l'ouverture de son école, vers 390 av. J.-C.

⁶ Sur les origines biologiques de la vie politique selon Aristote et sa fameuse définition de l'homme comme ζῷον πολιτικόν, cf. Pellegrin 2017, 79-93.

Cela posé, on peut postuler que le langage fait l'objet, de la part d'Aristote, d'une triple approche. Une approche descriptive, tout d'abord, à visée didactique, sans dimension ni éthique ni politique, mais subordonnée au domaine étudié. De même que l'ἦθος n'a pas le même contenu quand il est envisagé dans une perspective éthique ou dans une perspective rhétorique (Woerther 2007), la question du langage, peut-on penser, n'est pas traitée de la même manière en poétique, en rhétorique ou en biologie.

Deuxièmement, une approche normative – répondant à la question du meilleur usage du langage dans la cité la mieux organisée par le législateur et la mieux administrée par le magistrat. Les conseils pratiques donnés à cet égard seront précieux pour les élèves du Lycée, futurs politiciens.

Troisièmement – inscrite dans la fonction de toute technique qui doit savoir expliquer ses échecs, et antidote pragmatique à l'« optimisme naturaliste » (Pellegrin 2017, 423) du Stagirite –, une approche critique, historique, visant à décrire les dérives réelles ou potentielles d'un mauvais usage dudit langage, dérives importantes à connaître, dans la mesure où le réalisme d'Aristote le pousse à aborder les qualités et les défauts d'un outil ou d'une tendance non en termes de simple axiologie objective, mais en termes d'*usage* correct ou dévié (Pellegrin 2017, 261). Le but étant ici de transformer le mauvais usage en bon usage, à l'instar – par exemple – de la στάσις, ou sédition, indissociable de tout projet politique – puisque toute société fait cohabiter des groupes aux intérêts antagonistes – et susceptible aussi bien de dériver vers la destruction de la collectivité que d'être canalisée pour le bien de tous en se métamorphosant en saine émulation.

Un quatrième point de vue s'impose, au moins par provision : la fréquentation d'Aristote, dont seuls ont survécu les dossiers destinés à l'usage interne de l'École et non à la publication, révèle une pensée en voie de constitution et de systématisation à l'aide d'outils remarquablement constants mais appliqués à un matériau très divers. L'utilisation de sources hétérogènes, une composition étalée, très probablement, sur de nombreuses années, un inégal degré d'aboutissement expliquent la présence de scories, traces précieuses des sources utilisées et indices – par différence – du projet poursuivi.

En clair, nous nous proposons de relire la *Rhétorique* en tâchant de capter a) les éléments de description désintéressée du langage comme objet de connaissance, b) des règles d'usage réussi compte tenu des

contextes et des normes décrits par le philosophe à l'intention du législateur et du magistrat, c) l'examen critique d'abus et de dérives permettant l'ajustement du projet, et enfin d) d'éventuelles données exogènes, scories significatives ou non. Mais – dernier préalable – doit-on recourir au texte de la *Rhétorique* tel qu'il se présente aujourd'hui ? On répondra à cette question que, malgré les doutes qui pèsent sur l'homogénéité et l'organisation du traité dans son état actuel, faute de pouvoir reconstituer un état plus authentique en raison de la contradiction des données disponibles, on utilisera le texte tel quel⁷. On s'interrogera enfin sur la *quaestio vexata* de la profonde ambivalence qui marquerait le traité, entre une approche « puritaine » et une approche plus réaliste de la rhétorique (cf. Chiron 2015).

Dans le chapitre premier de la *Rhétorique*, un premier passage – dont l'impact sur la question n'est qu'indirect – mérite à nos yeux l'attention :

« car l'examen du vrai et du semblable au vrai relève de la même capacité et, en même temps, les hommes sont par nature suffisamment doués pour le vrai et ils arrivent la plupart du temps à la vérité : en conséquence, celui qui a déjà l'aptitude à viser la vérité possède aussi l'aptitude à viser les opinions communes (ἔνδοξα) » (*Rhetorica* I 1, 1355a 14-18).

Sur le versant normatif – et nous avons là un merveilleux exemple de l'« optimisme naturaliste » d'Aristote – le langage *a priori* ne fait pas obstacle à la communication de la vérité. Le brouillage, s'il y a brouillage, tient à l'imperfection du monde sublunaire, et au fait que les hommes sont confrontés à une part de contingence, sur laquelle, à force d'expérience, ils élaborent des inductions spontanées, les ἔνδοξα. Celles-ci ne sont certes pas vraies, mais elles peuvent aider à accéder à la vérité.

Toutefois, le versant critique se manifeste très vite à la lecture, lié à une contrainte propre à la rhétorique : son public, faute de formation à la science, ne réalise pas toutes les potentialités humaines en matière de vérité. Il n'accède, quel que soit le sujet, qu'aux ἔνδοξα (1355a 27). Or les ἔνδοξα relèvent de la dialectique et de la rhétorique, qui ont – seules de toutes les techniques – la capacité de déduire, à partir des mêmes prémisses, des propositions contraires (1355a 34). Certes « le vrai et le meilleur se prêtent mieux par nature au syllogisme et sont, tout simplement, plus persuasifs » (1355a 37-38), mais la possibilité

⁷ Cf. Chiron 2007, 49-55. Cette traduction a été réimprimée dans Pellegrin 2014. Elle se fonde, sauf exceptions rares, sur le texte édité par Rudolf Kassel.

d'abuser le public est bien là. Une telle défaite de la pensée est un risque d'autant plus irritant qu'il est évitable, et que la capacité de manier le discours est plus inscrite dans la nature humaine, plus spécifique, que la capacité de se battre physiquement.

Dans la suite du texte, on découvre un autre indice d'une sorte de transparence du langage à son objet, la définition de la rhétorique comme « capacité de discerner dans chaque cas ce qui est potentiellement persuasif » (*Rhetorica* I 2, 1355b 25-26). Cette capacité est donc dissociable de son actualisation et la persuasion indépendante de la verbalisation. Mais – comme attendu dans un second chapitre notoirement moins intellectuel que le précédent – un espace propre est bientôt dessiné pour des moyens non-logiques, espace dans lequel le langage tend à perdre sa belle transparence :

« il y a persuasion par le caractère quand le discours est ainsi fait qu'il rend celui qui parle digne de foi. Car nous faisons confiance plus volontiers et plus vite aux gens honnêtes, sur tous les sujets tout bonnement, et même résolument sur les sujets qui n'autorisent pas un savoir exact et laissent quelque place au doute ; il faut que cela aussi soit obtenu par l'entremise du discours et non en raison d'une opinion préconçue sur le caractère de celui qui parle » (*Rhetorica* I 2, 1356a 4-10).

Le projet d'Aristote est de construire une technique autonome, dont la réussite ou l'échec ne dépend que d'elle – à la différence d'un Isocrate qui prépare l'autorité de sa parole avant même de parler (Havet 1862, 276-280) – aussi précise-t-il que la confiance est communiquée *par le discours*. Rien n'est dit de précis, pour l'instant, des moyens langagiers de la construction d'un ἤθος. Mais un champ est circonscrit. On pourrait résumer le précepte donné ici de la manière suivante : si l'on veut persuader, il faut s'exprimer *d'une manière qui inspire la confiance*. Même flou pour le πάθος, mais lui aussi suppose le discours capable, par lui-même, indépendamment de la démonstration qu'il contient, ou pas, de mettre l'auditeur dans telle ou telle disposition d'esprit, laquelle disposition influera sur son jugement, et donc sur son vote.

Contradiction irréductible, ambivalence, concession, changement de point de vue lié à la genèse du dossier ? Bien des hypothèses ont été proposées pour rendre compte du changement de statut de ces paramètres de la communication que sont l'ἤθος et le πάθος, jadis rejetés, désormais acceptés comme πίστεις (moyens de persuasion) légitimes. Ce qui nous paraît clair est qu'on progresse beaucoup dans la compréhension de cette

tension si l'on relie l'ouverture du philosophe à ces données anthropologiques à un projet, peut-être nouveau dans son esprit, d'en faire un usage politique et pratique⁸. Citons ce passage apparemment ambivalent :

« il est évident que leur maîtrise (*sc.* des moyens de persuasion) est le fait de quelqu'un qui est capable de manier le syllogisme, de voir clair dans le domaine des caractères et des vertus ou, troisièmement, dans le domaine des passions, de voir quelle est chacune des passions, quelle est sa nature, d'où elle naît et comment. Il en résulte que la rhétorique est comme une sorte de rejeton de la dialectique, ainsi d'ailleurs que de l'étude des caractères, qu'il est légitime de nommer politique. De là vient également que la rhétorique, et ceux qui en revendiquent la possession, revêtent le costume de la politique, que ce soit par manque d'éducation, vantardise ou tout autre raison trop humaine » (*Rhetorica* I 2, 1356a 21-30).

Ce qui est affirmé sous le sceau de l'évidence est la parenté de la compétence rhétorique avec d'une part la compétence dialectique, d'autre part la compétence éthico-politique. Et puis vient ce rappel de l'abus des rhétoriciens qui s'approprient indûment le champ politique. Est-ce un retour en arrière ? La seule manière, à notre avis, de rendre compte des hésitations d'Aristote ici est de considérer que pour lui la science des caractères et des passions est utile à l'homme qui veut faire de la rhétorique à des fins politiques, *mais à condition que cet homme soit un magistrat formé à la philosophie pratique*⁹, et non un de ceux qui se targuent

⁸ L'usage de cette clé correspond à un courant actuel, illustré notamment par l'ouvrage de P. Pellegrin cité plus haut (Pellegrin 2017), et qui ne se limite pas à Aristote, cf. Jacobs 2018.

⁹ Cette philosophie pratique ne s'identifie pas pour autant à une science : la rhétorique et la dialectique, répétons-le, ne sont pas la politique, mais des techniques, voir sur ce point *Rhetorica* III 4, 1359b 10 et sq. On peut saisir avec clarté le plan où se situe le rhéteur-dialecticien, qui se sépare à la fois de la politique comme science et de la routine qui se prétend indûment politique, dans une phrase comme celle-ci : « qui se dispose à donner des conseils en matière de finances devra donc connaître quels sont les revenus de la cité (...). Pour bien appréhender cette question, l'expérience acquise dans la cité où l'on vit ne suffit pas, il faut absolument s'enquérir des solutions inventées chez les autres... » (1359b 24 et sq.). De même, le magistrat-rhéteur éclairé devra avoir des notions de législation, s'il veut contribuer à sauvegarder sa cité (1360a 18 et sq.). Aristote conclut son exposé des connaissances nécessaires au magistrat par ce rappel : « mais tout cela est la tâche de la politique, non de la rhétorique » (1360a 36), où nous lisons une répartition disciplinaire. Ces questions relèvent du politique, elles sont étudiées dans les *Politiques*, mais elles sont nécessaires au bon magistrat, d'où ce rappel dans la *Rhétorique*, lequel traité a par ailleurs son objet propre – les techniques rhétoriques – qui est différent. Si l'on cherche à discriminer plus finement la science du philosophe formé à la politique des savoirs politiques du magistrat éclairé, on lira le début du chapitre I 5, où Aristote ne traite pas du bonheur

d'être des politiciens sans avoir les compétences requises. Le verbe que nous traduisons par « revêtir le costume de » est ὑποδύεσθαι qui sert justement, dans la *Métaphysique*¹⁰, à désigner le costume de philosophes que les sophistes peuvent revêtir, à l'instar des dialecticiens, sans en être véritablement.

Mais continuons notre recherche d'indices. Un autre principe dessine en creux une place pour le langage : le persuasif et le crédible ne sont pas persuasifs et crédibles dans l'absolu, mais « pour quelqu'un », que ce soit immédiatement et réellement ou en apparence (*Rhetorica* I 2, 1356b 26). Il s'agit donc d'une relation, et cette relation peut être directe ou brouillée, peut-on penser, par la faute du *medium* utilisé. Ce *medium* est d'autant plus important que la rhétorique porte sur des données contingentes, « qui semblent pouvoir être aussi bien d'une manière ou de l'autre » (1357a 4-5), qui requièrent donc un travail dialectique¹¹ ; qu'elle « s'adresse à des auditeurs incapables d'atteindre à une vue d'ensemble par de nombreuses étapes et de raisonner depuis un point éloigné » (1357a 3-4)¹² ; et qu'elle implique par là même une pédagogie adaptée.

Cette médiation n'affecte donc pas seulement les contenus non-logiques : l'orateur s'exprimera différemment s'il tient compte ou non de la lenteur d'esprit de son public, s'il est pédagogue ou non, mais aussi en fonction de préférences personnelles, conscientes ou non :

« en effet, ce qui a été dit dans les *Méthodiques* s'applique également ici : il y a des pratiques oratoires qui se prêtent à l'exemple, les autres à l'enthymème et les orateurs, de même, sont les uns portés à l'exemple, les autres à l'enthymème » (*Rhetorica* I 2, 1356b 20-23).

On regrette que l'ouvrage cité, les *Méthodiques*, ait disparu, d'autant qu'il précisait probablement les modalités de la politisation effective de la rhétorique. Il suffit de dire pour l'instant que même sur les questions

permis par une politique harmonieuse, mais des différentes conceptions du bonheur collectif recevables dans telle ou telle cité, et qui peuvent faire l'objet d'un travail de persuasion. Bref, la *Rhétorique* peut être lue aussi bien par le bon et le mauvais magistrat. Le bon est celui qui se sera initié à la politique.

¹⁰ Cf. *Metaphysica* Γ 2, 1004b 18 : οἱ γὰρ διαλεκτικοὶ καὶ σοφισταὶ τὸ αὐτὸ μὲν ὑποδύονται σχῆμα τῷ φιλοσόφῳ.

¹¹ D'autant plus nécessaire si les déductions ne sont pas conformes à l'opinion commune (*Rhetorica* I 2, 1357a 9-10).

¹² Voir aussi *Rhetorica* I 2, 1357a 12 : « le juge est *a priori* un homme simple ». Il faut entendre par juge le citoyen qui contribue à un jugement collectif, en tant que membre de l'assemblée ou d'un tribunal populaire.

qui relèvent de la dialectique, l'orateur laisse sa marque sous la forme d'une dilection pour un certain type de raisonnement ou du rejet d'un autre, ce qui joue également sur la réception, puisque « ce sont les discours à enthymèmes qu'on applaudit le plus » (1356b 24-25).

Dans ce domaine de l'anticipation sur la réception du message par le public, le chapitre 2 insiste également sur la nécessité de ne pas tout dire :

« si l'une des propositions (servant de prémisse à un syllogisme) est connue, il n'est même pas besoin de la formuler : l'auditeur la supplée de lui-même. Ainsi, pour établir que Dorieus a reçu une couronne comme prix de sa victoire, il suffit de dire qu'"en effet il a remporté une victoire olympique". Le fait que la victoire aux Jeux olympiques est récompensée d'une couronne n'a pas besoin d'être ajouté : tout le monde le sait » (*Rhetorica* I 2, 1357a 17-21).

Cette prise en compte du public est d'autant plus importante que ce public, est-il dit au début du chapitre 3, est le véritable τέλος de la rhétorique. Les composantes du discours sont le locuteur, l'objet et le destinataire, mais ce dernier, ou plutôt la persuasion de ce dernier, est la cible, tant et si bien que l'une des divisions essentielles du traité, la division en trois genres de discours, correspond aux trois grands types de destinataires en contexte politique : le membre de l'assemblée, le juré et le spectateur de l'épidictique, division dont on peut attendre des retombées en termes d'usage langagier. Le fait que l'objet du jugement du spectateur soit la compétence (δύναμις, *Rhetorica* I 2, 1358b 6) de l'orateur laisse entendre aussi que l'attention du technicien, dans ce domaine, sera dirigée plus particulièrement sur l'utilisation des moyens d'expression.

Sensiblement plus loin, dans le chapitre sur les thèmes du délibératif (*Rhetorica* I 5), se trouvent des considérations sur le bonheur, l'objectif (σκοπός) final de toutes les actions collectives et donc de toutes les discussions. Il s'y trouve des réflexions sur la beauté, qui pourraient bien avoir des retombées en matière de langue et de style. Retenons celle-ci, qui nous paraît particulièrement caractéristique :

« la beauté est différente selon chaque âge : la beauté pour un jeune homme, c'est d'avoir un corps apte aux épreuves sportives, tant les épreuves de course que celles de force, tout en étant agréable à regarder, en vue du plaisir du spectateur ; c'est pour cela que les pentathlons sont les plus beaux, parce qu'ils sont naturellement doués en même temps pour les épreuves de force et pour celles de vitesse » (*Rhetorica* I 5, 1361b 7-11).

On observe le lien entre la beauté et la fonctionnalité : est beau l'objet qui est par nature excellemment adapté à sa fonction propre. L'agrément

du spectateur ajoute une composante esthétique d'équilibre : un objet adapté à une fonction sera beau, mais l'exemple du pentathlonien montre qu'un objet adapté à plusieurs fonctions différentes, sinon contradictoires, et surtout complémentaires, sera plus beau encore. La force, dans la lutte, par exemple, suppose une robustesse qui sera compensée, et augmentée à la fois¹³, par la finesse requise par la course ou le saut en longueur. Même si nous avons ici des *ἔνδοξα* sur la beauté, il n'en demeure pas moins qu'ils peuvent anticiper sur des préceptes pratiques efficaces en matière de style, et vertueux s'ils sont mis au service d'une visée politique bonne.

On a déjà lu plus haut le verbe *paraître* : même si le rôle du langage dans l'apparence des choses n'apparaît pas encore dans ce premier livre de la *Rhétorique*, l'effet de certains prédicats permet de relier un résultat en termes de persuasion au choix de certains éléments. Dans le chapitre 7 sur le plus et le moins, est établie une corrélation entre l'importance des causes et l'importance des résultats, avec un certain nombre d'applications possibles. Citons cet exemple :

« c'est ainsi que Léodamas, dans son accusation de Callistrate, déclara que l'instigateur était plus coupable que l'exécutant, car il n'y aurait pas eu d'acte sans instigation. Inversement, dans son accusation de Chabrias, il dit que l'exécutant était plus coupable que l'instigateur : rien ne se serait passé s'il n'y avait pas eu quelqu'un disposé à exécuter, car s'il y avait eu complot, c'était en vue de l'acte » (*Rhetorica* I 7, 1364a 19-23).

L'argument est au fond le même : il s'agit d'acteurs indispensables à la réalisation de l'acte. C'est, selon la logique un peu fruste de la *Rhétorique à Alexandre*, l'argument du « pas sans lui »¹⁴. Qu'il s'agisse d'apparence est bien montré par la réversibilité de l'argument. Décisif aussi paraît être le *choix*, dans la gamme des chefs d'accusation, des fonctions d'éminence grise ou d'homme de main.

Choix d'objet, mais en même temps choix d'angle de vue :

« en général, le difficile est supérieur au facile, car il est plus rare. Mais sous un autre angle (*ἄλλον δὲ τρόπον*), ce qui est plus facile est supérieur à ce qui est plus difficile, car il répond à nos vœux » (*Rhetorica* I 7, 1364a 29-30).

¹³ « L'homme rapide est fort » (*Rhetorica* I 5, 1361b 22).

¹⁴ Voir *Rhetorica ad Alexandrum* 3, 1426a 7. L'argument paraît proche de la plus philosophique *συναίτια*.

Cette liberté de présentation ouvre un champ à l'abus, à la tromperie, et l'ensemble du passage est étranger aux considérations morales. C'est un fait que certains se donnent le vice comme τέλος, et c'est un fait qu'il faut connaître, ne serait-ce que pour le contrer. Et surtout ces moyens, pour les raisons « disciplinaires » qu'on a dites, ne sont pas axiologiquement déterminés : comme un père peut mentir pour le bien de ses enfants, la manipulation de la présentation des choses n'est pas intrinsèquement mauvaise.

Le langage prend pour la première fois une sorte de substance dans le passage suivant :

« la consécution susceptible de s'opérer à partir de termes apparentés ou de flexions semblables s'applique aussi au reste : par exemple si *courageusement* est plus beau et plus digne d'être choisi que *sagement*, *courage* aussi est plus digne d'être choisi que *sagesse*, et *être courageux* qu'*être sage* » (*Rhetorica* I 7, 1364b 34-37).

Pour clarifier les choses grâce à l'exemple¹⁵, la relation de supériorité établie pour deux adverbes vaut aussi pour les substantifs, les verbes, etc. correspondant à chacun des deux adverbes. Le passage traite de notions faussement proches de notions grammaticales modernes : il s'agit d'abord de flexions (πτώσεις), c'est-à-dire de cas, mais dans un emploi plus large que celui que nous réservons aux déclinaisons, et qui inclut la dérivation. La catégorie de termes apparentés (σύστοιχα) ne semble pas « étanche » par rapport à la catégorie précédente, au sens où les termes ainsi désignés appartiennent à la même famille, ce qui inclut aussi la dérivation. Mais l'important n'est pas là. Nous sommes sur le terrain de la description du langage, à l'aide d'un vocabulaire technique qui se trouve aussi, pour partie, dans la *Poétique* et dans les *Topiques*. Il faut prendre garde ici au fait, comme le souligne Jacques Brunschwig à propos des *Topiques*, que les relations découvertes sont ontologiques, et non linguistiques. Autrement dit, le langage et ses opérations peuvent servir de guide dans l'appréhension et la communication de relations catégorielles ou logiques entre les choses, comme ce sera aussi le cas pour la métaphore.

Il faut faire preuve de la même prudence avec un passage qui suit de peu, et où l'on pourrait être tenté de déceler une défense de l'illusionnisme

¹⁵ Voir notre note *ad loc.* qui renvoie elle-même à *Topica* I 15, 106b 29 et sq. et I 9, 114a 26 et sq. Sur les πτώσεις (flexions, ou cas), voir aussi l'édition de la *Poétique* par Dupont-Roc & Lallot 1980, 332.

stylistique, ce qui serait, à ce stade, exagéré. Le découpage de la citation, en l'espèce, n'est pas indifférent :

« les mêmes choses, divisées en leurs parties, apparaissent plus grandes, car elles paraissent dépasser un plus grand nombre de choses. C'est cela, chez le Poète, qui a persuadé Méléagre de revenir au combat : *Tous les malheurs qui frappent ceux dont la citadelle est prise : la population qu'on tue, le feu ravageant la ville, et les enfants que l'étranger emporte*¹⁶. L'accumulation¹⁷ et la gradation font également paraître les choses plus grandes, comme chez Épicharme, pour la même raison qui fait que la division a ce pouvoir (car l'accumulation manifeste une supériorité accrue), et parce que ce dont on parle paraît principe et cause de grandes choses » (*Rhetorica* I 7, 1365a 10-18).

En réalité, le langage fonctionne ici comme un instrument de découpage du réel, de sélection et de rangement des éléments. Il ne modifie rien substantiellement. S'il y a « effet », et un travail effectif sur le langage, c'est en termes quantitatifs, et non qualitatifs¹⁸.

Dans le chapitre 8, et en écho direct aux *Politiques* – auxquelles il est renvoyé explicitement pour plus de détails (1366a 20-22) –, Aristote développe les connaissances politiques nécessaires au conseiller. Cette communauté documentaire s'explique aisément : c'est relativement à la définition de chaque régime que seront définies tant les lois – essentielles à l'habitué, à l'éducation des citoyens aux valeurs communes – que la valeur suprême pour chacun des régimes, en ce qu'il assure sa perpétuation, à savoir *l'utile*, ou *l'intérêt* (συμφέρον), qui varie selon les cas. Aristote ajoute :

« en outre, est décisive l'expression (ἀπόφανσις) du corps souverain (κύριον), or on distingue les corps souverains en fonction des régimes : autant il y a de régimes, autant il y a de corps souverains » (*Rhetorica* I 8, 1365b 26-29).

Autrement dit, le corps souverain – variable selon les régimes, et qui peut aller d'un seul individu à l'ensemble des citoyens, dans une démocratie

¹⁶ *Ilias* 9, 592-594.

¹⁷ Ou addition : συντιθέναι. Les éléments divisés sont soit simplement énumérés, soit énumérés et classés dans un ordre d'importance croissante (gradation).

¹⁸ On peut hésiter à propos du cas suivant. L'argument est que paraît grande la plus grande part de quelque chose de grand, ce qui paraît relever du pur quantitatif, mais l'exemple donné est : « Périclès, dans son oraison funèbre, disait que la jeunesse arrachée à la cité, c'était comme si l'on arrachait le printemps à l'année » (*Rhetorica* I 7, 1365a 32-33). Même si l'on n'adopte pas une définition astronomique des saisons et si l'on prend en compte les trois moments de l'année couramment isolés chez les Grecs de l'antiquité (le printemps, la saison chaude et féconde, la saison du mauvais temps), il n'y a pas de raison, sinon subjective, de considérer le printemps comme la saison la plus « grande ».

– doit s’asserter lui-même, c’est-à-dire communiquer ses valeurs, indépendamment – telle est la valeur qu’on donne généralement à ἀπόφανσις – de la vérité ou de la fausseté de ces assertions ou de leur moralité. Pour la première fois, le langage paraît avoir une efficace pragmatique propre (performative ?), en ce que l’adhésion aux propositions du souverain est le ciment de la collectivité. En d’autres termes, il n’y a pas de régime politique qui tienne en l’absence d’un discours commun, dont, peut-on penser, tant les lois que les discours particuliers des magistrats sont l’émanation plus ou moins directe. On peut penser aussi que cette ἀπόφανσις n’est pas sans lien avec la poésie mimétique évoquée au chapitre 9 de la *Poétique*, et dont la valeur philosophique tient justement à sa généralité et à son lien avec les valeurs, par opposition à l’historiographie trop prisonnière du contingent.

Qu’il y ait un changement de point de vue dans ce chapitre est confirmé par l’apparition d’une conception nouvelle de l’ἤθος, l’ἤθος « adaptatif », qui recouvre un travail discursif – réunissant des éléments argumentatifs et probablement d’autres éléments, mais qui restent dans le flou – permettant à l’orateur de répondre aux attentes de son public, elles-mêmes déterminées par le régime politique ambiant :

« comme les moyens de persuasion opèrent non seulement par un discours démonstratif (ἀποδεικτικὸς λόγος) mais aussi par un discours manifestant un certain caractère (ἠθικός, sc. λόγος) – car notre adhésion est déterminée aussi par le fait que celui qui parle paraît avoir telle ou telle qualité, à savoir qu’il paraît bon, bienveillant, ou les deux), nous devons maîtriser (ἐχεῖν) le caractère (ἤθος) de chaque régime, car, nécessairement, ce qui coïncide avec le caractère de chacun est ce qu’il y a de plus persuasif pour chacun. On les saisira par les mêmes moyens : les caractères sont rendus manifestes par les choix délibérés (προαίρεσις) que l’on fait, et ces choix délibérés sont faits en fonction de la fin » (*Rhetorica* I 8, 1366a 8-16).

Ainsi, chaque régime comporte une sorte de *Geist* que l’orateur doit saisir et répercuter. Certes, le moyen indiqué est encore majoritairement logique (on défendra des options, les choix réfléchis, qui coïncident avec la tendance du contexte), mais l’effet est indubitablement marqué affectivement (bonté, bienveillance), ce qui ouvre un champ à d’autres propriétés du langage.

Le chapitre 9 – sur les topiques du genre épideictique que l’orateur doit mettre au service de la construction de cet ἤθος – associe en effet l’éthique et l’esthétique, le bien et le beau, tout en introduisant « ne serait-ce qu’à titre d’exemple » (1366a 32) un élément d’origine historique – la tradition

sophistique des éloges paradoxaux, à la mode des Gorgias, Polycrate ou Isocrate – qui a une incidence sur l'usage du langage, puisqu'il comporte ce que nous appelons du second degré. En effet, nous devons apprendre à louer « sérieusement ou non » des hommes, des dieux, des animaux voire des choses (1366a 29-31).

La substance de la réflexion sur les valeurs, dans le corps du chapitre, associe intimement leurs dimensions esthétique, éthique et politique (sous la forme du *συμφέρων*, condition de la « soutenabilité », dirait-on aujourd'hui, de chaque régime), les deux premières étant visiblement au service de la troisième. Si le beau est l'auxiliaire du bien, c'est pour assurer la transmission et le maintien du ciment collectif, qui est lui-même la condition de la stabilité. Cette dialectique est lisible à chaque phrase :

« il est nécessaire que les plus grandes vertus (bien) soient celles qui sont les plus utiles (*συμφέρων*) à autrui, tant il est vrai que la vertu (bien) est une faculté bienfaitrice. C'est la raison pour laquelle les hommes justes et courageux reçoivent les plus grands honneurs (beau) : car le courage – en temps de guerre – et l'esprit de justice – en temps de guerre comme en temps de paix – sont utiles (*χρήσιμος*) à autrui » (*Rhetorica* I 9, 1366b 3-7).

Mais, dans un premier temps, le secours que peut apporter le *medium* de la communication, à savoir le langage, reste encore dans le vague, à quelques indices près : pour faire chérir la vertu, on ne se contentera pas de théorie, on montrera ce qui est en amont de la vertu et qui la produit, ainsi que les signes (*σημεία*) de la vertu, les œuvres (*ἔργα*) de la vertu (1366b 25-27) en soulignant leur beauté (1366b 29), laquelle est reconnaissable au fait qu'on les comble d'honneurs (1366b 35). On reconnaît là un procédé de l'éloge par extension de proche en proche à la mode de Gorgias, sur lequel Aristote reviendra au livre III (cf. 17, 1418a 34-38), et qui se prête aux développements les plus verbeux. Le langage paraît pouvoir prendre aussi une épaisseur, sinon une sorte d'autonomie, quand on opère par la contradiction. Significativement, Aristote part du contraire pour arriver au positif dans le cas suivant :

« <sc. est beau> ce qui est contraire à ce dont on a honte, car ce dont on a honte est laid, que ce soient des paroles, des actes ou des intentions, comme dans le poème où Sappho, à Alcée qui lui disait : *Je veux te dire quelque chose, mais la honte m'en empêche*, répond : *Si te tenait le désir de nobles et belles choses, si ta langue ne remâchait rien de mal, la honte n'emplirait pas tes yeux et tu parlerais franchement* » (*Rhetorica* I 9, 1367a 6-14).

Mais quand Aristote en arrive aux conseils pratiques en matière d'éloge, il paraît élargir ses concessions aux manipulations permises par les abus de langage : les vertus, selon un principe général chez lui, sont un point d'équilibre entre un excès et un défaut, les qualités jouxtent donc les défauts et il suffit de jouer sur le « curseur » et choisir – par exemple – la qualité la plus proche du défaut possédé par le sujet de l'éloge. En termes modernes – mais ils sont trompeurs, comme on le verra –, on échangera un terme aux connotations négatives contre un terme emphatiquement connoté :

« que ce soit pour louer ou blâmer, il faut aussi traiter comme strictement identiques aux traits qui appartiennent réellement au sujet considéré ceux qui en sont seulement voisins : l'homme circonspect, par exemple, sera considéré comme froid et calculateur, le benêt comme bon, l'indifférent comme gentil... » (*Rhetorica* I 9, 1367a 32-35).

Mais l'assimilation, en réalité, procède moins d'un jeu de langage que d'une déduction inexacte. Le mécanisme est explicité un peu plus loin :

« ... c'est un parallogisme qui provient d'une confusion sur la cause. Car si quelqu'un (*sc.* le téméraire) est enclin à s'exposer au danger quand ce n'est pas nécessaire, il paraîtra devoir l'être bien davantage quand l'occasion sera belle, et si quelqu'un (*sc.* le prodigue) est enclin à distribuer son bien aux premiers venus, il paraîtra devoir l'être bien davantage avec ses amis, car c'est l'excès de cette vertu que d'être bienfaisant avec tout le monde » (*Rhetorica* I 9, 1367b 3-7).

Comme c'est la même tendance – susceptible d'aboutir aussi bien à l'équilibre d'une vertu qu'à un excès ou à un défaut – qui est à l'œuvre, la confusion sera facilitée et le public suivra. Il reste que la proximité de sens entre des termes comme *circonspect* et *dissimulé*, par exemple, ne peut manquer de jouer un rôle.

Et cela d'autant plus que, dans un passage resté célèbre, Aristote recommande non seulement de faire coïncider son discours avec les valeurs ambiantes mais d'extrapoler, en prêtant à l'objet de l'éloge des qualités non pas réelles, mais à la fois crédibles, pour qu'elles soient bien reçues, et susceptibles d'augmenter chez le public l'adhésion au bien. A la torsion du discours en direction des préjugés s'ajoute, en tout bien tout honneur, une torsion de la vérité :

« il faut tenir compte également du public devant lequel est prononcé l'éloge. Comme le disait Socrate, il n'est pas difficile de louer les Athéniens devant des Athéniens ; il faut notamment prêter à celui qu'on loue les qualités en

honneur auprès de chaque public – selon qu'on parle par exemple devant des Scythes, des Laconiens ou des philosophes. Il faut, de façon générale, amener ce qui est en honneur au niveau de ce qui est beau, puisque les deux choses assurément passent pour voisines. De même, attribuer à la personne en question tout ce qui lui correspond bien, en disant par exemple que ses actes sont dignes de ses ancêtres ou des qualités qu'elle a manifestées antérieurement, car augmenter son capital d'honneur est aussi facteur de bonheur et une chose belle » (*Rhetorica* I 9, 1367b 7-14).

Il est possible qu'un passage comme celui-ci, dont on remarque le caractère énumératif particulièrement négligé, reflète la technique documentaire du « dossier » et répercute davantage une source sophistique – ce type de conseil se retrouve par exemple dans la *Rhétorique à Alexandre*¹⁹, traité d'obédience isocratique – mais il s'insère aussi dans une logique interne au chapitre et à la visée pratique commune aux *Politiques* et à la *Rhétorique*. Si l'éloge à la fois reflète et consolide les valeurs d'une cité, pourquoi s'interdire d'embellir un peu les bons exemples²⁰ ?

