The Philosophy of Aristotle

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INTRODUCTION

In the *Symposium*, Plato has Socrates claim that the priestess Diotima once claimed that Eros is a lover of wisdom or someone who is "in between wisdom and ignorance. In fact, you see, none of the gods loves wisdom or wants to become wise—for they are wise—and no one else who is wise loves wisdom."[1] As Moore (2019) notes, Aristotle uses the term φιλοσοφία (and its various cognates) in at least ten different senses across his writings. But perhaps the best starting point for understanding the philosophy of Aristotle is that in principle, he rejects Diotima's etymological wordplay that claims that philosophy implies an absence of wisdom. At the heart of Aristotle's philosophy is the claim not only that all humans desire to know, but also that human animals (and indeed some non-human animals) are capable of understanding the world and its contents in a broad array of epistemic capacities, including veridical perception, artisanal expertise, theoretical science, practical wisdom, and, indeed, even σοφία itself of the highest objects of cognition, namely the nature of the gods (*Metaph.* 1.1.980a22–981b7). As Aristotle puts it in the opening chapter of his *Metaphysics*,

> **T1:** what is called wisdom is concerned with the primary causes and principles, so that, as has been already stated, the man of experience is held to be wiser than the mere possessors of any power of sensation, the artist than the man of experience, the master craftsman than the artisan; and the theoretical sciences to be more learned than the productive. Thus it is clear that wisdom is knowledge of certain principles and causes. (*Metaph.* 1.1.981b29–982a4)

[1] θεῶν οὐδεὶς φιλοσοφεῖ οὐδ' ἐπιθυμεῖ σοφὸς γενέσθαι—ἔστι γάρ—οὐδ' εἴ τις ἄλλος σοφός, οὐ φιλοσοφεῖ (Pl. *Symp*. 204a1–4; cf. Pl. *Lys.* 218ab). Translations and Greek text within my chapter derive from Loeb Classical Library editions of texts, occasionally emended.

> [ὅτι τὴν ὀνομαζομένην σοφίαν περὶ τὰ πρῶτα αἴτια καὶ τὰς ἀρχὰς ὑπολαμβάνουσι πάντες· ὥστε καθάπερ εἴρηται πρότερον, ὁ μὲν ἔμπειρος τῶν ὁποιανοῦν ἐχόντων αἴσθησιν εἶναι δοκεῖ σοφώτερος, ὁ δὲ τεχνίτης τῶν ἐμπείρων, χειροτέχνου δὲ ἀρχιτέκτων, αἱ δὲ θεωρητικαὶ τῶν ποιητικῶν μᾶλλον. ὅτι μὲν οὖν ἡ σοφία περί τινας ἀρχὰς καὶ αἰτίας ἐστὶν ἐπιστήμη, δῆλον.]

For Aristotle, philosophy is not just a desire to know—it is the epistemic accomplishment of knowing in numerous different senses.

Underlying all such knowledge—and Aristotle's philosophy more generally—is a notion of systematic investigation that today we call research. Aristotle and students in his school compiled massive repositories of historical, observational, and zoological data. Aristotle's philosophical and scientific treatises, such as the *Physics* and the *Metaphysics*, usually commence with a quasi-scholarly survey of the investigations and opinions of his intellectual predecessors. Zoological treatises such as the multi-volume *History of Animals* record morphological and ethnological details that distinguish the various species of animate beings. Aristotle's *Nicomachean Ethics* and *Politics* are based in part on the compilation of 158 "Constitutions" or histories and analyses of the political organization of Greek and non-Greek cities, of which only the *Constitution of Athens* survives. "Technical" works such as the *Art of Rhetoric* or the *Art of Poetry* sought to synthesize such observational data about oratory and literature into different categories, much like one might study the parts or habitat of an animal species. Although such research is centered around the Hellenic world of the Aegean Sea, it extends far beyond that world to the social and political institutions of the broader Mediterranean world (for instance, in the case of Carthage or Europe) and the flora and fauna of Asia and Africa.

My chapter explores the philosophy of Aristotle in five different parts. Part I examines the "organon" or linguistic and logical tool-kit that analyzes human reasoning from the most basic

components of a proposition up through syllogistic presentation of the causes that explain what research has uncovered. Parts II and III of the chapter explore the main contours of Aristotle's "theoretical sciences"—what today we call natural science, metaphysics, and theology. Part IV of the chapter examines what the *Nicomachean Ethics* calls "the philosophy of human things," namely the study of ethics and politics. Finally, Part V looks at how Aristotle and his school systemized two different fields of human study, namely that of artistic mimesis or the art of poetry, and deliberative, judicial, and epidictic oratory or the art of rhetoric.[2]

PART I: The organon—Aristotle's training for philosophy[3]

Although Aristotle never uses the term "organon," such is the title that his earliest commentators gave to six works that articulate his views about the nature of language and logical reasoning.[4] Whereas some Hellenistic schools of philosophy, such as the Stoics, viewed logic as a part of philosophy, Aristotle's successors in the Peripatetic school viewed logic as a "tool" that philosophy presupposed, although as we will see, the principles of logic, such as the law of non-contradiction, are subjects of philosophical investigation. The organon includes six treatises or tractates: the *Categories* and *On Interpretation* examine the nature of a proposition (i.e., a sentence

[2] For recent general introductions to Aristotle's philosophy, see Pellegrin 2003, Shields 2004, Shields 2022, and Sellars 2023. Natali 2013 is the most thorough source for Aristotle's biography. Lear 1988 is an especially insightful introduction to Aristotle's thought. Throughout my chapter I refer the reader to entries about Aristotle's philosophy in the *Stanford Encyclopedia of Philosophy*. Each encyclopedia entry therein is available on-line in open-access and produces a far more detailed scholarly summary—written by pre-eminent Aristotle scholars—of the various parts of Aristotle's philosophy, along with regularly updated bibliographies of literature on the subfield.

[3] For overviews of Aristotle's organon, see Smith 2022 (for logic generally) and Studtmann 2021 (for Aristotle's *Categories*).

[4] For the construction of Aristotle's "corpus" or collection of writings, see Hatzimichali 2013 and 2016.

in which a predicate is affirmed or denied of a subject, for example "Socrates is Greek") from several perspectives. For instance, grammatically "Socrates" is a noun, "Greek" is a predicate, and "is" is a verb in the indicative mood. From a logical point of view, a proposition is the most basic form of "truth-bearing" assertion (for instance, although the claim that "Socrates is Greek" is either true or false, the proper noun "Socrates" is neither). Finally, from an "ontological" point of view, there is a dependence relationship between grammatical subjects ("Socrates") and their predicates ("Greekness") insofar as subjects can exist independent of their non-essential predicates but not vice versa. By contrast, the *Prior* and *Posterior Analytics* (which Aristotle appears to view as two parts of the same treatise) concern the nature of demonstrative or logical reasoning which proceed from several individual propositions that are true to a conclusion which follows from the premises, most prominently in the form of a "syllogism."[5] The *Posterior Analytics* is especially focused on the conditions under which such syllogistic reasoning constitute the nature of scientific understanding that exhibits causal relations between different subjects and predicates. Whereas the two *Analytics* are concerned with demonstrative syllogisms (namely, those which proceed from true premises), the *Topics* is concerned with dialectical syllogisms (namely, those which proceed from generally accepted opinions), and the *Sophistical Refutations* (which appears to be an appendix to the *Topics*) is concerned with sophistic or fallacious syllogisms (for instance, when one reasons from equivocal or ambiguous terms).

[5] Syllogisms can be classified in terms of whether their propositions are universal ("All humans are bipeds") or particular ("Socrates is a biped") and in terms of affirmation and negation. So, for example, a syllogism in the form of "Barbara" (with two premises making universal affirmations and a conclusion that follows with a universal affirmation) is: "Every swan is a bird; every bird is an animal, therefore, every swan is an animal." Aristotelian logic consists primarily in the classification and evaluation of syllogisms in their different forms.

