ARISTOTLE'S

METAPHYSICS

A Philological Commentary

by

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Volume III

Sources and Parallels

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Preface

In the present volume, we enter the intellectual environment of Aristotle: Academy, Lyceum, and his library; he is reported to have collected all of the writings of the Presocratics he could come by.

When Aristotle joined Plato's Academy at the age of seventeen, he met the then 43-year-old Speusippus and the thirty-year-old Xenocrates, who were to follow Plato in the direction of the school, and became his chief opponents in the discussion about Plato's metaphysics. Neither of them nor of the Presocratics complete works have survived; the situation is not much better for Plato, since Aristotle refers mainly to his "unwritten doctrines". We are dependent on citations and reports from later (Hellenistic) periods, which were collected by modern scholars, mostly without translation. I have made it my task to insert these fragments as it is most conducive to the explanation of the text. For the more well-known authors I could rely on existing English translations; some texts I had to translate myself.

So much for the "sources". With the "parallels", we enter the Lyceum, where Aristotle gave lectures, of which we possess manuscripts in the writings of the Corpus Aristotelicum. Important statements on metaphysical issues can be found in almost all these writings. To find and analyze such parallels is a main task of a philological commentary. As far as the latter is concerned, I had to confine myself to what may contribute to solving the difficulties of understanding which arised in the history of exegesis; it is, of course, impossible to deepen the respective subject in all directions.

As to the technicalities, spelling and manner of quotation were unified also in the citation of secondary literature; the ease of research was given priority over the authentic reproduction. And at the sight of the current irregularity and inconsistency, I have decided to use the Latin titles of Aristotelian writings throughout. As in vol. II, I have treated the inhomogeneous parts of the books ?, ?, ? separately.

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Introduction

There is hardly a philosophical tendency which does not define itself by its attitude to metaphysics. This makes it desirable to clarify more precisely what this is about. But when we, asking ourselves, what is metaphysics? (cf. the title of Heidegger's lecture "Was ist Metaphysik?"), turn to the foundational book, to which metaphysics owes its name, we do not get a clear answer. Even in the Middle Ages, the question about the subject of metaphysics ("quid sit subjectum metaphysicae?") was a much discussed topic, and this discussion lasted until Francisco Suarez. It was revived by philologists from the 19th century. In 1995, Jonathan Barnes summed it up as follows: "The science of first principles, the study of being qua being, theology, the investigation into substance - four compatible descriptions of the same discipline, or rather several different descriptions of several different disciplines? Perhaps there is no one discipline which can be identified as Aristotelian metaphysics?" (p. 69) "The four characterizations of metaphysics do not cohere: there is no one science which they all describe, and hence there is (in a sense) no such thing as Aristotelian metaphysics." (p. 108)

Doing without an average concept of "Aristotelian metaphysics" does not mean that we cannot get beyond the medieval state of affairs. From modern Plato research came the impulse to deal with Aristotle's criticism of Plato, which is largely concerned with doctrines not occurring in the dialogues, but deriving from the lecture on the good. This was also the beginning of interest in books M and N of the Metaphysica, which are devoted entirely to this criticism (and were neglected so far on this very reason). The doctrines of Plato and his successors Speusippus and Xenocrates, which are examined here, and can be reconstructed out of this critique (with the additional help of the indirect tradition), constitute the point of departure for understanding the - constant or changing - assignment of the several books.

Once the way of genetic explanation has been taken, it becomes immediately clear that it is the first of the four questions mentioned by Barnes (the question about the principles) which directs the metaphysical investigation from the beginning. On the whole, the development is determined by the fact that Aristotle refutes the doctrine of the Ideas and their principles (to which he himself still adheres in book ?) by immanent critique, i. e. maintaining the Platonic criterium for metaphysical objects: "separation" (= existence independent) from the sensible objects. He is only seeking new candidates for this role. In doing so, he sympathizes with the Presocratics who inquired "what being and unity are" (1001a7-8; cf. 996a4-9; 1053b9-16; Physica 203a1-6), in the sense: of what can be said "it is" and "it is one"? What is absolutely one and absolutely good, i. e. what fulfils the Platonic criteria for the principle of all things, is the separate, divine intellect. Thus theology is the answer to the problem of the principles common to Plato and Aristotle. The divine intellect is the most universal and most abstract, being qua being, existing as a singular entity (cf. our notes on 1026a30-31 and 1074b28-29).

Passage Commentary

The notes are divided into

(1) auxiliary texts,

a) parallels in the Metaphysica,

b) parallels in the rest of the Corpus Aristotelicum,

c) parallels (possible sources) in the Corpus Platonicum,

d) parallels (possible sources) in the indirect tradition,

(2) documentation of the state of research,

(3) my own view.

In order to make the volume not to voluminous, I dispense with quoting texts from the Corpus Aristotelicum and the Corpus Platonicum; they are easily accessible in complete editions both Greek and English:

Aristoteles Graece ex recensione Immanuelis Bekkeri. (2 volumes.) Berlin 1831.

Platonis Opera. Recognovit brevique adnotatione critica instruxit Ioannes Burnet. (4 volumes.) Oxford 1900-1902.

The Complete Works of Aristotle. The revised Oxford Translation. Edited by Jonathan Barnes. (2 volumes.) Princeton 1984.

Plato. The Complete Works. Edited, with Introduction and Notes, by John M. Cooper. Indianapolis/Cambridge 1997.

The other texts are offered in English translation; as far as they are terminologically interesting, also in Greek.

Book A

980a21-23

(1a) 987b1-2.

(1b) De Arte Poetica 1448b13-15.

(1c) Euthydemus 278e3.

(1d) Iamblichus, Protrepticus 36, 7-11 Pistelli:

? ??? ??? ????? ?????????? ????, ?? ???? ?? ?????

?? ??? ?????????, ? ??? ?? ?? ????? ??? ?? ???????

???? ?????. ????? ??? ??? ??? ????????? ????? ????

??? ?? ???????? ?????????, ?????? ?? ?????????? ?????

??? ???????? ??????, ?????? ?? ??????? ?????.

("What makes the difference between us (humans) and the other animals becomes conspicuous only in that form of life which does not recognize the accidental and the worthless. Certainly there are also small sparks of reason and thought in the animals, but they have not the slightest share of theoretical knowledge; it is rather the exclusive claim of the gods.")

43, 27-44, 26:

??? ?? ???

????? ???? ?? ??? ?? ???????????? ?????? ???? ??,

????? ??? ?????? ????? ?????????? ? ?????? ???????

?????? ???? ?? ???????? ???. ?????????? ?? ??????????

??? ????????, ??? ?? ?????? ???? ???????? ??

????????? ??? ??????? ????????????, ?????? ?????????

????? ??? ?????? ????? ??????. ?? ?????? ?????

?????? ???? ???????? ??????, ????? ??????? ??

???????? ?????? ?????? [????? Vitelli] ??? ???? ???????? ??????? ??????

?? ???????? ??? ??? ????????, ?? ?????? ????? ??

??????? ???????, ?????? ??????? ?? ??????? ?????

??? ???????? ??????. ???? ??? ?? ?? ??? ??

??????????? ??????????? ??? ?? ???, ??? ?????? ????????

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?? ?? ??? ??? ????? ??????? ??? ??? ???????? ? ?'

???????? ?????? ???, ??? ??? ?? ????????? ????

???????? ??? ????? <?? ???> [Düring] ?????????, ????? ?? ???????

???[???] [Jaeger] ????? ??? ?????? ??????? ? ?????? ??????? ??????, ??? ??? ????????? ??? ???? ?????? ???????

??????? ????? ??? ??????, ?????? ?? ??? ??? ?????

?????? ?????????? ??? <?????> [Düring "collato 89 in fine"] ??? ??? ????? ? ????????

????????? ??? ???????? <????> [Jaeger]? ???? ?????? ????????

?? ??????? ??????? ????????.

("Again, if we love one thing because some property attends on it, clearly we shall wish more for that to which this property belongs in greater degree; e. g. if a man happens to choose walking because it is healthy, but running is more healthy for him and he can get it, he will (if he knows this) prefer running and choose it rather than walking. If, therefore, true opinion is like knowledge, then— since true opinion is worthy of choice in respect of being, [Reading ?????, suggested by Vitelli.] and in so far as it is, like knowledge by reason of being true— if knowledge is more true, it is more worthy of choice than true opinion. But living is distinguished from not living by sense-perception; it is by the presence and power of this that life has its distinctive character; if this is taken away life is not worth living— it is as though life itself were extinguished by the loss of sense-perception. Now of sense-perception one kind— the power of sight— is distinguished by being the clearest, and it is for this reason that we prefer it to the other senses; but every sense acquires knowledge by means of the body, as hearing perceives sound by means of the ears. Therefore if life is worthy of choice for the sake of perception, and perception is a kind of knowing, and we choose it because the soul can come to know by means of it, and (as we said before) of two things [Reading ??? ?????, with Jaeger.] that is always preferable which possesses the desirable quality more fully, then of the senses sight must be the most worthy of choice and honorable; but knowledge is preferable to it and to all the other senses, and to life itself, since it has a stronger grasp of truth; [Reading ????????? <????>, with Jaeger.] so that all men aim at knowing, most of all things.")