Dans cette même optique documentaire, mais aussi pratique – dans la mesure où il s'agit d'être efficace sous réserve d'un projet non encore défini politiquement et éthiquement –, Aristote enregistre plus loin une technique d'amplification qui substitue à l'évaluation *per se* une évaluation relative, et où les critères de jugement s'abolissent peu à peu au profit de l'illusionnisme le plus total, puisqu'après la comparaison valorisante avec des modèles distingués, Aristote admet la comparaison sans valeur ajoutée, réduite à une simple différence. Sa lucidité est visible au ton sur lequel il cite sa source :

« et si la personne n'offre pas par elle-même une matière suffisante, il faut la mettre en contraste avec d'autres. C'est ce que faisait Isocrate, inspiré par son expérience de la chicane. (...) C'est pourquoi, même si l'on ne compare pas celui qu'on loue aux personnes réputées, il faut le mettre en parallèle

¹⁹ L'éloge par « extrapolation » se retrouve par exemple, *mutatis mutandis*, dans la *Rhetorica ad Alexandrum* 35, 1441a 32-37. Même ressemblance entre les exposés sur les moyens d'amplification (*Rhetorica* III 9, 1368a 10 et sq. ; *Rhetorica ad Alexandrum* 3, 1426a 29 et sq.).

²⁰ Voir aussi *Rhetorica* I 9, 1367b 21-26 : « puisque l'éloge se tire des actions et que le propre de l'homme de bien est d'agir par choix délibéré, il faut essayer de montrer que la personne qu'on loue agit par choix délibéré. Il est utile aussi de faire apparaître qu'elle a souvent agi de la sorte. Aussi faut-il traiter les coïncidences et les hasards comme des actes délibérés. Si l'on en présente beaucoup de semblables, cela paraîtra signe de vertu et de délibération ».

avec la masse, s'il est vrai que la supériorité paraît témoigner de la vertu » (*Rhetorica* I 9, 1368a 19-26).

On retrouve d'ailleurs, dans la conclusion de ce chapitre 9, la métaphore du costume que nous avons lue à propos des sophistes déguisés en dialecticiens. Ce jeu sur les apparences est l'instrument privilégié de l'épidictique, mais il n'y est pas cantonné :

« généralement parlant, parmi les procédés communs à tous les discours, l'amplification est le plus approprié aux discours épidictiques, car on y envisage des actes sur lesquels tout le monde s'accorde, si bien que la seule chose qui reste à faire est de les revêtir (περιθεῖναι) de grandeur et de beauté » (*Rhetorica* I 9, 1368a 26-29).

Au chapitre 10, peu de considérations touchent à la question du langage, sinon – indirectement, une fois de plus – celles qui reprennent les définitions de l'*Éthique à Nicomaque* sur la structure de l'âme (1368b 12 et sq.) : la présence d'une « interface » entre partie rationnelle et partie irrationnelle, l'instance « appétitive » (τὸ ὀρεκτικόν), susceptible de se soumettre – ou non – à la raison, et composante de la volonté et de l'intelligence pratique, ouvrent à l'exercice éthico-politique du langage : concrètement, l'orateur doit savoir que l'ἦθος et le πάθος ont partie liée avec les jugements.

Au chapitre 11 est confirmé le fait que pour l'homme, l'accès à la rationalité – *pace* Platon – est en lien avec sa nature d'être pétri de politique et de culture :

« j'appelle rationnels tous les désirs que l'on a parce qu'on a été persuadé. Car il y a beaucoup de choses que l'on désire voir et acquérir pour en avoir entendu parler et avoir été persuadé qu'elles sont désirables » (*Rhetorica* I 11, 1370a 25-27).

Il en va de même pour l'empreinte reçue du souvenir ou de l'espoir de certains objets, laquelle, associée à des sensations, nourrit la jouissance. On ne peut s'empêcher de penser à la création des besoins dans notre société de consommation. Mais tout cela suppose aussi, naturellement, la médiation du langage, tout en expliquant ses prestiges : si le souvenir et l'espoir (re)créent du plaisir, le champ de l'art et de la littérature est largement ouvert. En témoigne ce passage :

« de même les amoureux : ils ont plaisir à sans cesse parler de l'objet aimé, à le dessiner, à composer quelque poème à son sujet, car ranimant le souvenir par tous ces moyens, ils croient presque sentir la présence de l'aimé » (*Rhetorica* I 11, 1370b 19-21).

Même la pensée de la mort, du mort, ne va pas sans un certain plaisir, quand la représentation s'en mêle :

« les deuils mêmes et les lamentations, pareillement, ne vont pas sans un certain plaisir, car on éprouve du chagrin à ce que le mort n'existe plus, mais du plaisir à se souvenir de lui et en quelque sorte à le voir, en se représentant ce qu'il faisait et comment il était. De là vient qu'Homère a eu raison de dire : *Ainsi parla-t-il et il fit naître chez tous le désir de gémir*²¹ » (*Rhetorica* I 11, 1370b 25-29).

C'est un point qu'Aristote ne fait qu'effleurer ici, mais – avec ce paradoxe du plaisir associé au chagrin, qui sera développé un peu plus loin par le plaisir de l'identification d'un objet représenté, retour à l'état naturel après l'inconfort d'une interrogation²² – on songe à la *κάθαρσις* de la *Poétique*²³ et au rôle régulateur des émotions. Un écho plus direct de la *Poétique* se perçoit quand Aristote, un peu plus loin, rappelle le plaisir qu'on éprouve à s'étonner et à apprendre²⁴, plaisir lié à l'actualisation de notre nature humaine, auquel le langage est intimement associé.

Quant au chapitre 12, il reconnaît indirectement la puissance du langage, puisque :

« se croient capables de commettre l'injustice dans la plus grande impunité ceux qui savent parler, ou ceux qui ont de la pratique et l'expérience de nombreux procès, et puis s'ils ont beaucoup d'amis et s'ils sont riches... » (*Rhetorica* I 12, 1372a 11-14).

La réciproque est que sont victimes d'injustice ceux qui « sont malhabile à parler et à agir : soit ils n'entreprennent pas de poursuivre, soit ils négocient, soit ils ne mènent rien à son terme » (1373a 5-7). On croit deviner une esquisse d'analyse psychologique : les maladroits à parler sont aussi des timides, et leur handicap verbal s'élargit au domaine de l'action.

Au chapitre 13, sur la classification des actes justes ou injustes, travail qui inclut ce qu'on appellerait la « qualification » du fait, par opposition

²¹ *Ilias* 23, 108 ; *Odysee* 4, 183.

²² D'où le plaisir fourni par la reconnaissance d'un objet – même désagréable – quand il est bien représenté (*Rhetorica* I 11, 1371b 5 et sq.). Cf. notamment 1371b 8-10 : « ce n'est pas cet objet qui réjouit mais le raisonnement selon lequel on se dit : ceci, c'est telle chose, et il en résulte qu'on apprend quelque chose ».

²³ *Poetica* 6, 1449b 28 ; voir aussi *Politica* VIII 7, 1342a 10 et Marx 2011. Nous adhérons pleinement aux thèses développées dans cet article remarquable. Le mécanisme sous-jacent relève de la physiologie.

²⁴ *Rhetorica* I 11, 1371a 31 et *Poetica* 4, 1448b 13.

à son établissement, Aristote insiste sur l'enjeu d'un étiquetage exact de l'acte jugé, étant entendu que dans la pratique une dénomination fautive fait obstacle à la justice. C'est le versant critique dont on a déjà parlé et qui inclut les expériences négatives dans la définition du programme politique :

« puisque, dans bien des cas, on admet avoir agi mais sans accepter l'intitulé qui est donné à l'acte ou son application, par exemple avoir pris mais non avoir volé, avoir frappé le premier mais non avoir outragé, s'être uni avec une femme mais non avoir commis l'adultère, avoir commis un vol, mais non un sacrilège (car dans ce qu'on a volé rien n'appartenait à un dieu) (...), il nous faudra donc, sur ces questions aussi, donner des définitions distinguant le vol, l'outrage, l'adultère, de manière à pouvoir – que nous souhaitons montrer que la définition s'applique ou non au cas visé – mettre en évidence le point de droit » (*Rhetorica* I 13, 1373b 37 - 1374a 9).

L'enjeu de cette exactitude est d'autant plus grand que certaines dénominations incluent l'intention qui a présidé à l'acte, source de la qualification positive ou négative de cet acte : « des mots comme *outrage* ou *vol*, outre l'acte, impliquent en plus le choix délibéré » (1374a 12-13). Elles comportent donc un jugement. C'est là une esquisse de sémiologie et une approche de la polysémie aux retombées pratiques considérables.

A l'occasion de la distinction entre lois écrites et lois non-écrites, Aristote analyse pour ces dernières deux cas : les principes d'action universels comme le fait d'être reconnaissant à qui vous a fait du bien n'ont pas besoin d'être couchés par écrit. Il y a aussi tous les cas particuliers dans lesquels le législateur est incapable d'entrer sous peine d'accumuler les arguties. Se trouve ainsi défini un *gap*, dont nous avons essayé ailleurs de décrire les aspects rhétoriques (Chiron 2015), qui permet à la justice d'émaner d'une négociation informelle, où les qualités humaines du juge ont un grand rôle : c'est le champ de l'*ἐπιείκεια*, intraduisible que les mots *honnêteté*, *équité*, *indulgence* peinent à cerner et qu'on pourrait peut-être rendre, tout simplement, par *humanité*. On y reconnaît en effet comme élément principal l'*εἰκότως*, ou vraisemblable, qui renvoie à des expériences communes²⁵. C'est par exemple ce qui pousse un magistrat à ne pas confondre avec des délits de simples erreurs ou des coups de malchance (1374b 4-6). Le rôle précis du langage n'est pas décrit ici, mais on peut penser qu'il est considérable. On peut noter au passage que

²⁵ Voir *Rhetorica ad Alexandrum* 6, 1428a 25-26 : « le vraisemblable est ce dont, quand on le dit, les auditeurs ont des exemples en tête ».

l'existence à Athènes de procédures dans lesquelles le jury avait la charge de définir lui-même la peine²⁶ a probablement contribué à la thématisation de cette forme de justice, à quoi encourageait également l'image de douceur que les Athéniens voulaient avoir et donner d'eux-mêmes.

Le chapitre 14 contient un développement autonome, qui recoupe pourtant des analyses déjà présentées. On ne peut s'empêcher de penser qu'il s'agit d'un morceau de « dossier » ou de cours rattaché tant bien que mal au propos. Il s'agit des degrés de l'injustice, thème favorable au retour sur la question de l'amplification. Le terme qui réunit les procédés décrits est τὰ ῥητορικά (1375a 8), qu'on aurait tort, sans doute, de rendre en français par un mot péjoratif comme « les procédés » ou « les trucs oratoires ». Ce qui frappe dans ces techniques est – plus que l'illusionnisme, qu'on a déjà observé – la présence de reliques de l'archaïque pédagogie du modèle. En témoigne une phrase comme celle-ci, où l'argument (il est plus grave de commettre une faute dans l'endroit même où l'on châtie les fautes) s'accompagne d'une interrogation oratoire bien tournée, prête à l'emploi :

« autre facteur aggravant : commettre le délit dans l'endroit où l'on châtie les coupables, comme le font les faux témoins. Où s'abstiendrait-il de mal agir, s'il se permet de le faire même au tribunal ? » (*Rhetorica* I 14, 1375a 11-13).

Rien d'étonnant à cela : philosophe des savoirs, Aristote s'est documenté sur la technique rhétorique ; il a même tiré de ses recherches un recueil intitulé Συλλογὴ τεχνῶν²⁷, hélas perdu.

Le chapitre 15 est consacré aux moyens non-techniques, c'est-à-dire aux moyens dont l'existence, sinon la présentation et l'exploitation, ne dépendent pas de l'orateur. Il s'agit des lois, des témoins, des contrats, des témoignages obtenus sous la torture et des serments. Nous sommes dans le judiciaire. Cette cohabitation d'un donné, c'est-à-dire bien souvent d'un danger pour la thèse défendue, et d'une large latitude dans son exposition ou sa réexposition, explique le caractère particulièrement illusionniste du chapitre. Ainsi, pour exploiter la coexistence de la loi et de la justice (comme dans le cas d'Antigone) et défendre ainsi tantôt l'une tantôt l'autre, en fonction de la cause défendue, Aristote développe une véritable casuistique. Même chose pour les témoins, dont l'efficace est

²⁶ Cf. Hansen 1993, 238 et glossaire.

²⁷ Voir Goulet 1994, 427 (n° 77 et 80 dans la liste de Diogène Laërce, n° 71 dans celle d'Hésychius) ; 432 (n° 27 dans la liste de Ptolémée el-Garib).

élargie aux proverbes et à l'argument d'autorité. Les contrats sont tour à tour confortés et ruinés, assimilés à la loi ou dénigrés. Les témoignages obtenus sous la torture excitent les mêmes arguments d'avocat : on lit successivement « ce sont les seuls, parmi les témoignages, à être véridiques » (1376b 34-35) et « que l'on soit contraint ou non, on dit tout autant de mensonges que de vérités » (1377a 3-4). Une sorte de sommet, ou d'abîme, est atteint avec le serment et cette phrase : « le parjure est dans l'esprit et non sur les lèvres » (1377b 6-7), à quoi la *Rhétorique à Alexandre* répond, dans le même esprit sophistique : « personne ne voudrait se parjurer, de peur d'encourir la vindicte des dieux et le déshonneur auprès des humains » (17, 1432a 35-36).

On dira en conclusion que, dans le livre initial de la *Rhétorique*, centré sur les prémisses propres aux trois genres oratoires, il n'y a pas de chapitre de linguistique. Cet aspect didactique manque sans doute parce que l'essentiel a déjà été dit dans la *Poétique*. De plus, l'objet recherché – ce que nous avons appelé « la question du langage » – demeure dans le flou, sans être thématiquement pour soi, traité comme un donné aux contours variables. Il est vrai que, dans la globalité du projet de l'ouvrage – si tant est que son état actuel nous y donne accès – ces explications sont attendues plutôt dans le livre III. Mais justement, la moisson d'observations recueillies au fil du livre I est sans doute plus révélatrice, par son empirisme même et parce que ce livre propose plusieurs panoramas différents de la question rhétorique, sans se perdre encore, comme au livre III, dans les détails techniques d'une documentation stylistique exubérante. On y découvre que la « couche puritaine » de la *Rhétorique*, si évidente dans le chapitre premier, semble postuler une sorte de transparence du langage, dont l'efficace propre ne dépasse guère les opérations de sélection et de rangement, et les fonctions d'amplification et de minoration permises par ces opérations. Pour le reste, la relation d'homologie entre le langage et le réel est si forte que des structures que l'on pourrait considérer comme linguistiques sont en fait des clefs qui donnent accès à des relations de type ontologique. Dans le cas des dérivés et des termes apparentés comme – plus tard, au livre III – dans le cas de la métaphore, le bénéfice en est un gain de connaissances, pas davantage. Mais une dimension autre du langage se fait jour de plus en plus nettement dès *Rhetorica* I 2, mais surtout à partir du chapitre 8, qui coïncide avec une nouvelle définition de l'ἤθος et commence à trahir un regard interne sur la pratique de la communication, qui véhicule moins du sens que du senti, avec des fonctions non

seulement de communication mais aussi de régulation socio-politique, dans leur versant soit constructif soit critique. En clair, on y apprend comment, de l'intérieur d'un groupe, maintenir la cohésion de ce groupe et éviter les dérives individuelles ou collectives.

Pour reprendre le vocabulaire même du Stagirite, le livre I de la *Rhétorique* dans son état actuel semble donc réunir deux προαιρέσεις : l'une est sans doute plus platonicienne, plus strictement dialectique, alors que l'autre fait dépendre la réalisation d'un programme politique réel d'un regard plus subjectif, contextualisé, soucieux non seulement de partager des affects mais d'exploiter les ressources politiques du langage tout en en dépistant les abus. Tout se passe comme si l'action politique et son instrument rhétorique supposaient non seulement de connaître l'humanité mais de la partager intimement, dans des contextes variables, et cela dans tous ses aspects, notamment langagiers.

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ARISTOTLE ON THE INFANT MIND IN *PHYSICS* I 1

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*S'io avessi le rime aspre e chiocce,
come si converrebbe al tristo buco
sovra 'l qual pontan tutte l'altre rocce,
io premerei di mio concetto il succo
più pienamente, ma perch'io non l'abbo,
non senza tema a dicer mi conduco,
ché non è impresa da pigliare a gabbo
discriver fondo a tutto l'universo,
né da lingua che chiami « mamma » o « babbo »*
(Dante, *Inferno*, XXXII 1-9)

Introduction

Travelling in the abyss, at the edge of the frozen lake of the Cocytus, Dante tells his reader that there are no rhymes adequate to describe the horror that he is witnessing. Thus, he brings himself to speak in fear because describing the very bottom of the universe is not a task to be taken lightly. *Nor is it a task for a tongue that cries out « mama » or « papa. »*

This is not the only time that, in his journey in the Christian other-world, Dante finds himself in a situation in which he has no words to report what he sees.¹ But in this case – and only in this case – Dante makes

* I would like to thank Leone Gazziero for his helpful feedback on a draft of this essay.

¹ Ineffability is a major theme in the third canticle (*Paradiso*). For an early, clear statement of this theme, I refer the reader to the second and third tercets of the opening canto: « *Nel ciel che più de la sua luce prendel fu' io, e vidi cose che ridirel né sa né può chi di là sù discende; / perché appressando sé al suo desire, / nostro intelletto si profonda tanto, / che dietro la memoria non può ire* » (*Paradiso* I, 4-9). Memory is given as the reason for the kind of limitations that Dante experienced in *Paradiso*. What Dante says in connection

an implicit reference to the opening chapter of *Physics* I, where Aristotle focuses on the linguistic behavior of the infants who call all men « papa » and all women « mama » (*Physica* I 1, 184b 12-14).²

Dante is notoriously committed to the view that language is a mere vehicle to express our thoughts. This view is explicitly stated at the outset of his treatise on the vulgar tongue:

« now, if we wish to define with precision what our intention is when we speak, it is clearly nothing other than to expound to others the concepts formed in our minds » (*De vulgari eloquentia* I, 2, 3).

At least for Dante, there can be thoughts without language. For instance, he believes that angels communicate with one another, and with God, without language. They do not need language because their thoughts are, so to speak, transparent. By contrast, language is given to us because our minds are not immediately transparent. By Dante's lights, the tongue serves to express the contents of the mind. The tongue that cries out « mama » and « papa » is no exception to the rule. It is the tongue of a mind that is not fully formed, that is, of a mind that does not have the conceptual resources to describe what it sees or experiences.

Aristotle would agree that the foundation of language is in thought, and that thought is prior to language in the natural order of things. The opening sentence of the *De interpretatione*, where Aristotle establishes a relation between written words, spoken sounds, thoughts, and things lends support to such a view.³ There, we are told that spoken words are signs (σημεῖα) of what is in the mind.⁴ What is in the mind, moreover, are affections of the soul (παθήματα τῆς ψυχῆς). Hence, spoken words such as « mama » or « papa » signify affections of the soul.

with the vision of God in the last canto of the *Paradiso* confirms the role memory plays in the explanation of these limitations: « *Da quinci innanzi il mio veder fu maggio/ che 'l parlar mostra, ch'a tal vista cede/ e cede la memoria a tanto oltraggio* » (*Paradiso* XXXIII, 55-57).

² For Dante, « mamma » and « babbo » are words associated with childhood. Both are recalled in the *De vulgari eloquentia* as examples of *puerilia* (childlike expressions) that a poet should avoid (*De vulgari eloquentia*, II 4). I owe this reference to Leone Gazziero. Of course, Dante has changed his mind on this point as he finds it perfectly appropriate to use them in the *Commedia*.

³ *De interpretatione* 1, 16a 3-9. Needless to say, this text is in the background of Dante's conception of language. Dante did not know Greek but he could read Aristotle's *De interpretatione* in the Latin translation produced by Boethius.

⁴ Aristotle says that spoken sounds are also σύμβολα of what is in the mind. I am following the line of interpretation that takes « σημεῖα » to be a general term for signs and considers σύμβολα a particular class of signs – namely, conventional signs.

Reflecting on the example of the infants crying out « mama » or « papa » may help us better appreciate the wording adopted at the outset of the *De interpretatione*. Admittedly, we do not know whether Aristotle considered the case of the infant mind in the context of the project attempted in the *De interpretatione*, but it is at the very least dubious that such a mind can engage in a successful instance of thinking. More directly, it does not seem right for Aristotle to say that « mama » and « papa » signify full-fledged thoughts (νοήματα). At most, he can opt for a rather vague expression like « affections of the soul » (παθήματα τῆς ψυχῆς).

What Aristotle says at the outset of the *De interpretatione* suggests the following working assumption: in *Physics* I 1, Aristotle is concerned with the linguistic behavior of infants not *per se* but insofar as their linguistic behavior is symptomatic of some non-linguistic problem. In the rest of this essay, I focus on the nature of this problem. I argue that Aristotle's diagnosis of the problem is that there is not enough conceptual articulation in the infant mind that calls all men « papa » and all women « mama ». I also reflect on the reasons why Aristotle is interested in the infant mind, and explore the way (or, perhaps, ways) in which he uses the linguistic behavior of infants to shed light on the errors that his predecessors committed in the search for the principles of nature.

1. The Context

In *Physics* I 1, Aristotle outlines a method of inquiry that he considers natural:

« it is natural the road (ὁδός) that is from what is better known and clearer to us to what is clearer and better known by nature: for it is not the case that the same things are known to us and also without qualification. So it is necessary to proceed in this way from what is unclear by nature but clearer to us to what is clearer by nature and better known. The things that are confounded to a degree are at first evident and clear to us: it is only later, starting from these <confounded> things, that the elements and the principles come to be known to those who analyze them » (*Physica* I 1, 184a 16-23).

I offered an in-depth study of this programmatic passage elsewhere (Falcon 2017). Here I am content to recall the main lines of my interpretation in order to provide a context for the subsequent discussion.

In all probability, the reference to nature in our passage has a double meaning. To begin with, the method outlined here is natural in the sense

that it is open to all of us to adopt it. We can adopt it because we all share the same (human) nature. But it is also clear that there may be no alternative to this method. In other words, this method of inquiry is forced upon us by our (human) nature. Hence, at least for Aristotle, we have no choice but to adopt this method. This would explain why he says that *it is necessary to proceed in this way* – namely, from what is better known and clearer to us to what is better known and clearer by nature. What is better known and clearer to us is better known and clearer to sense-perception. While this equivalence is not explicitly stated in our passage, it is an equivalence that Aristotle makes elsewhere. For example, Aristotle identifies what is better known to us with what is closer to sense-perception in the *Posterior Analytics*.⁵

When we take the natural road of inquiry outlined in *Physics* I 1, we engage in an epistemic journey that Aristotle describes in terms of clarity. The *terminus a quo* of the journey is identified with « the things that are better known and clearer to us » (ἐκ τῶν γνωριμωτέρων ἡμῖν καὶ σαφέστερων) whereas the *terminus ad quem* is described as « the things that are better known and clearer without qualification » (ἐπὶ τὰ σαφέστερα τῇ φύσει καὶ γνωριμώτερα). Aristotle elaborates on how he conceives of this journey in the second part of our passage by saying that we are required to begin our investigation from the things that are confounded to a degree but initially clear and evident to us (to sense-perception). The key words are « confounded to a degree » (συγκεχυμένα μᾶλλον).

What Aristotle has in mind can be illustrated with the help of a parallel passage from the *Historia animalium*. There, Aristotle is recalling his well-known thesis that living bodies display up to three functional parts, namely up/down, front/back, and left/right. These functional parts are most clearly articulated in the human body because of its erect posture. But the human body is the exception rather than the rule. Other animals either do not have all three dimensions or « *they do have them but confounded to a degree* ». ⁶ Aristotle does not mean to say that these functional parts are not present in the second group of non-human animals; rather, he means to say that they are found in this group as well, but they are found in the same place. And yet, an expert investigator can discriminate the front and the up in a living body even when they are found

⁵ *Analytica Posteriora* I 2, 72a 1-5. Cf. also *Topica* VI 4, 141b 5-14.

⁶ *Historia animalium* I 15, 494a 32: τὰ δ' ἔχει μὲν συγκεχυμένα δ' ἔχει μᾶλλον.

in the same place because an expert investigator can trace these functional parts to different capacities of the living body. More directly, the front is where the sense-organs are implanted, whereas the up is the entry point of nourishment. This distinction may not be immediately evident to sense-perception but it is always *clear to reason*. Put differently, and more generally, Aristotle has developed a biological theory that enables him to bring the functional organization of a living body to light. While this functional organization is not accessible to sense-perception, it can be used to illuminate what is given to us by sense-perception, and it is also confirmed by sense-perception.⁷

The *Historia animalium* passage suggests that the cognitive process outlined in *Physics* I 1 can be understood as a rational process entailing the progressive articulation of what is initially confounded to a degree. We are expected to begin our investigation from what is clear and evident to us. What is clear and evident to us is clear and evident to *sense-perception*. It reveals its complexity and structure as we analyze it. Even if Aristotle does not elaborate on what he means by analysis, it is safe to assume that *analysis involves reason*. It is only by means of reason that we move from what is clear and evident to us (and to sense-perception) to what is clear by nature (and to reason). Our analysis will reach its natural end when we have reached what is maximally clear. Relative to what we are trying to understand, the latter does not admit of any further articulation or discrimination.

Physics I 1 ends with two examples. Nothing in the Aristotelian text forces us to think that the two examples serve to illustrate different moments, or different aspects, of the epistemic journey outlined in *Physics* I 1. However, it is reasonable to assume that, in a text as short and elliptical as ours, the two examples serve different purposes. In other words, while possible, it is extremely unlikely that Aristotle is giving two examples if only one were enough. Thus, as a general exegetical rule, it seems to me that an interpretation that shows that the two examples play different roles in Aristotle's mind ought to be preferred to one that does not yield this result.

Let us focus, briefly, on the first example, which is a geometrical example. Aristotle contrasts and coordinates the name « circle » with the

⁷ This final addition is important, especially for those who think that Aristotle is committed to the view that his biological theory is, *at least in principle*, answerable to sense-perception.

definition of the circle. The name and the definition are conceived, respectively, as the beginning and the end of our epistemic journey. We begin our inquiry by reflecting on the meaning of a name. The name cannot be empty but must signify some genuine whole (ὅλον τι).⁸ Aristotle adds that the name signifies the genuine whole *in an undetermined way* (ἀδιορίστως). Clearly, the task that Aristotle envisions for himself (and for us) consists in bringing the internal complexity of the whole to light. We will have completed our task when we will have reached a definition that distinguishes the parts of the whole. We are left to guess what these parts are in the case of the circle. One possibility is that these parts are (a) the point that serves as the center, and (b) the line that serves as the radius of the circle. With the help of a center and a radius, we can draw a circle. Alternatively, we may suppose that (a) all the points equidistant from the center of the circle and (b) the point that serves as center are the parts of the circle.

Notwithstanding these complications, it is clear that the first example isolates both the starting point and the endpoint of our epistemic journey. While the starting point is a *nominal definition* that signifies some unanalyzed whole, the endpoint is a *scientific definition* that highlights the parts or elements that a successful analysis has found in the whole. At least in the case of the circle, it is tempting to say that the endpoint is a geometrical definition that singles out the formal cause of the circle. *Nothing at all is said on how we move (or fail to move) from one stage of the inquiry to the other.* My suggestion is that the second example serves to fill this lacuna.

2. The infant mind in *Physics I 1*

Let us recall how Aristotle introduces the second example: « little children too at first call all men fathers and all women mothers, and later distinguish each of the two » (*Physica I 1*, 184b 12-14). This example can be used to illustrate an error that we may commit in the course of our

⁸ The qualification « genuine » is important. It is meant to rule out the case of a *prima facie* whole that disappears as soon as we try to analyze it. A *spurious* whole would be a collection of things that have only the name in common. The ancient Greek name « κύκλος » can be used to lump together things as different as the geometrical κύκλος, the epic κύκλος, and the κύκλος of the zodiac. What we obtain in this way is a spurious whole that cannot serve as the starting point of any inquiry.

epistemic journey. Shortly I will argue that it may be difficult, or even impossible, to determine the precise nature of the error that Aristotle has in mind. For the time being, however, I would like to stress that the error in question is committed by reason rather than by sense-perception. To see why, we only need to recall that sense-perception is expected to get us on the road to the principles by providing us with a reliable starting point to our investigation. It would be very surprising, to say the least, if Aristotle tried to undermine the power of sense-perception by suggesting that little children cannot perceptually discriminate their mothers and their fathers from one another and from all the other women and men. First, such a reading of Aristotle's example would contradict an easy observation we can all make: children are able to discriminate perceptually their parents from strangers. Second, this reading would contradict Aristotle's epistemic commitment to begin any investigation from things that are perceptually clear but confounded to a degree. Such things are confounded to a degree because they are still unanalyzed. It is from things of this sort that we get, by means of rational analysis, to the relevant endpoint of our investigation.

As we try to understand the message that Aristotle would like to convey with his example of the little children who call all men fathers and all women mothers, we may want to see how the commentary tradition has dealt with this example. I propose to focus on the interpretation that David Ross has defended in his immensely influential commentary on the *Physics*. My main reason for concentrating on this interpretation is that Ross is not original in his reading of the Aristotelian example. On the contrary, he relies on an interpretative tradition that goes back to the ancient Greek commentators, and that is transmitted first to the Arabic commentators, and then from the Arabic to the Latin commentators.

The language that Ross uses in his discussion of the Aristotelian example is slightly different from the one adopted here. Ross speaks of a universal rather than a whole. He agrees, however, that the universal in question cannot be a standard universal – namely, a universal that is by nature predicated of many things (*De interpretatione* 7, 1a 39-b 1). Rather, it must be *an unanalyzed thing that is known to us by sense-perception*:

« the reference must be not to a universal conceived quite clearly in its true nature but to that stage in knowledge in which an object is known by perception to possess some general characteristic (e.g., to be an animal) before

it is known what its specific characteristic is (e.g., to be a horse or a cow). It is this phase of Aristotle's meaning that is illustrated by the example of the child who recognizes the general appearance presented by all men and that presented by all women, without noticing the special appearance of its father and its mother, and therefore calls all men father and all women mother » (Ross 1936, 457).

According to Ross, Aristotle's chosen example of the little children is equivalent to another example that is not found in Aristotle's text. This new example requires us to imagine that we are observing an approaching object that is still at some distance from us. This object reveals its internal structure as it comes closer to us. The tacit assumption is that this case is somehow comparable to one envisioned by Aristotle.⁹ If this comparison holds, this new example can replace the original example by Aristotle. What is not said but is clearly the main motivation behind this exegetical strategy is that the second example is easier to understand because it does not require us to adopt the point of view of the infant mind.

At least two questions can be asked in connection with my last observation. The first has to do with the original example chosen by Aristotle. To evaluate this example, we need to adopt the point of view of the little children that Aristotle envisions in *Physics* I 1. *But can we really adopt such a point of view?* I do not think that we can, or at least I do not think that it can be easily done, and this is the reason why the commentary tradition, from very early on, has replaced Aristotle's original example with one that does not require us to perform this difficult, if not impossible, task. But this observation leads us to a second question: *are the two examples really comparable?* If they are, the original example by Aristotle may be expendable. But if they are not, at the very least we have to be careful when trying to use one example to shed light on the other.

In order to decide whether the two examples are comparable, we have to look more closely at the example that is found in the commentary tradition but is not transmitted in Aristotle's text. This example requires

⁹ The fullest discussion of the example of an approaching object that is at first undetermined (or underdetermined) and subsequently reveals its internal structure to the observer can be found in Philoponus, *In Physicam*, 11.24-14.20. The reader who is interested in how this example is transmitted from the Greek to the Arabic tradition (with a focus on Ibn-Bajja and Ibn-Rush) should have a look at Lettinck 1994.

us to imagine that we are observing an approaching thing that is still at a considerable distance from us. Because of the distance, we can see that the approaching thing is an animal, but we cannot tell whether this animal is a human being or something else (e.g., a horse or a cow). In other words, this thing is still *undetermined*, or *underdetermined*, when it is at a considerable distance from us. Following Ross, we can say that while the thing is distant from us we can have only an indiscriminate perceptual knowledge of it. When this thing gets closer to us, we can establish first that it is a two-footed rather than a four-footed animal, and then that it is Socrates rather than Plato. Clearly, this example shows how an *adult* mind can progressively analyze something that is originally undetermined (or underdetermined). In the envisioned case, the adult mind is fully equipped with the network of concepts required to analyze the surrounding world successfully. I note, in passing, that such a mind is very reliable in performing this task. Therefore, the most obvious lesson that we can drive home from reflecting on this example is the following: when the mind is equipped with an adequate network of concepts, and is trained to apply them, it can do so very reliably.

Note that the situation envisioned in this example is not quite the one in which we find ourselves when we are about to launch an investigation of the sort outlined in *Physics* I 1. At the outset of such an investigation, our task does not simply consist in analyzing the reality by applying an already existing network of concepts. Rather, an important part of our task is *developing* a network of concepts adequate to perform the required task. Aristotle introduces the case of the infant mind precisely because it is closer to the situation in which we find ourselves when we embark in any investigation of the sort outlined in *Physics* I 1. While Aristotle remains remarkably optimistic about our prospects to develop a network of concepts adequate to the task of making sense of the world around us, he does not mean to say that achieving this goal is a foregone conclusion. Quite the opposite: *mistakes are made*. The example of the little children introduced at the end of *Physics* I 1 is intended to shed light on those mistakes.