That "logic" (namely, a theory of valid demonstrative reasoning) is both propaedeutic and philosophical in its own right is evident from Aristotle's examination of what logicians call "the law of non-contradiction," namely the principle that one cannot simultaneously and unambiguously affirm and deny the same predicates of the same subject (for example "Socrates is Greek and is not Greek") because it results in a contradiction.[6] Aristotle claims in the *Metaphysics* (which I will discuss further in Part III below) that it belongs to "first philosophy" to investigate the basic principles of reasoning that are shared across all scientific fields of study (*Metaph*. 4.3.1005a19–b7; cf. 3.2.996b27–997a15). But "proving" or "demonstrating" the truth of such a principle is impossible since all demonstrations presuppose such a general principle. Thus, Aristotle writes that

> **T2:** there are those who, as we said, both themselves assert that it is possible for the same thing to be and not to be and to believe it so. Many writings on nature make use of this statement. But we have just accepted that it is impossible to be and not be simultaneously, and we have shown by means of this that it is the firmest of principles. Some, owing to lack of training, actually ask that it be demonstrated: for it is lack of training not to recognize of which things demonstration ought to be sought, and of which not. For in general it is impossible that there should be demonstration of everything, since it would go on to infinity so that not even so would it be demonstration. (*Metaph*. 4.4.1005b35–1006a9)
> [Εἰσὶ δέ τινες οἵ, καθάπερ εἴπομεν, αὐτοί τε ἐνδέχεσθαί φασι τὸ αὐτὸ εἶναι καὶ μὴ εἶναι, καὶ ὑπολαμβάνειν οὕτως. χρῶνται δὲ τῷ λόγῳ τούτῳ πολλοὶ καὶ τῶν περὶ φύσεως. ἡμεῖς δὲ νῦν εἰλήφαμεν ὡς ἀδυνάτου ὄντος ἅμα εἶναι καὶ μὴ εἶναι, καὶ διὰ τούτου ἐδείξαμεν ὅτι βεβαιοτάτη αὕτη τῶν ἀρχῶν πασῶν. ἀξιοῦσι δὴ καὶ τοῦτο ἀποδεικνύναι τινὲς δι᾽ ἀπαιδευσίαν· ἔστι γὰρ ἀπαιδευσία τὸ μὴ γιγνώσκειν τίνων δεῖ ζητεῖν ἀπόδειξιν καὶ τίνων οὐ δεῖ. ὅλως μὲν γὰρ ἁπάντων ἀδύνατον ἀπόδειξιν εἶναι· εἰς ἄπειρον γὰρ ἂν βαδίζοι, ὥστε μηδ᾽ οὕτως εἶναι ἀπόδειξιν·]

[6] Or in Aristotle's own articulation: "For the same thing to hold good and not to hold good simultaneously of the same thing and in the same respect is impossible" (*Metaph*. 3.4.1005b19–20). Aristotle asserts the principle not only in "ontological terms" (namely, whether in the world that we know a being could possess contradictory properties) but also in logical terms (namely, whether contradictory propositions can simultaneously be true [*Metaph*. 4.6.1011b13–14) and even in psychological terms (namely, whether the same mind can believe or think of a being with contradictory properties [*Metaph*. 4.3.1005b23–24]). See further Gottlieb (2019).

Aristotle lacks much sympathy for those who deny or demand a demonstration of the law of non-contradiction (elsewhere in the text he appears to have an Empedocles or Heraclitus in mind): at one point he likens them to a plant (namely, an animate being who lacks even an aesthetic part of the soul) and at another point he claims that those who are incapable of persuasion on the matter require "force."[7] But on the most basic level, such a person lacks the education (ἀπαιδευσία) that philosophy presupposes. Aristotle's philosophy views logical reasoning as both pre-philosophical and philosophical in its own right.

PART II: Aristotle's life sciences[8]

In *Metaphysics* 6.1, Aristotle provides a taxonomy of sciences or kinds of knowledge that orients the organization of my chapter. The taxonomy commences with physics, which Aristotle both characterizes as a theoretical science and juxtaposes with practical and productive forms of thought. Aristotle writes that

> **T3:** since physical science also happens to deal with a genus of being (for it deals with the sort of substance which contains in itself the principle of motion and rest), obviously it is neither a practical nor a productive science. For in the case of things produced the principle of motion (either mind or art or some kind of potency) is in the producer; and in the case of things done the choice is the agent—for the thing done and the thing chosen are the same. Thus if every intellectual activity is either practical or productive or speculative, physics will be a speculative science; but speculative about that kind of Being which can be moved, and about formulated substance for the most part only qua inseparable from matter. (*Metaph.* 6.1.1025b19–28)
> [ἐπεὶ δὲ καὶ ἡ φυσικὴ ἐπιστήμη τυγχάνει οὖσα περὶ γένος τι τοῦ ὄντος (περὶ γὰρ τὴν τοιαύτην ἐστὶν οὐσίαν ἐν ᾗ ἡ ἀρχὴ τῆς κινήσεως καὶ στάσεως ἐν αὐτῇ),

[7] See *Metaph.* 4.4.1006a16; 4.5.1009a16–18.

[8] For overviews of Aristotle's natural science, see Bodnár 2018; for an overview of his account of causation, which features prominently in his natural science, see Falcon 2022; for an overview of his account of the soul, see Shields 2022; and for an overview of his biology or study of life-science, see Lennox 2021. I am grateful to Sophia Connell for helping me think through how to characterize Aristotle's life sciences as both empirical and theoretical.

> δῆλον ὅτι οὔτε πρακτική ἐστιν οὔτε ποιητική· τῶν μὲν γὰρ ποιητῶν ἐν τῷ ποιοῦντι ἡ ἀρχή, ἢ νοῦς ἢ τέχνη ἢ δύναμίς τις, τῶν δὲ πρακτῶν ἐν τῷ πράττοντι ἡ προαίρεσις· τὸ αὐτὸ γὰρ τὸ πρακτὸν καὶ τὸ προαιρετόν· ὥστε εἰ πᾶσα διάνοια ἢ πρακτικὴ ἢ ποιητικὴ ἢ θεωρητική, ἡ φυσικὴ θεωρητική τις ἂν εἴη, ἀλλὰ θεωρητικὴ περὶ τοιοῦτον ὂν ὅ ἐστι δυνατὸν κινεῖσθαι, καὶ περὶ οὐσίαν τὴν κατὰ τὸν λόγον ὡς ἐπὶ τὸ πολὺ ὡς οὐ χωριστὴν μόνον.]

In very general terms, Aristotle contrasts practical, productive, or theoretical thought on the basis of whether the person thinking produces or generates an object external to the person or the person thinking cognizes a principle internal to the object cognized. For instance, in the former case, productive and practical thought are instances when a sculptor produces a statue by means of his technical knowledge or an unjust person chooses to act unjustly and harms another. But in the latter case, "theoretical" or "completive" thought—in the case of physics—cognizes principles that are necessarily hylomorphic unities of form and matter (for instance, a beagle which as a natural object possesses a specific kind of matter in which its form or essence is instantiated). On the basis of *Metaphysics* 6.1, we can generalize and claim that whereas theoretical sciences—which include physics, but also metaphysics, which I will discuss in the next section of the chapter—aim to understand principles in their objects of investigation (and thus in a sense are passive or observational); but by contrast, practical and productive forms of knowing—for instance, the "arts" of rhetoric and poetry (in the case of productive knowing) and ethics or politics (in the case of practical knowing)—are thus in a sense active insofar as such forms of knowing generate actions and objects.

The opening lines of the *Physics* characterizes such theoretical knowing as follows:

> **T4:** In all sciences that are concerned with principles or causes or elements, it is acquaintance with these that constitutes knowledge or understanding. For we conceive ourselves to know about a thing when we are acquainted with its ultimate causes and first principles, and have got down to its elements. Obviously, then, in the study of Nature too, our first object must be to establish principles. (*Ph.* 1.1.184a10–16)

> [Ἐπειδὴ τὸ εἰδέναι καὶ τὸ ἐπίστασθαι συμβαίνει, περὶ πάσας τὰς μεθόδους ὧν εἰσιν ἀρχαὶ ἢ αἴτια ἢ στοιχεῖα, ἐκ τοῦ ταῦτα γνωρίζειν—τότε γὰρ οἰόμεθα γινώσκειν ἕκαστον, ὅταν τὰ αἴτια γνωρίσωμεν τὰ πρῶτα καὶ τὰς ἀρχὰς τὰς πρώτας καὶ μέχρι τῶν στοιχείων—, δῆλον ὅτι καὶ τῆς περὶ φύσεως ἐπιστήμης πειρατέον διορίσασθαι πρῶτον τὰ περὶ τὰς ἀρχάς.]