58, 10-14:

?? ??

?? ??? ???? ?? ??? ?? ?????? ????? ???? ?????, ?????

??? ??? ??? ?? ??????? ??? ????????? ?????? ?

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("Now if living is, alike for every animal, its true being, it is clear that the thinker will be in the highest degree and in the most proper sense, and most of all when he is exercising this faculty and contemplating what is the most knowable of all things.")

(3) Qua animals, we like sensation, because animal life is defined by sensation. Qua humans, we like cognition, because it is a higher (specifically human) degree of life. Animal existence being defined by sensation, human existence additionally by knowledge, the question about the perfect science is the question about the best way of life (???????? or ??????????) as well, as it is asked at the beginning of the "protreptic" dialogue in Plato's Euthydemus (278e3): ??? ?? ?????? ???????? ????????? ?? ????????;

From De Arte Poetica 1448b13-15 we see that the famous statement at the beginning of the Metaphysica does not apply to all men in equal degree:

??? ????????? ?? ????? ???? ?????????? ???????, ???? ??? ???? ?????? ??????? ???' ??? ????? ??????????? ?????.

("to learn gives the liveliest pleasure, not only to philosophers but to men in general; but they participate in it only to a slight extent.")

In this way, the philosopher is proclaimed to be the most perfect specimen of the human species. Of course, this claim did not remain uncontested in the Athenian society. Philosophy as educational ideal enters into competition with rhetoric and poetry. See Plato's Gorgias, Symposium, Phaedrus.

In Iamblichus' Protrepticus 35, 14-18 Pistelli we find a scale of living beings from plant to god, the criterium being the gradation of cognitive abilities:

????????? ??? ??? ???

??? ?????????? ???????? ???? ????????

???????????, ??? ?? ????? ?????????? ???????????,

??????? ?? ?????????? ????? ?' ?? ?? ?? ?????????

???.

("Sensation and intellect taken away from him, man becomes near to plant, intellect only taken away he becomes a beast; but irrationality taken away, dwelling within the intellect, he becomes like God.")

In this precious piece of text, we are reminded of the famous ???????? ??? ???? ?? ??????? ("becoming as like God as possible") in Plato's Theaetetus (176b). Intellectual life is both the subject matter of theology and the ideal of human education. Additionally, we get a hint for the method: "abstraction" (?????????, "taking away") from what is irrational (i. e. from the "indefinite", ?? ????????) is the way from the world of common life to real reality and real life. Cf. our notes on 982b28-29 and E, 1026a30-31.

980a23-26

(1c) Phaedrus 250d. Timaeus 47a-b. Philebus 51b3-52b8.

(2) According to Balme (p. 91), this view "may account for the order in which the senses are described in De Anima B. 7-11: there sight is given a prominence that does not fit the theory of De Anima, and Hicks [Aristoteles De Anima, note at B. 7 init.] suggested that it derived from an earlier view."

980a26-27

(1b) De Sensu et Sensato 437a5-9.

980a27-b25

(1b) De Sensu et Sensato 436b10-12. 437a11-15. De Memoria et Reminiscentia 450a12-16. Historia Animalium 608a17-21. 614b18-26. De Generatione Animalium 753a7-15. Ethica Nicomachea 1141a26-28.

(1c) Politicus 263d.

980b25-28

(1b) De Anima·415a5-11.

981a2-5

(1c) Gorgias 465a1-6. 501a1-3.

(2) In contrast to Analytica Posteriora 99b34-100a9, in our text it is not distinguished between ????? and ????????. This may be because Aristotle bore in mind Plato's Gorgias not only in citing Polus (981a3-5, cf. Plato, Gorgias 448c; 462b), but during the whole treatment of experience (????????). In this dialogue, "medicine illustrates what we must mean by ????? and is opposed to mere experience, which is exemplified by cookery. The reason why Plato qualified cookery as mere experience is that «it has no rational account (?????) by which it applies to things it applies, to say what is their nature, ?????, so that it cannot say what is the explanation of each thing (?????? ???????); and I don't call anything a ????? which is unreasoning (?????? ??????)» (465a1-6). On the contrary, medicine as ?????, «has considered the nature of what it cares for and the explanation (?????) of what it does, and can give a rational account (?????) of each of these things» (501a1-3, trans. Irwin)." (Cambiano, p. 29)

981a5-17

(1b) Analytica Posteriora 100a5-9.

981a10

(1b) Analytica Posteriora 74a25-32.

981a15-20

(1b) Ars Rhetorica 1356b28-32.

981a18-20

(1a) 1087a19-20.

981a21-22

(1b) Analytica Posteriora 79a4-6. Ars Rhetorica 1393a17-18.

981a28-30

(1a) 994b29-30.

981a30-b2

(1b) Analytica Posteriora 88a5-7.

981b7

(1c) Alcibiades major 118d.

981b17-25

(1a) 982b22-24.

(1c) Critias 110a.

(1d) Iamblichus, De Communi Mathematica Scientia 83, 6-22 Festa (= Protrepticus Fr. 8 Ross):

???????? ??? ????????????? ???? ???

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("The study of precision with regard to the truth is admittedly the youngest of all pursuits. For after the catastrophe of the flood men were compelled to think first about food and the preservation of life; when they had become better provided they worked out the arts that conduce to pleasure— music and the like; and it was only when they had acquired more than enough of the necessities of life that they essayed philosophy. But those who concern themselves with geometry and calculation and the other sciences have from small beginnings made by now such progress in a very short time as no other race has made in any of the arts. Yet while all men join in promoting the other arts by giving them public honor and rewarding the artists, we not only do not encourage mathematicians, but often even put difficulties in their way; yet these studies make most advance, because they have a natural precedence; for that which is later in coming to be is prior in essence and perfection.")

Iamblichus, Protrepticus 40, 15-20 Pistelli (= Aristoteles, Protrepticus, fr. 5 Ross, 34):

?? ??? ???? ?????? ???? ???

???????? ????????? ???? ???????????, ??' ?? ????????

????? ?? ????????????, ???? ?? ?????????? ??? ???

????? ?????? ???? ?? ?????? ?????? ???????

????????????? ???? ??????????, ??????? ??? ????? ??? ????

??? ?????????? ????? ????????.

("Those who pursue philosophy get no reward from men to spur them to the efforts they make; they may have spent much on other branches of knowledge, yet in a short time their progress in philosophy outstrips their progress in other branches: that seems to me a sign of the easiness of philosophy.")

Proclus, In Euclidem 28. 13-22 Friedlein (=Aristoteles, Protrepticus, fr. 5 Ross, p. 34):

????? ?? ?? ??'

?????? ????? ???? ????????? ???????, ? ???

??????????? ??? ?????, ?? ??????? ?????? ???????????

???? ???????? ???? ?? ????? ????? ????????

???????? ??? ??? ????????? ??????? ??????, ??? ?? ??

?????? ?? ???? ?????????? ??? ????????? ?????????

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??? ??' ????? ????????, ???? ?? ?? ??????????????

?????? ??? ??? ????????? ???????, ????????

??????????? ????? ??? ?? ?????? ??????.

("That to those who pursue it mathematics is desirable for its own sake is shown, as Aristotle somewhere says, by the fact that, though no reward is held out to those who pursue it, facility in the study of mathematics increases so rapidly, and also by the fact that all who have had even a slight experience of what it can give one feel at home in it and are willing to spend their time in it, neglecting all else, so that those who despise the knowledge of mathematics can never themselves have tasted its delights.")

Cicero, Tusculanae Disputationes 3. 28. 69 (= Aristoteles, Protrepticus, fr. 8 Ross):

Itaque Aristoteles veteres philosophos accusans, qui existumavissent philosophiam suis ingeniis esse perfectam, ait eos aut stultissimos aut gloriosissimos fuisse; sed se videre, quod paucis annis magna accessio facta esset, brevi tempore philosophiam plane absolutam fore.

("Therefore Aristotle, criticizing the old philosophers who had thought philosophy completed by their intellectual labours, says they were either very stupid or very conceited, but that he sees that, since great progress has been made in a few years, philosophy will in a short time be brought to completion.")