By now, it should be clear that the example chosen by Aristotle and the example adopted in the commentary tradition are not really comparable, let alone interchangeable.¹⁰ More to the point: the example chosen

¹⁰ Pace Philoponus, who thinks that they are (11.19-23).

by Aristotle is not expendable because it is crucially concerned with acquiring the relevant set of concepts. This case cannot be equated to the case of an adult mind that has already acquired an adequate set of concepts and is able to apply them to make sense of the surrounding world. What prevents an adult mind from applying the relevant concepts is only the relative distance from the approaching object. The infant mind envisioned by Aristotle either does not have the relevant concepts or still has to perfect the art of applying them in order to make sense of the surrounding world. That Aristotle is concerned with how the infant mind (mis)applies concepts is made explicit in the textual tradition that reads ὑπολαμβάνει/think instead of προσαγορεύει/call. On this alternative reading, the example of Aristotle should be translated as follows: « the little children too at first suppose that all men are fathers and all women mothers, and later distinguish each of the two ».¹¹

What the infant and the adult minds share is sense-perception as a reliable way of knowing the surrounding world. Beyond that, however, the two minds – and indeed the two examples – are not really comparable. I have already discussed the example of the adult mind that has perfected the art of applying concepts. It is time to turn to the case of the infant mind. The little children envisioned by Aristotle can perceptually discriminate their mother and their father from one another and from all other men and women. In other words, the normal operations of their senses allow them to recognize perceptually their parents from all strangers. However, these little children are not able to perform some other cognitive feat. Unfortunately, it is not entirely clear what they are not able to achieve. One possibility is that they are not able to see that one and the same person can be both a father and a man, or that this person can be both a mother and a woman. In other words, these children are not able to draw a distinction between being a father and being a man, or between being a mother and being a woman. What is appealing about this first possibility is that it allows us to focus on the ability to draw distinctions, which is central to how Aristotle conceives of analysis in the rest of *Physics* I. But we cannot rule out that the little children that Aristotle envisions at the end of *Physics* I 1 are committing a false

¹¹ But we have already seen that spoken sounds are signs of what is in the mind, so the reading that has προσαγορεύει/call instead of ὑπολαμβάνει/think comes down to the same philosophical position.

generalization when they call all men father and all women mother. Either way, these children do not have all the relevant concepts they need to divide the surrounding reality. As a result, we can safely say that they commit a *conceptual* rather than a *perceptual* mistake. This may be due to the fact that they do not have the relevant concepts or, even if they have acquired those concepts, they have not yet perfected the art of applying them.

3. The infant mind beyond *Physics I 1*

I have argued that Aristotle is not interested in the linguistic behavior of the little children *per se* but only insofar as their behavior is a sign of what is in their mind. I have also argued that their mind is an infant mind that is still in the process of acquiring the conceptual apparatus required to make sense of the surrounding world. Strictly speaking, it is not even clear that such a mind can engage in an instance of successful thinking. Last but not least, I have argued that Aristotle is interested in certain instances of unsuccessful thinking. What goes wrong in those instances may help us illustrate what goes wrong in the mind of investigators who have not yet fully mastered their field of study. In this third and final section, I would like to elaborate on this point by arguing that Aristotle equates his predecessors and their failed attempt to reach the principles of nature to the little children who call all men papa and all women mama. If I am right, in *Physics I 1*, Aristotle does not only outline the method to be used in the search of the principles of nature; he is also setting the stage for the discussion of what his predecessors failed to accomplish in their search for the principles of nature.

To make my exegetical hypothesis more plausible, I would like, first, to recall a remarkable passage from the end of *Metaphysics I*. There, in looking back to what his predecessors achieved – or rather failed to achieve – on the topic of causality, Aristotle offers the following general assessment: ancient philosophy as a whole seems to speak in a childlike manner.¹² The verb that Aristotle uses in making this assessment is *ψελλίζεσθαι*. This verb means stuttering, but there is no evidence that Aristotle is interested in this speech defect *per se*. Rather, he is using this

¹² *Metaphysica A 10*, 993a 15-16: *ψελλιζομένη γὰρ ἔοικεν ἡ πρώτη φιλοσοφία περὶ πάντων.*

speech defect metaphorically to point to something else, the significance of which becomes clear when one takes the context into account. The context suggests that what is stated by his predecessors on the topic of causality lacks articulation and clarity. In other words, Aristotle claims that his predecessors, taken as a whole, are like little children who spoke in an inarticulate and unclear way about the causes. By so doing, Aristotle equates himself to an adult who provides articulation and clarity to what they say.

This reading is confirmed by another occurrence of the Greek verb *ψελλιζεσθαι* found in *Metaphysics* A. In this case, Aristotle equates himself to an adult who can supply the relevant articulation to *the childlike manner of speaking of Empedocles*.¹³ The two passages are parallel. What distinguishes them is only the scope of Aristotle's assessment. While in the second case Aristotle is concerned with a single predecessor, in the first case he makes a sweeping generalization about the whole of Greek investigation on the topic of causes. We may object that, in both cases, Aristotle does not do full justice to the achievements of his predecessors, and that his overall attitude toward them takes the unpleasant form of patronizing. But we should also keep in mind that Aristotle has developed a theory of causality that distinguishes four kinds of causes and spells out how these causes should be used in the search for a scientific explanation of the world around us. It is not difficult to see that, from the vantage point of this theory, what is said on the topic of causes by Aristotle's predecessors may be felt to be underdetermined or even outright obscure.

My brief excursus on how Aristotle deals with previous attempts to speak of the causes in *Metaphysics* A is meant to make plausible the hypothesis that Aristotle is willing to compare his predecessors to little children who struggle with the task of developing an adequate set of concepts to deal with the world around them. It is now time to return to *Physics* I in order to see how the example of the little children offered at the end of *Physics* I 1 can help Aristotle assess the lack of success of his predecessors. Consider the following statement that Aristotle makes at the beginning of *Physics* I 5:

« all identify the elements and the things they call the principles with the opposites, as if they were forced by the truth itself, even though they posit them without reason (ἄνευ λόγου) » (*Physica* I 5, 188b 27-30).

¹³ Full discussion of this second passage in Betegh 2012.

Aristotle's statement consists of two parts. On the one hand, Aristotle states that all his predecessors – no-one excluded – identified the principles with the opposites compelled, as it were, by the truth itself. Aristotle singles out Parmenides in connection with this claim (188a 20-21). The mention of Parmenides has caused some perplexity, especially since the previous treatment of Eleatic philosophy in *Physics* I 2-3 suggests that Aristotle does not consider Parmenides a natural philosopher, or a philosopher who is engaged in the search for the principles of nature. On the contrary, Aristotle treats Parmenides as a sophist who questions the whole project of inquiry into the principles of nature. There is no reason to think that Aristotle has changed his mind on Parmenides. By recalling his name, Aristotle is making clear that even someone like Parmenides is forced by the truth itself to identify the principles with some kind of opposites. In all probability, the truth in question is empirical: the observation, for instance, that any change in temperature takes place between hot and cold, where hot and cold are to be regarded as the extremes of a process that can take place anywhere in between. On the other hand, Aristotle thinks that all his predecessors – no-one excluded – posited their opposites *without reason* (ἄνευ λόγου). It is precisely because they did not possess a λόγος that enabled them to analyze what was forced upon them by the truth itself that they ended up making some particular pair of contraries their principles. More directly, their selection of the relevant pair of contraries turned out to be arbitrary: whereas some identified the principles with what is better known by perception (κατὰ τὴν αἴσθησιν), others made them identical with what is better known to reason (κατὰ τὸν λόγον).

It is possible to illustrate what Aristotle has in mind with the help of an example. Consider a physical theory that takes the dense and the rare as principles of change. Such a theory does not only select the dense and the rare over other pairs of opposites; it also tries to explain all natural processes in terms of condensation and rarefaction. However, the prospects of explaining everything in terms of condensation and rarefactions are (to say the least) not very good. What is better known by perception (κατὰ τὴν αἴσθησιν) is always a particular thing. At least for Aristotle, advancement in science does not take place by reducing the complexity of the world around us to any particular thing. On the contrary, this complexity is to be preserved and organized, and thereby explained, by means of reason.

Let us see, briefly, what happens when we try to equate the mistake made by the proponents of the view that the rare and the dense are the principles of nature to the mistake committed by the little children who call all men papa and all women mama. Recall that, on a possible reading of this example, the little children envisioned by Aristotle commit a false generalization. It is easy to see that, at least by Aristotle's lights, those who take one particular opposition – for instance, the dense and the rare – and make it their primary opposition commit a similar mistake. Like little children, they commit a false generalization. More to the point: like little children, they are *perceptually but not conceptually* competent. Their mistake is a conceptual, or better, a rational, mistake – the sort of mistake that an infant mind commits as it tries to make sense of the surrounding world.

Recall, however, that the example of the little children is open to another reading. On this alternative reading, the little children that Aristotle envisions in *Physics* I 1 do not have the ability to see that one and the same person can be both a father and a man, or that this person can be both a mother and a woman. On this second reading, these little children are not able to draw the distinction between being a father and being a man, or being a mother and being a woman. In other words, they do not yet have the ability to draw conceptual distinctions, which requires the acquisition and correct use of the relevant concepts. Clearly, by Aristotle's lights, his predecessors are very much like these little children. On the one hand, they grasped by means of sense-perception that all change takes place between opposites. On the other hand, they failed to see that what undergoes change is not a simple thing but rather a complex entity entailing the distinction between the substance that undergoes change and two termini of change. More to the point, they were not able to see that the two opposites that are perceived by sense-perception to be the termini of change are amenable to further rational analysis.

Aristotle offers an analysis of change along these lines in *Physics* I 6.¹⁴ He does so by dealing with two difficulties (*ἀπορίαι*) for the claim that the opposites undergo change. The first is that change is not just the replacement of one opposite with the other but also requires a third thing that undergoes change by being acted upon by the opposites (188a 22-26).

¹⁴ The relevant text is *Physica* I 6, 189a 20 - 189b 29. For an insightful analysis of this stretch of text, see Code 2017, 154-177.

The second is that the opposites are not themselves substances but rather they are said of a substance (188a 27-34). Both difficulties point to the conclusion that change involves at least one other thing that is not itself an opposite. And yet, they are not conclusive. It is telling that Aristotle concludes *Physics* I 6 by saying that it is not yet clear whether the principles involved in any instance of change are two *or* three. In fact, we are left with what Aristotle describes as a great difficulty.¹⁵

I will not engage in a discussion of how Aristotle deals with this difficulty in *Physics* I 7. Here, suffice it to say that, at the end of *Physics* I 7, Aristotle is not only able to establish *that* the principles are two *and* three, but he is also able to explain *how* they are two *and* three. Very briefly, the principles are two: the subject that undergoes change, which Aristotle calls *matter*, and the *form* that the subject takes up when the process of change is complete. But since the subject of change can be described as the thing that does not yet have the form, there is also a third principle, namely *privation*. It is clear that there is a difference between this last principle and the other two. Aristotle tries to capture the difference by saying that privation is a principle only in a coincidental way.

What is more important, at least for the present discussion, is to stress that the acquisition of the relevant concepts for our analysis of change, as well as their correct use, is secured only at the end of *Physics* I 7. It is only at the end of this chapter that what is known and clear to us is also known and clear by nature. From this vantage point we can see why Aristotle may be inclined to compare his predecessors to little children who have failed to develop the conceptual resources to deal successfully with natural change.

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¹⁵ *Physica* I 6, 189b 27-29: « Now, that the element is neither one nor more than two or three is clear; but whether two or three, as we have stated, gives rise to a *great difficulty* (ἀπορίαν ἔχει πολλήν). »

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LA PENSÉE LANGAGIÈRE DANS LE *DE ANIMA* D'ARISTOTE

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Bien qu'on ne la trouve nulle part dans le corpus aristotélicien, la célèbre définition de l'être humain comme animal doué de langage (ou de « raison ») exprime bien un trait important de l'anthropologie d'Aristote : il y a une relation essentielle entre les caractères les plus remarquables des êtres humains et les structures de leur langage. Ces aptitudes et capacités remarquables reposent sur – et se traduisent dans – différentes structures et différents événements de leur vie psychique. Je parlerai ici de « pensée langagière » pour signifier ce qui, dans les capacités et les phénomènes étudiés en particulier au livre III du *De Anima*, présente une connexion particulière avec les structures du langage (pour Aristote, tout cela fait partie d'une classe plus générale des *παθήματα τῆς ψυχῆς*, une expression qu'on pourrait rendre par « faits psychologiques »).

En suivant des indications contenues dans les premières lignes du *De Interpretatione*, la présente étude cherchera donc à retrouver dans le texte du *De Anima* les principaux éléments de cette pensée langagière.

Les compétences remarquables des êtres humains : quelques textes célèbres

Commençons par rappeler quelques passages très célèbres qui présentent ce dont il faudra rendre compte dans la suite.

Au début de la *Politique*, Aristote rattache au langage l'aptitude des humains à former des cités en même temps qu'à être formés (c'est-à-dire éduqués) par elles :

« διότι δὲ πολιτικὸν ὁ ἄνθρωπος ζῶον πάσης μελίττης καὶ πάντος ἀγε-
λαίου ζώου μᾶλλον, δῆλον. οὐθὲν γὰρ, ὡς φαμέν, μάτην ἢ φύσις ποιεῖ,

λόγον δὲ μόνον ἄνθρωπος ἔχει τῶν ζώων. ἡ μὲν οὖν φωνὴ τοῦ λυπηροῦ καὶ ἡδέος ἐστὶ σημεῖον, διὸ καὶ τοῖς ἄλλοις ὑπάρχει ζώοις (μέχρι γὰρ τούτου ἡ φύσις αὐτῶν ἐλήλυθε, τοῦ ἔχειν αἴσθησιν λυπηροῦ καὶ ἡδέος, καὶ ταῦτα σημαίνειν ἀλλήλοισ), ὁ δὲ λόγος ἐπὶ τῷ δηλοῦν ἐστὶ τὸ συμφέρον καὶ τὸ βλαβηρόν, ὥστε καὶ τὸ δικαῖον καὶ τὸ ἄδικον. τοῦτο γὰρ πρὸς τὰ ἄλλα ζῶα τοῖς ἀνθρώποις ἴδιον, τὸ μόνον ἀγαθοῦ καὶ κακοῦ καὶ δικαίου καὶ ἀδίκου καὶ τῶν ἄλλων αἴσθησιν ἔχειν· ἡ δὲ τούτων κοινωνία ποιεῖ οἰκίαν καὶ πόλιν [mais que l'homme soit un animal politique à un plus haut degré qu'une abeille quelconque ou tout autre animal vivant à l'état grégaire, cela est manifeste. La nature en effet, selon nous, ne fait rien en vain ; et l'homme, seul de tous les animaux, possède la parole. Or, tandis que la voix ne sert qu'à indiquer la joie et la peine, et appartient pour cette raison aux autres animaux également (car leur nature va jusqu'à éprouver les sentiments de plaisir et de douleur, et à se les signifier les uns aux autres), le discours sert à expliquer l'utile et le nuisible, et par suite aussi le juste et l'injuste : car c'est le caractère propre de l'homme par rapport aux autres animaux, d'être le seul à avoir la capacité de reconnaître (αἴσθησις) le bien et le mal, le juste et l'injuste, etc., et c'est le fait d'avoir cela en commun qui constitue la famille et la cité] » (*Politica* I 2, 1253a 7-18).

Ainsi, le λόγος humain se distingue de la voix animale par le fait qu'il permet de communiquer à propos de *relations*. Dans le cas de l'utile et du nuisible, il s'agit des relations de moyen à fin et plus généralement de cause à effet. Cette capacité est complexe : elle comporte la capacité de produire des énoncés exprimant des relations (dont le type le plus simple est la prédication), mais aussi de prendre ces énoncés eux-mêmes pour objet dans une discussion qui porte sur leur validité, et qui les compare ou les confronte les uns aux autres.

De plus, le juste et l'injuste, qu'Aristote semble introduire innocemment ici comme une simple sous-espèce de l'utile et du nuisible, impliquent en réalité quelque chose de plus.

D'une part, l'identification d'un *sujet* (individuel ou collectif) à qui les faits X ou Y sont susceptibles d'être utiles ou nuisibles de façon plus ou moins permanente ; car un animal qui ne connaîtrait que des utilités ou des dangers immédiats pourrait être bien adapté à son milieu, il ne serait pas pour cela apte à la vie en cité. – Il est vrai que cette référence à un sujet n'est pas explicitement énoncée dans notre texte ; mais nous la retrouverons dans d'autres contextes. Le point important, ici, est qu'elle est indispensable pour comprendre ce qui est dit de l'utile et du nuisible, et plus encore du juste et de l'injuste. Car elle permet (et impose) de reconnaître que nous avons, en fait et de façon permanente, des intérêts communs. Dans l'expression ἡ δὲ τούτων κοινωνία, les traducteurs

rendent fréquemment le pronom τούτων par des termes qui paraissent relever de la subjectivité ; par exemple : « la communauté de ces *senti-ments* » (ainsi Tricot 1962 et Pellegrin 1990). Je crois que c'est une erreur. Aristote veut probablement dire (et avec raison) que la famille et la cité reposent sur des solidarités *de fait* ; la similitude ou la communauté des sentiments qui en résulte (parfois) n'est qu'une conséquence de cette communauté de fait. De la même façon, αἴσθησιν ἔχειν (ἀγαθοῦ καὶ κακοῦ, etc.) doit être bien compris comme la *perception* de quelque chose de réel¹.

D'autre part, la capacité de se représenter le bien commun – de se le représenter en lui-même et de se le représenter *comme commun* – entraîne la représentation de normes et d'obligations.

Pour les mêmes raisons – parce qu'elles n'agissent pas selon des règles et ne se représentent pas elles-mêmes comme des sujets, Aristote affirme dans l'*Ethique à Nicomaque* que les bêtes n'ont pas de part à l'action proprement dite (πρᾶξις) :

« τρία δὲ ἐστὶν ἐν τῇ ψυχῇ τὰ κυρία πράξεως καὶ ἀληθείας, αἴσθησις νοῦς ὄρεξις. τούτων δ' ἡ αἴσθησις οὐδεμίας ἀρχὴ πράξεως. δῆλον δὲ τῶν τὰ θηρία αἴσθησιν μὲν ἔχειν, πράξεως δὲ μὴ κοινωνεῖν [il y a dans l'âme trois <ordres de faits> qui régissent l'action et la vérité : la perception sensible, l'intellection et le désir. Parmi ceux-ci, la perception sensible n'est au principe d'aucune action : on le voit au fait que les bêtes, alors qu'elles possèdent la sensation, n'ont aucune part à l'action] » (*Ethica nicomachea* VI 1, 1139a 17-20).

Un autre texte célèbre où se trouve indiquée une démarcation entre les capacités des bêtes et celles de l'être humain, mais du point de vue des compétences cognitives cette fois, est le dernier chapitre des *Seconds Analytiques*². La situation ici est un peu plus compliquée, car ce passage a un aspect polémique. En effet, traitant de la question de la connaissance des termes premiers à partir desquels pourra se construire une science démonstrative, Aristote est amené à prendre ses distances avec la doctrine platonicienne de la réminiscence. Or la réminiscence est précisément

¹ « Avoir le sentiment du bien et du mal » signifie certes cela en français, ou du moins l'a signifié à une certaine époque, mais le mot « sentiment » pourrait induire en erreur un lecteur d'aujourd'hui.

² Comme on le sait, il existe un passage parallèle au début de la *Métaphysique* (A 1, 980a 27 - 981a 6) ; mais le texte de la *Métaphysique* ne mentionne pas le λόγος (ou du moins pas directement, car le passage sur les animaux intelligents mais sourds – telle l'abeille – pourrait signifier que l'absence de langage bloque la capacité d'apprendre).

invoquée dans le mythe du *Phèdre*³ comme le point de démarcation entre l'animalité ordinaire et l'humanité, puisque seules les âmes qui ont contemplé les Idées dans la plaine de la vérité seront admises à venir au monde dans un corps humain. Aristote, qui rejette l'idée que des connaissances en acte puissent préexister à l'ensemble de notre existence, doit cependant produire un modèle alternatif pour rendre compte de la possibilité de la science démonstrative. Il choisit de le faire en prenant pour point de départ la perception sensible, qui est commune à tous les animaux :

« ἔχει γὰρ δύναμιν σύμφυτον κριτικὴν, ἣν καλοῦσιν αἴσθησιν· ἐνούσης δ' αἰσθήσεως τοῖς μὲν τῶν ζῴων ἐγγίγνεται μονὴ τοῦ αἰσθήματος, τοῖς δ' οὐκ ἐγγίγνεται. ὅσοις μὲν οὖν μὴ ἐγγίγνεται, ἢ ὅλως ἢ περὶ ἃ μὴ ἐγγίγνεται, οὐκ ἔστι τούτοις γνῶσις ἔξω τοῦ αἰσθάνεσθαι· ἐν οἷς δ' ἐνεστὶν αἰσθανομένοις ἔχειν ἔτι ἐν τῇ ψυχῇ, πολλῶν δὲ τοιούτων γιγνομένων ἤδη διαφορὰ τις γίγνεται, ὥστε τοῖς μὲν γίγνεσθαι λόγον ἐκ τῆς τῶν τοιούτων μονῆς, τοῖς δὲ μή. ἐκ μὲν οὖν αἰσθήσεως γίγνεται μνήμη, ὥσπερ λέγομεν, ἐκ δὲ μνήμης πολλακίς τοῦ αὐτοῦ γιγνομένης ἐμπερία· αἱ γὰρ πολλαὶ μνήμαι τῷ ἀριθμῷ ἐμπερία μία ἐστίν. ἐκ δὲ ἐμπειρίας ἢ ἐκ πάντος ἠρεμήσαντος τοῦ καθόλου ἐν τῇ ψυχῇ, τοῦ ἐνὸς παρὰ τὰ πολλὰ, ὃ ἂν ἐν ἅπασιν ἐν ἐνῇ ἐκείνοις τὸ αὐτό, τέχνης ἀρχὴ καὶ ἐπιστήμης, ἐὰν μὲν περὶ γένεσιν, τέχνης, ἐὰν δὲ περὶ τὸ ὄν, ἐπιστήμης [les animaux] possèdent une certaine capacité innée de discernement, qu'on appelle la perception. Et une fois que la perception est présente, il se produit chez certains animaux une persistance du perçu, et chez les autres non. Pour ceux-là donc chez qui elle ne se produit pas, il n'y a, en-dehors du fait de percevoir, aucune connaissance possible – ou bien absolument, ou bien quant aux objets pour lesquels cette persistance ne se produit pas – ; mais ceux chez qui elle se produit peuvent retenir le perçu dans leur âme. Et lorsque cela a eu lieu plusieurs fois, il se produit à partir de là une certaine différence d'où il résulte que, chez les uns, la persistance de telles impressions produit un discours, et non chez les autres. Ainsi donc, à partir de la perception se forme le souvenir, comme nous venons de le dire ; et à partir du souvenir de la même chose plusieurs fois répété, l'expérience ; car des souvenirs qui sont plusieurs par le nombre font une expérience unique. Et de l'expérience, ou de l'universel fixé entièrement dans l'âme, de cet *un à côté des multiples*, qui se retrouve identique dans toutes ces choses-là, vient le principe de l'art et de la science – de l'art, lorsque cela concerne le devenir, et de la science lorsque cela concerne l'étant] » (*Analytica posteriora* II 19, 99b 35 - 100a 9).

³ « πᾶσα μὲν ἀνθρώπου ψυχὴ φύσει τεθέεται τὰ ὄντα, ἢ οὐκ ἂν ἦλθεν εἰς τόδε τὸ ζῷον [Toute âme d'homme a par nature contemplé les <vraies> réalités (τὰ ὄντα) ; autrement elle ne serait pas venue au monde précisément dans cet animal] » (*Phaedrus*, 249e - 250a).

A partir de la question initiale des principes de la connaissance scientifique, ce texte expose la constitution d'une forme de connaissance et de pensée propre aux êtres humains, que la dernière partie du chapitre (100b 5-17) désigne comme l'activité de l'intelligence (νοῦς). La continuité que le modèle d'Aristote établit ainsi entre la condition de base de l'animal et cette pensée proprement humaine conduit à poser la question du seuil à partir duquel se distingue celle-ci.

Les principales étapes de sa constitution sont :

- (1) La « stabilisation du perçu » (μονὴ τοῦ αἰσθήματος) : cette expression sera reprise quelques lignes plus loin par « la mémoire » ; elle se présente comme une explication⁴ de la formation de la mémoire. Le point important est que cette stabilisation rend l'expérience perçue disponible pour le sujet, dans l'âme. C'est à partir de là qu'il existe ce qu'on pourrait appeler une intériorité ; mais ensuite Aristote indique encore une alternative : l'animal peut avoir un λόγος, ou non.
- (2) La mémoire, probablement guidée par le langage⁵, parvient à la saisie stable d'un terme unique qui vaut pour une multiplicité de cas, que notre texte décrit comme « l'universel en repos dans l'âme » ou « l'un à côté des multiples » (une expression qui évoque Platon). Ce terme universel est à la fois le point culminant de l'expérience et « le point de départ de l'art et de la science » ; c'est donc à ce point que se fait la démarcation entre les bêtes (même les plus perfectionnées d'entre elles) et l'être humain.

Dans la suite du texte des *Seconds Analytiques*, l'universel en question est présenté comme un concept :

« στάντος γὰρ τῶν ἀδιαφόρων ἑνός, πρῶτον μὲν ἐν τῇ ψυχῇ καθόλου (καὶ γὰρ αἰσθάνεται μὲν τὸ καθ' ἕκαστον, ἢ δὲ αἰσθησις τοῦ καθόλου

⁴ Μονή est peut-être une étymologisation de μνήμη ; par ailleurs on sait que le chapitre III 3 du *De Anima* (428b 10 - 429a 9) propose une explication de l'imagination (φαντασία) dans des termes assez semblables. Sur la relation et la distinction entre mémoire et imagination, voir *De memoria* 1, 450a 14-25.

⁵ La relation de la mémoire au langage se fait apparemment dans les deux sens : une certaine mémoire spécialisée est indispensable à l'apprentissage du langage ; et dans la généalogie des *Seconds Analytiques* la mémoire (une certaine mémoire, décrite comme μονὴ τοῦ αἰσθήματος, 99b 36-37) arrive avant le discours, mais cela peut s'expliquer par le fait que cette généalogie est en quelque sorte stylisée, et que la mémoire est une capacité qui appartient aussi à certaines bêtes. Il est probable que la possession des structures du lexique et de la syntaxe aide à reconnaître et à retenir l'ordre intelligible des choses – mais ce deuxième aspect n'est jamais exposé par Aristote avec toute la clarté qu'on pourrait souhaiter.

ἐστίν, οἷον ἀνθρώπου, ἀλλ' οὐ Καλλίου ἀνθρώπου)· πάλιν ἐν τούτοις ἴσταιται, ἕως ἂν τὰ ἀμερῆ στή καὶ τὰ καθόλου, οἷον τοιονδὶ ζῶον, ἕως ζῶον, καὶ ἐν τούτῳ ὡσαύτως [lorsque, de plusieurs impressions équivalentes, l'une se fixe, cela fait un premier universel dans l'âme ; car ce que l'on perçoit, c'est l'objet singulier, mais la perception est perception de l'universel, par exemple d'un homme, et non pas de l'homme Callias. Et à nouveau, parmi ceux-ci se produit un arrêt, jusqu'à ce que se fixent les espèces sans parties et les universaux ; par exemple de tel animal particulier jusqu'à animal, puis de la même façon pour celui-ci] » (*Analytica posteriora* II 19, 100a 15 - 100b 3).

Dans le passage parallèle de la *Métaphysique* il est question d'un jugement (ὑπόληψις)⁶, mais le processus de sa constitution est approximativement le même :

« γίνεται δ' ἐκ τῆς μνήμης ἐμπειρία τοῖς ἀνθρώποις· αἱ γὰρ πολλαὶ μνήμαι τοῦ αὐτοῦ πράγματος μίας ἐμπειρίας δύναμιν ἀποτελοῦσιν [...]. γίνεται δὲ τέχνη ὅταν ἐκ πολλῶν τῆς ἐμπειρίας ἐννοημάτων μία καθόλου γίνεται περὶ τῶν ὁμοίων ὑπόληψις [l'expérience naît chez les humains à partir de la mémoire : car plusieurs souvenirs de la même chose donnent naissance à une capacité qui est une expérience une (...). L'art se produit lorsque, à partir de plusieurs réflexions empiriques, se forme un jugement unique qui embrasse les cas semblables] » (*Metaphysica* A 1, 980b 39 - 981a 1 et 981a 4-6).

Mais aucun de ces deux passages ne donne d'indication claire sur la nature et les causes du changement qui se produit à ce point du processus ni sur les raisons pour lesquelles ce qui vient ensuite est proprement humain. En revanche, on trouve des indications importantes dans le livre III du *De Anima* :

« ὅταν δ' οὕτως ἕκαστα γένηται ὡς ὁ ἐπιστήμων λέγεται ὁ κατ' ἐνέργειαν (τοῦτο δὲ συμβαίνει ὅταν δύνηται ἐνεργεῖν δι' αὐτοῦ), ἔστι μὲν οὖν καὶ τότε δυνάμει πως, οὐ μὴν ὁμοίως καὶ πρὶν μαθεῖν ἢ εὔρεῖν· καὶ αὐτὸς δὲ αὐτὸν τότε δύναται νοεῖν. ἐπεὶ δ' ἄλλο ἐστὶ τὸ μέγεθος καὶ τὸ μεγέθει εἶναι καὶ ὕδωρ καὶ ὕδατι εἶναι (οὕτω δὲ καὶ ἐφ' ἑτέρων πολλῶν, ἀλλ' οὐκ ἐπὶ πάντων· ἐπ' ἐνίων γὰρ ταῦτόν ἐστι). τὸ σάρκι εἶναι καὶ σάρκα ἢ ἄλλω ἢ ἄλλως ἔχοντι κρίνει· ἢ γὰρ σὰρξ οὐκ ἄνευ τῆς ὕλης, ἀλλ' ὡσπερ τὸ σιμόν, τόδε ἐν τῷδε. τῷ μὲν οὖν αἰσθητικῷ τὸ θερμὸν καὶ τὸ ψυχρὸν κρίνει, καὶ ὃν λόγος τις ἢ σὰρξ· ἄλλω δέ, ἤτοι χωριστῷ

⁶ S'il ne s'agit pas simplement d'une variation dans le choix de l'exemple, l'insistance des *Seconds Analytiques* sur les concepts (plutôt que sur les jugements) peut s'expliquer par le fait que, selon la doctrine du livre I, les démonstrations scientifiques reposent principalement ou exclusivement sur des prédicats contenus dans les définitions des objets de la science en question.

ἢ ὡς ἡ κεκλασμένη ἔχει πρὸς αὐτήν ὅταν ἐκταθῆ, τὸ σαρκὶ εἶναι κρίνει [et chaque fois que <l'intelligence> devient certaines choses de la façon dont on dit que quelqu'un est "effectivement savant" (ὁ ἐπιστήμων ὁ κατ' ἐνέργειαν) – ce qui a lieu lorsqu'il peut actualiser son savoir spontanément –, même alors, certes, elle est en puissance en un certain sens, mais pas de la même façon qu'elle l'était avant de comprendre et de découvrir, c'est-à-dire qu'à ce moment elle est capable de se penser elle-même⁷. Or, puisque la grandeur est autre chose que l'essence de la grandeur, et que l'eau est autre chose que l'essence de l'eau (et de même dans beaucoup d'autres cas, mais pas dans tous : car pour certains objets c'est la même chose), on discerne l'essence de la chair et la chair, ou bien par une faculté distincte, ou bien par la même faculté disposée autrement. En effet, la chair n'est pas sans la matière, mais elle est, comme le camus, ceci dans ceci. C'est donc bien par la faculté de sentir qu'on discerne le chaud et le froid, c'est-à-dire ce dont la chair est <constituée selon> une certaine proportion. Mais c'est par une autre puissance qu'on discerne l'essence de la chair – soit une puissance séparée, soit une puissance qui est par rapport à celle-ci comme la ligne brisée, lorsqu'elle a été redressée, est par rapport à elle-même <quand elle est brisée>] » (*De Anima* III 4, 429b 5-17).

De cet exposé, on peut retenir trois points principaux⁸ :

- (a) L'objet propre de la forme de connaissance spécifiquement humaine qui est présentée ici est l'essence ou la quiddité (τὸ σαρκὶ εἶναι, etc.) ; cette thèse est ainsi une variante de l'affirmation de Socrate dans le *Phèdre*, puisqu'elle fait de la Forme l'objet d'une pensée spécifiquement humaine (mais, il faut peut-être le souligner, une variante dé-mythifiée).
- (b) Le moment crucial du processus de développement de la connaissance est comparé à l'acquisition complète d'une connaissance (le moment où quelqu'un devient « effectivement savant »), dans le cadre d'une analogie générale, introduite au livre II à propos de la perception sensible, qui distingue trois niveaux d'actualisation d'une compétence : [1] l'être humain comme animal apte à apprendre à lire – [2] la personne qui a acquis la compétence de lecteur (celle qui

⁷ En conservant le texte des manuscrits, contre la correction de Ross (καὶ αὐτὸς δι' αὐτοῦ τότε δύναται νοεῖν [et elle est alors capable de penser par elle-même]).