Although such theoretical sciences include what today we think of as metaphysics and theology (which I discuss in the next part of my chapter), they also include Aristotle's study of the life sciences, namely zoology, natural history, the nature of the soul, and physics. But what Aristotle means by the study of physics is not exactly what once finds in contemporary physics today. Rather, he identifies the subject matter of *Physics* as

> **T5:** Some things exist, or come into existence, by nature; and some otherwise. Animals and their organs, plants, and the elementary substances—earth, fire, air, water—these and their likes we say exist by nature. For all these seem distinguishable from those that are not constituted by nature; and the common feature that characterizes them all seems to be that they have within themselves a principle of movement (or change) and rest—in some cases local only, in others quantitative, as in growth and shrinkage, and in others again qualitive, in the way of modification. But a bedstead or a garment or the like, in the capacity which is signified by its name and in so far as it is craft-work, has within itself no such inherent trend towards change, though owing to the fact of its being composed of earth or stone or some mixture of substances, it incidentally has within itself the principles of change which inhere primarily in these materials. For nature is the principle and cause of motion and rest to those things, and those things only, in which she inheres primarily, as distinct from incidentally. (*Ph.* 2.1.192b8–23)
> [Τῶν γὰρ ὄντων τὰ μὲν ἔστι φύσει, τὰ δὲ δι᾽ ἄλλας αἰτίας—φύσει μὲν τά τε ζῷα καὶ τὰ μέρη αὐτῶν καὶ τὰ φυτὰ καὶ τὰ ἁπλᾶ τῶν σωμάτων (οἷον γῆ καὶ πῦρ καὶ ἀὴρ καὶ ὕδωρ)· ταῦτα γὰρ εἶναι καὶ τὰ τοιαῦτα φύσει φαμέν. πάντα δὲ τὰ ῥηθέντα φαίνεται διαφέροντα πρὸς τὰ μὴ φύσει συνεστῶτα. τὰ μὲν γὰρ φύσει ὄντα πάντα φαίνεται ἔχοντα ἐν ἑαυτοῖς ἀρχὴν κινήσεως καὶ στάσεως—τὰ μὲν κατὰ τόπον, τὰ δὲ κατ᾽ αὔξησιν καὶ φθίσιν, τὰ δὲ κατ᾽ ἀλλοίωσιν—κλίνη δὲ καὶ ἱμάτιον καὶ εἴ τι τοιοῦτον ἄλλο γένος ἐστίν, ᾗ μὲν τετύχηκε τῆς κατηγορίας ἑκάστης καὶ καθ᾽ ὅσον ἐστὶν ἀπὸ τέχνης, οὐδεμίαν ὁρμὴν ἔχει μεταβολῆς ἔμφυτον, ᾗ δὲ συμβέβηκεν αὐτοῖς εἶναι λιθίνοις ἢ γηΐνοις ἢ μικτοῖς, ἐκ τούτων ἔχει καὶ κατὰ τοσοῦτον, ὡς οὔσης τῆς φύσεως ἀρχῆς τινος καὶ αἰτίας τοῦ κινεῖσθαι καὶ ἠρεμεῖν ἐν ᾧ ὑπάρχει πρώτως καθ᾽ αὑτὸ καὶ μὴ κατὰ συμβεβηκός.]

To say that an entity has a principle of movement or change within it is to claim that such an entity is capable of undergoing change—for instance, locomotion or change with respect to place; growth, or change with respect to size; or qualitative change, or maturation from seed to plant or

youth to adult. Both animate and inanimate beings are capable of such motion: in the latter case, Aristotelian physics understands fire and earth as elements capable of rising or falling in accord with their own natures (characteristics that modern physics would ascribe to gravitational attraction rather internal principles of change).

But in the former case, a major part of Aristotle's philosophy consists in the study of the causes, parts, kinds, and characteristics of living beings that possess an internal principle of being. Aristotle's surviving writings make up 1462 pages in Immanuel Bekker's 1831 edition (the first modern edition of Aristotle's works). But whereas the works of the *Organon* take up 184 pages, the ethical and political works take up about 259 pages, and the *Metaphysics* takes up about 113 pages, Aristotle's writings on the life sciences—the *Physics*, *On the Soul*, the *Parva Naturalia*, the *Historia Animalium*, and the various treatises on the movement and parts of animals—make up approximately 600 pages. Of course, quantity is not the same as quality and several of Aristotle's zoological writings, such as the *Historia Animalium*, include extensive collections of observations and notes—almost like a zoologist's notebook. But it seems fair to say that Aristotle is the first philosopher in the western tradition who focuses upon understanding in a scientific fashion the world of life.

Indeed, one of Aristotle's most famous discussions of the study of nature, *Parts of Animals* 1.5, is a mini-treatise justifying the study of nature—perhaps against those contemporaries of Aristotle (including some members of Plato's Academy) who delimit knowledge to abstract entities like in the theoretical science of mathematics. Against such philosophers, Aristotle writes that

> **T6:** it now remains to speak of animals and their nature. So far as in us lies, we will not leave out any one of them, be it never so mean; for though there are animals which have no attractiveness for the senses, yet for the eye of science, for the student

> who is naturally of a philosophic spirit and can discern the causes of things, nature which fashioned them provides joys which cannot be measured. If we study mere likenesses of these things and take pleasure in so doing, because then we are contemplating the painter's or the carver's art which fashioned them, and yet fail to delight much more in studying the works of nature themselves, though we have the ability to discern the actual causes—that would be a strange absurdity indeed. Wherefore we must not betake ourselves to the consideration of the meaner animals with a bad grace, as though we were children; since in all natural things there is somewhat of the marvellous. (*Part. an.* 1.5.645a8–20)
> [λοιπὸν περὶ τῆς ζωικῆς φύσεως εἰπεῖν, μηδὲν παραλιπόντας εἰς δύναμιν μήτε ἀτιμότερον μήτε τιμιώτερον. καὶ γὰρ ἐν τοῖς μὴ κεχαρισμένοις αὐτῶν πρὸς τὴν αἴσθησιν κατὰ τὴν θεωρίαν ὅμως ἡ δημιουργήσασα φύσις ἀμηχάνους ἡδονὰς παρέχει τοῖς δυναμένοις τὰς αἰτίας γνωρίζειν καὶ φύσει φιλοσόφοις. καὶ γὰρ ἂν εἴη παράλογον καὶ ἄτοπον, εἰ τὰς μὲν εἰκόνας αὐτῶν θεωροῦντες χαίρομεν ὅτι τὴν δημιουργήσασαν τέχνην συνθεωροῦμεν, οἷον τὴν γραφικὴν ἢ τὴν πλαστικήν, αὐτῶν δὲ τῶν φύσει συνεστώτων μὴ μᾶλλον ἀγαπῷμεν τὴν θεωρίαν, δυνάμενοί γε τὰς αἰτίας καθορᾶν. διὸ δεῖ μὴ δυσχεραίνειν παιδικῶς τὴν περὶ τῶν ἀτιμοτέρων ζῴων ἐπίσκεψιν· ἐν πᾶσι γὰρ τοῖς φυσικοῖς ἔνεστί τι θαυμαστόν·]

Immediately after **T6**, Aristotle relates a story about the philosopher Heracleitus, whom visitors once found in his kitchen, warming himself at the stove. Heracleitus (according to Aristotle) enjoined the visitors "Come in; don't be afraid; there are gods even here" (εἶναι γὰρ καὶ ἐνταῦθα θεούς). The moral of the story, for Aristotle, is that "in like manner, we ought not to hesitate nor to be abashed, but boldly to enter upon our researches concerning animals of every sort and kind, knowing that in not one of them is nature or beauty lacking" (*Part. an.* 1.5.645a20–24). As Aristotle's anecdote makes clear, he is hardly the first philosopher who is interested in the life sciences; but it seems fair to say that he is one of the earliest thinkers in the western tradition who sought to understand nature not just in general principles, but in the characteristics and taxonomic organization of its living examples.