981b23-25

(1c) Phaedrus 274c.

(2) Burnet (p. 19): "Herodotus [ii 109], who tells us that Egyptian geometry arose from the necessity of measuring the land afresh after the inundations, is clearly far nearer the mark than Aristotle, who says it grew out of the leisure enjoyed by the priestly caste." Likewise already Schwegler (iii 12).

981b25-982a1

See vol. i, pp. 25-28.

982a1-3

(1b) Ethica Nicomachea 1141a9-17. Magna Moralia 1197a24-28.

(1c) Res publica 537c.

(3) The concept ????? (without qualification) is introduced quite abruptly. In 981a25-27, b1, 5 and 16, ????? and ????? are used for the supreme degree of knowledge within the various arts or sciences; now it is about a transdisciplinary knowledge, about the ????? (982a2) and the ????? (982a7) in sensu absoluto.

In the history of the concept, the former use precedes the latter: originally, ????? designates the ability based on expert knowledge, which singles out an individual from the cloud, as the able carpenter in Homer (Ilias XV, 411-412). The latter meaning was created by the sophists, who (under the title of rhetoric) offered a hegemonic knowledge; this agrees with the assumption about the ????? expressed in 982a16-19. "In criticizing the expert who (like the general of the Laches or the diviner of the Euthyphro), enclosed as he is in a particular domain, ignores the foundations of his own science, Socrates revived the sophists' ideal of universality" (Aubenque 274).

In what follows, Aristotle alternates between the two meanings: sometimes it is about the different degrees of competence within the special fields (982a14 ???? ????? ?????????), sometimes about the ranking among the sciences (982a14 and 26, b4 ??? ?????????). Thus by ?????????? ????? (982a8) is meant initially the survey within a special field, in the sense of the section about the ?????. From this, then, a criterium can be derived for a mutual comparison of the sciences. A survey (???????) of the whole of sciences is also spoken of by Plato, Res publica 537c.

982a10-12

(1b) Topica 117b28-30.

982a14-16

(3) The assumption follows from 980a21-27 and the related passages quoted there. Here there already occurs a gradual progression in the field of sensation (ll. 23 and 26 ???????), corresponding with the progression to the ??????? ???????? in 982a32-b1.

For the phrase ??? ???????????? ?????? cf. Politica 1325b18-19 ??? ???????????? ?????.

The opinion that utility does not matter is not an uncontroversial one; Isocrates took the opposite view. His critique is directed against the educational program of the Academy: "In the Antidosis [261-267] the counterattacks are now clearly directed against the educational program of the mid-4th century Academy of Plato, especially its stress on the abstract mathematical sciences, including geometry and astronomy." (Hutchinson/Johnon, p. 15)

982a16-19

(3) We are dealing again with a pre-opinion which first of all applies to the expert in each field (i. e. to the ????? in the first of the two senses distinguished above).

982a21-23

(1b) Analytica Posteriora 86a10-13.

982a23-25

(1a) 1029b3-12.

(1b) Analytica Posteriora 71b33-72a5.

(3) The difficult way from what is easily accessible by sensation to the most universal is the way from what is ???? ???? ???????? ("prior for us") to what is ???????? ?? ????? ("prior by nature").

982a25-26

(1a) 982b2.

982a26-28

(1a) 1077b9-11. 1078a9-13.

(1b) Analytica Posteriora 87a34-37.

982b2-4

(1d) Theophrastus, Metaphysica 9b10.

(3) In all probability, this passage is taken from the Protrepticus, cf. Iamblichus, Protrepticus (38, 22-39, 4 Pistelli):

???? ???

???????? ????????? ??? ?????? ??? ??? ?????????

????? ???????? ? ??? ???????. ?? ??? ????? ???

????? ???' ?? ?????? ?? ????? ???????, ???' ??

??????? ??? ??' ??????? ????? ???????? ???

?????????? ???????.

("It is far more necessary to have knowledge of the causes and the elements than to have knowledge of what follows from them; for the latter are not among the highest objects, and the first principles do not arise from them, but from and through the first principles all other things manifestly proceed and are constituted.")

The first sentence must be constructed: "It is necessary, that there is much earlier cognition of the causes and the elements than of what is derived from them." In the next sentence, this order of cognition is founded in the order of being. The ???? are identical with the ?????, cf. Theophrastus, Metaphysica 25, 9b10 ???? ?? ??' ???? ?? ???? ??? ????? ????????????, Plato, Epistulae, 344d 4-5 ??? ???? ?????? ????? ??? ??????; that the ?????? "do not belong to the ????" is therefore a tautology by which nothing is accomplished for the argumentation. Since the transmitted text cannot be translated otherwise, I suppose that a word has dropped out, which expresses (as the following ??) a conditional relation, for example: ?? ??? <?????> ????? ??? ????? ("because not these [the ??????] are causes of the ????"), cf. a similar passage in the Protrepticus (38, 10-11 Pistelli): ????? ?? ?????? ?? ??????? ??? ???????.

The sentence has the same logical structure "not …, but conversely …" as our present passage, where it seems less motivated; for the intention is protreptic: it is supposed that the reader is completely attached to the realm of ordinary life, of the "derived"; wherefrom his attention shall be distracted and directed to the essential, to the "causes and elements". For the said structure cf. De Generatione Animalium 778b5-7, where the advocates of the opposite view are mentioned.

982b2

(1a) 982a25-26.

982b4-7

(1c) Euthydemus 291b-c. Politicus 284b-e.

Aubenque (p. 267): "Once it is admitted that man attains happiness by science, it is a question of seeking what science among the known sciences, or, if need be, among the sciences still to be born, can bring happiness to man. To seek the science which is primary, royal, constitutive of «good life», this old problem remains the problem of Aristotle, one could almost say the only problem of the Metaphysica."

982b12-13

(3) Guided by the word ?????????, the commentators refer unanimously to Plato, Theaetetus 153d. The intention, however, is quite different; in Plato, the said state is not a transitory one as in Aristotle, (983a11-20), it is rather admiration than amazement.

982b22-24

(1a) 981b17-25.

982b24

(1a) 1078b15.

(1b) Topica 134a34. 136b11. 138b2. 141a6-8. Ethica Nicomachea 1140b5. 1141a26. b14-21.

(3) As in the Protrepticus, ???????? is here synonymous with ???????? (Ritter/Preller 300: "???????? hoc loco non multum distat ab ????????.") and ?????. This is "Platonic use" (Jaeger 1956, p. 155). In the Ethica Nicomachea (1141b14-21), there occurs another concept of ????????, which includes knowledge of the singular and practical ability.

This is an argument for considering 981b25-29 to be a later addition (cf. vol. 2, p. 46).

982b25-28

(1c) Res publica 499a. Theaetetus 172d and 175c. Sophista 253c-d.

(1d) Iamblichus, Protrepticus 34, 22-25 ????? ?? ???

?????????? ????????? ??? ???? ???? ??' ?????

???????, ??????? ?? ???????? ?? ??' ???? ??? ??????

????????????.

("Again, of the thoughts those proved to be free which are preferable by itselves, subalternes those the direction of which is determined by other things.")

53, 2-7 Pistelli (= Aristotle, Protrepticus fr. 12 Ross):

???? ?' ??

??? ??? ?????? ?????? ????? ????? ???????, ?? ???

???? ???? ??? ??????? ?????? ?? ??????? ?????????.

???? ??? ??????? ????? ???? ??? ????? ????? ??????

?? ???????, ????? ?? ???????????? ?? ??????????? ???

???????, ????? ??? ??? ????????? ????? ???? ?????.

("One would see the supreme truth of what we are saying, if someone carried us in thought to the islands of the blest. There there would be need of nothing, no profit from anything; there remain only thought and contemplation, which even now we describe as the free life.")

982b25-26

(1b) Ars Rhetorica 1367a32.

982b28-29

(1b) De Partibus Animalium 686a27-29. Ethica Nicomachea 1177b26-34. Politica 1256b20-22. Ars Rhetorica 1394b24-25.

(1c) Theaetetus 176b. Epinomis 988a5-7.

(1d) Protrepticus 48, 9-16 Pistelli (= Aristoteles, Protrepticus, fr. 10c Ross):

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?????. ??? ???? ?? ??? ???????? ???????? ????????

?????????, ?????? ?? ? ???? ?????? ????? ??? ???????,

???? ????? ?????????? ?????????, ???? ?????? ????

?? ???? ???? ????? ??? ????????.