⁸ Il n'est pas possible d'entrer ici dans l'examen approfondi des difficultés textuelles et argumentatives que présente le passage cité, ni de suivre toutes les implications de la théorie aristotélicienne de la connaissance intellectuelle. J'espère que les trois points présentés ici sont suffisamment clairs par eux-mêmes, et je ne crois pas qu'ils soient contestés par des interprètes anciens ou modernes.

« sait lire ») – [3] celle qui lit en ce moment même. La possession de « l'universel fixé dans l'âme » correspond au niveau [2].

- (c) Lorsqu'elle fait l'expérience effective de cette connaissance, l'intelligence s'identifie à son objet ou coïncide avec lui (de quelque façon qu'on doive se représenter cette identification).

Pour résumer enfin les enseignements de notre lecture de ces textes classiques, nous pouvons désigner (au moins) les traits suivants comme des propriétés remarquables – et liées au langage – de la pensée humaine :

- la capacité de se dégager de l'immédiat et de se référer à des termes universels qui sont l'essence même des choses ;
- la capacité de former des jugements – capacité qui ne se limite pas à des formules prédicatives simples (du type *P est le cas pour S*), mais permet, comme le montre le texte de la *Politique*, de penser des relations plus complexes, du type *X est utile à telle personne en vue de Y*, ou *X est plus utile que Z*, etc ;
- la capacité de réfléchir sur ces termes universels et sur ces jugements complexes dès lors qu'ils peuvent être représentés de façon indépendante et permanente sous la forme de mots et de phrases. Cette capacité se manifeste dans tous les actes et activités qui impliquent une attitude propositionnelle (au sens de Russell). Elle implique que la personne qui réfléchit se pense elle-même comme un sujet ;
- et que de ce fait elle a conscience – comme le montre ici encore le texte de la *Politique* – d'avoir des droits et des devoirs, et se représente qu'il faut agir selon des règles. Il y a encore un autre trait remarquable qu'on peut sans doute rattacher lui aussi à la capacité de réfléchir sur les termes et les jugements, à savoir l'intérêt spécifique de l'être humain pour la connaissance en elle-même indépendamment de tout enjeu vital ou pratique en général, intérêt qui fait de lui un animal théorique, comme l'affirme l'*incipit* du livre A de la *Métaphysique* : « πάντες ἄνθρωποι τοῦ εἰδέναι ὀρέγονται φύσει [tous les êtres humains ont par nature le désir de savoir] » (980a 21).

Il n'y a rien de bien original dans cette liste si on considère chacun de ses éléments un par un. Ce qui est plus intéressant c'est que, prise dans son ensemble, elle fait apparaître la connexion qu'ils ont tous trois avec le langage, et par conséquent aussi entre eux, alors que bon nombre de commentateurs ont tendance à considérer que la connaissance intellectuelle est essentiellement intuitive, et s'oppose par là à une connaissance

discursive qu'ils placent à un rang inférieur. Cette tendance se manifeste en particulier à propos du dernier chapitre des *Seconds Analytiques*, dont beaucoup d'interprètes mettent en doute l'unité argumentative, voire la cohérence philosophique. Ainsi, Le Blond voyait dans la première partie du chapitre une orientation « empiriste », opposée selon lui à l'inspiration intellectualiste des quinze dernières lignes ; et Barnes proposait de réduire la difficulté en minimisant la signification philosophique de cette dernière partie⁹.

L'intention philosophique de la présente étude est précisément d'éviter d'être arrêté par une distinction trop tranchée entre deux types de connaissance intellectuelle. Je ne crois pas que la variation lexicale entre $\nu\omicron\epsilon\iota\nu$ et $\delta\iota\alpha\nu\omicron\epsilon\iota\sigma\theta\alpha\iota$ ou entre $\nu\omicron\zeta$ et $\delta\iota\acute{\alpha}\nu\omicron\iota\alpha$, etc., connote une différence entre deux modes de connaissance bien distincts, « discursif » et « intuitif », comme une sorte de survivance de la division de la ligne (*Respublica* VI, 511d-e). Il y a bien une différence de valeur entre ces deux séries de termes : les formes de la racine nue indiquent le simple fait de la connaissance intellectuelle (c'est pourquoi elles sont appropriées pour désigner des actes d'intellection instantanée) alors que celles qui sont formées avec le préverbe $\delta\iota\alpha$ - signifient que le sujet reste engagé pendant un certain temps dans son activité intellectuelle, et parfois qu'il la poursuit en vue d'un but et avec un effort. *En ce sens*, elles correspondent souvent à des situations que nous pourrions décrire comme discursives ou ratiocinatives. Mais c'est bien la même sorte de connaissance qui se produit dans l'une et l'autre situation, ce qui se traduit par la facilité avec laquelle Aristote passe de l'un à l'autre registre. Il n'y a aucune raison de supposer que l'une des deux expériences nous donne accès à un type de connaissance supérieur à l'autre, ni même que l'une des deux soit plus étroitement que l'autre liée au discours et aux structures du langage¹⁰.

De même, le passage du livre I de la *Politique* invite à considérer une parenté ou une proximité plus étroite entre les capacités et intérêts pratiques (éthiques et politiques) d'une part, et les activités de connaissance

⁹ Le Blond 1970, 135-140 ; Barnes 1993, 259-260 et 269.

¹⁰ Il ne m'est pas possible d'argumenter pour établir ce point : je peux seulement dire que je ne connais aucun lieu où Aristote thématise cette prétendue distinction, ou même l'exprime par des indices grammaticaux ; pour le reste la charge de la preuve incombe à un éventuel contradicteur. Je peux quand même avancer un argument historique : le motif principal de cette distinction platonicienne – la séparation des Formes – est précisément ce qu'Aristote rejette dans les doctrines de son maître.

d'autre part – une parenté qu'on reconnaît souvent de façon assez générale, sans en expliquer les modalités : on se contente de poser l'existence d'un « intellect pratique », distinct de l'intellect théorique, mais sans préciser comment ces deux intelligences se relient l'une à l'autre.

Il me semble par ailleurs que l'analogie entre intellection et perception, développée par Aristote aux chapitres 4 et 5 de *De Anima* III, est avant tout un instrument d'investigation, de sorte que le modèle auquel elle aboutit devra encore être complété et enrichi rétrospectivement au moyen des données contenues dans les chapitres 6 à 8. On s'efforcera donc dans les pages qui suivent d'éclairer, *en partant* des indications contenues dans le premier chapitre de l'*Interprétation*, les arguments de l'ensemble du livre III afin de montrer que la connaissance intellectuelle appartient de plein droit à la « pensée langagière », et comment elle est tout entière engagée dans la constitution de l'être humain comme sujet.

L'introduction de l'*Interprétation*

Les premières lignes de l'*Interprétation* se réfèrent au *De Anima*, mais cette référence est ambiguë : elle indique à la fois que certains éléments importants pour les analyses qui vont suivre ont été exposés dans le *De Anima*, et que ces connaissances « relèvent d'une autre *πραγματεία* », c'est-à-dire que les deux traités sont bien distincts et n'ont pas le même objet. Il faut donc avant tout lire ces lignes de plus près, afin de déterminer sur quels points précis se font et le contact et la démarcation :

« πρῶτον δεῖ θέσθαι τί ὄνομα καὶ τί ῥῆμα, ἔπειτα τί ἐστὶν ἀπόφασις καὶ κατάφασις καὶ ἀπόφανσις καὶ λόγος. ἔστι μὲν οὖν τὰ ἐν τῇ φωνῇ τῶν ἐν τῇ ψυχῇ παθημάτων σύμβολα, καὶ τὰ γραφόμενα τῶν ἐν τῇ φωνῇ. καὶ ὥσπερ οὐδὲ γράμματα πᾶσι τὰ αὐτά, οὐδὲ φωναὶ αἱ αὐταί· ὧν μέντοι ταῦτα σημεῖα πρῶτως, ταῦτά πᾶσι παθήματα τῆς ψυχῆς, καὶ ὧν ταῦτα ὁμοιώματα πράγματα ἤδη ταῦτά. περὶ μὲν οὖν τούτων εἴρηται ἐν τοῖς περὶ ψυχῆς (ἄλλης γὰρ πραγματείας), ἔστι δέ, ὥσπερ ἐν τῇ ψυχῇ ὅτε μὲν νόημα ἄνευ τοῦ ἀληθεύειν ἢ ψεύδεσθαι ὅτε δὲ ᾧ ἀνάγκη τούτων ὑπάρχειν θάτερον, οὕτω καὶ ἐν τῇ φωνῇ· περὶ γὰρ σύνθεσιν καὶ διαίρεσιν ἐστὶ τὸ ψεῦδός τε καὶ τὸ ἀληθές. τὰ μὲν οὖν ὀνόματα καὶ τὰ ῥήματα ἔοικε τῷ ἄνευ συνθέσεως καὶ διαίρεσεως νοήματι [pour commencer, il faut poser ce qu'est un nom et ce qu'est un verbe, puis ce que sont une affirmation et une négation, une déclaration et un discours. Ce qui est contenu dans la voix parlée, donc, sont des signes de reconnaissance des affections qui sont dans l'âme, et les <éléments> écrits sont des signes de reconnaissance de ce qui est contenu dans la voix parlée. Et de même que

les lettres ne sont pas les mêmes pour tous, les sons parlés ne sont pas les mêmes non plus ; alors que ce dont ceux-ci sont directement des signes¹¹ sont des faits psychologiques identiques en tous les hommes ; et déjà ce dont ceux-ci sont des présentations ressemblantes, ce sont les mêmes faits réels. D'ailleurs nous avons déjà parlé de cela dans notre écrit sur l'âme (car cela relève d'une autre exposition) ; or, de même que dans l'âme il y a parfois une pensée qui ne dit ni vrai ni faux, et parfois quelque chose à quoi doit nécessairement s'appliquer l'un ou l'autre de ces deux prédicats, il en va ainsi dans la voix parlée aussi : en effet, le faux et le vrai concernent la composition et la séparation. En fait, les noms et les verbes en eux-mêmes ressemblent à la représentation sans composition ni séparation] » (*De interpretatione*, 1, 16a 1-13).

Il faut d'abord déterminer ce que désigne le pronom « cela » dans la proposition « nous avons déjà parlé de *cela* (περι μὲν οὖν τούτων εἴρηται) » dans le *De Anima*. Le passage présente une liste de trois termes :

- (a) les éléments de la « voix parlée » (φωνή) : le contexte indique clairement que φωνή désigne ici le langage humain. On peut trouver que cette façon de parler s'écarte de l'usage habituel d'Aristote, qui oppose d'ordinaire (comme dans le passage de la *Politique* cité ci-dessus) la φωνή animale au langage proprement humain, qu'il appelle λόγος. Mais il vient d'employer λόγος dans la phrase précédente avec le sens plus spécialisé de « discours » (par opposition aux parties élémentaires que sont le nom et le verbe) ; surtout, en l'appelant ici simplement « voix », il insiste sur l'aspect physique objectif du langage humain, par opposition à l'élément suivant :
- (b) à savoir les « affections de l'âme » (παθήματα τῆς ψυχῆς) ou « faits psychologiques » que les éléments de la voix parlée signifient de façon conventionnelle. Il ne s'agit pas nécessairement, ou en tout cas pas uniquement, de « vécus subjectifs », puisqu'il faut comprendre qu'il y a par exemple un tel πάθημα qui correspond au mot *cheval* ou au mot *être humain* et que ces contenus de pensée sont en substance les mêmes

¹¹ Le texte retenu à cet endroit (16a 6) par Minio-Paluello est ὧν μὲντοι ταῦτα σημεῖα πρώτων (et non πρώτως). D'après l'apparat de Minio-Paluello, ce texte n'est donné par aucun témoin direct ; j'imagine qu'il s'agit d'une conjecture choisie pour sa plus grande élégance – mais le texte des manuscrits (avec πρώτως ou πρώτων) est grammaticalement acceptable, c'est pourquoi je le conserve. On pourrait traduire ὧν μὲντοι ταῦτα σημεῖα πρώτων par « les <réalités> premières dont ceux-ci sont les signes » – mais on pourrait aussi comprendre que l'adjectif signifie que ce sont les signifiés *les plus proches* des signifiants langagiers, c'est-à-dire les faits psychologiques et non les « faits réels » (πράγματα) eux-mêmes, ce qui équivaut à peu près au texte avec πρώτως.

pour tous (sans égard particulier pour la diversité des langues). Il en va apparemment de même pour des contenus émotionnels tels que la colère, la tristesse ou le désir ; cela ne signifie pas que les mêmes choses suscitent en chacun de nous (et à chaque moment de notre vie) de la colère, de la tristesse ou du désir, mais simplement qu'il y a un fait de la colère ou de la tristesse, etc., que nous sommes capables de reconnaître aussi bien que nous reconnaissons un cheval ;

- (c) car les faits psychologiques dont nous parlons sont des « présentations ressemblantes » (ὁμοιώματα) : le terme n'implique pas nécessairement que ce soient des images¹² mais simplement qu'il existe une certaine forme et un certain degré de « ressemblance » – à comparer avec les formules qu'Aristote utilise pour décrire l'imagination (φαντασία) : « il <nous> est possible *de nous mettre quelque chose sous les yeux* (πρὸ ὀμμάτων ἔστι τι ποιῆσασθαι) » comme le font ceux qui se font des images. A vrai dire, les représentations de l'imagination (les φαντάσματα) font certainement partie de la classe des ὁμοιώματα ; mais elles ne sont pas les seules, et, doit-on supposer, les autres ne sont pas censées ressembler au même point. Les objets dont les faits psychologiques sont ainsi des « présentations ressemblantes » sont désignés par le nom πράγματα, qui indique de façon générale le référent d'un discours (« ce dont on parle »). Aristote affirme que ces faits ou ces réalités sont, eux aussi, « déjà (...) les mêmes » (ἤδη ταῦτά) – les mêmes pour tous les êtres humains, faut-il supposer là encore.

Aristote décrit donc la signification, c'est-à-dire l'efficienne propre du langage humain, comme une relation entre trois niveaux, dans laquelle des faits de langage se rapportent à des faits réels (quelle que soit l'extension exacte qu'il faille donner à cette notion) par l'intermédiaire de faits psychologiques. Il souligne d'autre part que, si les faits de langage varient selon les groupes humains, les deux autres ordres de faits sont universels. Cette différence se reflète dans leurs relations : alors que la relation du niveau (a) au niveau (b) est conventionnelle (« symbolique »), celle qui existe entre le niveau (b) et le niveau (c) est une ressemblance naturelle.

¹² Le mot « présentations » tend peut-être excessivement vers les notions d'imitation et d'image ; il vaudrait peut-être mieux s'en tenir à « des ressemblances » ou « des effets ressemblants » ; malgré tout, « présentations » me paraît convenable dans la mesure où il indique que, à l'occasion des faits psychologiques en question, quelque chose est pensé, voire reconnu, par un sujet vivant (pas nécessairement un être humain).

Maintenant, où faut-il placer la démarcation entre le *De interpretatione* et le *De Anima* ? C'est-à-dire, quelle est l'extension de « ce dont on a déjà parlé » dans le traité sur l'âme ? Il paraît indiscutable que les faits psychologiques (b) en font partie ; mais si c'est le cas, le pronom τούτων doit viser également le niveau (c), c'est-à-dire les πράγματα, non pas en eux-mêmes évidemment, mais en tant que divers types de faits psychologiques en donnent des présentations ressemblantes. Pour le dire autrement, le *De Anima* se préoccupe de ce qui est universel, tandis que l'*Interprétation* porte sur ce qui est conventionnel. Aristote lui-même le souligne au chapitre 4 :

« ἔστι δὲ λόγος μὲν ἅπας σημαντικός, οὐχ ὡς ὄργανον δέ, ἀλλ' ὥσπερ εἴρηται κατὰ συνθήκην [tout discours a la propriété d'indiquer, non pas à la façon d'un instrument mais, comme on l'a dit, par convention] » (*De interpretatione* 4, 16b 33 - 17a 2).

Mais cela ne signifie pas que le traité contienne quelque chose comme une analyse de la convention ou qu'il traite du langage comme d'un fait culturel. Il me semble que l'opposition entre l'outil et la convention est plutôt du type concret / abstrait : elle attire l'attention sur le fait que la valeur du signe linguistique ne repose pas (comme celle de l'outil) sur un rapport entre ses propriétés et celles des faits qu'il signifie, mais sur certains traits distingués à l'avance dans les signifiés, et sur la combinaison du signe avec d'autres selon des règles qui peuvent elles aussi être définies de façon indépendante. C'est en tout cas ce qu'on trouvera dans la suite de l'*Interprétation*.

A ce stade, on pourrait donc dire également que l'*Interprétation* s'intéresse à ce qui est *symbole* alors que le *De Anima* s'intéresse à ce qui est *symbolisé* ; ou encore que le traité de psychologie est censé fournir un arrière-plan ou une assise empirique à l'enquête logico-linguistique plus formelle qui va suivre. Mais si c'était le cas, la mention du *De Anima* serait en quelque sorte scolaire et rappellerait simplement une contiguïté extérieure entre deux disciplines. En fait, il y a plus dans le passage qui nous occupe. Car le niveau des phénomènes psychologiques y est invoqué pour introduire le jugement avec ses corollaires, la prédication et la vérité ou fausseté :

« ἔστι δέ, ὥσπερ ἐν τῇ ψυχῇ ὅτε μὲν νόημα ἄνευ τοῦ ἀληθεύειν ἢ ψεύδεσθαι ὅτε δὲ ᾧ ἀνάγκη τούτων ὑπάρχειν θάτερον, οὕτω καὶ ἐν τῇ φωνῇ [de même que dans l'âme il y a parfois une pensée qui ne dit ni vrai ni faux, et parfois quelque chose à quoi doit nécessairement s'appliquer l'un ou l'autre de ces deux prédicats, il en va ainsi dans la voix parlée aussi] » (*De interpretatione* 1, 16a 9-11).

« Il en va ainsi dans la voix parlée également », c'est-à-dire qu'on doit y trouver non seulement des signes simples (les noms et les verbes), mais des combinaisons qui forment un « discours déclaratif » (λόγος ἀποφαινετικός) – qui sont « l'objet de la présente recherche » (4, 16b 33 - 17a 7).

Par ailleurs, il est important de rendre le δὲ de la ligne 16a 9 par un « or... » plutôt que par « mais... » (ou, comme le fait Ackrill par exemple, en allant simplement à la ligne) : c'est-à-dire qu'il introduit la mineure d'une inférence. Du fait général que les contenus de la voix parlée indiquent des faits de pensée, on infère que la distinction entre contenus (psychiques) simples et complexes doit se retrouver dans les structures du langage. On pourrait ajouter que, de ce fait – et bien que le langage signifie en règle générale de façon conventionnelle et non pas ressemblante –, cette structure (la prédication) est dans la nature des choses.

Ce qui est frappant dans ce passage, c'est que la notion de discours déclaratif n'est pas introduite de façon simplement formelle, comme elle l'est par exemple dans les *Seconds Analytiques* :

« ἀπόφανσις δὲ <ἐστίν> ἀντιφάσεως ὁποτερονοῦν μόριον, ἀντίφασις δὲ ἀντίθεσις ἧς οὐκ ἔστι μεταξὺ καθ' αὐτήν, μόριον δ' ἀντιφάσεως τὸ μὲν τι κατὰ τινὸς κατάφασις, τὸ δὲ τι ἀπὸ τινὸς ἀπόφασις [la déclaration est n'importe lequel des deux membres d'une contradiction ; une contradiction est une opposition qui par soi ne comporte pas d'intermédiaire] » (*Analytica posteriora* I 4, 72a 11-13).

Ces définitions reposent sur des critères purement formels, la contradiction étant définie par la structure du type d'opposition qu'elle représente. Même la notion (abstraite mais malgré tout sémantique) de « ce qui est susceptible d'être vrai ou faux », souvent utilisée dans les manuels de logique pour caractériser la proposition, est absente ici.

Dans l'introduction de l'*Interprétation*, au contraire, le jugement apparaît avant tout comme un fait psychique et plus précisément comme un acte, puisque son rapport au vrai et au faux est indiqué par deux verbes, ἀληθεύειν et ψεύδεσθαι (« dire vrai », « dire faux »).

Dans ces lignes, on remarquera aussi la formulation : « auquel doit nécessairement s'appliquer l'un ou l'autre des deux prédicats <dire vrai ou dire faux> ». Elle se trouve déjà dans un passage du *De Anima* que j'ai cité plus haut :

« τοῦτο μὲν γὰρ τὸ πάθος ἐφ' ἡμῖν ἐστίν, ὅταν βουλώμεθα (πρὸ ὀμμάτων ἔστι τι ποιήσασθαι, ὥσπερ οἱ ἐν τοῖς μνημονικοῖς τιθέμενοι καὶ εἰδωλοποιοῦντες), δοξάζειν δ' οὐκ ἐφ' ἡμῖν· ἀνάγκη γὰρ ἢ ψεύδεσθαι ἢ

ἀληθεύειν [cette expérience (= l'imagination) dépend de nous, quand nous le voulons, car il nous est possible de nous mettre quelque chose sous les yeux, comme ceux qui pratiquent la mnémotechnique (ils posent quelque chose <en pensée> en fabriquant des images) ; alors qu'avoir une opinion ne dépend pas de nous : en effet, il faut nécessairement dire faux ou vrai] » (*De anima* III 3, 427b 17-21).

L'idée que « avoir une opinion » (δοξάζειν) ne dépend pas de nous peut paraître étrange. Après tout, il y a toute une tradition dans la philosophie occidentale, qui va des Stoïciens à Descartes et au-delà, et qui dit exactement le contraire : juger dépend de nous, ne dépend même que de nous et est peut-être la seule chose qui dépende de nous. Mais ce que veut dire ici Aristote, c'est que la réussite de l'acte de juger, dans la mesure où il vise le vrai – et il ne peut pas viser autre chose que le vrai – ne dépend pas de nous¹³. Il n'y aurait aucun sens à former une opinion qui exprimerait autre chose que ce que nous croyons (même si c'est sur des bases incertaines et fragiles, et finalement à tort) être vrai ; et il serait impossible de maintenir (tout du moins en notre for intérieur) une opinion dont nous avons découvert la fausseté. Aristote l'explique un peu plus loin, dans un passage destiné à exposer la distinction entre *imaginer* et *se former une opinion* :

« ἀλλὰ δόξη μὲν ἔπεται πίστις (οὐκ ἐνδέχεται γὰρ δοξάζοντα οἷς δοκεῖ μὴ πιστεύειν), τῶν δὲ θηρίων οὐθενὶ ὑπάρχει πίστις, φαντασία δὲ πολλοῖς. ἔτι πάση μὲν δόξη ἀκολουθεῖ πίστις, πιστεῖ δὲ τὸ πεπεῖσθαι, πειθοῖ δὲ λόγος· τῶν δὲ θηρίων ἐνίοις φαντασία μὲν ὑπάρχει, λόγος δ' οὐ [l'opinion implique¹⁴ la certitude (πίστις) ; en effet, il n'est pas possible de ne pas croire à ce dont nous avons l'opinion ; et, parmi les bêtes, aucune n'a la certitude, alors que beaucoup ont l'imagination. De plus, toute opinion s'accompagne de certitude et toute certitude du sentiment de conviction (τὸ πεπεῖσθαι) ; ce sentiment s'accompagne d'un discours ; or parmi les bêtes certaines possèdent l'imagination, alors qu'elles n'ont pas de discours » (*De anima* III 3, 428a 19-24).

Pourquoi les bêtes n'ont-elles pas de certitude ? Cette affirmation elle aussi peut surprendre, tant il y a de situations où le comportement d'un animal se prête si bien à être décrit comme guidé par des certitudes. Ou, pour le dire autrement, pourquoi la certitude requiert-elle un « discours »

¹³ Voir dans le même sens *Philebus* 36c-37c (avec, comme on sait, une extension audacieuse au cas des plaisirs).

¹⁴ La certitude suit de (ἔπεται) l'opinion, c'est-à-dire que l'opinion implique analytiquement la certitude.

(λόγος) ? Il faut sans doute comprendre que πίστις, dans ces contextes (et généralement chez Aristote) signifie une certitude suffisamment réfléchie ou consciente – comme s’il y avait une déclaration par laquelle une croyance s’affirme comme certaine. On n’est pas obligé de se représenter cette déclaration comme un acte de langage explicite (pas même au niveau d’un « discours intérieur »). De fait, on trouve dans le corpus d’autres exemples d’une telle expérience proto-réflexive, par exemple pour décrire notre conscience de l’écoulement du temps :

« ἀλλὰ μὴν καὶ τὸν χρόνον γε γνωρίζομεν ὅταν ὀρίσωμεν τὴν κίνησιν, τῷ πρότερον καὶ ὕστερον ὀρίζοντες· καὶ τότε φαιμὲν γεγονέναι χρόνον, ὅταν τοῦ προτέρου καὶ ὕστερου ἐν τῇ κινήσει αἰσθησιν λάβωμεν. ὀρίζομεν δὲ τῷ ἄλλο καὶ ἄλλο ὑπολαβεῖν αὐτά, καὶ μεταξύ τι αὐτῶν ἕτερον ὅταν γὰρ ἕτερα τὰ ἄκρα τοῦ μέσου νοήσωμεν καὶ δύο εἴπη ἡ ψυχὴ τὰ νῦν, τὸ μὲν πρότερον τὸ δ’ ὕστερον, τότε καὶ τοῦτο φαιμὲν εἶναι χρόνον [mais d’ailleurs le temps aussi, en tout cas, nous le reconnaissons lorsque nous délimitons le mouvement, et nous le délimitons par l’avant/après ; et c’est lorsque nous prenons conscience de l’avant et de l’après dans le mouvement, que nous disons qu’un temps s’est écoulé. Or nous délimitons parce que nous concevons que <ces termes> sont différents, et qu’il y a entre les deux quelque chose d’autre. En effet, lorsque nous pensons que les extrémités sont différentes du milieu, et que l’âme déclare que les maintenant sont deux, l’un avant et l’autre après, alors nous disons qu’il y a un temps et que c’est cela le temps » (*Physica* IV 11, 219a 22-29).

De même dans le *De Anima*, à propos de notre savoir que « le doux n’est pas la même chose que le blanc » (typiquement une certitude qui n’aura probablement jamais besoin de s’exprimer dans un discours au sens propre du mot) :

« οὐτε δὴ κεχωρισμένοις ἐνδέχεται κρίνειν ὅτι ἕτερον τὸ γλυκὺ τοῦ λευκοῦ, ἀλλὰ δεῖ ἐνί τινι ἄμφω δῆλα εἶναι· οὕτω μὲν γὰρ κἂν εἰ τοῦ μὲν ἐγὼ τοῦ δὲ σὺ αἰσθοιο, δῆλον ἂν εἴη ὅτι ἕτερα ἀλλήλων, δεῖ δὲ τὸ ἐν λέγειν ὅτι ἕτερον· ἕτερον γὰρ τὸ γλυκὺ τοῦ λευκοῦ, λέγει ἄρα τὸ αὐτό ὥστε ὡς λέγει, οὕτω καὶ νοεῖ καὶ αἰσθάνεται [par ailleurs il n’est pas possible non plus que l’on discerne par <deux> instances séparées que le doux n’est pas la même chose que le blanc, mais il faut que ces deux qualités soient présentes à une instance unique – car autrement il apparaîtrait que ce n’est pas la même chose même si c’était moi qui percevais l’une des deux et toi l’autre. Mais il faut que ce soit une seule et même instance qui déclare que ce n’est pas la même chose. En effet, le doux n’est pas la même chose que le blanc ; donc c’est une seule et même instance qui le déclare ; et cela implique qu’elle le conçoit et s’en rend compte de la même façon qu’elle le déclare] » (*De anima*, III 2, 426b 17-22).

Avec la mention du « dire vrai » (ou « dire faux »), l'introduction de l'*Interprétation* rappelle qu'il n'y a pas de λόγος au sens plein du terme (« discours » plutôt que « langue » ou « langage ») sans un sujet qui l'assume et le déclare. On rejoint ainsi l'interprétation que j'ai proposée plus haut du passage classique de la *Politique*.

Notons pour l'instant que les analyses de *De Anima* III 3, qui portent sur l'imagination et sur sa position dans la série des facultés de discernement, placent la démarcation entre les bêtes (τὰ θηρία) et les êtres humains au niveau du dire vrai ou dire faux. Le point important est que l'imagination, au contraire de l'opinion, n'est pas assujettie à la norme du vrai et du faux. Ce n'est pas à dire qu'il n'y ait pas de fausseté dans la φαντασία. Aristote donne lui-même l'exemple de notre représentation spontanée du soleil comme un disque d'un pied de diamètre :

« φαίνεται δὲ καὶ ψευδῆ περὶ ὧν ἅμα ὑπόληψιν ἀληθοῦς ἔχει, οἷον φαίνεται μὲν ὁ ἥλιος ποδιαῖος, πιστεύεται δ' εἶναι μείζων τῆς οἰκουμένης [il y a des choses qui se manifestent de façon fautive <φαίνεται, un verbe de la même racine que φαντασία> et sur lesquelles nous formons en même temps des jugements vrais : ainsi le soleil nous apparaît large d'un pied, alors que nous sommes certains qu'il est plus grand que la terre habitée » (*De Anima* III 3, 428b 3-4).

L'exemple du soleil est particulièrement délicat. La fausse apparence en question n'est pas simplement un faux jugement d'existence, puisqu'elle comporte deux éléments : nous voyons le soleil avec la largeur d'un pied. Il est d'ailleurs très probable qu'il s'agisse d'une expérience spécifiquement humaine : le pied, unité de mesure, ne signifierait rien pour une bête. A l'inverse on peut penser que la mesure, explicite ou même implicite, précise ou très approximative, investit tout le champ des perceptions d'un être humain adulte (et en tout cas d'un adulte éduqué). Quoi qu'il en soit, il s'agit d'une erreur muette, différente de la fausseté qui se réalise dans nos affirmations ; c'est pourquoi elle peut coexister avec une certitude – correcte, elle – concernant la véritable grandeur du soleil.

Les éléments contenus dans le livre III du *De anima*

Avec ces analyses de l'imagination et de la certitude, nous prenons pied sur le terrain du *De Anima*. Comme on le sait, la section dite « noétique » du livre III occupe dans le traité une position qui n'est pas

parfaitement définie. Alors que le *De Anima* pris dans son ensemble est incontestablement, comme le souligne Pellegrin 1996, « un traité de la vie animale », la connaissance intellectuelle est propre aux êtres humains. C'est sans doute ce qui explique que cette section ne soit pas explicitement annoncée comme telle à l'avance, mais qu'elle se présente comme un exposé spécial à l'intérieur d'un développement plus vaste consacré à une « capacité de discernement » qui englobe la connaissance intellectuelle avec la perception sensible. L'expression elle-même (τὸ κριτικόν) n'apparaît qu'à l'issue de tout ce développement, lorsqu'il est résumé dans les premières lignes du chapitre III 9 (432a 15-18). Ce qui est annoncé au commencement (au début du chapitre II 5), c'est une étude de la perception sensible « dans toute son étendue » (416b 32-33). C'est sur cette étude – qui concerne tous les animaux – que vient, pourrait-on dire, se greffer la longue section sur la connaissance intellectuelle qui va de III, 4 à III, 8. Le chapitre 3 a probablement pour fonction de réaliser la suture, ou la greffe, entre les deux éléments¹⁵.

On le présente généralement comme une sorte de traité de la φαντασία¹⁶. Cette façon de voir est globalement correcte si on ne considère que le contenu du chapitre 3 : la φαντασία y est presque toujours au premier plan et la dernière page (428b 10-429a 9) en donne une description et une explication causale qui représentent la conception propre d'Aristote. Mais le début du chapitre annonce une enquête pour déterminer si la pensée (τὸ νοεῖν καὶ τὸ φρονεῖν) est une forme de la perception sensible (427a 19-21), comme le pensaient « les Anciens » ; puis Aristote entreprend d'examiner l'opinion selon laquelle « penser » (νοεῖν) serait constitué d'un élément de φαντασία et d'un élément de jugement (ὑπόληψις) – opinion dont il n'indique pas la provenance (427b 27-29) ; et à cette occasion il en vient à discuter encore une autre opinion (428a

¹⁵ La même description peut sans doute s'appliquer (au moins jusqu'à un certain point) aux deux premiers chapitres, qui présentent des aspects de la perception sensible qu'on pourrait dire plus universels et plus réflexifs : la reconnaissance des sensibles communs, la conscience que nous avons de percevoir et l'instance unique qui confronte les perceptions provenant des différents sens. Ces différentes fonctions ne sont peut-être pas strictement propres à l'être humain, mais du moins elles ne sont partagées que par les bêtes les plus perfectionnées.

¹⁶ Ainsi Hicks : « This chapter might be entitled περὶ φαντασίας » ; cependant il ajoute prudemment : « but prior to 427b 27, where something like a plan of procedure is enunciated, we find a series of preliminary remarks and criticisms of which the intention is not obvious » (Hicks 1907, 452).

24-26) selon laquelle la *φαντασία* combine d'une façon ou d'une autre un élément de perception sensible et un autre d'opinion. Ainsi, dans toute cette séquence, on trouve moins l'étude empirique de faits connus, qu'une discussion visant à établir si des capacités mentales données (ou supposées) sont identiques ou non entre elles ; et le but est visiblement de préciser le statut de la pensée par rapport à la perception sensible et aux phénomènes qui s'y rattachent plus ou moins immédiatement. Il est intéressant de remarquer que ces discussions s'appuient sur deux critères principaux : d'une part, le rapport que les actes de chacune de ces capacités entretiennent avec la vérité ou la fausseté ; et, d'autre part, la distribution de ces différentes capacités au sein du règne animal. Cela tend à confirmer les perspectives que j'ai indiquées dans les pages précédentes.