A brief glance at Aristotle's writings illustrates the range of his scientific interest and productivity with respect to the world of nature. On the one hand, several of Aristotle's writings discuss the principles and causes that are common to all natural beings, starting from inanimate

material elements (such air, water, fire, and earth) and proceeding on to animate beings like plants, animals, and the cosmos as a whole.[9] For instance, Aristotle's *Physics* identifies the domain of nature (namely that which exist by nature or is in accord with nature) and then examines the nature of motion (namely qualitative change), and correlative concepts such as the notions of the infinite, place, void, and time in the general sense in which they concern all natural beings. *Physics* 2.3 (and the "lexicon" of *Metaphysics* 5) provide Aristotle's account of the "four causes" or the different ways that one can explain why something is so; the four causes are so integral to Aristotle's theoretical philosophy and will reoccur in subsequent sections, thus Table 1 identifies all four causes and Aristotle's examples of them.) In a similar vein, Aristotle's *De Anima* (or on the nature of the soul) examines the nature of soul as a general principle that is common to all animals—and so not just

Table 1: Aristotle's four causes (*Physics* 2.3/*Metaphysics* 5.2)

Kind of cause	Material cause (τι ἐνυπάρχοντος)	Formal cause (τὸ εἶδος)	Efficient cause (ἡ ἀρχὴ τῆς μεταβολῆς)	Final cause (τὸ τέλος, τὸ οὗ ἕνεκα)
Character of cause	That from which, as a constituent, something is generated.	The form, pattern, or formula of a being's essence.	That from which change or coming to rest first begins.	The end or the "that for the sake of which" the change takes place.
Statue example[10]	The bronze material of the statue.	The figure or image of the statue.	Polyclitus, the sculptor of the statue.	The purpose for which the statue is made (e.g, purchase or art's sake).
Other examples	The letters of a syllable; the hypotheses of a conclusion; fire and earth in the case of material bodies.	The ratio of 2:1 of an octave; the sperm or seed which produces an offspring.	The doctor (as a cause of health); the adviser is a cause of action; the father is a cause of a baby.	Walking for the sake of health; the good or the apparent good.

[9] For a statement of Aristotle's program for studying nature, see *Mete.* 1.1.339a6–10.
[10] Although the *Physics* investigates the four causes of natural beings, namely those with an internal principle of motion, the four causes also characterize non-natural, i.e., artificial beings.

"human soul"—and identifies faculties or capacities within the soul that characterize both rudimentary animate beings, such as plants (what are capable of nutrition and growth), and more complex living beings, such as humans and other higher mammals (which are capable of sentience and acting upon desire).[11] We attribute to Aristotle a large number of treatises and tractates (ranging from a few pages to several volumes in length) concerned with more narrow questions and investigations of the natural world. For instance, Aristotle authored studies devoted to the division and function of the parts that make up a living being, the ethnology or species characteristics of living beings, the nature of their generation or reproduction, and how and why animals move or act on the basis of sensation and desire.[12] Within the framework of the general capacities of soul described in *De Anima*, Aristotle also authored more specialized tractates on the nature of sensation, memory, sleep, and dreams.

PART III: Aristotle's other "theoretical sciences"[13]

Physics, or the study of form instantiated in matter as a principle of motion, is Aristotle's first "theoretical" science. But Aristotle's taxonomy of knowledges in *Metaphysics* 6.1 identifies two additional theoretical sciences, namely mathematics and theology. He characterizes the differences between the three theoretical knowledges as follows:

> **T7:** It is obvious, then, from these considerations, that physics is a form of theoretical science. And mathematics is also theoretical; but it is not clear at present whether its

[11] Other Aristotelian works that examine the general principles of the natural world include his treatises *On Corruption and Generation*, *On the Heavens*, and the *Meteorology*.
[12] Namely, Aristotle's *Parts of Animals*, *History of Animals*, *Movement of Animals*, *Progression of Animals*, and *Generation of Animals*. My general overview of these writings cannot begin to do justice to the complex scholarly debate that seeks to understand these works individually or more generally in Aristotle's science of nature.
[13] For an overview of Aristotle's metaphysics, see Cohen and Reeve 2021; for his philosophy of mathematics, see Mendell 2004.

> objects are immutable and separable from matter; it is clear, however, that some branches of mathematics study their objects qua immutable and qua separable from matter. Obviously it is the province of a theoretical science to discover whether a thing is eternal and immutable and separable from matter; not, however, of physics (since physics deals with mutable objects) nor of mathematics, but of a science prior to both. For physics deals with things which exist separately but are not immutable; and some branches of mathematics deal with things which are immutable, but presumably not separable, but present in matter; but the primary science treats of things which are both separable and immutable. Now all causes must be eternal, but these especially; since they are causes of what is visible of things divine. Hence there will be three theoretical philosophies: mathematics, physics, and theology—since it is obvious able, that if the divine is present anywhere, it is present in this kind of entity; and also the most honourable science must deal with the most honourable class of subject. The theoretical sciences, then, are to be preferred to the other sciences, and "theology" to the other speculative sciences. (*Metaph.* 6.1.1026a7–23)
>
> [Ὅτι μὲν οὖν ἡ φυσικὴ θεωρητική τίς ἐστι, φανερὸν ἐκ τούτων· ἀλλ᾽ ἔστι καὶ ἡ μαθηματικὴ θεωρητική· ἀλλ᾽ εἰ ἀκινήτων καὶ χωριστῶν ἐστί, νῦν ἄδηλον, ὅτι μέντοι ἔνια μαθήματα ᾗ ἀκίνητα καὶ ᾗ χωριστὰ θεωρεῖ, δῆλον. εἰ δέ τί ἐστιν ἀΐδιον καὶ ἀκίνητον καὶ χωριστόν, φανερὸν ὅτι θεωρητικῆς τὸ γνῶναι· οὐ μέντοι φυσικῆς γε (περὶ κινητῶν γάρ τινων ἡ φυσική), οὐδὲ μαθηματικῆς, ἀλλὰ προτέρας ἀμφοῖν. ἡ μὲν γὰρ φυσικὴ περὶ χωριστὰ μὲν ἀλλ᾽ οὐκ ἀκίνητα, τῆς δὲ μαθηματικῆς ἔνια περὶ ἀκίνητα μὲν οὐ χωριστὰ δ᾽ ἴσως, ἀλλ᾽ ὡς ἐν ὕλῃ· ἡ δὲ πρώτη καὶ περὶ χωριστὰ καὶ ἀκίνητα. ἀνάγκη δὲ πάντα μὲν τὰ αἴτια ἀΐδια εἶναι, μάλιστα δὲ ταῦτα· ταῦτα γὰρ αἴτια τοῖς φανεροῖς τῶν θείων. ὥστε τρεῖς ἂν εἶεν φιλοσοφίαι θεωρητικαί, μαθηματική, φυσική, θεολογική (οὐ γὰρ ἄδηλον ὅτι, εἴ που τὸ θεῖον ὑπάρχει, ἐν τῇ τοιαύτῃ φύσει ὑπάρχει), καὶ τὴν τιμιωτάτην δεῖ περὶ τὸ τιμιώτατον γένος εἶναι. Αἱ μὲν οὖν θεωρητικαὶ τῶν ἄλλων ἐπιστημῶν αἱρετώτεραι, αὕτη δὲ τῶν θεωρητικῶν.]

Physics is a theoretical science concerned with mutable (i.e, subject to change) entities that are hylomorphic, namely that involve composite beings that include both a formal cause (e.g., an essence or organizing principle) and a material cause (e.g., the kind of matter out of which it is formed). At least in Aristotle's *Metaphysics* book 6, the question of whether mathematical objects (e.g., quasi-Platonic ideas of say the number 4) are mutable or immutable and purely formal or hylomorphic is an open question, one that Aristotle examines in books 13 and 14 of the *Metaphysics* (in a fashion far too complicated for me to summarize). But the highest theoretical science—which *Metaphysics* 6.1 characterizes as theology (θεολογική)—concerns the nature of

immutable separable entities of the most honorable kind, namely those divine beings that one may characterize as gods.