("Mankind has nothing worthy of consideration as being divine or blessed, except what there is in us of intellect and wisdom; this alone of our possessions seems to be immortal, this alone to be divine. By virtue of being able to share in this faculty, life, however wretched and difficult by nature, is yet so cleverly arranged that man seems a god in comparison with all other creatures.")

(2) The quotation is from Epicharmus (fragment 20 Diels/Kranz). Reminiscent of it is Epinomis 988a5-7 (???????? ???? - ??????? ?????). The same admonition in Euripides, Alcestis, v. 799: ????? ?? ??????? ????? ??? ??????? ?????.

982b30-32

(1c) Protagoras 341e.

982b32-983a2

(2) On the envy of the Gods, no quotation from poets has come to us. We find this idea in Herodotus (I, 32. III, 40. IV, 205. VII, 10. 40).

(3) By ???? ????????? in 983a2 are to be understood all those who exceed the normal measure, not "all who excelled in this knowledge" (Works 1555). 983a1-2 ????????? ????? ?????? ???? ????????? still belongs to the account from poets, as ?????? ??????? ?? ?????; of both it is said that "it is most likely to occur in this case". In Euripides, Bacchae 427-429, "the ???????? ????? are those 'superior persons' who, like Pentheus, refuse to recognize the limitations imposed by ????? ??????? [verse 396]: cf. the Nurse's warning to Phaedra that Cypris punishes ?? ?? ???????? ??? ????????' ???? ???? (Hippolytus 445), and Theseus' taunt against Hippolytus as claiming to be ???????? ????, one exempt from the common frailty of humanity (Hippolytus 948)." (Dodds 129)

983a2-3

(1c) Timaeus 29e. Phaedrus 247a.

983a3-4

(2) On the proverb ????? ????????? ??????, Snell (p. 87) remarks: "In primeval times, from serious poetry it is expected that it relates truth; where criticism arises, it goes: «the poets are lying» (for example Hesiod, Theogonia 27; Solon 21 D; Xenophanes 1, 22 [Diels/Kranz]; Pindar, Olympia 1, 28)" The famous sentence in De Arte Poetica 1451b4-5, that the historian "describes the thing that has been", and the poet "a kind of thing that might be" "presupposes that historiography and poetry have split from each other, as it happened in the fifth century" (Snell, ibidem).

983a5-10

(1a) 1044b8-20. 1074b33-34.

(1c) Phaedrus 278d. Parmenides 134c. Epinomis 986d.

(2) Ross (i 123): "In assigning to God knowledge of the causes of existing things, Aristotle is inconsistent with his account in Book ?, in which God's thought has no object but Himself. He is speaking of God as commonly conceived." Likewise Düring (p. 264, n. 117).

According to Aubenque (p. 66, n. 1), there is no contradiction between the two passages: "God ignores the world insofar as the world does not derive from the principle".

(3) Aubenque is right. What "derives from the principle" is being qua being. Knowing all means knowing the universal (cf. 982a21-23), also for God. For the Platonic-Aristotelian concept of knowledge (and therefore to the Scientist-God), the individual case is uninteresting; knowledge of the singularia becomes essential only for the Jewish-Christian-Islamic Judge-God. More about this in the fourth volume.

983a15-17

(2) The ?????????? ??? ????????? (983a16-17 is Aristotle's stock example for something impossible or false. (Schwegler iii 24-25)

983a18-19

(1c) Leges 723d8-e1.

(2) The "proverb" alluded to is ???????? ????????? ("second time lucky").

983a25-26

(1b) The definition of "knowing" (???????) given here is inculcated in Analytica Posteriora repeatedly: 71b9-12 and 30-31, 94a20; likewise in Physica 184a12-14 and 194b18-20.

983a26-32

(1a) 996b5-8. 1044a32-b3.

(1b) Analytica Posteriora 94a21-23. Physica 194b23-35. 198a22-24. De Somno et Vigilia 455b14-16. De Generatione Animalium 715a4-7.

(3) 983a26-32 presents the famous "four causes doctrine" in its current form.

The title "four causes doctrine" is misleading; strictly speaking, there are not four causes, but four senses of the word "cause", as it appears from 983a26-27 (??????? ????????). Water is "principle" in the sense of matter, the Ideas are "principles" in the sense of form. Quite unjustified is Barnes' objection (1995, p. 73): "In making this remark, does Aristotle mean that the word «cause» - or rather the Greek word ????? - is ambiguous? If so, then he is not rehearsing a theory of four causes at all: there are not four distinct types of cause - rather, the word «cause» is used in four different senses. […] Rather, he seems to hold that there are four types or kinds of cause, so that he is committed to the view that the word «cause» or ????? (as it is used in sentences pertinent to the theory) has a single meaning and is not ambiguous." Barnes is only one of those who fell victim to the error (corrected in vol. ii, pp. 37-39) that already in Metaphysica A the answer be given to the question about the causes. This question is rather only specified.

As the meanings of "being" enumerated in 1026a33-b2 are "genera" of being (cf. 1028a1-2 ???? ?? ?????? ????? ??? ?????), the four meanings of "cause" are "genera" of cause, cf. 983b5 ????? … ??????.

To Aristotle, the four causes and the categories doctrines are the interpretation key for the preceding philosophy, i e. for the traditional question about the "causes of the beings". He approaches it with the question (frequently asked already in Plato): ??? ??????; What do you mean by "cause"? What do you mean by "being"?

Aside from the current division, in Seneca and Alexander of Aphrodisias a more differentiated one is tangible, in which the three first-mentioned meanings are comprehended as the known and generally accepted ones, while the fourth must be introduced as something new:

Seneca, Epistulae morales 65, 4: Aristoteles putat causam tribus modis dici: 'prima' inquit 'causa est ipsa materia, sine qua nihil potest effici; secunda opifex; tertia est forma, quae unicuique operi imponitur tamquam statuae'. Nam hanc Aristoteles 'idos' vocat. 'Quarta quoque' inquit 'his accedit, propositum totius operis.'

Alexander of Aphrodisias, De fato (166, 22-26):

?????????? ?? ?? ??? ????????? ????? ??? ??????? ?????? ????????,

????? [??????] ??????????? ????????. ??? ??? ?????? ?? ??? ???? ????????,

?? ?? ???? ?????? ?????, ???? ?? ??? ?? ?????? ??? ? ???? ?? ????? ??????·

???? ?? ??? ????? ?????? ?????? ????? ?????? ?? ?????? ??? ?? ?????, ??

????? ??? ?? ????????? ???????.

("The causes of generated things are divided into four modes of causes, as Aristotle has shown. Of causes some are efficient, some offer an account of the matter, and also the formal cause is among them; but beside these three causes, among them there is also the purpose, for the sake of which the generated comes to be.")

After having explained the three first causes via the example of the statue (???????), Alexander (167, 9-12) continues:

?? ???? ?? ????? ??? ??? ?????????? ????????

????? ?????? ??????? ??? ??? ?????? ??? ???????? ????? ???????? ??

?????, ?? ????? ??????? ????, ? ???? ????? ? ??? ????? ???????? ???. ????

??? ???????? ?????? ???' ?? ??? ????? ? ??????? ???????.

("But these are not the only causes of the generation of the statue; for to none of the causes of its generation the purpose is second, for the sake of which it has come to be, either honor of someone or an act of piety towards the gods. For without such a cause, the statue did not come to be at all.")

Why Alexander must stress that there is this cause too? Apparently, because of the low acceptance, which is mentioned by Eudemus (in Simplicius, In Physica 322, 6-9 Diels, ad 195a26-27: ?? ??? ??? ????? ????? ??? ??????? ???? ?? ?????):

???????? ?' ??? ????? ??? ?????? ????? ? ??????? ??? "?? ??? ??????????? ??? ?? ?????? ?????? ?????? ???????, ??? ?? ?????? ??????, ?? ?? ?? ????? ????????? ??? ??? ??????".

("The causes being of this number, Eudemus says: «The substrate and the primarily moving were considered as causes by all, the form by many, but the 'for the sake of which' by fewer and to a small extent.»")

Here we get a historic explanation for the order in the enumeration of the four causes.

Regarding the "dici" in Seneca, Guida (70-71) compares the treatment of the ???????? in the Postpraedicamenta (14a26-b11): after four current meanings were distinguished (by ??????? ????????) and explained, it goes on (14b9-11): ?? ??? ??? ????????? ?????? ??? ???????? ?????? ???????? ?????. ?????? ?' ?? ???? ???? ?????????? ??? ?????? ????? ???????? ?????? […].

For "accedit", Guida (p. 77) confers (in the same epistle) the phrase "his quintam Plato adicit exemplar, quam ipse 'idean' vocat", "where adicit - parallel to the preceeding accedit - has the function of indicating the contribution properly Platonic to the problem of the causes".