La présentation de la connaissance intellectuelle aux chapitres 4 et 5 est assez claire. Elle s'appuie sur une confrontation avec la perception sensible, qui présente deux aspects. Aristote commence en explorant les implications d'une analogie entre ces deux modes de connaissance ; mais l'analogie fait apparaître plusieurs différences importantes, notamment le fait que chacun des appareils sensoriels est – du fait de sa structure physique – spécialisé dans la réception d'une certaine classe de phénomènes et que, de ce fait, la perception sensible suppose la présence effective de son objet, alors que l'intelligence peut s'appliquer à tout objet possible. C'est pourquoi l'intelligence s'exerce librement, mais cela pose la question de la façon dont elle aura accès à ses objets.

Comme nous l'avons vu, Aristote désigne l'essence ou quiddité comme l'objet propre de cette connaissance. Dans ce passage, il suggère que la relation entre la connaissance intellectuelle et la perception sensible est semblable à celle qui peut exister entre deux états de la même ligne courbe ou brisée : la ligne telle qu'elle est et « une fois qu'elle a été redressée ». De quelque façon qu'on construise le détail de cette analogie assez énigmatique, elle signifie que l'intelligence est reliée au corps de l'être humain de façon médiate¹⁷, certainement parce qu'elle s'exerce sur

¹⁷ Dans cette interprétation, la connaissance intellectuelle apparaît comme une modification, chez l'être humain, de la perception sensible. A dire vrai, le passage indique une autre option (peut-être moins hétérodoxe), qu'il n'écarter pas explicitement : à savoir qu'il faille considérer l'intelligence et la perception sensible comme deux capacités distinctes. J'ai une petite préférence pour la première interprétation, parce qu'elle me semble plus en accord avec la thèse ontologique de la non-séparation des formes intelligibles. Mais même si l'on opte pour la seconde version (deux capacités distinctes), il paraît clair qu'Aristote

d'autres facultés et d'autres opérations de connaissance. Non seulement ces opérations fournissent des données à l'intelligence, mais celle-ci, en retour, contribue à les façonner : la vision, l'audition ou la mémoire, etc. d'un être humain adulte différent en cela de celles d'un autre animal. Il faut donc supposer un ensemble complexe de capacités et d'opérations mentales qui culmine dans la reconnaissance et la compréhension de la quiddité des choses.

On estime souvent que les chapitres 4 et 5 contiennent l'essentiel de la doctrine aristotélicienne de l'intelligence. Deux circonstances ont pu favoriser cette interprétation : d'une part le fait que le chapitre 5, avec la mention de « l'intellect agent », est apparu comme un point de contact avec la théologie de *Métaphysique* Λ et a été considéré à ce titre comme le sommet spéculatif du *De Anima* ; d'autre part le fait que les chapitres 6 et 7 se présentent sous une forme relativement désordonnée (les lignes qui suivent pourront être lues comme un essai de réhabilitation de ces deux chapitres¹⁸).

Car il ne me semble pas que les chapitres 4 et 5 donnent un tableau complet de la connaissance intellectuelle. Ce qu'ils décrivent est un modèle simplifié de son activité. Ils se réfèrent à une situation dans laquelle un être humain se montre capable de comprendre ce qu'il voit (entend, etc.), c'est-à-dire de reconnaître des formes et des significations dans ce qu'il perçoit. Cela n'explique pas comment cet être est devenu capable de percevoir de cette façon¹⁹. Par ailleurs, parmi les actes de connaissance les plus élaborés, beaucoup présupposent bien davantage que la simple perception (même prolongée dans la mémoire et l'imagination) : ils impliquent par exemple qu'on soit capable de comparer des objets, de former des jugements à leur sujet, de se référer à des termes

n'admettrait pas que nous ayons un accès direct aux essences ; de sorte que dans ce cas aussi il faudrait dire que l'intelligence se rapporte médiatement au corps et aux sensibles.

¹⁸ Il faut reconnaître que cette impression de désordre est en partie fondée : de fait, on se trouve devant 84 lignes Bekker sans aucune de ces formules de transition grâce auxquelles les interprètes parviennent généralement à se repérer dans les argumentations d'Aristote.

¹⁹ Ce qui est la seconde des deux questions posées par Aristote au début du chapitre 4 : « περὶ δὲ τοῦ μορίου τοῦ τῆς ψυχῆς ὃ γινώσκει τε ἡ ψυχὴ καὶ φρονεῖ, εἴτε χωριστοῦ ὄντος εἴτε μὴ χωριστοῦ κατὰ μέγεθος ἀλλὰ κατὰ λόγον, σκεπτέον τίς ἔχει διαφορὰν, καὶ πῶς ποτὲ γίνεται τὸ νοεῖν [au sujet de cette partie de l'âme par laquelle l'âme connaît et réfléchit (qu'elle soit séparée ou qu'elle ne soit pas séparée selon l'extension, mais <seulement> selon sa notion), il faut examiner quelle est sa différence <spécifique>, et comment l'intellection peut se produire] » (*De anima* III 4, 429a 10-13).

abstrait, etc. Aristote était certainement conscient de la richesse et de la complexité des opérations mentales dans lesquelles l'intelligence peut être engagée. Au contraire, l'analogie avec la perception sensible, qui fait le fil conducteur des chapitres 4 et 5, tend à dépouiller l'intelligence de ses aspects langagiers. Il est donc peu probable que ce soit le dernier mot d'Aristote en cette matière. Pour bien apprécier le travail d'Aristote dans les chapitres 6 et 7, il faut observer avec quel soin et avec quelle patience il entreprend d'élaborer pas à pas une présentation complète des activités intellectuelles en partant, comme dans le dernier chapitre des *Seconds Analytiques*, de la perception sensible.

Le chapitre 6 commence par une opposition entre la reconnaissance par l'intelligence de certains objets « indivisibles » ou « non-divisés » (ἀδιαίρετα) – reconnaissance qui ne peut pas être fautive – et des actes intellectuels qui sont susceptibles d'être vrais ou faux. Cette mention des indivisibles au début du chapitre joue vraisemblablement le rôle d'un terme de comparaison. L'objet principal du chapitre est de comprendre comment nous pouvons penser comme des unités indivisibles des objets (ou des faits, ou des structures) qui en eux-mêmes ont une certaine extension et ont donc des parties ; et plus largement comment nous pouvons trouver des unités indivisibles au sein du divers de l'expérience. Dans cette perspective, l'intellection des indivisibles simples joue le rôle d'un modèle ou d'un étalon qui provient directement des analyses des deux chapitres précédents : il s'agit de repérer des formes que nous pouvons reconnaître de la même façon que nous reconnaissons ces indivisibles simples. Le type idéal de la connaissance intellectuelle, même lorsqu'elle s'applique à l'univers du divisible, est toujours celui-ci : être capable de reconnaître quelque chose comme le développement ou la manifestation extérieure d'une intention unique ou d'une définition unique. C'est ce dont nous faisons l'expérience par exemple – phénomène familier, mais pratiquement indicible ou inanalysable – lors de la compréhension d'une phrase :

« ἡ μὲν οὖν τῶν ἀδιαίρετων νόησις ἐν τούτοις περὶ ἃ οὐκ ἔστι τὸ ψεῦδος· ἐν οἷς δὲ καὶ τὸ ψεῦδος καὶ τὸ ἀληθές, σύνθεσις τις ἤδη νοημάτων ὡσπερ ἐν ὄντων, καθάπερ Ἐμπεδοκλῆς ἔφη ἢ πολλῶν μὲν κόρσαι ἀναύχενες ἐβλάστησαν, ἔπειτα συντίθεσθαι τῇ φιλίᾳ, οὕτω καὶ ταῦτα κεχωρισμένα συντίθεται, οἷον τὸ ἀσύμμετρον καὶ ἡ διάμετρος· ἂν δὲ γενομένων ἢ ἐσομένων, τὸν χρόνον προσενοῶν καὶ συντιθείς, τὸ γὰρ ψεῦδος ἐν συνθέσει αἰεὶ· καὶ γὰρ ἂν τὸ λευκὸν μὴ λευκόν, τὸ μὴ λευκὸν συνέθηκεν. ἐνδέχεται δὲ καὶ διαίρεσιν φάναι πάντα. ἀλλ' οὖν ἔστι γε

οὐ μόνον τὸ ψεῦδος ἢ ἀληθὲς ὅτι λευκὸς Κλέων ἐστίν, ἀλλὰ καὶ ὅτι ἦν ἢ ἔσται. τὸ δὲ ἐν ποιῶν, τοῦτο ὁ νοῦς ἔκαστον [l'intellection des indivisibles a lieu dans les choses où le faux ne peut trouver place. Mais dans celles qui admettent le faux et le vrai, il y a dès lors une composition de notions comme si ces notions n'en formaient qu'une ; de même qu'au dire d'Empédocle, "là où beaucoup de têtes sans cou poussaient", elles furent ensuite réunies par l'Amitié, ainsi ces notions, d'abord séparées, entrent aussi en composition : ainsi, par exemple, *incommensurable* et *diagonale*. Et quand il s'agit de choses passées ou futures, le temps intervient comme un élément additionnel dans leur composition. En effet, le faux réside toujours dans une composition ; car même si on affirme que le blanc est non-blanc, on a fait entrer le non-blanc en composition (et on peut aussi bien énoncer toutes ces choses sur le mode de la division). Par ailleurs, ce qui est faux ou vrai, ce n'est pas seulement que Cléon est blanc, mais aussi qu'il l'était ou le sera. Le principe unificateur de ces compositions, c'est à chaque fois l'intelligence] » (*De anima* III 6, 430a 26 - 430b 6).

Ce passage rappelle – à la façon des six premiers chapitres de l'*Interprétation* – les éléments essentiels qui contribuent à la formation d'une phrase : la prédication, la négation et le temps (grammatical) ; puis vient la thèse cardinale du chapitre : *ce qui unifie, à chaque fois, c'est l'intelligence*.

La suite du chapitre propose, pour d'autres situations, d'autres modèles de la façon dont on peut penser l'unité de quelque chose qui appartient à l'univers du divisible :

- *les grandeurs* (430b 6-20) : comment pouvons-nous penser une grandeur comme quelque chose d'*un* ? L'idée est que « τὸ δὲ μὴ κατὰ τὸ ποσὸν ἀδιαίρετον ἀλλὰ τῷ εἶδει νοεῖ ἐν ἀδιαίρετῳ χρόνῳ καὶ ἀδιαίρετῳ τῆς ψυχῆς [ce qui est indivisible non pas selon la grandeur mais selon la forme est pensé en un temps indivisible et au moyen d'une <instance> indivisible de l'âme] » (430b 14-15)²⁰. Aristote n'est pas explicite sur « ὅ ῥα νοεῖ [ce au moyen de quoi] » (430b 16)²¹ nous pensons ou reconnaissons l'indivisible. « Instance » est un expédient de traduction ; le texte indique que c'est quelque chose qui est aussi, d'un autre point de vue, divisible (οὐχ ἧ ἕκείνα διαίρετὰ ... ἀλλ' ἧ ἀδιαίρετα). On peut penser qu'il s'agit de l'ensemble des processus par lesquels le sujet connaissant accède à la forme ; ils sont sans doute multiples et ont une certaine extension (les appareils perceptifs, et même les représentations de l'imagination, ont une extension) ; mais dans l'acte de la reconnaissance de la forme, ils agissent comme un sujet unique. Il faut penser ici à la façon dont un bon lecteur intègre immédiatement les formes des lettres

²⁰ Il n'y a pas lieu de déplacer cette phrase comme le fait Ross après Bywater.

²¹ Leçon qu'il n'y a pas lieu de corriger non plus.

et les règles de combinaison des signes pour saisir d'un seul coup les mots et le sens de la phrase.

- *Les points et les limites* (430b 20-24) : on peut être surpris de voir qu'Aristote juge nécessaire de proposer un modèle pour l'intellection de quelque chose qui peut sembler absolument simple en soi-même (qui, en tout cas, n'a pas de parties) ; mais justement il pense²² que les points ou les lignes n'existent pas « en soi-même » mais seulement comme les limites de corps ; de sorte qu'ils ne peuvent être connus que moyennant une opération intellectuelle médiate.
- *la désignation*, c'est-à-dire les cas où on applique un item linguistique (mot ou formule) à un objet donné.

Tous ces actes sont des expériences de reconnaissance, dans lesquelles l'unité est saisie au sein d'une multiplicité par un travail de l'intelligence qui met en relation plusieurs termes différents.

Le chapitre 7 est particulièrement difficile parce que sa structure et sa finalité ne sont pas apparentes ; la plupart des commentateurs le divisent en unités assez petites (jamais plus de dix lignes) qui semblent simplement juxtaposées. Ce qu'elles paraissent avoir en commun, c'est qu'elles abordent les relations entre des expériences qui se situent (de diverses façons) au niveau de la perception sensible, et des activités de connaissance intellectuelle. En ce sens, elles semblent se rattacher au programme de *Seconds Analytiques* II 19, sans observer le même souci de continuité ou d'exhaustivité, mais en entrant davantage dans le détail des processus.

Une différence importante : alors que les *Seconds Analytiques* se tiennent strictement sur le terrain de la connaissance théorique, le texte du *De Anima* introduit un élément pratique ; et il ne l'introduit pas seulement comme une sorte de complément ou de supplément mais comme une condition de possibilité de la connaissance intellectuelle en général. Car il fait dériver les deux actes fondamentaux que sont *affirmer* et *nier* d'un couple d'attitudes qui, comme la perception sensible, appartiennent à tout animal (ou à presque tous), à savoir l'alternative entre *poursuivre* et *fuir* :

« τὸ μὲν οὖν αἰσθάνεσθαι ὁμοιον τῷ φάναι μόνον καὶ νοεῖν· ὅταν δὲ ἡδὺ ἢ λυπηρόν, οἷον καταφᾶσα ἢ ἀποφᾶσα διώκει ἢ φεύγει· καὶ ἔστι τὸ ἡδεσθαι καὶ λυπεῖσθαι τὸ ἐνεργεῖν τῇ αἰσθητικῇ μεσότητι πρὸς τὸ ἀγαθὸν ἢ κακόν, ἧ̄ τοιαῦτα. καὶ ἡ φυγὴ δὲ καὶ ἡ ὄρεξις ταῦτό ἢ κατ' ἐνέργειαν, καὶ οὐχ ἕτερον τὸ ὀρεκτικὸν καὶ φευκτικόν, οὐτ' ἀλλήλων οὔτε

²² Voir *Metaphysica* N 3, 1091b 5-1 et B 5, 1001b 26 - 1002b 11.

τοῦ αἰσθητικοῦ· ἀλλὰ τὸ εἶναι ἄλλο. τῆ δὲ διανοητικῆ ψυχῆ τὰ φαντάσματα οἷον αἰσθήματα ὑπάρχει, ὅταν δὲ ἀγαθὸν ἢ κακὸν, κατάφησιν ἢ ἀποφησιν καὶ φεύγει ἢ διώκει· διὸ οὐδέποτε νοεῖ ἄνευ φαντάσματος ἢ ψυχῆ [percevoir, en tout cas, est semblable à dire seulement ou à concevoir seulement. Mais lorsque l'on perçoit de l'agréable ou du pénible, l'âme, comme si elle affirmait ou niait, poursuit ou fuit ; et éprouver du plaisir ou de la douleur consiste à s'actualiser, par la médiété perceptive, à l'égard du bon ou du mauvais en tant que tels. La fuite et le désir sont la même chose, en acte ; ce qui est susceptible de désirer et ce qui est susceptible de fuir ne sont pas distincts – ni l'un de l'autre, ni de ce qui perçoit –, mais leur “être” est différent. Pour l'âme qui est capable de pensée, les représentations de l'imagination sont comme des perceptions et, lorsqu'elle affirme ou nie le bon ou le mauvais, elle fuit ou poursuit ; c'est pourquoi l'âme ne pense jamais sans représentation de l'imagination] » (*De anima* III 7, 431a 8-17).

Le point essentiel est donc que l'attitude théorique de l'être humain dérive de l'engagement biologique de l'animal : la perception est modifiée par l'intervention du plaisir et de la peine et par la reconnaissance de certains objets comme potentiellement plaisants ou douloureux, ce qui conduit l'animal à prendre position par rapport à ces objets. La formule qui définit l'expérience du plaisir et de la douleur se retrouve presque mot pour mot dans le traité du *Mouvement des Animaux*, où elle sert à expliquer pourquoi les actions motivées par le désir sont accomplies immédiatement et sans réflexion (y compris, semble-t-il, par des bêtes dépourvues de langage) :

« διὸ καὶ ὅσα μὴ λογισάμενοι πράττομεν, ταχὺ πράττομεν. ὅταν ἐνεργήσῃ γὰρ ἢ τῆ αἰσθήσει πρὸς τὸ οὐ ἔνεκα, ἢ τῆ φαντασίᾳ ἢ τῶ νῶ, οὐ ὀρέγεται, εὐθὺς ποιεῖ. ἀντ' ἐρωτήσεως γὰρ ἢ νοήσεως ἢ τῆς ὀρέξεως γίνεται ἐνέργεια [toutes les actions que nous faisons sans calcul, nous les faisons très vite. En effet, lorsque <le sujet> s'actualise par rapport à un “ce en vue de quoi”, par la sensation ou par l'imagination ou par l'intellect, alors, ce que l'on désire, on le fait immédiatement, car l'acte du désir se produit à la place de celui du questionnement ou de la réflexion] » (*De motu animalium* 7, 701a 29-31).

La même analogie entre affirmer/nier et poursuivre/fuir se retrouve au début du livre VI de l'*Ethique à Nicomaque*. Mais le fait crucial qui marque la délimitation entre les attitudes communes à tous les animaux et la connaissance intellectuelle proprement dite, c'est la reconnaissance consciente de notre intérêt pour la vérité en elle-même :

« ἔστι δ' ὄπερ ἐν διανοίᾳ κατάφασις καὶ ἀπόφασις, τοῦτ' ἐν ὀρέξει δίωξις καὶ φυγή [...]. τῆς δὲ θεωρητικῆς διανοίας καὶ μὴ πρακτικῆς μηδὲ

ποιητικῆς τὸ εὖ καὶ κακῶς τάληθές ἐστι καὶ ψεῦδος (τοῦτο γάρ ἐστι πάντος διανοητικοῦ ἔργον)· τοῦ δὲ πρακτικοῦ καὶ διανοητικοῦ ἀλήθεια ὁμολόγως ἔχουσα τῆ ὀρέξει τῆ ὀρθῆ [ce que l'affirmation et la négation sont dans la pensée, la poursuite et la fuite le sont dans le désir (...). Par ailleurs, le bien ou le mal pour la pensée théorique (celle qui n'est ni pratique ni productrice), c'est le vrai et le faux, car c'est là la fonction propre de ce qui relève de la pensée en général ; quant à ce qui relève de la pensée pratique, <son bien ou son mal> est la vérité qui s'accorde avec un désir droit] » (*Ethica nicomachea* VI 1, 1139a 21-22, 27-31).

La même notation se retrouve plus loin dans le chapitre 7 du *De Anima* ; on notera, ici encore, la représentation des actes de l'âme comme des « déclarations » :

« καὶ ὅταν εἶπη ὡς ἐκεῖ τὸ ἡδὺ ἢ λυπηρόν, ἐνταῦθα φεύγει ἢ διώκει, καὶ ὅλως ἐν πράξει. καὶ τὸ ἄνευ δὲ πράξεως, τὸ ἀληθές καὶ τὸ ψεῦδος, ἐν τῷ αὐτῷ γένοι ἐστὶ τῷ ἀγαθῷ καὶ τῷ κακῷ· ἀλλὰ τῷ γε ἀπλῶς διαφέρει καὶ τινί [et lorsque, comme dans le cas <de la perception>, l'âme déclare <quelque chose> agréable ou pénible, ici aussi elle fuit ou poursuit, et <ainsi> dans l'action en général. Et ce qui est en-dehors du domaine de l'action, le vrai et le faux, appartient au même genre que le bon et le mauvais, si ce n'est que l'un est absolu, et l'autre relatif à quelque chose] » (*De anima* III 7, 431b 10-12).

Un autre point important qui apparaît dans ces descriptions est que la reconnaissance du plaisant et du pénible, même si sa forme naturelle et, pourrait-on dire, principielle consiste dans une actualisation de la perception sensible, peut aussi avoir lieu sur des φαντάσματα et qu'il y a là une autre condition de la pensée intellectuelle – une condition nécessaire, mais non suffisante, puisque la φαντασία appartient également à certaines bêtes. On aura d'ailleurs remarqué, dans le passage du *Mouvement des Animaux* cité ci-dessus, que même des représentations et des jugements de l'intellect peuvent déclencher des réactions immédiates et non réfléchies – c'est le cas lorsqu'elles sont impliquées dans la formation d'habitudes ; on peut penser à toutes les anticipations contenues dans une pratique telle que la conduite d'une automobile. Aristote décrit lui aussi des phénomènes de ce type :

« τὰ μὲν οὖν εἶδη τὸ νοητικὸν ἐν τοῖς φαντάσμασι νοεῖ, καὶ ὡς ἐν ἐκείνοις ὄρισται αὐτῷ τὸ διοκτὸν καὶ φευκτὸν, καὶ ἐκτὸς τῆς αἰσθήσεως, ὅταν ἐπὶ τῶν φαντασμάτων ἦ, κινεῖται· οἷον, αἰσθανόμενος τὸν φρυκτὸν ὅτι πῦρ, τῆ κοινῇ ὀρῶν κινούμενον γνωρίζει ὅτι πολέμιος· ὅτε δὲ τοῖς ἐν τῇ ψυχῇ φαντάσμασιν ἢ νοήμασιν, ὥσπερ ὀρῶν, λογίζεται καὶ βουλευεται τὰ μέλλοντα πρὸς τὰ παρόντα [la capacité intellectuelle

pense les formes dans les images ; et de même que tout à l'heure <l'animal> trouvait dans <ses perceptions> la détermination de ce qu'il devait poursuivre ou fuir, de même, en-dehors de la perception, il est mis en mouvement lorsqu'il se tourne vers des images. Ainsi, en voyant la torche – c'est-à-dire <que nous voyons> qu'il y a là du feu –, on reconnaît par la perception commune, en voyant son mouvement, qu'elle signale l'ennemi ; et parfois, grâce aux idées ou aux images qu'on a dans l'âme, on calcule et on délibère comme si on voyait ce qui va arriver à partir de ce qui est là » (*De anima* III 7, 431b 2-8).

Ainsi, la possibilité de se référer à des φαντάσματα élargit notre capacité de reconnaître des choses comme bonnes ou mauvaises, d'une part par l'expérience passée, et d'autre part par la capacité de reconnaître des signes conventionnels.

Le chapitre 7 se termine par la mention d'un autre développement en direction d'une autre forme de la connaissance intellectuelle, à savoir la connaissance abstraite :

« τὰ δὲ ἐν ἀφαιρέσει λεγόμενα νοεῖ ὥσπερ ἂν εἰ τὸ σιμόν, ἧ μὲν σιμόν, οὐ κεχωρισμένως, ἧ δὲ κοῖλον, εἴ τις ἐνόει ἐνεργεία, ἄνευ τῆς σαρκὸς ἂν ἐνόει, ἐν ἧ τὸ κοῖλον· οὕτω τὰ μαθηματικά οὐ κεχωρισμένα ὡς κεχωρισμένα νοεῖ, ὅταν νοῆ ἐκεῖνα [quant aux choses dont on parle par abstraction, on les pense comme on penserait le camus : en tant que *camus*, ce n'est pas un caractère séparé <de la matière> ; mais si on le pensait pleinement en tant que *concave*, on le penserait sans la matière dans laquelle réside sa concavité. C'est pourquoi les faits mathématiques, qui ne sont pas séparés, on les pense comme séparés lorsqu'on considère <seulement> ces propriétés-là] » (*De anima* III 7, 431b 12-17).

On peut donc récapituler ainsi les données du chapitre 7 :

- le langage se développe à partir des tendances spontanées de l'animal à désirer certaines choses et à en éviter d'autres ; ces actes ne résident en rien d'autre que dans un exercice effectif de nos perceptions sensibles ;
- l'âme intelligente (mais sans doute déjà celle de bêtes au psychisme suffisamment complexe) est capable d'avoir des conduites de poursuite ou d'évitement à partir de φαντάσματα
- et, en particulier, dans le cas de l'être humain, à partir de φαντάσματα qui ont une relation simplement symbolique (conventionnelle) avec les objets immédiats du désir ou de la crainte.
- Etant donné enfin que « tous les êtres humains ont par nature le désir de connaître », leur activité intellectuelle peut se tourner vers la vérité

et la connaissance en tant que telles ; c'est ce qui définit l'attitude théorique ;

- dans cette perspective, la pensée pourra se tourner vers des objets abstraits.

Ainsi, le chapitre III 7 présente, séparément et successivement, les principales parties constitutives et les traits essentiels de nos activités intellectuelles les plus complexes : affirmer et nier, concevoir des relations, former des jugements et concevoir des termes abstraits, activités qui sont généralement réalisées dans des actes de langage et avec l'aide des formes du langage.

Conclusions

La doctrine de la signification exposée dans les premières lignes de *l'Interprétation* est remarquablement nette, mais – peut-être délibérément – schématique. Par ailleurs la thèse de la « présentation ressemblante » (ὁμοίωμα) peut paraître naïve à des lecteurs modernes nourris de Humboldt, de Nietzsche, de Whorf et de Sapir.

En suivant une indication donnée dans ces lignes même, nous avons trouvé dans le *De Anima* de quoi la nourrir et l'étoffer. Nous voyons comment l'âme humaine élabore des contenus de pensée, par un processus complexe où interviennent : d'une part la perception sensible, l'imagination et la mémoire en même temps que le langage lui-même dès lors qu'il est constitué ; d'autre part l'engagement vital qui s'exprime chez tout animal par des attitudes de poursuite et de fuite et qui devient chez l'être humain un engagement en direction du vrai ; enfin une sorte de capacité innée de reconnaître ou de comprendre, c'est-à-dire de saisir l'unité à travers la diversité et l'identité à travers la variation. Cette dernière capacité est ce qu'Aristote nomme plus proprement l'intelligence (νοῦς), mais il ne la conçoit pas comme une faculté qui s'exprime dans des actes distincts : elle est à l'œuvre dans nos réflexions, dans nos choix, dans nos ratiocinations et dans nos perceptions elles-mêmes (je devrais dire qu'elle y est à l'œuvre *lorsqu'elle y est à l'œuvre*, car Aristote pense que nous sommes souvent assez bêtes²³).

²³ Au début du chapitre III 3 du *De Anima*, pour reprocher aux « Anciens » de ne pas rendre compte du phénomène de l'erreur, Aristote remarque : « καίτοι ἔδει ἅμα καὶ περὶ τοῦ ἠπατήσθαι αὐτοὺς λέγειν ὀικειότερον γὰρ τοῖς ζῴοις, καὶ πλείω χρόνον ἐν τούτῳ »

Ces analyses du *De Anima* (et en particulier dans les chapitres III 6 et III 7) complètent elles-mêmes ce qu'on trouve dans les textes classiques des *Seconds Analytiques* II 19 et de *Métaphysique* A 1. Enfin, elles donnent à la notion de « présentations ressemblantes » un contenu qui est loin d'être naïf : les *παθήματα τῆς ψυχῆς* dont parle l'*Interprétation* ne sont pas de simples impressions qui décalquent l'apparence extérieure des choses, mais le résultat d'un travail d'analyse qui met en œuvre des outils multiformes, parfois très perfectionnés, et qui se poursuit durant toute la vie de l'être humain.

Du côté du *De Anima*, notre lecture peut contribuer à éclairer certains détails du contenu des chapitres 6 et 7 et à leur donner une signification d'ensemble : après avoir indiqué dans les chapitres 4 et 5 ce qui fait la spécificité (proprement humaine) de la connaissance intellectuelle, Aristote montre comment elle se constitue effectivement, et comment elle reste engagée et active au sein de l'expérience – conformément à la thèse ontologique de la non-séparation des formes intelligibles.

Ce n'est pas une interprétation radicalement nouvelle de la noétique d'Aristote, mais cela permet de prendre conscience – et de rendre compte – de la continuité entre toutes les activités intelligentes de l'être humain, y compris celles qui relèvent du choix éthique.

En revanche, si les interprétations que j'ai proposées dans cet article sont correctes, elles pourront faire apparaître un élément plus neuf : le rôle que joue l'instance du sujet dans la plupart de ces activités. C'est un élément important de la conception d'Aristote : même s'il n'entreprend jamais vraiment de le justifier ni même de le thématiser²⁴, ce rôle du sujet se manifeste à plusieurs reprises à travers des formules telles que : « l'âme déclare ». Cela signifie que le *λόγος*, pour Aristote, est toujours pensé comme une parole. Les structures lexicales, grammaticales et logiques ne sont là que comme les conditions de possibilité de la parole et de son engagement en direction de la vérité.

διατελεῖ ἡ ψυχὴ [pourtant, ils auraient dû parler aussi de l'erreur, car cette condition est plus propre aux animaux, et c'est dans cette condition que l'âme demeure le plus souvent] » (427a 29 - 427b 2).

²⁴ En particulier, il n'y a rien dans les textes qui impose de concevoir quelque chose comme une réflexivité ou une conscience de soi ; même « τὸ αἰσθάνεσθαι ὅτι ὁρῶμεν καὶ ἀκούομεν [le fait de percevoir que nous voyons et entendons] » (*De Anima* III 2, 425b 12 et sq.) est à comprendre comme une donnée objective. Le but d'Aristote dans ce chapitre est précisément de bloquer toute tendance à régresser en introduisant une nouvelle instance de connaissance derrière la vision, ou l'audition, elles-mêmes. On pourrait énoncer ainsi cette expérience : « ce qui est là devant mes yeux est du visible et je vois que c'est ainsi ».

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ΦΑΝΤΑΣΙΑ AND ΝΟΥΣ:
ON THE RELATION BETWEEN ΦΑΝΤΑΣΜΑΤΑ AND
ΝΟΗΜΑΤΑ IN ARISTOTLE'S PSYCHOLOGY

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1. The question

Analytica posteriora II 19 treats the problem of how the intellect can perform its main task: the apprehension of the ἀρχαί of science; this chapter deals with the main ἔργον of the human intellect and with the genesis of the habit of intellect, i.e. the genesis of the intellectual (scientific) knowledge of the world. In *De anima* III 4-6, on the other hand, Aristotle faces the problem of what *is* intellect and the strictly related problem of which its conditions of existence – its matter and its efficient cause – could be. Unluckily, Aristotle does not treat in a similar way, in one or more chapters of his works, the problem of how the cooperation between intellect and other parts of the soul works: this means that we do not have any explanation of the normal, everyday activities of human reason and mind, which are characterized by an overall cooperation between the intellect (already *in habitu*) and the other cognitive powers as sense-perception, memory, imagination etc. But the many fragmentary statements we can extract from various texts seem to suggest that Aristotle actually had such a theory.¹ What we can do, is just to collect these few hints, and try to draw a sketch of how his overall theory could look like. I will try to perform this task by addressing the problem of the relation between the νόημα, the cognitive state in which the activity of intellect is realized, and the cognitive states in which are realized the activities of

¹ The scantiness of Aristotle's surviving bits of doctrines about intellect has sometimes pushed some scholars toward minimalist interpretations: e.g. Kahn thinks that Aristotle leaves the question about intellect's nature open (Kahn 1992, 361).

sense-perception and φαντασία, the αἴσθημα and the φάντασμα. I think that in this way we will be able to reach some hints also about the psychological « mechanism » that Aristotle seems to presuppose as an explanation of the intellect's power to generate a λόγος.²

2. The dependence of thought on φαντασία as its material condition: an hylomorphic theory about thought?

The dependence of the exercise of thought on the presence of a φάντασμα as its condition is clearly stated by Aristotle in a famous sentence in the *De memoria et reminiscencia*: « νοεῖν οὐκ ἔστιν ἄνευ φαντάσματος [it is impossible to think without a φάντασμα] » (*De memoria* 1, 449b 31).³

This fact implies that the νόημα, the cognitive state in which the act of thinking is realized,⁴ is embodied through its link to one or more φαντάσματα. The φάντασμα is a sensory or perceptual state⁵ which either (1) is the relic of a past exercise of sense-perception⁶ or (2) is the result of the mix of various relics of past exercises of sense-perception. We know that Aristotle thought that φαντάσματα can mix and form a new, more complex, φάντασμα: e.g. this is the way in which, according to Aristotle, dreams are produced;⁷ this is also the condition that allows people who « manipulate » their mental landscapes in order to produce mnemonic « places ».⁸ In all these cases, the mixing of φαντάσματα

² I treated the problem of the genesis of the intellect *in habitu* in Feola 2009 and the problem of what the intellect is in Feola 2016. I approach here the third side of the problem: the problem of how the intellect works.

³ Unless otherwise stated, all quotations from *Parva naturalia* refer to W.D. Ross 1955's edition and translations are my own.

⁴ The term νόημα is not very common in the *corpus*, but is pervasively used in *De anima* III 6, where Aristotle treats the problem of how intellect performs the task of the synthesis between two or more νοήματα. For a discussion of its meaning, see Feola 2016.

⁵ For more details about how the concept of « perceptual stimulus / sensory motion » should be construed in Aristotle's psychology, see Feola 2015. For an alternative construal, see Wedin 1988.

⁶ Cf. *De anima* III 3, 429a 1-2: φαντασία is the persistence, in the sentient body, of the results of the acts of sense-perception. In the *De insomniis (passim)* we are told that the results of the acts of sense-perceptions are the φαντάσματα.

⁷ Cf. *De insomniis* 3, 460b 28 - 461a 11 and 461b 17-22.