Although *Metaphysics* 6.1 is relatively clear that "theology," or the study of immutable and separable formal causes, is the highest theoretical science, Aristotle's principal work on theoretical science—the *Metaphysics* (or "the things beyond/after the things of nature")—is a complicated compilation of texts that quite likely shows the hand of subsequent editors rather than a relatively polished work by Aristotle himself. Although book 12 of the *Metaphysics* provides a theological understanding of divine (or celestial) beings, the *Metaphysics* discusses many subjects not immediately connected to theology. For example, the *Metaphysics* also examines the views of Aristotle's predecessors on the nature of being (book 1) and the philosophical problems that theoretical sciences examine (books 3 and 11); the work also includes a lexicon that identifies the different meanings of major philosophical terms (book 5) and a dialogical defense of the non-demonstrable first principles of logical reasoning (book 4). Books 6–10 exhibit a kind of unity insofar as they are all concerned with understanding the nature of substance, namely those beings the persist through time and change (for instance, the way that an individual human remains a human through childhood, adulthood, and old age), but they also take up discussions of concepts like unity, opposition, actuality, and potentiality. All these books raise major scholarly questions both about the philosophical aspects of Aristotle's views and the unity of their expression in the *Metaphysics*.

The *Nicomachean Ethics*, which I will discuss at greater length in the next section of the chapter, is organized around a contest of the best way of life. The contestants are the life of pleasure, the political life of ethical excellence and honor, and the "theoretical life"—namely, the

life devoted to the study of the theoretical sciences.[14] (Aristotle disqualifies the life of moneymaking from the contest, since money is only an instrumental good.) Although as we will see, the *Nicomachean Ethics* falls within Aristotle's account of "politics," it nonetheless champions the "theoretical life" over all others (although the political life appears to be a close second place). The contest's characterization of the theoretical life provides an image of what it would look like to devote oneself to the theoretical sciences, including—rather clearly—the theoretical science of theology. Aristotle claims that

> **T8:** such a life as this however will be higher than the human level: not in virtue of his humanity will a man achieve it, but in virtue of something within him that is divine; and by as much as this something is superior to his composite nature, by so much is its activity superior to the exercise of the other forms of virtue. If then the intellect is something divine in comparison with man, so is the life of the intellect divine in comparison with human life. Nor ought we to obey those who enjoin that a man should have man's thoughts and a mortal the thoughts of mortality, but we ought so far as possible to achieve immortality and do all that man may to live in accordance with the highest thing in him; for though this be small in bulk, in power and value it far surpasses all the rest. (*Eth. Nic.* 10.8.1177b7–11)
> [ὁ δὲ τοιοῦτος ἂν εἴη βίος κρείττων ἢ κατ᾽ ἄνθρωπον· οὐ γὰρ ᾗ ἄνθρωπός ἐστιν οὕτω βιώσεται, ἀλλ᾽ ᾗ θεῖόν τι ἐν αὐτῷ ὑπάρχει· ὅσον δὲ διαφέρει τοῦτο τοῦ συνθέτου, τοσοῦτον καὶ ἡ ἐνέργεια τῆς κατὰ τὴν ἄλλην ἀρετήν. εἰ δὴ θεῖον ὁ νοῦς πρὸς τὸν ἄνθρωπον, καὶ ὁ κατὰ τοῦτον βίος θεῖος πρὸς τὸν ἀνθρώπινον βίον. οὐ χρὴ δὲ κατὰ τοὺς παραινοῦντας ἀνθρώπινα φρονεῖν ἄνθρωπον ὄντα οὐδὲ θνητὰ τὸν θνητόν, ἀλλ᾽ ἐφ᾽ ὅσον ἐνδέχεται ἀθανατίζειν καὶ πάντα ποιεῖν πρὸς τὸ ζῆν κατὰ τὸ κράτιστον τῶν ἐν αὑτῷ· εἰ γὰρ καὶ τῷ ὄγκῳ μικρόν ἐστι, δυνάμει καὶ τιμιότητι πολὺ μᾶλλον πάντων ὑπερέχει.]

Aristotle's defense of the theoretical life as best presupposes his account of "intellect" (νοῦς), a term that he uses to describe not only a cognitive faculty of the human mind (that he analyzes in *De Anima* 3.4–5) but also the nature of the divine being, which Aristotle claims is "thought thinking of itself thinking" (ἡ νόησις νοήσεως νόησις [*Metaph.* 12.9.1074b34–35]). It seems quite fitting that one of the ancient biographies of Aristotle, one compiled by an otherwise unknown

[14] On the contest of lives in in the *Nicomachean Ethics*, see Lockwood 2014.

individual named Ptolemy, reports that Plato bestowed upon Aristotle the nickname of "mind" during his time in the Academy.[15]

PART IV: Aristotle's philosophy of human things[16]

Metaphysics 6.1 distinguished "practical thought" from theoretical knowledge and productive thought on the grounds that "in the case of actions the choice is in the actor—for the action done and the thing chosen are the same" (τῶν δὲ πρακτῶν ἐν τῷ πράττοντι ἡ προαίρεσις· τὸ αὐτὸ γὰρ τὸ πρακτὸν καὶ τὸ προαιρετόν· [*Metaph.* 6.1.1025b18–22]). "Action" (πρᾶξις) for Aristotle is a specifically human form of activity—one he denies not only to non-human animals but even to immature human animals, like children—that involves unifying desire and knowledge in a form of agency that is distinct from both production and theoretical knowledge. But such practical agency also takes place within the context of a human community, one with norms, laws, households, and friends of diverse kinds (including parents and siblings, whom Aristotle ascribes a kind of familial friendship). The *Nicomachean Ethics* identifies itself, along with the *Politics*, as two parts of the same "philosophy of human things," namely one concerned with how humans act excellently in community in their pursuit of happiness or well-being. But such excellence requires training and practice which for Aristotle are the function of legislation within a political community. Looking back over the work of two of his contemporaries (apparently Isocrates and Plato), Aristotle writes that

> **T9:** since the question of legislation has been left uninvestigated by previous thinkers, it will perhaps be well if we consider it for ourselves, together with the

[15] The life of Ptolemy is preserved in the Vita Marciana. See further Düring 1957 (96–106).
[16] For overviews of Aristotle's ethical and political thought, see Schofield 2006, Kraut 2022, and Miller 2022.

> whole question of the constitution of the political community, in order to complete as far as possible our philosophy of human things. (*Eth. Nic.* 10.9.1181b11–16)
> [παραλιπόντων οὖν τῶν προτέρων ἀνερεύνητον τὸ περὶ τῆς νομοθεσίας, αὐτοὺς ἐπισκέψασθαι μᾶλλον βέλτιον ἴσως, καὶ ὅλως δὴ περὶ πολιτείας, ὅπως εἰς δύναμιν ἡ περὶ τὰ ἀνθρώπινα φιλοσοφία τελειωθῇ.]

Aristotle's ethical and political writings characterize such a philosophy as πολιτική, or "politics," namely the master or most architectonic science to which other practical sciences such as household management and generalship are subordinate.[17] Indeed, the *Nicomachean Ethics* explicitly claims to be an instance of politics.[18] It says that

> **T10:** even if the good is the same for an individual and for a city, that of a city is evidently a greater and, at any rate, a more complete good to acquire and preserve. For while it should content us to acquire and preserve this for an individual alone, it is nobler and more divine to do so for a nation and cities. And so our method of inquiry seeks the good of these things, since it is a sort of politics. (*Eth. Nic.* 1.2.1094b7–11)
> [εἰ γὰρ καὶ ταὐτόν ἐστιν ἑνὶ καὶ πόλει, μεῖζόν γε καὶ τελείοτερον τὸ τῆς πόλεως φαίνεται καὶ λαβεῖν καὶ σῴζειν· ἀγαπητὸν μὲν γὰρ καὶ ἑνὶ μόνῳ, κάλλιον δὲ καὶ θειότερον ἔθνει καὶ πόλεσιν. ἡ μὲν οὖν μέθοδος τούτων ἐφίεται, πολιτική τις οὖσα.]