There also belongs here that, instead of the Aristotelian tetrad, in imperial Platonism (see for example Albinus, Didascalicus, caput 8-11, Augustinus, De Civitate Dei 7, 28) the triad of the principles God - Idea - matter (derived from the Timaeus) gains acceptance.

The "four causes doctrine" results from an analysis of production (???????). For Aristotle (as for Plato), it is by analogy with artificial production that we can understand natural generation (???????). Cf. the ???? ????? in Plato's Sophista 265b-e and Leges 896d, Physica 199a15-17 and Iamblichus, Protrepticus 49, 28-50, 1 (= Protrepticus, fr. 11 Ross):

???????? ??? ?? ??? ?????? ? ????? ????

???? ??? ?????.

("for nature does not imitate art, but vice versa")

It is the same inference from microcosm to macrocosm as in the demonstration of a first mover (cf. our note on 1025b11).

983a27-28

(1b) Physica 194a20-21. b26-29. De Partibus Animalium 642a25-31.

983a33-b1

(1b) Physica 194b23-195a3.

983b2-3

???? ??? ???????? "about reality" (literally: "about truth", i. e. "about what is true")

(1a) 993a30. b17.

(1b) De Caelo 271b5-6. 298b12-13. De Generatione et Corruptione 325a17.

983b3-6

(1a) 993b11-19. 995b2-4. 1076a10-16.

(1b) De Caelo 279b5-12. De Anima 403b20-24.

983b6-13

=11 A 12 Diels/Kranz

983b6-8

(2) According to Kurt von Fritz (pp. 59-60), that does not necessarily mean "that the Presocratics made use of the word ???? to designate this principle. This claim would be evidently wrong, because, e. g., Empedocles calls ???????? ?????? what Aristotle, in relating his doctrine, calls ????, and Democritus employs the expression ???????? for his ????. This proves as well that ???? in the sense of principle had not yet found its way into philosophical usage. Otherwise, hardly each of these philosophers had looked for a new expression. This does, however, not exclude that the word ???? occurred in Presocratic philosophy. It is even probable, though not strictly provable, that this was the case in Thales and Anaximander. But what both meant by ???? was temporal beginning, or the substantial reality standing at the temporal beginning of all things - not very remote from the ???? concept in the mythical theogonies and cosmogonies of Hesiod (v. 45) or in Pherecydes' ??????????."

(3) Temporal beginning is unequivocally meant in Anaxagoras: ??? ???? ?????? ? ???? ?????? (Simplicius, In Physica 300, 31-32 = Diels/Kranz ii, 39, 13-14).

983b11-13

(1b) De Caelo 298b29-33.

983b13-15

(2) Ross (i 129): "13-14. ??? ???????? … ???? ???????? ????? is evidently a joke. Socrates was notoriously ugly."

Cf. Xenophon, Symposium iv 19:

"How now?" exclaimed Socrates. "You boast as though you actually thought yourself a handsomer man than me."

"Of course," was Critobulus' reply; "otherwise I should be the ugliest of all the Satyrs ever in the stage."

In Plato's Symposium (215b, cf. 221d-e), Alcibiades likens Socrates to the Satyr Marsyas.

For ???????? see Plato, Protagoras 335c, Phaedo 60d-61b.

983b20-22

(1b) De Caelo 294a28-b1.

983b22-24

(2) Aristotle's conjecture is probably based on the traditional view that the sun feeds on moisture (Meteorologica 354b33-34). The reasoning runs as follows:

1. The sun is a fire.

2. Fire needs food (cf. De Vita et Morte 469b24-26).

3. Food is humid.

983b27-33

(1a) + (1b) Similar reference to the ancient poets also in 984b23 and 1091b3, further in Physica 208b29-33, De Caelo 284a18-23, De Motu Animalium 699a27-32, b35-700a3.

(2) For identifying the ????? (l. 28), who trace back Thales' doctrine to the ??????? ????????????? (l. 29, cf. 1000a9-14, 1071b26-28, 1075b24-27, 1091a33-36; the reference is to Ilias xiv 201. 246, xv 37, xiv 271, ii 755, Hesiod, Theogonia 397-400. 785. 805; further Orpheus, cf. Plato, Cratylus 402c), Bruno Snell (1944, pp. 177-178) combines two testimonies:

Diogenes Laertius I 24 (= Diels/Kranz I 68, 10-12):

??????????? ?? ??? ?????? ????? ????? ??? ???? ??????? ??????????? ?????, ????????????? ?? ??? ????? ??? ?????????? ??? ??? ????????.

("Aristotle [De Anima 405a19] and Hippias affirm that, arguing from the magnet and from amber, he [Thales] attributed a soul or life even to inanimate objects.")

Hippias in Clemens of Alexandria, Stromata VI, 2, 15 (= II 434, 23-435, 5 Staehelin = Diels/Kranz II 331, 15-19):

?????? ???? ???????, ?? ??? ?????, ?? ?? ???????, ???? ????? ???? ???????, ?? ?? ??????, ?? ?? ?????, ?? ?? ???? ?????? ??? ???????, ?? ?? ?? ?????????? ?? ??? ???????, ?? ?? ?????????? ??? ?? ?? ?????? ?????? ?? ??????? ??? ??????? ??????? ?????? ?????? ??? ???????? ??? ????? ?????????.

("Of this matter, part was said by Orpheus, part by Musaeus, in short by the one here, by the other there, part by Hesiod, part by Homer, part by the other poets, part in prose writings of Greek or barbarian authors. Compiling from all this matter what is most closely related to each other, I will make this new and many-faceted book.")

"When Hippias professes to compile from Orpheus, Musaeus, Hesiod and Homer and further from prose writings what is most important and what is topic-related, this applies so exactly to the writing used by Plato [Cratylus 402b, Theaetetus 152e and 180c-d] and Aristotle, that no doubt is possible: it is the very writing of Hippias, to the introduction of which this sentence belongs." (Snell, p. 178)

984a3-5

= 38 A 7 Diels/Kranz

(2) Patzer (p. 40): "It looks very much like Aristotle be polemizing here against a predecessor who, under the headword «water», had placed in a row Hippon with Thales. If this impression is not deceptive, this predecessor may have been no other than Hippias, whom Aristotle immediately before quotes as a source. In fact, the only sentence of Hippon preserved literally (VS 38 B1 [Diels/Kranz I 388, 14-19]) could very well be inserted into the present series of quotations."

Noteworthy is the fact (pointed to by Patzer, ibidem) that the said literal quotation is preserved in a scholium which aims to show that it agrees with Ilias 21, 195-197 (see Diels/Kranz I 388, 19-20: ????? ?? ???? ??????? ?????.).

984a5-7

= 13 A 4 Diels/Kranz

984a7

= 22 A 5 Diels/Kranz

984a7-8

= 18 A 7 Diels/Kranz

984a11-16

= 59 A 43 Diels/Kranz

984a11-13

= 31 A 6 Diels/Kranz

984a18-19

(1a) 984b9-10.

(1b) Physica 188b29-30. De Partibus Animalium 642a18-20.

(1c) Res publica 499b (??? ?'??????? ????????????).

(3) It is "reality itself" (???? ?? ??????) or "truth" (???????) which forces the predecessors on the path leading to the perfection of philosophy in Aristotle. Cf. the Cicero passage cited in our note on 981b17-25.

984a21-25

(1b) De Generatione et Corruptione 335b32-33.

984b15-20

= 59 A 58 Diels/Kranz

984b15-17

(1b) Physica 252b24-27. De Partibus Animalium 641b12-20.

(3) Inference from the animals to the cosmos, from the microcosm to the macrocosm. Cf. our note on 983a26-32.

984b23-31

The passages alluded to are Hesiod, Theogonia 116. 117. 120 and Plato, Symposium 178b.

Patzer (p. 45) argues that Aristotle does not depend on Plato, but on a common source: Hippias. Cf. the notes on 983b27-33 and 984a3-5.

984b23-27

= Diels/Kranz 28 B 13

984b32-985a10

= 31 A 39 Diels/Kranz

985a4-10

(1a) 1075b1-7.

985a9-10

(1a) 996a28-29. 1091a32-33.

(1b) Ethica Eudemia 1217b2-5.

985a18-21

= 59 A 47 Diels/Kranz

(1c) Phaedo 97b8.

985a21-b3

= 31 A 37 Diels/Kranz

985a31-b3

(1b) De Generatione et Corruptione 330b19-20.

985b4-20

67 A 6 Diels/Kranz

985b4-6

(2) Kurt von Fritz, pp. 12-17.

985b10-13

(1a) 992b4-7.