⁸ This is what emerges from treatises on mnemotechnics such as Cicero's *De oratore* II, 350-360, the anonymous *Rhetorica ad Herennium* III and Quintilianus' *Institutio oratoria* XI: while reading the second chapter of *De memoria et reminiscencia*, we have to be aware that the cultural background of Aristotle's text were these kinds of practices.

produces a new φάντασμα and, according to the doctrine of the four causes, it would be obvious to describe the relation between the original φαντάσματα and the new one as a matter-form σύνολον relationship. It is possible that also the relationship between the φάντασμα or the φαντάσματα and the νόημα should be, in principle, described as a matter-form σύνολον relationship: as we have seen, indeed, Aristotle usually describes the relation of thought to φαντάσματα with the wording « οὐκ ἄνευ » which hints to a relationship of hypothetical necessity, whose most prominent species is, after all, the matter-form σύνολον relation. If it is so, a question arises: in which way does the relation between a complex φάντασμα, which results from the junction of many φαντάσματα, and its simpler original components differ from the relation between a νόημα and the φαντάσματα? How can it be that the union of a number of φαντάσματα produces just a more complex φάντασμα in some cases, while in some other cases it gives birth to a νόημα? In which way do these two instances of union differ?

I will here try to show that the postulation of an hylomorphic relation between νόημα and φαντάσματα can produce a construal of Aristotle's theory about this point that is both philosophically interesting and explanatory.

3. *In confinio sensus et intellectus*

I think we can begin to investigate the relation between φαντάσματα and νοήματα from a passage in the *De anima*:⁹

« φαντασία γὰρ ἕτερον καὶ αἰσθήσεως καὶ διανοίας, αὐτὴ τε οὐ γίγνεται ἄνευ αἰσθήσεως, καὶ ἄνευ ταύτης οὐκ ἔστιν ὑπόληψις [φαντασία, in fact, is something different both from sense-perception and from intelligence: it does not come to be on its own without sense-perception, and without it there can be no belief] » (*De anima* III 3, 427b 14-16).

De anima III 3, which is usually described as a chapter about « imagination », could perhaps be more properly described as a chapter about the differences between the various cognitive powers of the soul. The main part of the chapter is a detailed dialectic discussion about how each particular cognitive power differs from other powers.¹⁰ The result of this

⁹ Unless otherwise stated, all quotations from *De anima* refer to Ross' 1956 edition.

¹⁰ I resume here points exposed in more detail in Feola 2012.

discussion is that, in the map of the various powers, there is a blank place, that must be filled by the so called φαντασία. The second half of the chapter (427b 27 - 429a 9) is a short treatise on the definition of φαντασία, while the first half (427a 17 - 427b 26) tells us that the map of the cognitive powers is defective because it lacks an appropriate description of what is midway between sense-perception and intelligence. It is important to notice that III 3 does not give us a detailed discussion about how the entrance in the theoretical landscape of φαντασία (which is defined only at the end of the chapter, in 429a 1-2) should solve the many problems raised in the previous parts of the chapter. After that Aristotle has told us that the map of the cognitive powers is defective, he adds φαντασία to the picture; but he does not tell us how exactly the presence of φαντασία should make the picture less defective.

I think that the entrance of φαντασία in the theoretical framework actually solves the problem Aristotle has here raised, because those problems were generated by a lack of clearness about the genetical relationships between the various levels of the cognitive soul, and the entrance of φαντασία in this landscape adds exactly what Aristotle needed: a genetical point of view on the connections among the powers. It is here that we find the key-words « οὐκ ἄνευ » (427b 14-16): even if it is not immediately clear which is the specific kind of hypothetical necessity here at stake, what seems clear is that sense-perception is the necessary condition of φαντασία, and φαντασία is the necessary condition of belief (i.e. propositional thought). Anyway, what concerns us here, is the fact that this passage clearly treats φαντασία as something which is in a (still) indefinite place midway between sense-perception and thought, something which is strictly necessary in order that the mediation between sense-perception and thought can be performed.

Anyway, we do not know anything yet about how exactly Aristotle construed the relation between φαντάσματα and νοήματα. Let us have a look to another passage.

4. An hylomorphic relation between φαντάσματα and νόημα?

Here is what we can find in the *De interpretatione*:

« ὧν [...] ταῦτα <int. γράμματα, φωναί> σημεῖα πρώτων, ταῦτα πᾶσι παθήματα τῆς ψυχῆς, καὶ ὧν ταῦτα ὁμοιώματα πράγματα ἤδη ταῦτά [the “first” things, of which these other things <int. the letters and vocal sounds

at 16a 5> are signs, are, for all of us, the same affections of the soul; and the items of which these <affections> are resemblances are the things themselves, of course identical] » (*De interpretatione* 1, 16a 6-8).

How can Aristotle feel to be entitled to say that the soul's affections are the same « for all of us »? It seems obvious that my thoughts are mine, your thoughts are yours! Under which description can they be described as « the same » for all of us? Aristotle is here speaking about communication; what matters, for two people to effectively communicate something to each other, is that the intentional objects meant by the two are the same. I think that the straightest construal of this passage is that (according to the famous principle that each cognitive act is defined by its object) the thoughts of two or more people can be the same thoughts, if they share the same content and they are about the same intentional objects.¹¹

¹¹ I think that Aristotle's theory about sensory mistake, in *De anima* III 3 and in the *De insomniis* assumes intentional objects as its part. This is not the appropriate place for a discussion about this important and controversial bit of doctrine. For an introductory and interesting discussion of the treatment of the topic of intentional objects in the philosophy of mind and of language of XXth century, cf. Gozzano 1997. For the aims of this paper, I will here mean by « the intentional object (of a cognitive act, either sensorial or rational or intellectual) » the item (either concrete object or occurrence of fact) whose real existence in the world (either as a universal or as a particular item, in whichever of the categories and the ways of existence admitted by Aristotle's ontology), under the conditions in which it is represented by that cognitive act, would render true that cognitive act itself. E.g. if I am sleeping, my eyes are closed, and I dream about seeing my cat in my room, my dream is an instance of a false cognitive act even if my cat is really in my room, since my dream presents to me my *cat as seen*, while I am not seeing him; in this case, the circumstance of seeing my cat, with all the features that are presented in my dream (including the fact of seeing him from a definite angle, in definite environmental conditions etc.), is the intentional object of my dream: i.e. it is the circumstance that, if it would be really occurring in the objective world, it would make my sensory-experience a true sensory-experience (instead of being just a dream). I think that in Aristotle we can find a lot of instances of an active and conscious usage of this concept, in every context in which he discusses the problem of the falseness of cognitive acts. In this kind of contexts, Aristotle mentions (1) logically impossible objects (i.e. intentional objects that cannot have any match in the real world because they would correspond to contradictory items), e.g. the object of the false belief that the diagonal of the square is commensurable to the side; (2) materially impossible objects (i.e. intentional objects that cannot have any match in the real world because the physical nature of the world renders them impossible), e.g. the object of the false sense-perception that the sun is a foot-wide (cf. *De anima* III 3, 428a 24 - 428b 9); (3) contingently inexistent objects (i.e. intentional object that have no match in the real world but that could have plenty of instances in the *De insomniis*); (4) true objects, in which cases the intentional object of the cognitive act matches the reality in the world. If we want to find, in Aristotle's *corpus*, the bit of doctrine which most openly

So, the question arises: how can two people think of just one (and the same) intentional object? I think that the hypothesis that the relation between the φαντάσματα and the νόημα is a matter-form relation can solve this problem, if we bear in mind the famous principle according to which the same form can be realized in different matters if these matters share the properties that are relevant for the realization of that form: we can posit the hypothesis that (1) a νόημα is defined by its intentional object, that (2) two people that think of one and the same intentional object have the same νόημα, and that (3) this one form, the νόημα which is the same for the two people, can be enmattered in sets of φαντάσματα which are peculiar to each of the two people.¹²

But there is more: the hypothesis that the relation between νόημα and φάντασμα could be a form-matter relation can make clearer some passages that are otherwise quite difficult. Consider e.g. *De anima*, III 7, 431b 2: « τὰ μὲν οὖν εἶδη τὸ νοητικὸν ἐν τοῖς φαντάσμασι νοεῖ [the power of thinking thinks the forms in the φαντάσματα] ». It seems quite difficult to understand this passage in a way which is relevantly different from the idea that the act of thinking the forms finds its concrete instances in the matter provided by the φαντάσματα.¹³

addresses the topic of intentional objects, I think we should look at *Metaphysica* Δ 29, 1024b 17 ff., where he considers the meanings of « false » (ψεῦδος), and where he treats falseness only in a derivative way as a property of propositions or of cognitive acts, and in first instance as a property of facts: here he says that something false is a composition of things that are not united in the reality or whose unity is impossible; these two categories match the categories 1-2 and 3 I distinguished earlier. *Metaphysica* Δ 29 seems to me a clear witness of the fact that Aristotle admitted in his theory intentional objects. Among the many contemporary theories that Gozzano 1997 describes, the theory which seems to me to be most similar to the theory I am ascribing to Aristotle, is Searle's (cf. 118 ff.), according to whom intentional states can be « satisfied » or not by states in the world that make them true or false. I think that the very words which Searle uses in describing the concept of « condition of satisfaction » would fit for Aristotle's conceptual framework too: « intentionality is that feature of certain mental states and events that consists in their (in a special sense of these words) being directed at, being about, being of, or representing certain other entities and states of affairs. If, for example, Robert has the belief that Ronald Reagan is President, then his belief is an intentional state because in the appropriate sense his belief is directed at, or about, or of, or represents Ronald Reagan and the state of affairs that Ronald Reagan is President. In such a case Ronald Reagan is the intentional object of Robert's belief, and the existence of the state of affairs that Ronald Reagan is President is the condition of satisfaction of his belief » (Searle 1984, 3).

¹² I think that Wedin is right in saying that the φάντασμα « is the mean by which the thought is [re]presented to the subject » (Wedin 1988, 116).

¹³ An obvious corollary of this doctrine is the consequence that the activities of human intellect cannot be separated from the body, as properly recognized by Kal 1988, 73.

And, following this line of enquiry, we have also reached a relevant new point: what Aristotle calls νόημα is not the σύνολον, it is the form;¹⁴ the σύνολον is the particular instance of the νόημα, i.e. a single state of the thinking power, a particular embodiment of the act (which is performed in that moment of time by some particular person) of thinking about something, and whose matter are some particular φαντάσματα that are peculiar to that person.¹⁵

I think that Aristotle could have held something like the following: perhaps, when we think of the universal *horse*, you imagine a white horse, while I imagine a black one; but, as far as these two φαντάσματα share, in your and my acts of cognition, the same role of enmattering the νόημα that corresponds to the concept *horse*, they are perfectly equivalent.¹⁶ Their difference turns out to be important, if we cease to treat them as matter of our νόημα, and we go back to their roles in our exercises of φαντασία: from this second point of view, they present to us two different

¹⁴ As Wedin 1988, 141 correctly noticed, *Metaphysica* A 9, 990b 24, describes the νόημα as an intersubjective item. If the νόημα were a concrete item (a σύνολον), it should be a concrete instance of a psychological state and it would necessarily be either mine or yours: it would not surely be intersubjective.

¹⁵ Modrak 1989, 124 is ready to admit that thought uses φαντασία as its matter, while, at the same time, construing the relation between φάντασμα and νόημα (not as a matter-form relation, but) as an identity-in-number-and-diversity-in-essence relation. The φάντασμα of a horse would be, at the same time, the νόημα of a horse when *thought* by a thinking subject as the φάντασμα of a horse (Modrak 1989, 127); in this construal, it is not clear what exactly distinguishes the φάντασμα φ from the intellectual cognitive state by which I would refer φ to the thing it is a φάντασμα of: which is the material condition in which this difference in cognitive attitude should be embodied? I think that, in order to switch from the phantastic attitude to the intellectual one, we need that from the many φαντάσματα a common and more abstract form emerge: the νόημα.

¹⁶ Wedin 1988, 140-141 ascribes to Aristotle the theory that the φάντασμα can exemplify the universal form (e.g. of a triangle) since what is relevant in the φάντασμα for it to be what it is (a φάντασμα of a triangle) are the properties of the φάντασμα that follow from the definition of the represented thing: e.g., from the definition of triangle; if Wedin is right, the content of the νόημα would be already existent in the φάντασμα, and it should only need to be « extracted » from it. But it is quite difficult to believe that the property of the triangle of *resulting out of three (perfectly) straight lines* can be the property of any object in the material world, and therefore be an object of sense-perception and φαντασία (which works on materials that are provided by sense-perception). Wedin 1988, 206-207 gives also another (and, in my opinion, better) account of the relation between φάντασμα and νόημα: to have an acquaintance with the universal would mean to be able to distinguish concrete instances of it from items that are not instances of it; I would like to strengthen this construal by saying that treating a φάντασμα as an example of a universal term would mean to be able to know in which conditions I can substitute the φάντασμα with another one, *salva veritate*, and in which conditions I cannot.

intentional objects (phantastic objects, not conceptual ones), a white and a black horse, and they have therefore different cognitive values.

So, it seems that we have somehow answered our main question: the νόημα is the form of the cognitive state that represents a universal concept; it is realized in a matter that are the φαντάσματα;¹⁷ and, being a form, and not a σύνολον, it has not to be confused with the φαντάσματα that are the matter of the intellectual activity. The φαντάσματα that compose a νόημα can be substituted while the νόημα remains the same (two people that think the same thing will have the same νόημα, while having different φαντάσματα); and, as soon as they represent sensory features that can pertain to entities belonging to the same universal concept, their mutual substitution will not affect the νόημα's identity, which relies only on the fact of referring to that universal concept.

In this construal, what matters for distinguishing the φαντάσματα from the νόημα is only the substitutability of the φαντάσματα in the instantiation of the same νόημα.¹⁸

5. Φαντασία and νοῦς acting together: φαντασία λογιστική

Let us, now, see a very famous passage about how φαντασία works for the sake of the activities of the intellect (or, if we prefer, how intellect works on the materials that φαντασία provides):

« συμβαίνει γὰρ τὸ αὐτὸ πάθος ἐν τῷ νοεῖν ὅπερ καὶ ἐν τῷ διαγράφειν ἐκεῖ τε γὰρ οὐθὲν προσχρώμενοι τῷ τὸ ποσὸν ὀρισμένον εἶναι τοῦ τριγώνου, ὅμως γράφομεν ὀρισμένον κατὰ τὸ ποσὸν, καὶ ὁ νοῶν ὡσαύτως, κἂν μὴ ποσὸν νοῆ, τίθεται πρὸς ὁμμάτων ποσόν, νοεῖ δ' οὐκ ἢ ποσόν [it happens the same thing in thinking and in drawing geometric sketches: also in this second case, even if we do not do any use of the fact that the triangle is of a definite size, we anyway draw it of a definite size; the person who

¹⁷ Among the scholars that have stressed the characterization of the φαντάσματα as matter of the νόημα, there are Kahn 1992, 367 and Kal 1988, 76 and 155 note 39: both Kahn and Kal stress the fact that, in such an account, what thinks (the subject of the act of thinking) is the whole human being, which can perform the act of thinking due to the presence of appropriate levels of matter, the most proximate of which are the φαντάσματα. That the subject of the act of thinking is the concrete human being (and not the intellect *in se*) is anyway openly stated by Aristotle in *De anima* I 4, 408b 25-27.

¹⁸ I think that only in this hypothesis we are able to improve the vague characterization of Aristotle's theory, we sometimes find in the bibliography (cf. e.g. Modrak 1989, 159), according to which the φάντασμα would present an arbitrary sample of the νοητόν: if we have to recognize the sample as an arbitrary sample, we have to realize that it is substitutable.

thinks is doing something similar: even if he does not think about something which has a size, sets in front of his mind's eye something which has a size, but he thinks to it as something without a size] » (*De memoria* 1, 450a 1-5).

One main feature of intellectual activity is the fact that the power of abstraction frees it from the bounds of the sense data. Two different triangles, being different in magnitude, can cover two different portions of my visual horizon; therefore, their two φαντάσματα will be recalled in imagined landscapes in which they will (again) occupy different portions; but what is important is that my intellect can treat the features that are represented by the φαντάσματα as specimens of (or approximations to) properties that are relevant for that specific instance of thought: if I have to think about a geometric theorem which is about every triangle, the dimension of that particular triangle will be pointless, and I can discard it. What does it mean that I can discard it? It means that I will not use it in my line of reasoning: in my act of reasoning, which follows the line of reasoning I have actually chosen, I will use only the features of the φάντασμα that refer to the features of its intentional object that are relevant for the theorem, i.e. the features of the φάντασμα that are relevant for that specific intentional object which is the sum of the angles. The ability to perform this kind of act entails that I should be able to use different φαντάσματα of different triangles, given that these triangles all have the same sum of angles; that I can change the *ratio* among the lengths of the sides; that I can « manipulate » the φάντασμα in various ways.

How can this be possible? I think that the only way in which Aristotle could provide a viable answer to this problem, would be by allowing that our storage of φαντάσματα can be so dense and full that it can stand as an effective substitute of external reality, and so flexible and open to re-combination that it can provide fulfilment to almost every need of the intellect.¹⁹ True enough, Aristotle never and nowhere tells something similar. But his mention of the existence of a « φαντασία which is ruled

¹⁹ One of the referees that read and commented upon my paper objected that we have no need to suppose that in Aristotle's theory the representation of reality in our minds should be so rich that it can stand as an effective substitute of external reality. But I think we have such a need: it seems that the principles of science, according to Aristotle, should be effective conceptual representations of the principles of reality: if they were not, the deductive science that would result from them would be flawed and its grasp on reality could not be granted. In other words, Aristotle's epistemology requires that our apprehension of the principles of reality could be (at least in ideal conditions) effective and complete; and psychology should provide an account of how this is possible. See e.g. how

by λόγος » (*De anima* III 10, 433b 29: « φαντασία ... λογιστική ») seems to point in this direction: the possibility of combining signs in the infinite number of ways which is allowed by the possibility of combining words and, with the words, the φαντάσματα which always accompany them, seems to be exactly what Aristotle here needs.

To summarize: the association of φαντάσματα to words, and the indefinite possibilities of combinations of words, and therefore of φαντάσματα, can provide our imagination²⁰ with an indefinite number of specimens of each species and genre; and the availability of such an indefinite number of specimens provides, in turn, the possibility of changing at will the features of the specimen(s) I am imagining when I think about a species or genre, therefore noticing that there are some properties of the specimens that do not depend on the particular features of this or that specimen: universal properties.²¹ For this sake, it is not necessary to

emphatically he tries to demonstrate that our five sense can grant a complete access to physical reality in *De anima* III 1, 425a 11-13.

²⁰ By « imagination » I mean the so-called « creative imagination », which has to be distinguished from sheer φαντασία, to which many scholars, due to a tradition which traces back to the Middle Ages, continue to refer by the word « imagination ». From this moment I will use the word « imagination » only for creative imagination, given that this is the meaning that the word « imagination » has in nowadays everyday language.

²¹ One of the referees pointed out that it is not so sure that, when Aristotle mentions φαντασία λογιστική, he is actually referring to a linguistically driven imagination, since the meaning of λόγος here at stake could be that of « reason » and not that of « language »; in this case, the φαντασία λογιστική should be thought as the imagination which is subservient to rational faculty (e.g. in action deliberation) and not an imagination which is symbiotic with language. My answer is that the fact that λόγος in IV century BC Greek means both « discourse / speech » (cf. the job of the so-called λογογράφοι, people who were paid for writing forensic and/or political speeches: a professional category whose impact in everyday life in Athens in that age was enormous; the job is mentioned by Aristotle in *Rhetorica* II 11, 1388b 22 and by Plato in *Phaedrus* 257e, 258b) and « reason » is not a case of sheer homonymy: I think that in IV century BC Greek culture the concepts of « discourse / speech » and that of « reason » were so intertwined that the main properties of « discourse » were also thought to be main properties of « reason », and vice versa. Things being so, it is implausible that Aristotle could have construed an account of reason which was not rooted in his account of discourse (and vice versa). If this holds true, imagination which is subservient to rational power and imagination which is symbiotic with language are (for him) the same thing. I do not mean that Aristotelian φαντασία λογιστική should be reduced to the ability to recall the words' meaning at will and to combine them in any way we like; but I think it can be considered as the ability to combine φαντάσματα in order to create specimens that match the scenarios that λόγος (reason / language) construes, i.e. to build sequences or arrays of φαντάσματα that constitute the proximate matter for the complex νοήματα that we build when we exercise the faculty of reason.

examine all the possible specimens: this would be impossible; by noticing *what* depends on the features that my imagination puts in the object (sheer accidents: in the example of triangles, their dimensions) and *what* does *not* depend on them (essential properties: in the case of triangle, the fact that its angles sum to 180° , which is a good example because it is something which can be verified by a very simple geometric drawing or even by a mental visualization), I am *ipso facto* noticing what is essential to the triangle and what is not.²²

6. Imaginary objects: a problem and a proposal of solution. Productive imagination.

The hypothesis of construal I have set forth about Aristotle's theory on the relation between intellect, reason, language and φαντασία, seems to credit Aristotle with a strictly empiricist theory of knowledge. So, what about imagined objects? What about objects which are not real, or which are impossible? And what about objects which, as the intentional objects of scientific theories or of our everyday guesses about reality, may just as well turn out not to be real? After all, Aristotle, in his dialectic discussions, uses thoroughly the procedure of *reductio ad absurdum*, which is a procedure asking for a philosopher or scientist to imagine and examine in a rigorous way something which, at the end of the reasoning, will be proved false and not existent.

Let us check another passage, which I quote according to Hicks' edition rather than Ross' who makes some unnecessary alterations; I also adopt the former's translation (save for the substitution of « believing » to « opining »):

« ὅτι δ' οὐκ ἔστιν ἡ αὐτὴ νόησις καὶ ὑπόληψις φανερόν. τοῦτο μὲν γὰρ τὸ πάθος ἐφ' ἡμῖν ἐστίν, ὅταν βουλόμεθα (πρὸ δμμάτων γὰρ ἔστι τι ποιήσασθαι, ὥσπερ οἱ ἐν τοῖς μνημονικοῖς τιθέμενοι καὶ εἰδωλοποιούντες), δοξάζειν δ' οὐκ ἐφ' ἡμῖν· ἀνάγκη γὰρ ἢ ψεύδεσθαι ἢ ἀληθεύειν

²² Otherwise said: in order that we can notice what is essential to the triangle, there is no need that our fantastic abilities *actually* construe a huge array of variation thus noticing what is essential and what is not to the triangle; in my construal of Aristotle's theory, what is required is just that the thinker notices that he/she can choose and change some features, while he/she cannot choose to add or eliminate some other features without changing the nature of the thing his/her imagination is representing (if I change the drawing – either material drawing or an image « in my mind's eye » – and increase the sum of the internal angles, I have no triangle any more).

[clearly, thinking is not the same thing as believing. For the former is in our own power, whenever we please: for we can represent an object before our eyes, as do those who range objects under mnemonic headings and picture them to themselves. But believing is not in our power, for the belief that we hold must be either false or true] » (*De anima* III 3, 427b 16-21).

Here Aristotle seems to distinguish between two ways of using the power of thought: in the second one, thought is bound to state something about reality, and has to be necessarily either true or false; in the first one, the use of thought is not bound to the necessity of stating something about reality, and therefore it is not necessarily true or false: a suspension of belief occurs, which seems to be the same kind of suspension of belief that we perform when we construe a mathematical hypothesis we want to examine and which we have not yet accepted or rejected. Another way to describe this opposition would be by distinguishing the *thought* as a *process* which moves from some condition to its consequences, from the *belief* as the *result* of this process, the belief as the ultimate consequence of our line of reasoning. What Aristotle here says, is that we are not free to choose our own beliefs: if we are truly investigating some subject, the belief which is the ultimate result of our reasoning will result as such to us on account of the real or presumed strength of its reasons, and it will impose itself to us as true (or, at least, as more probable than the opposite belief). Aristotle tells also another thing, here: that there is another usage of thought, which allows us more freedom. When we explore a new scientific hypothesis, we do not know yet if this hypothesis will turn out to be true or not; we are just curious about it, and we draw in a rigorous way its consequences.

It is important to notice that this usage of thought is not restricted to the performance of acts of theoretical thinking. In the immediate aftermath of the passage we just quoted, Aristotle provides an example for his distinction between thought-as-process and belief, taking his example from the field of practical behaviour :

« ὅταν μὲν δοξάζωμεν δεινόν τι ἢ φοβερόν, εὐθὺς συμπάσχομεν, ὁμοίως δὲ καὶ θαρραλέον· κατὰ δὲ τὴν φαντασίαν ὡσαύτως ἔχομεν ὡσπερ ἂν εἰ θεώμενοι ἐν γραφῇ τὰ δεινὰ ἢ θαρραλέα [when we are of opinion that something is terrible or alarming, we at once feel the corresponding emotion, and so, too, with what is reassuring. But in the act of φαντασία we are no more affected than if we saw in a picture the objects which inspire terror or confidence] » (*De anima* III 3, 427b 21-24).

We can picture situations in which we are faced with horrible sufferings or with sublime happiness, without being so stupid to believe in the truth

of our imaginations. This fact, which is open to the experience of all of us, is used by Aristotle as an evidence for the existence of a « realm », the realm of imagination, whose main feature is that of not being bound to the necessity of presenting things or facts as *tout court* existent or not existent, real or not real: if only φαντασία were at work, the construction of these imaginary landscapes would be simply an instance of falseness; but at work, here, is also reason, which rules over φαντασία in the construction of such landscapes, and which can, therefore, testify to itself that such landscapes are not real: so, while the φαντασία that presents the landscape is actually false, its falseness turns out to be neutralized, because the overall cognitive act, which encompasses both my φαντασία and my awareness of the fact that the φαντασία was produced by me, results in a state of suspension of belief.

This complex interplay between reason and φαντασία is something far more elaborate than the simple φαντασία as decaying sense which will be defined at the end of the chapter (429a 1-2); nor it is the random generation of new φαντάσματα out of pre-existing ones (by mixing them) that occurs in dreams (cf. *De insomniis* 2-3, *passim*) and which, according to Aristotle, is independent from the power of λόγος;²³ it is clear enough that we are here speaking of another kind of φαντασία, which can be treated as an instance of thought since it is something that cannot be reduced to a sheer result of sensory activities, because it is the product of manipulation of φαντάσματα by reason. Our passage shows also that Aristotle is prepared to enlarge the region of thought very far from the land of pure intellect, and to encompass in it a lot of cognitive activities which are more complex than simple sense-perception but could hardly enter in a notion of thought as « faculty which deals with universals ». Which are these activities, exactly? Given that the opposition « particular / universal objects » cannot work here, we should ask if there is another criterion which Aristotle uses, in deciding which acts should be treated as instances of such an enlarged concept of « thought ».

It seems that this criterion is the fact of being or not being up to us, « in our power » (427b 17-21). But what does it mean to be « in our power »?

« τῶν καθ' ἑκαστον ἢ κατ' ἐνέργειαν αἴσθησις, ἢ δ' ἐπιστήμη τῶν καθόλου· ταῦτα δ' ἐν αὐτῇ πῶς ἐστι τῆ ψυχῆ. διὸ νοῆσαι μὲν ἐπ' αὐτῶ, ὁπόταν βούληται, αἰσθάνεσθαι δ' οὐκ ἐπ' αὐτῶ· ἀναγκαῖον γὰρ ὑπάρχειν

²³ According to Aristotle, dreams are a by-product of sense-perception, and pertain to the perceptual part of the soul: cf. *De insomniis* 1, 459a 21-22.

τὸ αἰσθητόν [Hicks 1907: actual sensation is always of particulars, while knowledge is of universals: and these universals are, in a manner, in the soul itself. Hence it is in our power to think whenever we please, but sensation is not in our power: for the presence of the sensible object is necessary] ». (*De anima* II 5, 417b 22-26).

Here Aristotle clearly states that what makes the thought of universals « up to us » is the fact that they, *in a manner*, are in the soul: I think that the straightest construal of Aristotle's thought, here, is that the particulars, as such, have to be out there in order to be perceived (if they are not out there, what we have is φαντασία, not sense-perception), while the universals we have already grasped can be recalled whenever we want just by telling their names (« dog », « man », « triangle », etc.), because our φαντασία obeys to our usage of language, and a set of φαντάσματα which embodies the appropriate νόημα is promptly recalled when I tell the name of the thing. What is common both to the concept of « thinking » (νοῆσαι) of II 5 and to the concept of « thought » (νόησις) of III 3, notwithstanding the difference in scope between them (in II 5 the scope of the thought seems to be limited to theoretical thought, while in III 3 the scope has been much enlarged), is their common reference to objects which are « in the soul ».

The « objects-in-the-soul » are purely intentional objects, or (if we have to be more precise) objects which are considered just as intentional objects, bracketing their existence or inexistence in the world.

If we want to resume, we could say that the need to distinguish between sense-perception and intelligence brings Aristotle to discover, in *De anima* III 3, a border land between the two spheres; the main feature of this border land is the fact of laying midway between the territories of sense-perception and intellect. Aristotle construes the matter-form relation, which holds between φαντάσματα and νοήματα, in a way that allows the power of reference with which the νοεῖν is endowed to be freed as much as possible from that of the φαντασία. Indeed, between φαντασία and νοῦς there is the space of imagination: what allows the νοῦς the power to perform cognitive operations which are not strictly bound to the sense-data is the power of the soul of imagining intentional objects that lack any correspondence to reality, and such a power is implemented by the power of combining words in sentences that need not to mirror factual external realities as are presented to us by sense-perception, and that by far surpasses the range of imaginary objects we

can conjure up in an exercise of non-linguistic imagination. Without this power it would be hard to conjure up abstract complex concepts as that of a « difference between a polygon with 15672 sides and a polygon with 15673 sides » (a difference between two geometric shapes that are perfectly conceivable, and that I could need to conceive while performing an exercise of geometrical thinking in which it is important to distinguish between a 15673 sided shape and a 15672 sided shape, but whose thought would hardly be accompanied by any image of two shapes with exactly that numbers of sides) or the belief that « the sun is far larger than the earth » – a belief whose content finds no match in sense-perception nor in sensory φαντασία: cf. *De anima* III 3, 428b 22 ff. As a matter of fact, in the same chapter – at 428a 14 – Aristotle says explicitly that predicative thought (διάνοια) hangs on λόγος; and since it would be a truism to say that predicative thought hangs on predicative thought, the only affordable meaning for λόγος, here, is « language » (or, as I would prefer, the aspect of language which is responsible for the production of predication).

Other, more detailed, arguments for this case can be added.

Let us start with the (Aristotelean) assumption that every νόημα requires a φάντασμα or a group thereof (cf. *De memoria* 1, 449b 31, as quoted above). The relation between the occurrence of a νόημα and the occurrence of the relevant φαντάσματα can be conceived, in principle, either as accidental or as essential; the principles of hylomorphism applied to living beings require such a matter-form relation to be essential. I do not mean that each νόημα essentially (necessarily) requires a specific group of φαντάσματα; but I do mean that each occurrence of a νόημα essentially (necessarily) requires that relevant φαντάσματα (whichever they are) are occurring.

Now, let us ask ourselves which could be the relevant φάντασμα for the νόημα of a regular polygon with a number of sides which escapes our power of visualization, say 15672. I do not think that we are forced to attribute to Aristotle the very strange belief that, in order to demonstrate the properties of this polygon (which, for Euclidean geometry, is not a more difficult case than that of a polygon with 5 sides), we need to visualize it, by conjuring up in our minds a φάντασμα of a polygon with 15672 equal sides: this would be possible only for rare people with extraordinarily gifted powers of visualization; if the case of the number of sides does not suffice, let us think of the property of a regular polygon

of having all sides of *exactly* the same length (a property which pertains also to the very simple case of a square): something which seems very difficult to simulate in a mental picture; if neither examples suffice, let us think then of a geometrical problem which deals with the discovery of the different properties of the 15672 sided regular polygon and a 15673 sided regular polygon; as a matter of fact, there is no need of visualizing (or even concretely drawing) two polygons such as these. E.g. in order to calculate the sums of their internal angle, and to discover the difference between these sums, if we know the general rule according to which the sum of the internal angles of a convex polygon with n angles is equal to the sum of n flat angles minus 360° , it suffices to do the appropriate multiplications and subtractions. In other words, the relevant *φαντάσματα*, here, would not be the mental pictures of two polygons with the relevant numbers of sides: rather, they would be the *φαντάσματα* in which the verbal and numerical reasoning we are producing is instantiated; they would be the *φαντάσματα* that accompany the meaning of the ciphers and words we are using.²⁴

The power of voluntarily imagining possible or fictitious objects and scenarios should pertain, to be sincere, according to Aristotle, also to *some instances* of the kind of *φαντασία* which is not ruled by language: otherwise, Aristotle could not think that some non-human, non-linguistic animals, actually have the power of picturing and imagining behaviours which can lead to the resolutions of problems and puzzles (many examples of this can be found in book VIII of *Historia animalium*, throughout): so, it is clear that Aristotle credits at least some non-linguistic animals with the ability of picturing, visualizing, imagining

²⁴ Another objection we could think about, is that, for many compounds of words, it is not easy to imagine which would be a pertinent combination of images: e.g. which combination of images should be connected to the word « non-human »? My answer is that, since it is surely an Aristotelian doctrine that each νόημα must be instantiated in a pertinent φάντασμα or set of φαντάσματα (*De memoria* 1, 449b 31, already quoted), this rule must hold (according to Aristotle) also for νοήματα that refer to the most abstract concepts as e.g. « not ». Such an assumption does not commit neither us nor Aristotle to be bound to know which the pertinent φάντασμα should be (presumably the pertinent φάντασμα will be different for each person). Now, if the occurrence in our minds of the concept « not », which is the meaning of the word « not », is conceived as essentially bound to the occurrence of a φάντασμα, it is clear that also the occurrence of the concept « not human » will be, whichever could be our difficulty in figuring up which such a φάντασμα could be for our fellows (since each one of us will have her / his own φάντασμα for this need).

possible courses of action. Aristotle can formulate such a hypothesis, because he thinks that these animals are able to perform, by using just their complex φαντασίαι, cognitive acts which are analogous to the acts that human reason can perform (1, 588a 18-31). But it is clear that a linguistic mind has (for the reasons we have specified) such a power in a far greater measure.