Although theoretical science discloses the ways in which humans share in the nature of the divine, both cognitively and psychologically, practical or political science examines the uniquely human mode of acting, living, and self-legislating within household and political communities.

Although **T10** makes clear that Aristotle's discipline of politics concerns what is good for a political community, the *Nicomachean Ethics* focuses more narrowly on the nature of the human good, which Aristotle claims that all agree upon nominally, namely that it consists in happiness or well-being (εὐδαιμονία [*Eth. Nic.* 1.4.1095a16–21]). But the contest of lives which the theoretical

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[17] See *Eth. Nic.* 1.2.1094a26–b11, 1.9.1099b25–32, 6.8.1141b23–32; *Pol*. 1.10.1258a22, 7.4.1326a5.

[18] Schofield 2006 (305) notes that Aristotle's characterization of the *Nicomachean Ethics* as a political work is a "startling truth that is generally downplayed (if not totally ignored) in many presentations" of the work.

life wins arises out of disagreement over the nature of happiness. Thus, Aristotle devotes a substantial part of the *Nicomachean Ethics* to establishing the relationship between the human good (i.e., happiness) and other internal goods (such as excellences or virtues of soul like justice or practical wisdom) and other external goods (such as money, honor, and friendship). Aristotle commences the investigation of the human good with an outline based on the claim that the human function consists in "activity of the human soul in accord with rationality" (ἀνθρώπου ψυχῆς ἐνέργεια κατὰ λόγον [1098a7–8]). The outline concludes that

> **T11:** the human good is the active exercise of the soul's faculties in conformity with excellence or virtue, or if there be several human excellences or virtues, in conformity with the best and most perfect among them. Moreover this activity must occupy a complete lifetime; for one swallow does not make spring, nor does one fine day; and similarly one day or a brief period of happiness does not make a person supremely blessed and happy. (*Eth. Nic.* 1.7.1098a7–11)
> [τὸ ἀνθρώπινον ἀγαθὸν ψυχῆς ἐνέργεια γίνεται κατ᾽ ἀρετήν, εἰ δὲ πλείους αἱ ἀρεταί, κατὰ τὴν ἀρίστην καὶ τελειοτάτην. ἔτι δ᾽ ἐν βίῳ τελείῳ· μία γὰρ χελιδὼν ἔαρ οὐ ποιεῖ, οὐδὲ μία ἡμέρα· οὕτω δὲ οὐδὲ μακάριον καὶ εὐδαίμονα μία ἡμέρα οὐδ᾽ ὀλίγος χρόνος.]

Aristotle's core idea—which appears to be indebted to Socrates' account of human function in the first book of Plato's *Republic* (Pl., *Resp*. 1.352d8–354a4)—is that human virtue, which includes both intellectual and "ethical" forms, allows the human soul to function well, just like the sharpness of a knife is its "virtue" that allows it to cut well or the dullness of another knife is its "vice" that causes it to cut poorly. Books 1–7 of the *Nicomachean Ethics* investigate the nature of such ethical and intellectual virtues and their interconnection (or lack thereof in the case of akrasia or "weakness of will"). Following the examination of the internal goods of soul that partially constitute happiness, *Nicomachean Ethics* Books 8–9 examine the pre-eminent external human

good, namely the nature of friendship, including its different forms and eminently practical problems such as what we owe our friends and whether we should have many or few friends.[19]

If the *Nicomachean Ethics* is devoted to understanding the relationship between the internal and external goods that constitute happiness, the *Politics* is devoted to understanding the structural or constitutional frameworks in which communities foster or hinder the happiness of humans and the well-being of the political communities in which they live. If "politics" is the term that Aristotle uses to describe the discipline that studies human happiness in individuals and communities, it is the "politician" or "statesman" (πολιτικός) who possesses the practical knowledge about how to ameliorate the communities in which individuals interact and seek to flourish.[20] Aristotle likens the politician to a physical trainer who needs to be able to prescribe different exercise programs to different clients: such a trainer needs to know how to train competitive athletes, how to train athletes generally—of all abilities, and how to train those who don't like to train. Something analogous is true for the politician with knowledge of constitutions. Aristotle writes that

> **T12:** it is clear that in the case of the constitution as well it is the business of the same science to study [1] which is the best constitution and what character it must have to be the most ideal if no external circumstance stands in the way, and [2] what constitution is adapted to what people (since for many it is doubtless impossible to attain the best one, so that the good lawgiver and the true politician must be acquainted with both the form of constitution that is the highest absolutely and that which is best under assumed conditions), and also [3] thirdly the form of constitution based on a certain supposition (for he must be also capable of considering both how some given constitution could be brought into existence originally and also in what way having been brought into existence it could be preserved for the longest time: I mean for example if it has befallen some state not only not to possess the best

[19] Although I focus on Aristotle's *Nicomachean Ethics* to elucidate his "philosophy of human things," his surviving writings include several other ethical treatises—the *Eudemian Ethics*, the *Magna Moralia*, the *Protrepticus*, and the *Virtues and Vice*—that in complicated ways overlap and do not overlap with the *Nicomachean Ethics*. For the interrelationship of the five different ethical treatises, see further Bobonich 2006 and Simpson 2014.

[20] See *Eth. Nic.* 1.13.1102a8–23, 3.3.1112b14, 7.11.1152b1, 10.9. 1181a5–11; *Pol.* 2.7.1266a32, 3.3.1276a34, 4.1.1288b27, 1289a6, 5.9.1309b36.

> constitution and to be unprovided even with the things necessary for it, but also not to have the constitution that is practicable under the circumstances but an inferior one); and beside all [4] these matters he must ascertain the form of constitution most suited to all states. (*Pol* 4.1.1288b22–37; numerals inserted)
> [ὥστε δῆλον ὅτι καὶ πολιτείαν τῆς αὐτῆς ἐστὶν ἐπιστήμης τὴν ἀρίστην θεωρῆσαι τίς ἐστι καὶ ποία τις ἂν οὖσα μάλιστ᾽ εἴη κατ᾽ εὐχὴν μηδενὸς ἐμποδίζοντος τῶν ἐκτός, καὶ τίς τίσιν ἁρμόττουσα (πολλοῖς γὰρ τῆς ἀρίστης τυχεῖν ἴσως ἀδύνατον, ὥστε τὴν κρατίστην τε ἁπλῶς καὶ τὴν ἐκ τῶν ὑποκειμένων ἀρίστην οὐ δεῖ λελῆθέναι τὸν νομοθέτην καὶ τὸν ὡς ἀληθῶς πολιτικόν), ἔτι δὲ τρίτην τὴν ἐξ ὑποθέσεως (δεῖ γὰρ καὶ τὴν δοθεῖσαν δύνασθαι θεωρεῖν, ἐξ ἀρχῆς τε πῶς ἂν γένοιτο καὶ γενομένη τίνα τρόπον ἂν σῴζοιτο πλεῖστον χρόνον· λέγω δ᾽ οἷον εἴ τινι πόλει συμβέβηκε μήτε τὴν ἀρίστην πολιτεύεσθαι πολιτείαν ἀχορήγητόν τε εἶναι καὶ τῶν ἀναγκαίων, μήτε τὴν ἐνδεχομένην ἐκ τῶν ὑπαρχόντων, ἀλλά τινα φαυλοτέραν)· παρὰ πάντα δὲ ταῦτα τὴν μάλιστα πάσαις ταῖς πόλεσιν ἁρμόττουσαν δεῖ γνωρίζειν, ὡς οἱ πλεῖστοι τῶν ἀποφαινομένων περὶ πολιτείας.]