985b15-16

(2) Kurt von Fritz, pp. 25-28.

985b19-20

(1b) De Caelo 300b8-10.

985b23-986a13

= 58 B 4 Diels/Kranz

(1a) 1078b21-23.

(1d) Two expositions of the Pythagorean doctrine given by Sextus Empiricus are still worth reading:

"(2) Now, speaking generally, the mathematicians [?? ??? ??? ?????????, cf. iii 17 and 59; ??????????? = "Pythagoreans" is a gloss] ascribe great power to numbers, as though the nature of all things was governed in conformity with them. Hence, they constantly kept repeating -

All things, too, are like unto number.

And they swear not only by number but also by Pythagoras, the man who showed it to them, as though he were a god because of the power of arithmetic, saying, -

Nay, by the man I swear who bequeathed to our soul the Tetraktys,

Fount containing the roots of Nature ever-enduring.

(3) And «tetraktys» was the name given by them to the number ten, it being composed of the first four numbers. For one and two and three and four make up ten; and this is the most perfect number, since, when we have reached it, we revert again to the one and make our numerations afresh. And they have called it the «fount containing the roots of Nature ever-enduring» because, according to them, the reason of the structure of all things resides in it, as for instance that of the body and the soul; for it will suffice to mention these by way of example.

(4) Now the monad (or one) is an underlying principle which produces the structure of all the other numbers, and the dyad (or two) is productive of length. For as in the case of the geometrical principles we explained b first what the point is, and next, after it, the line which is length without breadth, similarly, in the case before us, the monad corresponds to the point and the dyad to the line and length; for thought in conceiving this moves from some place to some place, and this is length.

(5) And the triad (or three) is set over breadth and the plane; for the mind has moved from here to there (and on again to some other place), and when the distance in breadth is added to the distance in length the plane is conceived. But if, in addition to the triad one imagines a fourth monad, that is, a fourth sign, the pyramid is formed, a solid body and figure; for it possesses length and breadth and depth; so that the formula of the body is comprised in the number four.

(6) And so also is that of the soul; for they declare that as the whole Universe is governed according to harmony, so too the living creature is ensouled. And the perfect harmony is held to consist in three symphonies — that of the «By-Fours» and that of the «By-Fives» and that of the «By-Alls.» Now the «By-Fours» symphony consists of the «epitrite» (4:3 ratio), and that of the «By-Fives» in the ratio 3:2, and the «By-Alls» in the ratio 2:1.

(7) The number called «epitrite» is that composed of a certain number taken as a whole plus its third part—which is the ratio of eight to six; for the eight includes the six plus the third part of it, that is the dyad. And a number is said to be in the ratio 3:2 when the number includes a number plus its half,—the relation of nine to six; for the nine is composed of the six plus its half, that is, three. And that called «double» is that which is equal to two (equal) numbers,—the relation of four to two; for it includes the same number twice.

(8) Such, then, being the facts, and there being, according to the original assumption, four numbers—one, two, three and four—in which is included, as we said, the form of the soul according to the harmonical formula, the four is double the two and the two double the monad, and therein consists the «By-Alls» symphony; and the three is to the two in the 3 : 2 ratio (for it includes the two itself plus its half, and thus it supplies the «By-Fives» symphony);

(9) and the four is to the three in the «epitrite» or 4 : 3 ratio, on which is based the «By-Fours» symphony. So that naturally the number four is called by the Pythagoreans the «fount containing the roots of Nature ever-enduring.»" (Adversus Mathematicos iv 2-9)

"(93) But the principle of the structure of all things is number; wherefore also the reason that is judge of all things may be called «number,» seeing that it is not devoid of the potency thereof.

(94) And by way of indicating this the Pythagoreans are wont at one time to declare that «All things are like unto number,» and at another time to swear the most natural of oaths in this form:

Nay, by the man I swear who bequeathed to our head the Tetraktys,

Fount containing the roots of Nature ever-enduring.

By «the man who bequeathed» they mean Pythagoras (for him they deified); and by «the Tetraktys» a certain number which, being composed of the four primary numbers, makes up the most perfect number, namely the Ten; for one plus two plus three plus four amount to ten.

(95) And this number is the first Tetraktys, and it is termed the «fount of Nature ever-enduring» in so far as the whole Universe, according to them, is arranged according to harmony, and harmony is a system composed of three symphonies—that of the «By-Fours,» and that of the «By-Fives,» and that of the «By-Alls»; and the proportions of these three symphonies are found in the four numbers just mentioned—in the one and in the two and in the three and in the four.

(96) For the «By-Fours» symphony consists in the «epitrite» (4 : 3) ratio, the «By-Fives» in the ratio 3 : 2, and the «By-Alls» in the ratio 2 : 1. Hence the number four being «epitrite» in relation to three (since it is composed of three plus a third part of three) comprises the symphony «By-Fours»;

(97) and the number three, being one and a half times two (in that it comprises both the two and the half of the two), discloses the «By-Fives» symphony; and the four which is double of two, and the two double of one, are fitted to comprise the «By-Alls.» (98) Seeing, then, that the Tetraktys supplies the proportion of the symphonies mentioned, and the symphonies serve to make up the perfect harmony, and according to the perfect harmony all things are arranged, on this account they have described it as «the fount containing the roots of Nature ever-enduring.»

(99) Again, they argue that it is according to the ratios of these four numbers that both body and the incorporeal, from which come all things, are conceived—for it is by the flow of a point that we form a notion of a line, which is length without breadth, and by the flow of a line we construct breadth, which is surface without depth, and by the flow of surface solid body is produced.

(100) But over the point stands the monad which is indivisible, as is also the point, and over the line the number two; (and over the surface stands the number three (for the line has come from somewhere to somewhere), that is to say (the movement from one point to another, and from this again to a third; and over the solid body stands the number four; for if upon the top of three points we place a fourth, there is formed a pyramid, which is in fact the first form of a solid body. Thus it is reasonable to hold that the Tetraktys is the fount of universal Nature.

(101) Again, everything apprehended by man is, they say, either body or incorporeal; but whether it be body or whether it be incorporeal, it is not apprehended apart from the conception of numbers, since, in the case of body, as it has three dimensions it involves the number three.

(102) Moreover, of bodies some are composed of things joined together, like ships and cables and turrets, others of things unified, which are held together by a single mode of connexion, like plants and animals, others of separate units, like choruses and armies and herds. But whether they consist of things joined or of things unified or of things separate, they contain numbers in so far as they are composed of a plurality of things.

(103) And further, some bodies are substances with single qualities, others with numerous qualities, as is the apple; for it possesses a certain quality of color to the sight and of flavor to the taste and of odor to the smell and of smoothness to the touch; and these belong to the nature of numbers.

(104) The same argument applies to the case of incorporeals also, seeing that time, which is incorporeal, is perceived by number, as is plain from the years and months and days and hours. So likewise are the point and line and surface and the rest of the things we were discussing a moment ago, when we traced back the notions of them to numbers.

(105) The practice of ordinary life too, they assert, is in unison with the views thus stated, as is also the practice of the arts. For ordinary life judges each thing by criteria, and these are numerical standards. And certainly, if we abolish number, the cubit will be abolished, which consists of two half-cubits and six palms and twenty-four fingers, and the bushel will be abolished and the talent and the rest of the criteria; for all these, as composed of a plurality of elements, are at once species of number.

(106) Hence all the other things, too, are bound up with number — loans, evidences, votes, contracts, times, periods. And in general, it is impossible to find anything in ordinary experience that does not participate in number.

And assuredly there is no art or craft that has been built up without proportion, and proportion is based on number; so that every art is built up by means of number.

(107) Thus the Rhodians, it is said, asked Chares the architect how much money it would cost to construct the Colossus. And when he had named a figure, they asked again how much it would be if they wished to construct it twice that size. And when he asked double the sum, they gave it to him; but he, when he had spent the sum given on the first stages of the work and the preliminary expenses, slew himself.

(108) And when he was dead the craftsmen became aware that he ought to have asked not double but eight times the sum, for he was bound to enlarge not only the length but also every other dimension of the structure. So that there exists in the plastic art, and likewise in painting, a certain proportion whereby unvarying resemblance is preserved.

(109) And, to speak generally, every art is a system composed of apprehensions, and system is number. Hence it is a sound saying that «all things are like unto number,» - that is, like unto the reason that judges and is akin to the numbers which compose all things." (Adversus Mathematicos vii 93-109)

985b23

(1) "The so-called Pythagoreans" also in 989b29, De Caelo 293a20-21, Meteorologica 342b30, 345a13-14, like De Anima 410b28 ?? ???? ???????? ??????????? ????? ("in the so-called Orphic poems"), De Generatione Animalium 734a18-19 ?? ???? ??????????? ?????? ?????? ("in the so-called poems of Orpheus").