This power is the power of *voluntarily* combining the cognitive states in combinations which are different from how they appeared in our previous experiences, and therefore of imagining things and situations which do not exist, or which do not exist yet but which could exist; or even things and situations which cannot exist at all, but whose existence is anyway conceivable, as e.g. that of the deergoat:

« καὶ γὰρ ὁ τραγέλαφος σημαίνει μὲν τι, οὕτω δὲ τὸ ἀληθὲς ἢ ψεῦδος [and in fact “deergoat” too means something; but it does not mean the true or false yet] » (*De interpretatione* 1, 16a 16-18).

The deergoat is something that does not exist but whose existence can be imagined, due to the fact that Greek language can connect the word for « goat » to the word for « deer ». ²⁵ If I can imagine it, I can construe meaningful hypotheses about its properties, and the subject of these hypotheses must be different from sheer nothing: about sheer nothing no meaningful discourse can be done.

It seems, therefore, that a second criterion for distinguishing the φάντασμα from the νόημα, a criterion which is strictly bound to the first one, is the fact that the νόημα, being the cognitive state that represents a universal, can receive the label of a common term, and can thus enter as a constitutive element in the net of the general linguistic competences of the human being.

²⁵ In principle, it could be objected that there are other cases in which imaginary entities can be construed without that we need any combination of noun. E.g. the word « centaur » does not include in itself any allusion to such items as man or horse (I thank Leone Gazziero for this observation). But it is worth asking if it is possible that a person who has never heard of the meaning of « centaur » can imagine a centaur without asking what a centaur is, without his/her fellow telling her/him that a centaur is a creature half man and half horse, without the words « man » and « horse » raising in the mind the images of human beings and of horses, and without the combination of these images. If the answer to these questions is « not », I think that we must admit that the act of building up the image of a centaur hangs on the power of combining in a meaningful way the meanings of the words « man » and « horse » and the images that accompany them.

7. Recollection as an example of usage of productive imagination

Now that we have a working hypotheses of construal about Aristotle's theory on the relation between intellectual cognitive states (νοήματα) and cognitive states that are relics of past exercises of sense-perception or that are simple combinations of such relics (φαντάσματα), I will now test our hypothesis, by checking if it is adequate to the interpretation of one single bit of doctrine: Aristotle's theories about anamnesis and productive imagination, two activities which are very close to each other.

First of all, let us see what is ἀνάμνησις (otherwise called « reminiscence » or « recollection »), a cognitive performance to which Aristotle devotes the whole chapter 2 of his treatise *De memoria et reminiscencia*:

« ὅταν ἀναλαμβάνη ἦν πρότερον εἶχεν ἐπιστήμην ἢ αἴσθησιν ἢ οὐ ποτε τὴν ἕξιν ἐλέγομεν μνήμην, τοῦτ' ἐστὶ καὶ τότε τὸ ἀναμνησθεσθαι τῶν εἰρημένων τι κτλ. [when he/she recollects science or sense-perception or whatever else <nb. the φάντασμα is here meant>, whose possession we have called <int. in the first chapter of the treatise> “memory”, this is (and in such cases happens) the recollection of these things, etc.] » (*De memoria* 2, 451b 2-5).

The possession of memory, according to Aristotle, is the possession of a φάντασμα we have identified as an image (cf. « ὡς εἰκόνοσ », 451a 15) of the thing of which it is a φάντασμα: i.e. as a cognitive state that refers to the experience in which we acquired it, and in which it was produced (451a 14-17). The exercise of memory is the reactivation of that φάντασμα, a reactivation which must be accompanied by the act of noticing that some lapse of time has passed from the moment in which we acquired the φάντασμα (cf. 449b 22-30) till now. The recollection is the very common and very usual action of *voluntarily* reactivating one bit of memory: e.g. when to the vague impression which refers to a past experience (an impression which *per se* would be just a φαντασία, i.e. the relic in the sentient body of a past exercise of sense-perception, cf. *De anima* III 3, 429a 1-2) we add the awareness that some time has passed, thus transforming into a memory what was just a φαντασία; or when, in the opposite way, we have already some cognition of the time which has passed (e.g. one year) and we ask themselves what was happening to us *then*, and we try to recollect the φαντάσματα that pertains to that time, in order to remember that experiences.

Aristotle credits with memory many animal species (all the animal species that perceive time), but he thinks that reminiscence is an exclusively human feature:

« αἴτιον δ' ὅτι τὸ ἀναμνήσκεσθαι ἐστὶν οἷον συλλογισμὸς τις· ὅτι γὰρ πρότερον εἶδεν ἢ ἤκουσεν ἢ τι τοιοῦτον ἔπαθε, συλλογίζεται ὁ ἀναμνησκόμενος, καὶ ἐστὶν οἷον ζήτησίς τις [and the cause is that recollecting is similar to reasoning: indeed, the subject which recollects draws the conclusion that in the past he saw or heard or lived such an experience; and <this> is something like a search] » (*De memoria* 2, 453a 9-12).

Anamnesis needs rational powers, because the performance of voluntary memory needs a subject who is able to identify, through some steps which are similar to the steps of a line of logical reasoning (even if they are not identical to the steps of a line of logical reasoning, as we can see from 453a 10, « οἷον »), either the time in which the experience of which we already have the φάντασμα (and which we would like to situate in the past) happened, or the experiences that happened in some specific period in the past. If this is the reason why we need the rational faculty in order to be able to perform anamnesis, then we could say that anamnesis entails the rational faculty because it entails the power to construe, compare and check virtual scenarios and counterfactual hypotheses: hypotheses either about which could have been the course of the events that happened in some particular period of time we want to remember; or about which could have been the time in which some events (of which we have already a φαντασία at hand) happened ; or else because, in order to stimulate the retrieval of the relevant φάντασμα, we need to make the φαντάσματα flow according to some criterion (e.g. according to a chronological order, starting from some event we already remember, or according to their placement in the *loci mnemonici*), and such an ordering criterion activates a sequence of φαντάσματα which, even in those cases in which it lacks a real « narrative plot », still obeys to a sequence which the cognitive agent has devised.

It seems, therefore, that anamnesis devises and checks hypotheses of narratives or fictitious scenarios: from this point of view, it is a strict relative of creative imagination, which (by definition) construes unreal or hypothetical scenarios. If reminiscence is what I have said, it is clear that it is a particular way of using imagination: reminiscence presupposes imagination, but it adds to imagination the effort of checking the correspondence of the scenario we are construing to a real past scenario.

In order to understand what Aristotle says about ἀνάμνησις, we will therefore start from what he says about imagination.

8. Φαντασία λογιστική vs sensory-phantastic habit: two levels in the order of cognitive powers

Let us go back to what we already saw: Aristotle's mention, in *De anima* III 10, 433b 29, of the existence of a « φαντασία which is ruled by λόγος » (« φαντασία λογιστική ») drew our attention to the importance he gave to the possibility of combining signs in an infinite number of ways: a possibility which is allowed by the power of combining words and, with the words, the φαντάσματα and νοήματα that always accompany them.

Hence comes the power of combining φαντάσματα in combinations which are different from those that appeared in the animal's previous experiences, and therefore of imagining things and situations which do not exist, or which do not exist yet but could exist; or even things and situations which cannot exist at all, but whose existence is anyway conceivable. This is the power of the soul of building intentional objects which lack any reference to reality (e.g. the deer-goat). This power is allowed by the possibility of combining words (« deer », « goat ») according to rules which are the rules of language, rules that are different from the rules of external reality.

But, at a deeper level, φαντάσματα, even before being ordered by language, do already have an order of their own, which results (1) from the previous experiences of the perceiver and (2) from its biological, species-specific and individual, characteristics, which obviously condition the possibilities of experience of the perceiver.

Now, we will have a look at what Aristotle has to say about this pre-linguistic order of the φαντάσματα. Then we will return to how this pre-linguistic order is embedded in the linguistically driven imagination. Finally, we will move to reminiscence.

The weight of (1) previous experiences in shaping the perceiver's φαντασίαι is clear from the definition itself of φαντασία in *De anima* III 3, 429a 1-2, as a movement which is generated by the act of sense-perception, and by the whole of *De insomniis*, which works out a complete theory about sensory mistake on the ground of this definition. The idea that φαντάσματα are re-activated according to an order which mirrors

(with some distortions) the order of the original experiences underlies the whole theory of Aristotle about dreams and is explicitly repeated in the *De memoria et reminiscentia*:

« συμβαίνουσι δ' ἀναμνήσεις ἐπειδὴ πέφυκεν ἡ κίνησις ἥδε γενέσθαι μετὰ τήνδε [exercises of recollection can happen because this movement is such as to come after that other (movement)] » (*De memoria* 2, 451b 10-11).

Aristotle is also ready to tell us (451b 13-14) that, when this does not happen by necessity, due to the necessary mutual entanglement of two features of the environment (and therefore of the sensory experiences we have of these features), it happens on account of habitude (« ἔθει », 451b 14).

As far as (2) biological individual characteristics are concerned, we can read these two text :

« οἱ δὲ μελαγχολικοὶ [...] διὰ τὸ μεταβλητικὸν ταχὺ τὸ ἐχόμενον φαντάζεται αὐτοῖς [melancholic people (...): on account of their disposition to change, what follows (in the series of φαντασίαι) rapidly appears to them] » (*De insomniis* 2, 464a 32 - 464b 1).

« ἔτι δὲ διὰ τὴν σφοδρότητα οὐκ ἐκκρούεται αὐτῶν ἡ κίνησις ὑφ' ἐτέρας κινήσεως [and, on account of its strength, the <phantastic> movement is not repelled by any other movement] » (*De insomniis* 2, 464b 4-5).

I have chosen those texts, not only because they point to the importance of physiological features of the individual in shaping its cognitive attitudes, but also because here is clearly stated the nature of the order that Aristotle has in mind: this order is an order of consecution.

Now, how come that the φαντάσματα stored during the various acts of sense-perceptions do not simply produce a chaos of incoherent hallucinations, but produce, instead, an organized *habitus* (« ἔθος ») which obeys to such a sequence or consecution?²⁶ Because what happens in some given succession in the environment outside produces, in the sense-organs, a series of φαντάσματα whose consecution corresponds to the succession between the experiences in which the φαντάσματα were originally produced.

If we can extrapolate a conclusion from his remarks about melancholic people, it seems that Aristotle held that sentient beings have individual attitudes to composition of φαντάσματα, and that these attitudes differ on account of the individual physical complexion, of past experiences,

²⁶ I here give only a sketch of my conclusions about this topic: a complete discussion is to be found in Feola 2016.

and of course of the kind of sense-organs of that given kind of animal. I call this attitude to create chains of φαντάσματα²⁷ « phantastic *habitus* » of the species or of the individual, and we can define it as the fact that, in any given situation *X*, αἴσθημα *Y* will be followed by the φάντασμα *W* more probably than by any other φάντασμα.

By increasingly storing elementary φαντάσματα that are produced by repeated episodes of sense-perception of elementary *qualia*, the phantastic *habitus* comes to exhibit varieties and regularities that mirror the environmental ones, on account of statistical necessity.²⁸ These phantastic habits create, in turn, perceptual habits: habits to perceive the environment in such or such a way, ways that are typical of the species or of the individual, and that are conditioned by the φαντάσματα that have been stored in previous experiences and that are at hand for usage as material for new episodes of cognition.

This stage of cognitive development, according to Aristotle, pertains, in various measures, also to many species of not-human animals.²⁹ But rational animals can do more; and here we return to the linguistic order which superimposes itself on this perceptual order we have now described: « and in fact “deergoat” too means something; but it does not mean the true or false yet » (*De interpretatione* 1, 16a 16-18). The deer-goat, although never experienced by any human being, can anyway be imagined, due to the fact that Greek language can connect the word for « goat » to the word for « deer ».

9. Getting orientated in our phantastic habitus

Can we go beyond this kind of performances? Yes, of course, as everyone of us knows well, and as Aristotle knew too:

« τῶ γὰρ ἔθει ἀκολουθοῦσιν αἱ κινήσεις ἀλλήλαις, ἦδε μετὰ τήνδε, καὶ ὅταν τοίνυν ἀναμνησθεσθαι βούληθαι, τοῦτο ποιήσει ζητήσῃ λαβεῖν ἀρχὴν κινήσεως, μεθ' ἣν ἐκείνη ἔσται [it is by habitude that (sensory) motions follow to each other, this one after this other one; therefore, when

²⁷ Labarrière 1990, 420 describes this attitude as a « proto-réminiscence ».

²⁸ This was a great interpretative intuition by Beare 1906, 315: according to him, Aristotle held that the successions of the phantastic movements imitate, as a statistical regularity, the regularities of the features of the environment in which the animal live, because those regularities dictate the regularities in the animal's experience.

²⁹ Cf. *Historia animalium* VIII 1, 588a 25 - 588b 10; for a discussion of this bit of doctrine, cf. Coles 1997 (see, in particular, 316 and 318-319).

we want to recollect, we do just this: we will try to catch a principle of motion, after which there will be that one <int. the one we are searching for>] » (*De memoria* 2, 451b 28-31).

Even if the details of the *ars mnemonica* which Aristotle here takes as a model for his theory are unknown to us, what seems clear is that, if we have a vague idea of what we want to remember, we can search, in the sets of the φαντάσματα that pertain to that domain of our past experience, for a φάντασμα which has the key-feature of being a φάντασμα which, with a high degree of probability, will be associated with the φάντασμα of the thing we want to recollect, because the two pertain to the same set of things (either the same category of things, or the same place, or the same time, or the same course of events, etc). Once we have activated the φάντασμα which is ready at hand, other φαντάσματα will be activated, among which, if we have chosen well the first item of the chain, there will also be the φάντασμα we were searching for. This means that Aristotle is taking for granted a power we should have by nature, and that the art of recollection tries to educate: the power of following the nodes of the network of our phantastic association; otherwise said: the power of getting orientated in our own phantastic habitus.

10. Manipulating our own fantastic *habitus*

This is not the whole story. Not only we can get orientated in our own *habitus* of phantastic associations. We can also manipulate it: we can populate it with deer-goats; or we can create a whole imaginary landscape, e.g. the plain of Troy or the map of Odysseus' voyages, which will be useful if we want to compose the *Iliad* or the *Odissey*. We can also act in a more pervasive fashion on our *habitus*, by giving it a permanent order and arranging it according to the system of the mnemonics places: in this case, we will have to create a whole imaginary landscape (a building, a street, a city) in which we will « put » the items we think we could, sooner or later, need to recollect. It is highly probable that the mind of ancient orators was completely shaped by this kind of training, and therefore that their mental associations were completely modelled by the imaginary landscapes of the *loci mnemonici*.³⁰

³⁰ On the importance, for Aristotle's treatise *On Memory*, of this kind of practices, see Sorabji 1972.

This creative power is due to the combinatory features of language: in the case of universal items, the items we want to recollect can be recalled whenever we want just by telling their names (« dog », « man », « triangle », etc.). In the case of imaginary items or of concrete particular items, more pervasive methods will be needed, which combine the power of language with other ways of modelling our own imagination, in a way which is similar to the methods that were taught by the mnemotechnic, or to the methods that were used by Homer in composing his poems³¹.

11. Conclusions

Now we are finally able to understand Aristotle's theory about ἀνάμνησις:

« ὅταν οὖν ἀναμνησκόμεθα, κινούμεθα τῶν προτέρων τινὰ κινήσεων, ἕως ἂν κινήθῶμεν μεθ' ἧν ἐκείνη εἴωθεν [hence, when we recollect, we move ourselves with some of the movements that <in the usual order of the movement> come before <the one we want to catch>, till we are moved <by that movement> after which that one <we are searching for> usually comes » (*De memoria* 2, 451b 16-18).

When we exercise anamnesis, we do something very complex: we go beyond the act of getting orientated in our phantastic *habitus* just following the nodes between different chains of φαντάσματα and creating new chains; we exercise what we could call a « 2nd order orientation ». We trace the origin of each node, retracing the time-location (the position in the « film » of our life) and the situation in which we acquired that φάντασμα, recalling, in a more or less detailed way, the other φαντάσματα with which that single bundle of φαντάσματα is associated, thus contextualizing it.

To conclude: the power of reminiscence is the power (1) to trace the associative links to which our phantastic *habitus* obeys and (2) to use these links (after having appropriately educated them) in order to speed up the recovering of various informations about our past experiences in the framework of a more or less articulated autobiography.

³¹ An analysis of the traces left in the structure and features of *Iliad* and *Odyssey* by the massive usage of various kinds of mnemonic technics can be found in Minchin 2001.

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METAPHYSICA Z 17

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Metaphysica Z 17 pourrait être considéré comme un texte dont la présentation ne s'impose pas, lorsque l'on s'intéresse à la question du langage chez Aristote. Il s'agit en effet de la reprise conclusive de l'examen sur la nature de l'οὐσία, qui a fait l'objet du livre Z. L'οὐσία est alors caractérisée en Z 17 comme « principe et comme cause » (1041a 9-10). L'οὐσία dont il s'agit est celle sur laquelle porte l'interrogation depuis Z 3, à savoir l'οὐσία au sens de forme¹. L'οὐσία, au sens de forme, est ainsi posée comme « principe et cause » pour la substance composée. Cette fonction causale de l'οὐσία induit un déplacement de l'objet principal de l'examen qui va maintenant se concentrer sur la fonction causale de la substance formelle : quel type de cause est donc cette substance (1041a 9-10) ? Par la suite, la recherche sur la cause est conduite à partir de l'examen de l'expression de la fonction causale : le « par quoi » (διὰ τί). Ainsi, avec ce déplacement, une question d'expression devient l'objet premier de l'étude qui se développe maintenant par et dans l'analyse des énoncés du type : « *par quoi* x appartient-il à a ? » (1041a 10-11). Ce qui est en question sous cet intitulé est la relation entre une propriété (désignée ici par x) et un substrat (désigné ici par a). La recherche sur la forme comme principe et cause équivaut donc à étudier par quoi une propriété appartient à un

¹ Après avoir distingué entre quatre sens de l'οὐσία – être ce que c'est, universel, genre et substrat – Z 3, 1028b 33-36 exclut l'un de ces sens possibles, celui du substrat (ὕποκειμενον). Poser que la substance est le substrat dernier aurait pour conséquence l'assimilation de la substance à la matière (1029a 26-27). Il reste donc, puisque la substance composée est postérieure à ses composants (1029a 30-32), à examiner, parmi les trois sens de la substance – matière, forme, composé des deux – la sorte de substance la plus problématique, à savoir la forme (1029a 32-33).

substrat (ou à un sujet)². Une telle démarche conduira à la comparaison entre deux types d'énoncés différents.

En effet, cette première formulation (« par quoi x appartient à a »), expression de la recherche de la cause, est manifeste en certains cas d'appartenance, mais non en tous. Tout l'intérêt du texte réside d'ailleurs dans la transformation de l'énoncé qui ne présente pas explicitement cette structure d'appartenance en un énoncé capable de présenter une telle structure. La distinction entre les deux formes d'énoncé, que l'on peut caractériser comme énoncé prédicatif simple, dans le cas explicite, et comme énoncé de définition, dans l'autre cas, fait de ce passage de Z 17 le témoin d'une thèse aristotélicienne sur les énoncés, qui est en rapport avec les analyses de certains dialogues de Platon, notamment celles du *Sophiste* et du *Théétète*. Le débat, interne à l'Académie, sur la nature de la causalité de la forme ne peut pas ne pas être aussi un débat sur la nature des λόγοι, puisque c'est dans les λόγοι que, depuis le *Phédon*, la recherche des causes a été située par Socrate. Lu ainsi, le texte de Z 17 présente bien un intérêt pour l'analyse des énoncés. C'est donc sous cette perspective que nous l'envisagerons.

Comment se distinguent les deux types d'énoncé dont il est question ? L'un, énoncé prédicatif simple, formule explicitement un rapport entre deux éléments distincts, puisqu'il est constitué de deux termes, entre lesquels une appartenance est affirmée. Tel est le cas, quand on demande « par quoi (διὰ τί) » une chose appartient à une autre (1041a 11), par exemple, par quoi « musicien » appartient à « être humain », ce qui revient à demander par quoi l'être humain est musicien. Il n'en va plus de même, lorsque l'on recherche « par quoi la chose est elle-même (διὰ τί αὐτό ἐστὶν αὐτό) ». En effet, la question se pose alors de savoir comment il faut formuler la question pour que « chercher par quoi une chose est elle-même » ne soit pas équivalent à « ne rien chercher » (1041a 14-15). Autrement dit, la question se pose de savoir comment formuler la question pour que la réponse à la question « par quoi » ne consiste pas en une tautologie qui dirait que la chose est ce qu'elle est par elle-même ; ou, ce qui serait à peine mieux, pour éviter que la réponse ne soit « que chaque chose est indivisible par rapport à elle-même (ὅτι ἀδιαίρετον πρὸς αὐτὸ ἕκαστον) », ce qui est « court (σύντομον) » et

² La distinction entre « substrat » et « sujet » est sans pertinence ici, comme le montre la suite du chapitre.

« vaut pour toute chose (κατὰ πάντων) » et, en outre, concerne plus « l'être de l'un (τὸ ἐνὶ εἶναι) » que l'être de la chose (1041a 18-20). Ni l'être de l'être ni l'être de l'un ne sont donc une réponse adéquate à une question qui porte sur l'être d'une chose³. Pour que la recherche ait un intérêt, il faut formuler la question d'une certaine façon, à savoir en cherchant « par quoi l'être humain est un animal de telle sorte (διὰ τί ἄνθρωπος ἐστὶ ζῷον τοιονδί) » (1041a 20-21). Alors, il y aura bien un objet pour la recherche, celui de savoir « par quoi » s'établit le rapport entre deux termes différents, ou comment se constitue leur appartenance réciproque.

Les exemples justifient notre assertion précédente, à savoir que les deux formes d'énoncés correspondent d'une part à l'énoncé prédicatif simple composé d'un sujet et d'un prédicat (« être humain » / « musicien »), selon le rapport d'une substance et d'un accident; d'autre part à l'énoncé prédicatif de définition (« animal » / « être humain »), prédication de la matière par la forme, ou « prédication hylémorphique »⁴, selon le rapport d'un genre et de ses différences. Cette présentation du problème a un présupposé en ce qui concerne les énoncés: la définition est un énoncé. Cet énoncé donne la cause formelle, si l'on situe l'examen au niveau des discours, laquelle correspond, dans le cas d'un examen physique, à la cause finale et, en certains cas, à la cause motrice. L'énoncé de définition exprime donc le τὸ τί ἦν εἶναι⁵, qui énonce la cause « par quoi » la chose est ce qu'elle est :

[T1] *Metaphysica* Z 17, 1041a 27-30 « φανερόν τοίνυν ὅτι ζητεῖ τὸ αἴτιον· τοῦτο δ' ἐστὶ τὸ τί ἦν εἶναι, ὡς εἰπεῖν λογικῶς, ὃ ἐπ' ἐνίων μὲν ἐστὶ τίνος ἕνεκα, οἷον ἴσως ἐπ' οἰκίας ἢ κλίνης, ἐπ' ἐνίων δὲ τί ἐκίνησε πρῶτον· αἴτιον γὰρ καὶ τοῦτο. ἀλλὰ τὸ μὲν τοιοῦτον αἴτιον ἐπὶ τοῦ γίγνεσθαι ζητεῖται καὶ φεیرهσθαι, θάτερον δὲ καὶ ἐπὶ τοῦ εἶναι [ainsi donc, on cherche manifestement la cause, c'est-à-dire l'être ce que c'est, pour le dire d'un point de vue dialectique. C'est chercher, dans certains cas, quelle est la fin, par exemple peut-être dans le cas d'une maison ou d'un lit, et, en d'autres cas, quel est le moteur premier, car c'est aussi une cause. Mais on cherche une cause de cette sorte-ci quand il s'agit de génération et de corruption, l'autre cause quand il s'agit aussi de l'être] ».

³ On peut mettre en rapport cette conclusion avec le passage de *Metaphysica* Γ 2, 1003b 26-27 qui affirme que « être homme » et « un homme » est la même chose que « homme ».

⁴ Selon l'expression forgée par Brunschwig 1979, 131.

⁵ Le lien entre τὸ τί ἦν εἶναι et définition avait déjà été posé en Z 4, 1030a 6-7.

La suite du texte de Z 17 explicite la raison de ce parallélisme entre la définition et le domaine de la cause formelle : il tient à une question d'articulation interne. Ce point du parallélisme entre les énoncés et le système des causes⁶ n'est pas celui qui nous occupe maintenant, car l'intérêt de Z 17 pour la question présente, à savoir celle du langage et donc des énoncés, est le rôle que ce texte accorde à la syllabe comme exemple d'une juste expression de l'énoncé de définition. Z 17 montre ainsi comment la définition acquiert le statut d'un énoncé et la nature de cet énoncé. Il se caractérise par une forme de composition ordonnée, comparable à celle d'une syllabe. La syllabe est l'exemple d'un opérateur d'articulation syntaxique⁷ interne.

Après avoir explicité le présupposé – à savoir le fait que l'énoncé de définition est un λόγος, ce qui conduit Aristote à nier la thèse platonicienne du *Sophiste* selon laquelle l'énoncé minimal est constitué d'un nom et d'un verbe –, nous en viendrons à l'analyse de la syllabe qui, contrairement aux assertions de Théétète, dans le dialogue du même nom, est une structure d'articulation interne d'un tout, supérieure à la somme de ses parties.

1. L'énoncé de définition

a) *L'articulation interne*

L'énoncé de définition qui cherche à expliciter par quoi une chose est elle-même impose la prise en compte des articulations internes à un terme simple, dont il faut donc « corriger » l'apparente simplicité :

[T2] *Metaphysica* Z 17, 1041a 32 - 1041b 9 : « λανθάνει δὲ μάλιστα τὸ ζητούμενον ἐν τοῖς μὴ κατ' ἀλλήλων λεγομένοις, οἷον ἄνθρωπος τί ἐστι ζητεῖται διὰ τὸ ἀπλῶς λέγεσθαι ἀλλὰ μὴ διορίζειν ὅτι τάδε τόδε. ἀλλὰ δεῖ διαρθρώσαντας ζητεῖν· εἰ δὲ μὴ, κοινὸν τοῦ μηθὲν ζητεῖν καὶ τοῦ ζητεῖν τι γίγνεται. ἐπεὶ δὲ δεῖ ἔχειν τε καὶ ὑπάρχειν τὸ εἶναι, δῆλον δὴ ὅτι τὴν ὕλην ζητεῖ διὰ τί <τί> ἐστίν· οἷον οἰκία ταδί διὰ τί; ὅτι ὑπάρχει ὃ ἦν οἰκία εἶναι. καὶ ἄνθρωπος τοδί, ἢ τὸ σῶμα τοῦτο τοδί ἔχον. ὥστε

⁶ Voir Jaulin 2015, 92-95 et Jaulin 2014.

⁷ On entend par ce terme de « syntaxe » un niveau de composition antérieur au niveau signifiant. Ce qui est le niveau de la syllabe pour Aristote, voir *Poetica* 20, 1456b 34-38 et le commentaire de Dupont-Roc & Lallot 1980, 321. En outre, on le verra, l'énoncé de définition est construit selon les règles d'une division ordonnée ; l'ordre (τάξις) de la division est central pour les divisions constitutives de la définition.

τὸ αἴτιον ζητεῖται τῆς ὕλης (τοῦτο δ' ἐστὶ τὸ εἶδος) ᾧ τί ἐστίν· τοῦτο δ' ἢ οὐσία [ce que l'on cherche demeure caché surtout dans les choses qui ne se disent pas les unes des autres, par exemple <quand> on cherche ce qu'est un humain, parce qu'on énonce simplement <la question> et sans distinguer que ces choses que voici sont ceci. Mais il faut chercher en *distinguant les articulations*⁸, sinon il y aurait un point commun entre ne rien chercher et chercher quelque chose. Puisqu'il faut avoir connaissance de la chose et qu'elle doit d'abord exister, on cherche bien évidemment pourquoi la matière est quelque chose, par exemple pourquoi ces matériaux-ci sont-ils une maison ? Parce qu'il leur appartient ce qui est l'être d'une maison. Et pourquoi ceci est-il un humain, ou pourquoi ceci qui possède ce corps est-il un humain ? En conséquence, on cherche la cause, c'est-à-dire la forme, par laquelle la matière est quelque chose, c'est-à-dire la substance] ».

Chercher en corrigeant la simplicité trompeuse de l'expression est conduire la recherche en articulant par quoi la matière est quelque chose. Il y a bien un dédoublement dans l'énoncé puisqu'il y a distinction entre une pluralité d'éléments (« ces matériaux-ci ») et leur composition ordonnée (« la maison »). Si l'on cherche à savoir « par quoi » ces matériaux-ci sont une maison, on évoquera les différents moments de la construction qui sont autant de mises en forme successives des différents matériaux. L'énoncé de définition est celui dont la formule équivaut précisément à donner les différences par lesquelles la matière, à savoir le genre qui est comme une matière, devient telle espèce différenciée. Lors de la présentation de l'énoncé de définition, en Z 12, une analogie avait déjà été exposée entre le genre et la voix d'une part, les formes et les lettres d'autre part :

[T3] *Metaphysica* Z 12, 1038a 5-9 « εἰ οὖν τὸ γένος ἀπλῶς μὴ ἔστι παρὰ τὰ ὡς γένους εἶδη, ἢ εἰ ἔστι μὲν ὡς ὕλη δ' ἐστίν (ἢ μὲν γὰρ φωνῆ γένος καὶ ὕλη, αἱ δὲ διαφοραὶ τὰ εἶδη καὶ τὰ στοιχεῖα ἐκ ταύτης ποιούσιν), φανερόν ὅτι ὁ ὀρισμὸς ἐστίν ὁ ἐκ τῶν διαφορῶν λόγος [si donc le genre, au sens simple, n'existe pas en dehors des espèces comme formes du genre, ou s'il existe, mais comme matière (car la voix est genre, c'est-à-dire matière, mais ses différences produisent à partir d'elle les formes, c'est-à-dire les lettres⁹), manifestement la définition est l'énoncé qui résulte des différences] ».

⁸ En 1041b 2, διαρθρῶσαντας que nous traduisons est la version de A^b et celle du Ps. Alexandre, tandis que EJ donne διορθῶσαντας qui est sans doute une meilleure version d'un point de vue philologique, mais d'un moindre intérêt philosophique. On remarquera cependant que l'une des versions (EJ) affirme la nécessité de la correction dont l'autre (A^b) décrit le contenu. Frede & Patzig 1988, 316 choisissent également διαρθρῶσαντας.

⁹ Bien que Laspia 2008, 188 ait argumenté de manière à emporter la conviction que « στοιχεῖον non significa “lettera” » nous maintenons la traduction par « lettre », même

Avant d'entrer dans le traitement d'un problème annexe¹⁰ qui tient au fait que tantôt, comme dans le texte précédent, ce sont les lettres qui sont apparentées à la forme, tantôt la syllabe, comme on le verra dans la suite de Z 17, on doit retenir la thèse que la définition (ὀρισμός) est un λόγος, ce qui induit une différence relativement à Platon dans la classification des énoncés. On peut résumer la divergence ainsi : la définition est, pour Aristote, un λόγος, ce qu'elle n'est pas pour Platon. Aristote soutient, en effet, dans la *Poétique* une position non platonicienne lorsqu'il pose que la définition est un λόγος et qu'un λόγος n'est pas nécessairement composé de noms et de verbes, de sorte que, bien que la définition soit sans verbe, elle est un λόγος, « une voix composée signifiante » :

[T4] *Poetica* 20, 1457a 23-30 : « λόγος δὲ φωνὴ συνθετὴ σημαντικὴ ἧς ἔνια μέρη καθ' αὐτὰ σημαίνει τι (οὐ γὰρ ἅπας λόγος ἐκ ῥημάτων καὶ ὀνομάτων σύγκειται, οἷον ὁ τοῦ ἀνθρώπου ὀρισμός, ἀλλ' ἐνδέχεται ἄνευ ῥημάτων εἶναι λόγον, μέρος μέντοι ἀεὶ τι σημαῖνον ἔξει) οἷον ἐν τῷ βαδίζει Κλέων ὁ Κλέων. εἷς δὲ ἐστὶ λόγος διχῶς, ἢ γὰρ ὁ ἐν σημαίνων, ἢ ὁ ἐκ πλειόνων συνδέσμων, οἷον ἢ Ἰλιάς μὲν συνδέσμων εἷς, ὁ δὲ τοῦ ἀνθρώπου τῷ ἐν σημαίνειν [Dupont-Roc & Lallot 1980 : l'énoncé est une voix composée signifiante dont certaines parties signifient quelque chose par elles-mêmes (car il n'est pas vrai que tout énoncé se compose de verbes et de noms, mais – prenons par exemple la définition de l'homme – on peut avoir un énoncé sans verbe ; toutefois la partie y signifiera toujours quelque chose), par exemple dans *Cléon marche, Cléon*. Il y a pour un énoncé deux manières d'être un : ou bien il signifie une chose une, ou bien il est fait d'une pluralité liée par conjonction, par exemple *l'Illiade* est une par conjonction, l'énoncé de l'homme parce qu'il signifie une chose une] ».