Thus, the politician's expertise consists in a legislative or constitutional knowledge about how to improve the condition of any political community, including those political communities that are deeply dysfunctional. The *Politics* as a whole includes two books (*Politics* 7–8) that consider how to organize the "best constitution" (as per task [1] in **T12**), but it also includes several books (*Politics* 3–6) about the nature of different constitutions, both why they deteriorate and how they can be preserved (namely, tasks [2] and [3]) and what constitutional improvements are good generally for any political community (namely, task [4]).

As I noted at the beginning of this section, Aristotle articulates his philosophy of human things within the context of a critique of his predecessors who failed to appreciate the importance of studying empirical data on how actual political communities are organized, both historically—in their development through different constitutional phases—and at present, in the 4th century BCE. Aristotle's school reportedly generated 158 "Constitutions" of which the *Constitution of the Athenians* is the only surviving example.[21] The document first provides a history of 11 Athenian

[21] For an overview of the *Constitution of the Athenians*, see Rhodes 2016 (1–33).

constitutional changes going back to Theseus and continuing down to the restoration of democracy following the amnesty of the oligarchic government of the Thirty in 403 BCE (*Ath. Pol.* 1–41). The document then catalogs and explains the deliberative bodies, magistrates, and judicial offices of 4th century Athens (*Ath. Pol.* 42–69). Based on Aristotle's detailed analysis of existing constitutions, perhaps especially in the case of Sparta, Crete, and Carthage (in *Politics* 2), it seems natural to presume that the *Politics* was written on the basis of such constitutions (although the precise relationship between the *Politics* and the *Constitution of the Athenians* is a point of scholarly disagreement). But what seems beyond dispute is Aristotle's interest in research and observation. If Aristotle was the first natural philosopher who sought to ground the study of life on the basis of detailed observation and taxonomic classification, then he was also the first political scientist who sought to ground the study of legislation and political reform on a similar basis of Greek and non-Greek political institutions.

PART V: Aristotle's productive arts—rhetoric and poetry[22]

Metaphysics 6.1 described "productive thought" as "in the case of things produced the principle of motion (either mind or art or some kind of potency) is in the producer" (τῶν μὲν γὰρ ποιητῶν ἐν τῷ ποιοῦντι ἡ ἀρχή, ἢ νοῦς ἢ τέχνη ἢ δύναμίς τις [1025b21–23]). Put slightly differently, when Polyclitus the sculptor produces a sculpture, it is only accidentally produced by Polyclitus; the non-accidental cause of the sculpture is the mind or craft—namely, the artisanal expertise—that allows Polyclitus to produce a brilliant sculpture (*Ph.* 3.3.195a34–b13). Absent the craft (which rather clearly arises through teaching and experience), Polyclitus' statues would be

[22] For an overview of Aristotle's account of rhetoric, see Rapp 2022.

indistinguishable from the mud pies of a toddler. Whereas Socrates in the Platonic dialogues often likens acting virtuously to acting in accord with a craft, Aristotle makes clear that he views praxis and production as ontologically different, whatever their similarities.[23] Thus, from a metaphysical perspective, the productive arts—often identified as *technai*—inherently involve making rather than acting and are thus active in a way unlike both the theoretical sciences (which are concerned solely with understanding) and practical thought (which is concerned with doing and acting). But from a less metaphysical perspective, we can see that Aristotle's "productive" or "technical" works—such as the *Art of Rhetoric* or the *Art of Poetry*—synthesize observational data about oratory and literature into different categories, much like one might study the parts or habitat of an animal species. Let me discuss how the *Art of Rhetoric* and then the *Art of Poetry* are important parts of Aristotle's philosophy.[24]

The *Art of Rhetoric* examines the means of persuasion from the perspective of an orator addressing one of three different audiences, namely in a deliberative assembly that is considering what to do in the future, in a judicial setting that considers accusations or defenses about what has happened in the past, and within the framework of offering praise or blame (*Rh.* 1.3.1358b1–13). The work is divided into three books, the first of which surveys the sources and tropes of oratory available for deliberative, judicial (or forensic), and epidictic rhetoric (about which more, in the case of judicial rhetoric, below). The second book begins with Aristotle's famous claim that

> **T13:** since rhetoric is for the sake of judgment (for people judge deliberations and a trial is a judgment) it is necessary for the speaker to look not only to the argument, that it be demonstrative and persuasive, but also to himself, that he be of a certain quality, and to the judge, to produce a certain quality in him too. For it makes a great difference with a view to persuading—especially in deliberative speeches,

[23] See *Eth. Nic.* 2.4.1105a21–b4, *Metaph.* 6.1. 1025b23–8.
[24] Natali 2013 (26–30) examines the evidence for the claim that Aristotle was a teacher of rhetoric either before or during his study in Plato's academy.

> but next in judicial ones—both that the speaker appear to be of a certain quality and that his listeners take him to be disposed in a certain way towards them. (*Rh.* 1.1.1377b21–28)
> [ἐπεὶ δ᾽ ἕνεκα κρίσεώς ἐστιν ἡ ῥητορική (καὶ γὰρ τὰς συμβουλὰς κρίνουσι καὶ ἡ δίκη κρίσις ἐστίν), ἀνάγκη μὴ μόνον πρὸς τὸν λόγον ὁρᾶν, ὅπως ἀποδεικτικὸς ἔσται καὶ πιστός, ἀλλὰ καὶ αὑτὸν ποιόν τινα καὶ τὸν κριτὴν κατασκευάζειν· πολὺ γὰρ διαφέρει πρὸς πίστιν, μάλιστα μὲν ἐν ταῖς συμβουλαῖς, εἶτα καὶ ἐν ταῖς δίκαις, τὸ ποιόν τινα φαίνεσθαι τὸν λέγοντα καὶ τὸ πρὸς αὐτοὺς ὑπολαμβάνειν ἔχειν πως αὐτόν, πρὸς δὲ τούτοις ἐὰν καὶ αὐτοὶ διακείμενοί πως τυγχάνωσιν.]

If rhetoric involves not only argument (λόγος) but also the character (ἦθος) of the speaker and the emotions (πάθη) of the judges, then it is necessary to examine how one produces certain emotions in an audience based on one's demeanor. Book 2 of the *Rhetoric* thus contains Aristotle's most extensive discussion of the nature of the emotions, including anger, fear, gratitude, pity, and many others. The third book focuses upon "style" (λέξις) for as Aristotle notes "it is not sufficient to know what one ought to say, but one must also know how one ought to say it" (*Rh.* 3.1.1403b15–16)

One can get a sense of how the *Rhetoric* works as a productive art if we look at judicial rhetoric and its discussion of law—including what Aristotle calls "common law," which he characterizes as follow:

> **T14:** Let us now determine all the unjust actions and all the just actions, starting first with the following points. The just actions and the unjust actions have been defined in relation to two sorts of law and in two ways in relations to persons. I mean that law is on the one hand special and on the other hand common, the latter being unwritten, the former written, and special being what each community has defined relative to itself, and common what is in accord with nature. For there is what all people, even if they do not share any community whatsoever with each other or any contrasts, have a hunch that there is, namely a just and unjust that are by nature common. (*Rh.* 1.13.1373b1–8)
> [Τὰ δ᾽ ἀδικήματα πάντα καὶ τὰ δικαιώματα διέλωμεν, ἀρξάμενοι πρῶτον ἐντεῦθεν. ὥρισται δὴ τὰ δίκαια καὶ τὰ ἄδικα πρός τε νόμους δύο, καὶ πρὸς οὕς ἐστι, διχῶς. λέγω δὲ νόμον τὸν μὲν ἴδιον τὸν δὲ κοινόν, ἴδιον μὲν τὸν ἑκάστοις ὡρισμένον πρὸς αὑτούς, καὶ τοῦτον τὸν μὲν ἄγραφον τὸν δὲ γεγραμμένον, κοινὸν δὲ τὸν κατὰ φύσιν. ἔστι γάρ, ὃ μαντεύονταί τι πάντες, φύσει κοινὸν δίκαιον καὶ ἄδικον, κἂν μηδεμία κοινωνία πρὸς ἀλλήλους ᾖ μηδὲ συνθήκη,]

Aristotle then provides three examples, namely Antigone's plea to bury her brother Polyneices in Sophocles' play, Empedocles' appeal to vegetarianism as a universal moral norm, and Alcidamas' condemnation of slavery of people made free by the god.