985b27-28

(1a) 985b32-33. 987b11-12. 1090a20-25.

(3) In Plato (Parmenides 132d), the antonym of "likeness" (???????) is "pattern" (??????????). From here it is only a step to the conception of number as "primary pattern of world creation" (?????????? ?????? ???????????), which, in an apocryphe (Neo-Pythagorean) tradition (Iamblichus, In Nicomachi Arithmeticam, 10, 20 Pistelli = Diels/Kranz I, p. 109, 27-28, Syrianus, In Metaphysica, 123, 7-9; 142, 21-22; Simplicius, In Physica, 453, 13-14) is ascribed to Hippasus.

This looks like being of Speusippean origin, cf. Pseudo-Iamblichus, Theologumena Arithmeticae 83, 4-5 de Falco (= Speusippus Fragment 4 Lang: [?????????? ??? ?????? ?????????] ?????????? ????????????? ?? ??? ?????? ?????? ??? ????????????? ("[Speusippus showing the decad to be] a completely perfect pattern which was set before God the creator of the universe"). Cf. Aristoxenus (fr. 23 Wehrli) in Stobaeus I prooemium 6 (= Diels/Kranz I 451, 23) on Pythagoras: ????? ?? ???????? ????????? ???? ???????? ("likening all things to the numbers"); the verse ascribed to Pythagoras ?????? ?? ?? ????' ???????? ("all things are like unto number") in Sextus Empiricus (Adversus Mathematicos IV, 2; VII, 94) and Iamblichus (De Vita Pythagorica 162).

Most modern interpreters think that this conception is contradictory to the regular characterization of the Pythagoreans that they held numbers to be immanent principles of being (986b7. 22; 987b27-28; 989b29 ff.; 990a21-22; 1002a8; 1028b18; 1076a32; 1080b16-18; 1083b11-12; 1090a20-23; Physica 203a6; De Caelo 300a14-17) (In a spurious letter of Theano (Stobaeus I, 10, 13) this conception is even rejected as non Pythagorean: ? ?? [Pythagoras] ??? ?? ???????, ???? ?? ??????? ????? ????? ?????????. Here a clear distinction is made between number as element ["out of number"] and number as prototype for imitation ["after the pattern of number"]). But in 986a2-3 Aristotle changes to this very conception.

The whole section 985b26-1086a3 is a reconstruction of the way in which both Pythagoreans and natural philosophers came to their thesis about the principle of things ("All is water", "All is fire", "All is number").

Cf. the note on 1081a12-17.

985b28-29

(3) By the way, Aristotle also gives his explanation of how the natural philosophers arrived at their theory about the principle of all things: they found the most essential conditions of being (= life, cf. Homer, Ilias 1, 290; 494: ???? ???? ??????, "the ever being gods") "in fire and earth and water", i. e. to be the essential qualities ("affections", ????) of these elements (arid, humid). So, e. g., Heraclitus B 118 Diels/Kranz (??? ???? ???????? ??? ??????, "a dry soul is the wisest and best").

Fire and water have their advocates with Heraclitus and Thales, for earth, especially Xenophanes in Theodoretus iv 5 (= Diels/Kranz I 135, 14): ?? ????? ??? ????? ??? ??? ??? ????? ??????? ("For everything comes from earth and everything goes back to earth at last") is to be mentioned.

985b29-31

(1a) 1078b22-23.

(1b) Ethica Nicomachea 1132b21-23. Magna Moralia 1182a11-14. 1194a28-30.

(3) For illustrating the arbitrariness of these assigments of numbers to concepts, it is sufficient to compare the reports by Alexander of Aphrodisias and Plutarch.

Alexander (In Metaphysica 38, 8-39, 17):

"What resemblances they said there are in numbers to the things that are and that come into being Aristotle showed [in his treatise On the Pythagoreans]. For since they assumed that re-quital or equality is a property of justice, and found that this was in numbers, they therefore said that justice is the first equal-times-equal [i. e. square] number; for they thought that what is first in every [class] of things that have the same formula is most [truly] that which it is said to be. But some [Pythagoreans] said that this number is 4, since, as the first square number, it is divided into equals and is itself equal (for it is twice 2), while others said that it is the number 9, which is the first square number produced from an odd number (3) multiplied by itself. They said, again, that the number 7 is opportunity (kairos), for natural things seem to have their seasons of completion, both of birth and of maturity, according to [periods of] seven, as in the case of man. For a man is born seven months [after conception], and cuts his teeth after the same number of months, and reaches puberty at about the end of the second period of seven years, and grows a beard at about the end of the third. The sun too, since it is itself thought to be (he [Aristotle in his treatise On the Pythagoreans] says) the cause of the seasons, they say is situated [in the place] where the number 7 is, which they call 'due season' (kairos)', for they say that the sun occupies the seventh place [from the periphery] among the ten bodies that move around the centre, or hearth. For the sun, they say, moves after the sphere of the fixed stars and after the five spheres of the planets; after it is the moon, eighth, and the earth, ninth, and after earth the counter-earth.

Now since the number 7 neither generates any of the numbers in the dekad nor is generated by any of them, they called it 5 'Athene'. For 2 generates 4, 3 generates both 9 and 6, 4 generates 8, and 5 generates 10, and 4, 6, 8, 9 and are generated; but 7 neither generates any number nor is generated from any; so too Athene was motherless and forever a virgin. They called the number 5 'marriage' because marriage is the union of male and female, and according to them male is the odd and female the even, and 5 is the first number generated from the first even number, 2, and the first odd number, 3; for as I said, the odd is, in their view, male, and the even female. The number l they called 'mind' and 'substance, for he spoke of soul as 'mind'. Because mind is stable and everywhere alike and sovereign, they called it 'unit' or 'one'; but they also [gave these names to] substance because substance is primary. The number 2 they called 'opinion' because it can move in both directions, but they also referred to it as 'movement' and 'addition'."

Plutarch, De Iside et Osiride 75:

"The Pythagoreans embellished also numbers and figures with the appellations of the gods. The equilateral triangle they called Athena, born from the head and third-born, because it is divided by three perpendiculars drawn from its three angles. The number one they called Apollo because of its rejection of plurality and because of the singleness of unity. The number two they called «Strife,» and «Daring,» and three they called «Justice,» for, although the doing of injustice and suffering from injustice are caused by deficiency and excess, Justice, by reason of its equality, intervenes between the two. The so-called sacred quaternion, the number thirty-six, was, so it is famed, the mightiest of oaths, and it has been given the name of «World» since it is made up of the first four even numbers and the first four odd numbers added together."

985b32-986a2

(1a) 987b18-20.

(3) The reduction to numbers remains valid in the sphere of mathematics, cf. Analytica Posteriora 75b14-17; 76a10-13. Harmonic is applied mathematics according to 87a34.

The same structure as in 985b32-986a2 (cf. 1092a21-22) recurs in Plato (987b18-20).

985b32-33

On the text see vol. i, pp. 51-52.

(3) By ?? … ???? cannot be meant "all other things" (Ross); for then the clause would be equivalent to the next one (985b33-986a1), cf.Thomas Aquinas (Sententia Metaphysicae, liber 1 lectio 7 numerus 10): "ita quod numeri sunt primi in tota natura" (he paraphrases ?? … ???? by "cetera alia sensibilia"). The proposition "numbers seemed to be the first things in the whole of nature" is, however, introduced by ?? as a further premise. Therefore, by ?? … ???? must be meant "all other mathematical objects" (beside the musical scales).

986a2-3

(3) From the identity of "affections" (????) the thinkers in question inferred the identity of the things which have these qualities: all is water, all is fire, all is number.

Leonid Zhmud (1989, pp. 270-279 = 1997, pp. 261-268) points to the fact that the famous doctrine "All is number", ascribed by second-hand users of ancient literature to Pythagoras, does not occur in any literal fragment of the Pythagoreans known to us by name.