R. Dupont-Roc et J. Lallot explicitent la référence critique à Platon contenue dans ce passage :

si une traduction par « phonème » au lieu de « lettre » serait amplement justifiée. La raison en est que la différence entre les deux, telle qu'elle est exposée au début de *De Interpretatione* (cf. 1, 16a 3-5) est seulement une différence de moyen d'expression, laquelle n'induit pas de différence pour le raisonnement qui suit, ni même peut-être entre phonèmes et lettres (voir, plus bas note 13). Laspia 2008 note d'ailleurs la parenté de l'usage phonétique et de l'usage graphique (190), même si elle insiste sur le fait que στοιχεῖον est « un termine tecnico della teoria metrica e ritmica » (194). Cependant le texte d'Aristote qu'elle cite comme témoin de cette entente « métrique et rythmique » (à savoir *De partibus animalium* II 16, 660a 2-8) traite non de στοιχεῖα, mais de γράμματα que Pellegrin 2011 traduit d'ailleurs par « phonèmes ». Que l'on traduise par « élément », « lettre » ou « phonème », le point important est qu'il s'agit d'une voix articulée ; je reviendrai sur ce point, plus bas. Je remercie L. Gazziero de m'avoir signalé l'existence des articles de P. Laspia.

¹⁰ Voir plus bas, sous « La syllabe », le point b) « Les lettres et la syllabe ».

[T5] Dupont-Roc & Lallot 1980, 337 : « la parenthèse des lignes 1457a 24-27 prend le contre-pied explicite de Platon pour qui (*Sophiste*, 262c) un énoncé comme “l’homme apprend”, composé d’un nom et d’un verbe, constitue le λόγος “le plus réduit et le premier”. Pour Aristote, il s’agit là de la définition de l’énoncé déclaratif simple (*De interpretatione* 5, 17a 20) ».

L’usage aristotélicien courant de la définition comme λόγος manifeste la prise en compte d’un niveau d’articulation, antérieur à l’articulation propositionnelle de l’énoncé déclaratif, dont Platon avait affirmé l’impossibilité (*Sophiste* 262a-c). En outre, Aristote distingue entre la forme d’articulation de chacun des deux énoncés : l’une, la définition, signifie une chose une, tandis que l’autre a une unité par conjonction, comme *l’Iliade*. Ce sont là deux formes canoniques de différences de l’unité, que l’on retrouve distinguées en Z 4, 1030a 3-17, de manière plus développée, puisque l’énoncé de définition est donné comme « énoncé d’une chose première » à l’opposé d’un énoncé prédicatif dont l’unité par conjonction¹¹ est comparée à celle, par continuité, de *l’Iliade*¹².

b) *Le λόγος qui résulte des différences*

« La définition est ainsi – selon Aristote – un λόγος qui résulte des différences et en particulier de la dernière d’entre elles, du moins si l’on procède correctement (ὁ ὀρισμὸς λόγος ἐστὶν ὁ ἐκ τῶν διαφορῶν, καὶ τούτων τῆς τελευταίας κατὰ γε τὸ ὀρθόν) » (Z 12, 1038a 28-30). Procéder correctement revient à diviser de manière continue par la différence de la différence (1038a 25-26) à partir d’un genre qui comporte plusieurs différences, non une seule, comme le voudraient ceux qui pratiquent les divisions par dichotomie. Plusieurs espèces peuvent ainsi être engendrées à partir d’un seul genre. Cette continuité dans la différenciation d’une différence initiale est ce qui constitue un type d’unité discursive, différent de celui d’une unité par conjonction. Le discours sur la division du genre par les différences se retrouve en *De partibus animalium* I 3, 643b 9-35. Les critères sont identiques en tous les contextes et organisés en fonction de la forme d’unité visée pour l’énoncé.

¹¹ Il faut noter que cette unité par « conjonction » est une unité συνδέσμων. En *Poetica* 20, 1456b 38 sq, le σύνδεσμος est classé, comme la syllabe, parmi les « voix non significantes » ; nous y reviendrons.

¹² Voir encore Z 4, 1030b 8-10.

Prendre la différence de la différence est assurer l'unité de l'énoncé qui serait, sans cela, une unité par conjonction :

[T6] *De partibus animalium* I 3, 643b 17-19 : « ἐὰν δὲ μὴ διαφορᾶς λαμβάνῃ τὴν διαφορὰν, ἀναγκαῖον ὥσπερ συνδέσμων τὸν λόγον ἕνα ποιῶντας, οὕτω καὶ τὴν διαίρεσιν συνεχῆ ποιεῖν [Pellegrin 2011 : mais si l'on ne prend pas la différence d'une différence, il sera nécessaire de rendre la division continue, à la manière dont, par une conjonction, on fait un discours un] ».

Cette forme d'unité non conjonctive doit être nécessairement visée par les divisions, puisque la totalité (τὸ πᾶν) est une unité :

[T7] *De partibus animalium* I 3, 643a 33-34 : « τοῦτο γὰρ ἡ συνέχεια βούλεται τῶν ἀπὸ τοῦ γένους κατὰ τὴν διαίρεσιν διαφορῶν ὡς ἔν τι τὸ πᾶν ὄν [Pellegrin 2011, modifiée : c'est ce que réclame la continuité des différences qui viennent d'un genre quand on le divise, car le tout est quelque chose d'un] ».

On posera le niveau de la dernière différence comme ce niveau de la totalisation unifiée des différences dont le genre est une partie. Ce statut de partie de l'énoncé de définition confère au genre la fonction de matière de l'énoncé. La continuité de la différenciation est la solution apportée par Aristote à la question de savoir comment obtenir une unité de signification, qui comporte une pluralité articulée: la différence ultérieure enchaîne la différence antérieure dans une détermination supplémentaire qui la stabilise et cela jusqu'à l'ultime détermination qui accomplit la forme totale de l'énoncé. Le terme dernier est ainsi celui qui accomplit la totalisation de l'énoncé.

L'importance de la continuité de la différenciation dans la constitution de l'énoncé de définition induit une égale importance pour l'ordre (τάξις) selon lequel les différences sont articulées. L'insistance sur la considération de l'ordre se retrouve dans les *Analytiques*, notamment en *Analytica posteriora* II 13, 96b 30-35 et 97a 23 sq. L'articulation interne de l'énoncé de définition est donc l'articulation ordonnée des différences: la dernière différence est la forme qui donne la formule spécifique.

Metaphysica H 3, 1043b 32 - 1044a 9 exposera la raison pour laquelle l'οὐσία comme sa définition ne sont pas une addition de monades ou de points. Si l'on veut comparer les substances aux nombres, il faut que ce soit non un nombre de monades ou de points dont la somme ne pourrait être obtenue que par addition, mais une unité formée par l'intégration de plusieurs différences dans une totalité unifiée : l'unité de la substance est celle

« <d'> un état accompli et <d'> une nature (έντελέχεια καὶ φύσις τις) » (1044a 9). Cette forme d'unité est encore opposée à une autre forme d'unité qui n'est plus nommée unité par conjonction, mais désignée comme celle d'un tas (1044a 4). Or, en Z 17, la syllabe expose précisément la forme de cette unité qui s'oppose à celle du tas, comme à celle de l'unité par conjonction.

2. La syllabe

a) *Une forme syntaxique d'articulation*

La suite du texte de Z 17 expose, en effet, que la syllabe illustre la forme d'unité qui répond à la question de savoir par quoi telle matière est telle substance. La question par quoi la matière est quelque chose, c'est-à-dire par quoi des matériaux sont-ils une maison, ou par quoi ce corps est-il un humain – cette dernière question n'est pas différente de celle formulée auparavant sous la forme « par quoi l'humain est un animal de telle sorte » – trouve sa réponse dans la forme d'articulation d'un tout, dont la syllabe fournit le modèle :

[T8] *Metaphysica* Z 17, 1041b 11-33 : « ἐπεὶ δὲ τὸ ἐκ τινος σύνθετον οὕτως ὥστε ἐν εἶναι τὸ πᾶν, [ἄν] μὴ ὡς σωρὸς ἀλλ' ὡς ἡ συλλαβὴ – ἡ δὲ συλλαβὴ οὐκ ἔστι τὰ στοιχεῖα, οὐδὲ τῷ “β” ταῦτὸ τὸ “β” καὶ “α”, οὐδ' ἡ σὰρξ πῦρ καὶ γῆ (διαλυθέντων γὰρ τὰ μὲν οὐκέτι ἔστιν, οἷον ἡ σὰρξ καὶ ἡ συλλαβή, τὰ δὲ στοιχεῖα ἔστι, καὶ τὸ πῦρ καὶ ἡ γῆ)· ἔστιν ἄρα τι ἡ συλλαβή, οὐ μόνον τὰ στοιχεῖα τὸ φωνῆεν καὶ ἄφωνον ἀλλὰ καὶ ἕτερόν τι, καὶ ἡ σὰρξ οὐ μόνον πῦρ καὶ γῆ ἢ τὸ θερμὸν καὶ ψυχρὸν ἀλλὰ καὶ ἕτερόν τι – εἰ τοῖνυν ἀνάγκη κάκεινο ἢ στοιχεῖον ἢ ἐκ στοιχείων εἶναι, εἰ μὲν στοιχεῖον, πάλιν ὁ αὐτὸς ἔσται λόγος (ἐκ τούτου γὰρ καὶ πυρὸς καὶ γῆς ἔσται ἡ σὰρξ καὶ ἔτι ἄλλου, ὥστ' εἰς ἄπειρον βαδιεῖται)· εἰ δὲ ἐκ στοιχείου δηλον ὅτι οὐχ ἑνὸς ἀλλὰ πλειόνων, ἢ ἐκεῖνο αὐτὸ ἔσται, ὥστε πάλιν ἐπὶ τούτου τὸν αὐτὸν ἐροῦμεν λόγον καὶ ἐπὶ τῆς σαρκὸς ἢ συλλαβῆς. δόξειε δ' ἂν εἶναι τι τοῦτο καὶ οὐ στοιχεῖον, καὶ αἰτιὸν γε τοῦ εἶναι τοδὶ μὲν σάρκα τοδὶ δὲ συλλαβήν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. οὐσία δὲ ἐκάστου μὲν τοῦτο (τοῦτο γὰρ αἴτιον πρῶτον τοῦ εἶναι) – ἐπεὶ δ' ἔνια οὐκ οὐσίαι τῶν πραγμάτων, ἀλλ' ὅσαι οὐσίαι, κατὰ φύσιν καὶ φύσει συνεστήκασιν, φανεῖται ἂν [καὶ] αὕτη ἡ φύσις οὐσία, ἢ ἔστιν οὐ στοιχεῖον ἀλλ' ἀρχή – στοιχεῖον δ' ἔστιν εἰς ὃ διαιρεῖται ἐνυπάρχον ὡς ὕλην, οἷον τῆς συλλαβῆς τὸ “α” καὶ τὸ “β” [pendant le composé de quelque chose est formé de telle sorte que le tout soit un, non comme un tas, mais comme la syllabe ; a) la syllabe n'est pas ses éléments¹³,

¹³ Στοιχεῖον est ici traduit par « élément », qu'il s'agisse de phonèmes ou de lettres, dans le cas de la syllabe. Le texte procède, en effet, à une généralisation fonctionnelle sur

B et *A* ne sont pas la même chose que *BA*, ni la chair la même chose que du feu et de la terre. En effet, après décomposition <en éléments>, les composés n'existent plus, comme la chair et la syllabe, mais les éléments existent <encore>, ainsi que le feu et la terre. b) La syllabe est donc quelque chose, non seulement ses éléments, voyelle et consonne, mais encore autre chose ; la chair n'est pas seulement du feu et de la terre, ou du chaud et du froid, mais encore autre chose. c) Donc, s'il est vrai que cette autre chose aussi est nécessairement soit un élément, soit formée d'éléments, d) si c'est un élément, on reviendra au même raisonnement, car la chair sera formée de ce feu et de cette terre et encore d'un autre élément, de sorte qu'on ira à l'infini ; e) or, si elle est formée d'éléments, ce n'est évidemment pas d'un seul, mais de plusieurs, sans quoi cet élément sera la chose, de sorte qu'à nouveau nous ferons dans ce cas le même raisonnement que sur la chair ou sur la syllabe. f) Toutefois on pourrait penser que c'est quelque <autre> chose, non un élément, et la cause précisément du fait que ceci est chair, cela syllabe, et ainsi de suite pour les autres composés. Or c'est la substance de chaque chose, car c'est la première cause de l'être. Et puisque certaines choses ne sont pas des substances, mais que toutes celles qui sont des substances sont constituées selon la nature et par nature, cette nature qui n'est pas un élément, mais un principe, sera manifestement la substance. Un élément est un résultat de la division, qui existe comme matière, par exemple le *A* et le *B* de la syllabe] ».

Les points principaux à retenir de ce texte sont les suivants : a) les éléments de la syllabe (phonèmes ou lettres) ne sont pas la syllabe : *B* et *A* ne sont pas la même chose que *BA*, de même que, dans les composés physiques, la chair n'est pas le feu ni la terre ; b) en conséquence, la syllabe est autre chose que ses éléments ; c) cette autre chose est soit un élément, soit formée d'éléments ; d) cette autre chose ne peut être un élément, car on entrerait dans un processus infini d'addition d'éléments sans jamais arriver à la composition des éléments, unité supérieure, en quoi consiste la syllabe¹⁴ ; e) s'il s'agit de la composition de plusieurs éléments, on se retrouve au point de départ : il s'agit d'une syllabe, et de nouveau on retrouve la question de savoir en quoi elle est autre que ses éléments f) Cette autre chose « qui n'est pas un élément », mais la cause de la constitution de la chose, sera la substance.

le στοιχεῖον : est appelé « élément » tout résultat de la division d'un tout, comme le montrent les dernières lignes du texte (1041b 31-33). On entend par « généralisation fonctionnelle » le fait que la référence du terme ne soit plus la chose désignée, mais le sens du mot lui-même. Un exemple de ce sens du terme στοιχεῖον est donné en *Metaphysica* I 1, 1052b 1-9.

¹⁴ Il s'agit d'une possibilité logique, puisque, en principe, ni les éléments ni les phonèmes ou les lettres ne sont en nombre infini.

Il résulte également des analyses qui précèdent i) la différence du principe et de l'élément ; ii) une conception de la substance formelle comme principe et cause de l'être, au sens où elle est une forme d'articulation unifiée (ou intégrée) des éléments.

La syllabe expose donc la forme d'unité interne d'un tout, constitué de plusieurs éléments, articulés selon un ordre progressif, qui rend raison de ce tout. BA non seulement n'est pas A ou B, mais n'est pas non plus AB. La syllabe est la forme propre de l'énoncé de la forme. En exposant l'ordre de composition des différences, elle explique « par quoi » la chose est ce qu'elle est. Avec la syllabe, on peut parler d'une conception syntaxique ou articulatoire de la forme, car la syllabe est définie dans la *Poétique* comme :

[T9] *Poetica*, 20, 1456b 34-35 : « φωνὴ ἄσημος συνθετὴ ἐξ ἀφώνου καὶ φωνῆν ἔχοντος· καὶ γὰρ τὸ ΓΡ ἄνευ τοῦ Α συλλαβὴ καὶ μετὰ τοῦ Α, οἷον τὸ ΓΡΑ ἀλλὰ καὶ τούτων θεωρῆσαι τὰς διαφορὰς τῆς μετρικῆς ἐστὶν [Dupont-Roc & Lallot 1980 : une voix non signifiante composée d'une partie muette et d'une partie vocalique – en effet *gr* sans *a* est une syllabe, et aussi avec *a* : *gra* – ; mais l'examen de ces distinctions-là relève de la métrique] » (cf. aussi *De interpretatione* 4, 16b 30-32).

La syllabe est ainsi une forme d'articulation minimale et non signifiante. Elle se distingue des autres « voix non signifiantes », telles la conjonction ou l'articulation, par le type d'unité qu'elle illustre. La syllabe expose donc à la fois 1) la forme d'une composition irréductible à ses éléments, 2) le fait que cette composition est syntaxique, 3) une forme d'unité différente de l'unité « par conjonction ». La différence entre les deux types d'unité est reprise à la fin du chapitre (1457a 28-30). La syllabe illustre le rôle causal de l'articulation dans la constitution des tous constitués. Le choix de la syllabe, unité non signifiante, est destiné à mettre en évidence la forme de l'articulation du tout constitué, comme sa cause, et à distinguer, logiquement, entre la syntaxe constitutive et le tout constitué qui en est le résultat. Ainsi illustre-t-elle le mode d'être de cette « autre » substance qui est cause pour les substances physiques.

On pourrait donc résumer la différence entre les deux sortes d'énoncés distingués en Z 17 par la différence de la forme de leur articulation : la syllabe dans le cas de la prédication de la matière par la forme, la conjonction dans le cas de l'énoncé prédicatif simple. La différence entre les énoncés est syntaxique du fait que la distinction tient à la forme du lien entre leurs éléments. Dans le cas de l'énoncé prédicatif, le lien est une

conjonction, un σύνδεσμος qui selon la définition de *Poétique* 20 ne peut être placée « au début d'un énoncé pris isolément » (1457a 3). Autrement dit, la conjonction établit une unité entre « plusieurs voix ». La définition du σύνδεσμος est presque équivalente à celle de l'articulation (ἄρθρον) qui, elle aussi, est établie entre « plusieurs voix » (1457a 6-10). Il s'agit de l'unité entre deux éléments qui demeurent extérieurs l'un à l'autre. Ce n'est plus le cas de la syllabe qui exprime l'intégration de plusieurs éléments dans une unité interne à un tout complet. Il y a donc des articulations de forme différente selon que ce qui est articulé forme une unité articulée de manière interne – la syllabe – ou, au contraire, maintient la coexistence de deux unités liées dans une relation d'extériorité, comme font la conjonction et l'articulation (ou jointure). La syllabe est ainsi la réponse à l'aporie du *Théétète* de Platon, relative à la somme et au tout, exprimée également par le rapport entre la syllabe et ses éléments (*Theaetetus* 203c - 205a). La syllabe fournit l'exemple d'une unité articulée comme un tout, laquelle n'est pas la somme de ses éléments, mais l'intégration progressive de ses éléments, pensés comme matière, dans une unité formelle supérieure¹⁵.

Cette conception de l'unité rend possible une conception du nombre qui n'est plus celle du nombre mathématique, composé de monades. Le nombre, en effet, en lui même n'est rien, sauf une multiplicité dont la nature dépend des unités qu'il regroupe¹⁶. La conception de l'unité, illustrée par la syllabe, permet désormais de penser la définition comme un nombre, à savoir un nombre de différences articulées, totalisées par la dernière différence. Le texte de *Metaphysica* H 3, auquel nous avons déjà fait allusion, expose cette conception du nombre, distincte du nombre mathématique composé de monades :

[T10] *Metaphysica* H 3, 1043b 32 - 1044a 9 : « φανερόν δὲ καὶ διότι, εἴπερ εἰσὶ πῶς ἀριθμοὶ αἱ οὐσίαι, οὕτως εἰσὶ καὶ οὐχ ὡς τινες λέγουσι μονάδων· ὅ τε γὰρ ὄρισμός ἀριθμὸς τις· διαιρετός τε γὰρ καὶ εἰς ἀδιαιρέτα (οὐ γὰρ ἄπειροὶ οἱ λόγοι), καὶ ὁ ἀριθμὸς δὲ τοιοῦτον. καὶ

¹⁵ Sur cette question, voir Centrone 2005.

¹⁶ *Metaphysica* N 1, 1088a 4-8 : « σημαίνει γὰρ τὸ ἓν ὅτι μέτρον πλήθους τινός, καὶ ὁ ἀριθμὸς ὅτι πλήθος μεμετρημένον καὶ πλήθος μέτρων (διὸ καὶ εὐλόγως οὐκ ἔστι τὸ ἓν ἀριθμὸς· οὐδὲ γὰρ τὸ μέτρον μέτρα, ἀλλ' ἀρχὴ καὶ τὸ μέτρον καὶ τὸ ἓν). [car l'unité signifie la mesure d'une pluralité et le nombre signifie une pluralité mesurée et une pluralité de mesures (c'est pourquoi il n'est pas raisonnable que l'un soit un nombre, car la mesure n'est pas non plus un ensemble de choses mesurées, mais la mesure et l'un sont des principes) ».

ὡσπερ οὐδ' ἀπ' ἀριθμοῦ ἀφαιρεθέντος τινὸς ἢ προστεθέντος ἐξ ὧν ὁ ἀριθμὸς ἐστίν, οὐκέτι ὁ αὐτὸς ἀριθμὸς ἐστίν ἀλλ' ἕτερος, κἂν τοῦλάχιστον ἀφαιρεθῇ ἢ προστεθῇ, οὕτως οὐδὲ ὁ ὀρισμὸς οὐδὲ τὸ τί ἦν εἶναι οὐκέτι ἔσται ἀφαιρεθέντος τινὸς ἢ προστεθέντος. καὶ τὸν ἀριθμὸν δεῖ εἶναι τι ᾧ εἷς, ὃ νῦν οὐκ ἔχουσι λέγειν τίνι εἷς, εἴπερ ἐστίν εἷς (ἢ γὰρ οὐκ ἔστιν ἀλλ' οἷον σωρός, ἢ εἴπερ ἐστί, λεκτέον τί τὸ ποιοῦν ἐν ἐκ πολλῶν)· καὶ ὁ ὀρισμὸς εἷς ἐστίν, ὁμοίως δὲ οὐδὲ τοῦτον ἔχουσι λέγειν. καὶ τοῦτο εἰκότως συμβαίνει· τοῦ αὐτοῦ γὰρ λόγου, καὶ ἡ οὐσία ἐν οὕτως, ἀλλ' οὐχ ὡς λέγουσιν τινες οἷον μονάς τις οὐσα ἢ στιγμή, ἀλλ' ἐντελέχεια καὶ φύσις τις ἐκάστη [mais il est manifeste aussi, s'il est vrai que les substances sont d'une certaine façon des nombres, qu'elles le sont ainsi, et non des nombres d'unités, comme le disent certains. En effet, la définition est une sorte de nombre : de fait, elle est divisible en parties indivisibles (car les énoncés ne sont pas infinis), et tel est le nombre. Et de même que si on enlève ou ajoute à un nombre quelque chose de ce dont le nombre est formé, ce n'est plus le même nombre, mais un nombre différent, même si l'addition ou la soustraction sont très petites, de même ni la définition ni l'être ce que c'est ne seront plus les mêmes après soustraction ou addition. Et il faut qu'il y ait quelque chose par quoi le nombre est un, et ils ne peuvent dire alors par quoi il est un, s'il est vrai qu'il est un (en effet ou bien il n'est pas un, mais il est comme un tas, ou bien, s'il est vrai qu'il est un, il faut dire ce qui fait l'unité à partir de plusieurs). La définition aussi est une et pourtant, de la même manière, pour elle non plus ils ne peuvent dire pourquoi. Et c'est normal, car la raison est la même : la substance aussi est une de cette manière, non parce qu'elle est comme une unité ou un point, à ce que disent certains, mais parce que chacune est un état accompli et une nature] ».

L'énoncé de définition est donc doté de sa forme propre d'unité, comparable à celle de la syllabe et distincte de la forme d'unité par σύνδεσμος de l'énoncé prédicatif simple. Certes, cette distinction entre les deux types d'énoncés renvoie à des considérations de contenu, par exemple à la différence entre ce qui est accidentel ou, au contraire, nécessaire à la définition d'une chose. Il demeure qu'elle s'appuie sur des opérateurs linguistiques, comme le montre l'usage constant des signifiants syntaxiques dont la description complète se trouve dans le chapitre 20 de la *Poétique*, consacré aux « parties de l'expression (τῆς λέξεως μέρη) ». Il n'y a pas de λόγος sans λέξις, car l'articulation même de la λέξις humaine est façonnée par le λόγος, de sorte que λέξις et λόγος s'impliquent réciproquement. Ce point n'est pas sans rapport avec un problème déjà évoqué, celui du rapport entre les lettres (στοιχεῖα) et la syllabe.

b) *Les lettres et la syllabe*

L'exemple de la syllabe utilisé dans le contexte de Z 17 est donné pour illustrer l'articulation forme-matière ; il en résulte que les éléments ou les lettres sont la partie « matérielle » de la syllabe. Or, comme nous l'avons déjà signalé, en Z 12 (voir [T3]), et également en Z 10, Aristote donne ces mêmes lettres comme « parties de l'énoncé de la forme et non matière (στοιχεῖα τοῦ λόγου μέρη τοῦ εἶδους καὶ οὐχ ὕλη) » (1035a 11). Les mêmes choses, les lettres, seraient-elles, tantôt parties non matérielles et tantôt parties matérielles ? Se trouverait-on ici devant les difficultés, bien connues des interprètes d'Aristote, quant au rôle éminemment relatif de l'οὐσία ὑλική? Faudrait-il là encore « prendre le mot de matière [...] comme le nom d'un certain rôle que peuvent jouer diverses choses selon les rapports dans lesquels elles entrent » (Brunschwig 1979, p.145 note 8)¹⁷ ? Il n'est pas nécessaire d'invoquer ici cet aspect fondé¹⁸, mais général, de l'exégèse aristotélicienne, car une explication plus précise peut être proposée, qui met en jeu à la fois la théorie aristotélicienne du langage et sa théorie de la définition. Les deux domaines sont d'ailleurs rassemblés dans un texte de *Metaphysica* Δ 24, dans lequel Aristote distingue la matière de la substance composée et la matière de la forme :

[T11] *Metaphysica* Δ 24, 1023a 34 - 1023b 2 : « τὰ δὲ ὡς ἐκ τοῦ μέρους τὸ εἶδος, οἷον ἄνθρωπος ἐκ τοῦ δίποδος καὶ ἡ συλλαβὴ ἐκ τοῦ στοιχείου· ἄλλως γὰρ τοῦτο καὶ ὁ ἀνδρὶς ἐκ χαλκοῦ· ἐκ τῆς αἰσθητῆς γὰρ ὕλης ἢ συνθετῆ οὐσία, ἀλλὰ καὶ τὸ εἶδος ἐκ τῆς τοῦ εἶδους ὕλης [on parle de provenance à la façon dont la forme provient de la partie, par exemple l'homme du bipède et la syllabe de la lettre ; car c'est d'une autre façon que celle par laquelle la statue provient du bronze ; en effet la substance composée provient de la matière perceptible, mais aussi la forme provient de la matière de la forme] ».

Les lettres, sont données ici comme « matière de la forme » de la même manière qu'elles étaient décrites comme « parties du λόγος de la

¹⁷ Pour un exposé développé sur la question du rôle fonctionnel de la matière, cf. Gill 1989.

¹⁸ La suite immédiate de Z 10 en fournit un exemple : Aristote, après avoir opposé les lettres comme parties de l'énoncé de la forme de la syllabe et les segments du cercle comme parties de sa matière, se livre à une analyse en termes de plus ou moins grande « proximité » (ἐγγυτέρω, 1035a 13) de la matière et de la forme, à propos des différentes matières. Cette analyse en termes de « proximité » est d'ailleurs classique dans la présentation des causes, voir notamment *Metaphysica* H 4.

forme », dans le cas de la syllabe en Z 10, 1035a 1. Être matière de la forme revient donc à n'être pas l'aspect dernier de la forme, ou la dernière différence¹⁹. Les lettres sont cependant, comme les différences, parties des éléments différenciant le genre matière. La similitude entre le rapport « homme / bipède » et le rapport « syllabe / lettre » montre que le rapport de la lettre à la syllabe est le même que celui de la différence à l'espèce dernière.

Que la lettre soit bien un élément formel, le nom de στοιχεῖον qui lui est donné le montre également. La définition des στοιχεῖα, en *Metaphysica* Δ 3, dont les lettres sont d'ailleurs l'exemple premier, montre que les στοιχεῖα sont des indivisibles, dotés d'une qualification formelle. Le texte le plus significatif est pourtant encore celui de *Poétique* 20 où Aristote distingue les indivisibles qui vont former la voix articulée et intelligible, des constituants indivisibles de l'expression animale, auxquels il n'accorde pas la qualification d'éléments :

[T12] *Poetica* 20, 1456b 22-24 : « στοιχεῖον μὲν οὖν ἐστὶν φωνὴ ἀδιαίρετος, οὐ πᾶσα δὲ ἀλλ' ἐξ ἧς πέφυκε συνετὴ²⁰ γίνεσθαι φωνή· καὶ γὰρ τῶν θηρίων εἰσὶν ἀδιαίρετοι φωναί, ὧν οὐδεμίαν λέγω στοιχεῖον [Dupont-Roc & Lallot 1980 : l'élément est une voix indivisible, non pas n'importe laquelle, mais propre à former une voix intelligible ; en effet, chez les bêtes aussi on a des voix indivisibles, mais aucune n'est ce que j'appelle un élément] ».

L'indivisibilité ne suffit donc pas à caractériser l'élément, encore faut-il qu'il soit doté d'un aspect formel ou différenciant. Pour qu'une voix indivisible soit appelée στοιχεῖον encore faut-il que ce soit une voix articulée, autrement dit qu'elle se sépare des ἀγράμματοι ψόφοι des bêtes²¹. L'aspect formel tant des lettres que des syllabes tient au fait que le langage humain se situe à un niveau d'articulation qui le distingue du langage animal, niveau du langage humain qu'Aristote désigne comme celui de la διάλεκτος.

¹⁹ *Metaphysica* Z 12, 1038a 19-20 : « φανερόν ὅτι ἡ τελευταία διαφορὰ ἢ οὐσία τοῦ πράγματος ἐστὶ καὶ ὁ ὀρισμὸς [manifestement la différence dernière sera la substance de la chose et sa définition] ».

²⁰ Dupont-Roc & Lallot 1980, 102 note 10, signalent que la version arabe permet de supposer une version συνθετή, mais adoptent συνετή comme *lectio difficilior* (318 note 4). Pour une lecture différente de ce passage voir Laspia 2012, 115-116.

²¹ *De interpretatione* 2, 16a 26-29. Le rapprochement est effectué par Dupont-Roc & Lallot 1980, 319 note 4.

Sans entrer dans le détail et les variations des nombreux textes²² qui y font référence (et qui sont l'objet d'autres contributions dans ce volume), on peut distinguer trois niveaux distincts dans l'analyse des sons et des voix qui sont celui du ψόφος/son, de la φωνή/voix, et de la διάλεκτος/voix articulée. Le niveau du son est celui des animaux dans la différence avec les bruits des choses inanimées; la voix est produite par le larynx, ce qui en limite l'exercice à certains animaux et la voix articulée, la διάλεκτος est « une articulation de la voix par la langue (τῆς φωνῆς τῆ γλώττη διάρθρωσις) » (*Historia animalium* IV 9, 535a 31), réservée aux humains. Ce qui importe pour la présente analyse est que la φωνή, produite par le larynx, soit le matériau à articuler par les consonnes et les voyelles qui se trouvent ainsi en être les opérateurs formels et sont donc des « parties de la forme ». Du point de vue de l'articulation de la voix, il n'y a pas de différence entre les lettres (ou les phonèmes) et les syllabes²³.

Cette absence de différence se manifeste également par le fait que ce sont tantôt les lettres qui sont données comme unités de mesure (*Metaphysica* I 2, 1054a 1-2), tantôt les syllabes (*Categoriae* 6, 4b 20-35 ; *Metaphysica* N 1, 1087b 36). En outre, lettres et syllabes, sont l'objet d'un même savoir technique, celui du métricien : [T9] renvoie l'étude des syllabes à la métrique, *De partibus animalium* II 16, 660a 7-8 désigne les métriciens comme les spécialistes pour l'étude des γράμματα.

3. Pour conclure

L'unique différence que l'on puisse trouver entre les lettres et la syllabe qui sont autant d'éléments formels est que la syllabe institue un ordre de composition ou d'articulation entre les lettres qui, séparées ou « résultat[s] de la division », ne sont plus que la matière de la forme.

L'exemple conduit à identifier le niveau de la syllabe avec celui des unités complètes, parce que complètement différenciées, qui résultent de la dernière différence ; autrement dit, le niveau de la syllabe correspond au niveau des unités de mesure d'un genre, produites par la différenciation

²² Voir notamment *De anima* II 8 ; *De partibus animalium* II 16 ; *Historia animalium* I 1 et IV 9.

²³ C'est pourquoi nous maintenons le rôle principal de l'aspect articulatoire, à la différence de Laspia 2008.

achevée du genre matière, régulièrement situé au niveau de la voix. La syllabe propose ainsi un autre modèle de nombre que celui du nombre mathématique²⁴, parce que ses unités constitutives ne sont pas des monades, mais sont des différences articulées.

Si l'on rapporte cette analyse syllabique ou syntaxique à ce nouveau λόγος de définition où la matière est déterminée par la forme, il faut dire que le déterminé, l'espèce « homme », a sa cause par et dans la syntaxe des différences, qui répond à la question « par quoi l'humain est-il un animal de cette sorte ? ». Il en va de même dans le cas des composés physiques : la nature de la chose est ce principe syntaxique de synthèse, irréductible à ses seuls éléments (Z 17, 1041b 30-31).

Ainsi la distinction entre les deux sortes d'énoncés, l'énoncé de définition et l'énoncé prédicatif, tient à la différence du mode de leur articulation : la syllabe pour l'énoncé de définition et la conjonction pour l'énoncé prédicatif. La même analyse qui fait de la définition un λόγος ou une unité signifiante met en évidence la dépendance des unités signifiantes à l'égard des voix non signifiantes qui en constituent les articulations.

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²⁴ Le *Philèbe* (17c-e) associait déjà la question du nombre avec celle des rythmes et des mètres.

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