Although Aristotle's discussion of judicial rhetoric provides numerous examples, the context of its assumed audience and the framework of examining the various means of persuasion constitute its approach (for instance, in fashion quite unlike the analysis of the virtue of justice in *Nicomachean Ethics* book 5). Its analysis often consists in presenting a long list or repertoire that an orator could use to make a case, including a repertoire that rhetorizes law itself—namely, when appeals to laws are persuasive to an audience or when such appeals are not persuasive. Consider the following advice concerning the use of law as a means of persuasion

> **T15:** First, then, let us speak about laws, and in what way they should be used in exhorting and dissuading and accusing and defending. For it is evident that if the written law is contrary to the thing at issue, one should use common law and what is decent as being more just. And [one should say] that 'the best consideration' requires this, namely not to use the written law point by point. And that the decent always remains and never changes, and neither does the common law (for it is in accord with nature), whereas the written ones often do. (*Rh*. 1.15.1375a25–33)
> [πρῶτον μὲν οὖν περὶ νόμων εἴπωμεν, πῶς χρηστέον καὶ προτρέποντα καὶ ἀποτρέποντα καὶ κατηγοροῦντα καὶ ἀπολογούμενον. φανερὸν γὰρ ὅτι, ἐὰν μὲν ἐναντίος ᾖ ὁ γεγραμμένος τῷ πράγματι, τῷ κοινῷ νόμῳ χρηστέον καὶ τοῖς ἐπιεικέσιν ὡς δικαιοτέροις. καὶ ὅτι τὸ γνώμῃ τῇ ἀρίστῃ τοῦτ᾽ ἐστί, τὸ μὴ παντελῶς χρῆσθαι τοῖς γεγραμμένοις. καὶ ὅτι τὸ μὲν ἐπιεικὲς ἀεὶ μένει καὶ οὐδέποτε μεταβάλλει, οὐδ᾽ ὁ κοινός (κατὰ φύσιν γάρ ἐστιν), οἱ δὲ γεγραμμένοι πολλάκις·]

Aristotle's analysis of common law is clearly motivated by a situation in which an accuser or defendant does not have recourse to written law as a source. In the sequel, Aristotle considers when the orator should invoke witnesses, contracts, oaths, and even the results of torture—but as means of persuasion, not as points of jurisprudence or philosophy of law. The result is that although the *Rhetoric* serves as a witness to the various kinds of arguments that a 4th C. orator might make in a

judicial setting, it is not concerned with the truth or objective reality of those forms of persuasion. Evidence for Aristotle's theory of justice derived from the *Art of Rhetoric* needs to be considered with special care and appreciation of context; although the work is authentically by Aristotle, it is very difficult to determine when—if ever—it presents Aristotle's actual views about the nature of justice.

Although the *Art of Rhetoric* often looks like a handbook that lays out different tropes or arguments that an orator might incorporate into an oration, Aristotle's *Art of Poetry* (or the *Poetics*) appears more like an early work within the field of aesthetics or the study of beauty in artistic representation (μίμησις).[25] Although the work (which is fragmentary and missing its second book) is concerned with poetry more generally (including the genres of epic and comedy), what survives in the manuscript tradition is its extended discussion of tragedy, which Aristotle defines as follows:

> **T16:** Tragedy, then, is mimesis of an action which is elevated, complete, and of magnitude; in language embellished by distinct forms in its sections; employing the mode of enactment, not narrative; and through pity and fear accomplishing the catharsis of such emotion. (*Poet.* 6.1449b25–28)
> [ἔστιν οὖν τραγῳδία μίμησις πράξεως σπουδαίας καὶ τελείας μέγεθος ἐχούσης, ἡδυσμένῳ λόγῳ χωρὶς ἑκάστῳ τῶν εἰδῶν ἐν τοῖς μορίοις, δρώντων καὶ οὐ δι᾽ ἀπαγγελίας, δι᾽ ἐλέου καὶ φόβου περαίνουσα τὴν τῶν τοιούτων παθημάτων κάθαρσιν.]

The remainder of the surviving treatise explicates such a definition by means of an analysis of the various parts of tragedy, which Aristotle enumerates as spectacle, song, diction, plot, character, and reasoning (6.1449b33–1450a8), along with its comparison to the genre of epic.

Aristotle is quite explicit that "plot" (μῦθος)—namely the arrangement or structure of incidents in the drama—is the most important feature of tragedy because "tragedy is a

[25] For an overview of Aristotle's *Poetics* (and the claim that it presents a theory of aesthetics rather than a handbook or guide for producing tragedies), see Destrée 2021.

representation not of human beings but of action and life" (*Poet*. 6.1450a15–17). One can ascertain what Aristotle has in mind most clearly by his juxtaposition of historical narration (he has Herodotus in mind) and the plot found in tragedy.

> **T17:** It is also evident from what has been said that it is not the poet's function to relate actual events, but the kinds of things that might occur and are possible in terms of probability or necessity. The difference between the historian and the poet is not that between using verse or prose; Herodotus' work could be versified and would be just as much a kind of history in verse as in prose. No, the difference is this: that the one relates actual events, the other the kinds of things that might occur. Consequently, poetry is more philosophical and more elevated than history, since poetry relates more of the universal, while history relates particulars. (*Poet.* 9.1451a36–b9)
> [Φανερὸν δὲ ἐκ τῶν εἰρημένων καὶ ὅτι οὐ τὸ τὰ γενόμενα λέγειν, τοῦτο ποιητοῦ ἔργον ἐστίν, ἀλλ᾽ οἷα ἂν γένοιτο καὶ τὰ δυνατὰ κατὰ τὸ εἰκὸς ἢ τὸ ἀναγκαῖον. ὁ γὰρ ἱστορικὸς καὶ ὁ ποιητὴς οὐ τῷ ἢ ἔμμετρα λέγειν ἢ ἄμετρα διαφέρουσιν· εἴη γὰρ ἂν τὰ Ἡροδότου εἰς μέτρα τεθῆναι καὶ οὐδὲν ἧττον ἂν εἴη ἱστορία τις μετὰ μέτρου ἢ ἄνευ μέτρων· ἀλλὰ τούτῳ διαφέρει, τῷ τὸν μὲν τὰ γενόμενα λέγειν, τὸν δὲ οἷα ἂν γένοιτο. διὸ καὶ φιλοσοφώτερον καὶ σπουδαιότερον ποίησις ἱστορίας ἐστίν· ἡ μὲν γὰρ ποίησις μᾶλλον τὰ καθόλου, ἡ δ᾽ ἱστορία τὰ καθ᾽ ἕκαστον λέγει.]

Although some scholars have read Aristotle's remarks as his disparagement of history, such an interpretation seems implausible given what I have said about Aristotle's empirical research both in the case of zoology and in political science.[26] Unlike the historian, who's "plot" is determined by actual events, the tragedian is constrained only by verisimilitude and plausibility (which themselves admit of artistic license). What is sometimes called a "poetic universal" for Aristotle is just the sort of actions that a certain kind of character might produce: the actions of bad guys always produce fear and hatred whereas those of good girls—especially when they trounce the bad guys—always produce admiration and even righteous indignation. Such generality affords the tragic poet access to a philosophical perspective on the nature of human action. Whereas Aristotle believes that the theoretical sciences provide us with philosophical understanding about the nature

[26] For further discussion, see Lockwood 2017.

of the world around us and its gods, the productive art of poetry, when performed finely, provides us with philosophical understanding about human praxis, both in the case of "sad" tragic plots (like that of *Oedipus Rex*), but also—at least for Aristotle—in the case of "happy" tragic plots (like that of Euripides' *Iphigeneia in Taurus*).[27]

[27] For Aristotle's praise of Euripides' play, in which Iphigeneia recognizes her brother Orestes immediately before she "tragically" sacrifices him, see *Poet*. 14.1454a7, 11.1452b6–8. Aristotle even uses the play to provide a paradigm of how to outline a plot (*Poet*. 17.1455b3–15).

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