Zhmud 275-276 (= 1997, pp. 263-264): "Judging by the remaining evidence, Philolaus was the first of the Pythagoreans to have regarded number from a philosophic viewpoint, although he too only partially justifies our expectations. The cosmos of Philolaus has arisen and consists not of numbers or corporeal units, but of things unlimited (boundless) and limiting - ?? ?????? ??? ?? ?????????? (44 ? 1-2). It is these two kinds of things that Philolaus terms ????? and ???? of all (44 B 1, 6); he has no other beginnings. And number in Philolaus appears in an epistemological but not ontological context. (It is important to note here that out of Philolaus' fragments only 1-7, 13 and 17 are now recognized as genuine.) "All that is cognizable certainly has number. For it is impossible for us to think or perceive something without this" (44 B 4). Does it follow from this [276] that things are composed of numbers or arise from them? Such a conclusion is not even implied here, for we already know what the world consists of in Philolaus. Just how number is connected with the cognizable can be understood with the help of another fragment: "If all things are unlimited, there will be nothing cognizable at all" (44 B 3). Thus, what is unlimited, be it by number or size, cannot be apprehended and recognized. At the same time, the existence of things which impose limits, bring definiteness to this world, makes it possible to count and measure something, to find its number - that is to cognize. Let us note here that this definiteness is introduced not by number-number itself is the result of activity of a limiting principle."

Possibly, it is deduced by Aristotle from the first sentence of Philolaus' writing (44 B 1 Diels/Kranz (I, p. 406, 24-27: ? ????? ?' ?? ?? ????? ??????? ?? ??????? ?? ??? ???????????, ??? ???? <?> ?????? ??? ?? ?? ???? ????? = "Nature in the world was fitted together from the Non-Limited and the Limiting, both the world as a whole and everything in it"; on the authenticity of the fragments B 1-7, 13, 17 see Burkert, pp. 232-256) by adding the premise: "????? and ??????? are principles of number" (cf. 986a17-19). Then there results the syllogism:

1. Things consist of ????? (limit) and ??????? (unlimited).

2. Numbers consist of ????? and ???????.

3. Ergo things = numbers.

This is the same kind of syllogism as in the identification of Ideas with numbers (1081a12-19).

The sentence "Things are numbers" (1083b17; 1090a22-23), "Being is number" is one possible answer to the question "what is being?" (?? ?? ??, 1028b4), which competes with answers like "being is fire", "being is water" (cf. 985b28-29).

986a8-12

(1b) De Caelo 293a23-27.

986a8-10

(1a) 985b27-28. 1073a18-22. 1084a12. 31-36.

(1b) Problemata 910b23-911a4.

(1d) Pseudo-Iamblichus, Theologumena Arithmeticae, 82, 10-85, 23 de Falco (= Diels/Kranz I 400, 22-402, 11 = Speusippus F 28 Tarán):

"Speusippus, the son of Plato's sister Potone, and head of the Academy before Xenocrates, compiled a polished little book from the Pythagorean writings which were particularly valued at any time, and especially from the writings of Philolaus; he entitled the book On Pythagorean Numbers. In the first half of the book, he elegantly expounds linear numbers, polygonal numbers and all sorts of plane numbers, solid numbers and the five figures which are assigned to the elements of the universe, discussing both their individual attributes and their shared features, and their proportionality and reciprocity. Next, in the remaining half of the book, [83] he goes straight on to deal with the decad, which he shows to be the most natural and fulfilling of things, because it is (in itself, and not by our contrivance or by chance) the kind of thing which creates the finished products of the universe, and is a foundation-stone and was set before God who created the universe as a completely perfect paradigm. He speaks in this manner about the decad:

Ten is a perfect number, and it is both correct and in accordance with Nature that we Greeks and all men, without making any special effort, arrive at this number in all sorts of ways when we count. For it has many of the properties which are suitable for a number that is perfect in this way, and it also has many properties which are not peculiar to it, but which a perfect number ought to have.

So, in the first place, a perfect number ought to be even, so that it contains an equal amount of odd and even numbers, without imbalance; for since an odd number always precedes an even number, then if the final number is not even, the other sort will predominate.

Secondly, it is necessary for a perfect number to contain an equal amount of prime and incomposite numbers, and secondary and composite numbers. Ten does have an equal amount, and no number less than ten has this property, though numbers more that ten might (such as twelve and others), but ten is the base number of the series. Since it is the first and smallest of those numbers which have this property, it has a kind of perfection, and this is a property peculiar to it, that [84] it is the first in which an equal amount of incomposite and composite numbers are seen.

Moreover, in addition to this property, it contains an equal amount of multiples and submultiples: for it contains as submultiples all the numbers up to and including five, while those from six to ten are multiples of the former ones. But since seven is a multiple of none of them, it must be excluded, and so must four, as a multiple of two, with the result that the amounts are again equal.

Furthermore, all the ratios are contained by 10—that of the equal, and the greater and the less, and the superparticular and all the remaining kinds are in it, as are linear, plane and solid numbers. For one is a point, two a line, three a triangle and four a pyramid: these are all primary and are the sources of the things which are of the same category as each of them. In these numbers is also seen the first of the proportions, which is the one where the ratios of excess are constant and the limit is ten.

The primary elements in plane and solid figures are these: point, line, triangle, pyramid. They contain the number ten and are limited by it. For there is a tetrad in the angles or bases of a pyramid, and a hexad in its sides, which makes 10. And again, there is a tetrad in the intervals and limits of a point and a line, and a hexad in the sides and angles of a triangle, which again makes 10.

Moreover, if one looks [85] at figures in terms of number, there is the same result. The first triangle is the equilateral, which has in a sense a single line and angle—I say it is single, because its sides and angles are equal, and what is equal is always indivisible and uniform. The second triangle is the the half-square, which has a single distinction of lines and angles, and so is seen is terms of the dyad. The third is the half-triangle (i. e. half an equilateral triangle): it is altogether unequal in each respect, so from all points of view its number is three. And you would find the same sort of thing in the case of solid figures, but going up to four, so that in this way too you come across a decad.

For in a sense the first pyramid, which is based on an equilateral triangle, has a single—because equal—line and face; and the second, which is erected on a square, is two, because of the single distinction it has by being bounded by three planes at the angle on the base, but being enclosed by four at the apex, so that as a result of this it is like the dyad; the third, which is set on a half-square, is informed by a triad, and along with the single distinction we have already observed in the half-square as a plane figure, it has another difference too, in having an angle at the apex, which results in this pyramid (the one in which the angle at the apex is perpendicular to the middle of the side of the base) being assimilated to the triad; and the fourth, which is based on a half-triangle, is for similar reasons informed by a tetrad. The result is that the limit of the mentioned figures is ten. And the same things occur also in generating such figures: for the first source where magnitude is concerned is the point, the second is the line, the third is surface and the fourth is solid."

(2) Heath (pp. 259-260): "Speusippus declared the decad to be the most natural and most creative basis for all things, being, as it were, in itself a sort of model for the things which constituted the universe as finally evolved. He also observed that ten has many peculiar properties appropriate to a perfect number. The perfect number must be even so as to contain an equal number of odd and even numbers; it must also include the prime or incomposite and the secondary or composite. The addition of one, two, three, and four (making ten) formed the ?????????, the Pythagoreans' greatest oath and alternatively the 'principle of health'. This also gave a triangular number with 4 as its side; on this Lucian has (Vitarum auctio 4) a story of Pythagoras. Pythagoras asked someone to count. He said 1, 2, 3, 4, whereon Pythagoras interrupted: 'Do you see? What you take for 4 is 10, a perfect triangle and our oath.'

[260] Again, ten includes, according to Speusippus, linear, plane, and solid numbers: i is a point, 2 a line, 3 a triangle, and 4 a pyramid. It also includes certain ratios, that of equality (since it is twice 5), and the ratios 2 : 1, 3 : 2, 4 : 3 which represent the musical intervals, the octave, the fifth, and the fourth, as Pythagoras himself discovered."

986a15-b17

= 58 B 5 Diels/Kranz

986a17

For the combination ???? ??? ????? ("modifications and states") cf. 1015b34, 1020a19, 1061a9, Physica 223a18-19.

986a17-19

(1b) Physica 203a10-15.

(2) Milhaud 115-116

986a19-20

(1d) Theo Smyrnaeus, Expositio rerum mathematicarum ad legendum Platonem utilium, p. 22, 5-9 Hiller (= Aristotle, De Pythagoreis, fr. 9 Ross):

??????????? ?? ?? ?? ?????????? ?? ?? ????? ????????? ???????? ??? ??????? ????? ??? ??? ????????? ???????? ?????, ??????? ?? ??????, ? ??? ?? ???????, ?? ?? ?????? ???? ??????? ???????? ??? ??? ????????????? ????????? ?? ??.

("But Aristotle in his work On the Pythagoreans says that the One partakes of the nature of both kinds; for added to an even number it makes an odd, and added to an odd an even, which it could not have done if it had not shared in both natures; and that for this reason the One was called even-odd.")

986a20-21

(1a) 1091b3.

986a22-b3

= 24 A 3 Diels/Kranz

986a22-26

(1a) 1093a12-13.

(1b) Ethica Nicomachea 1096b5-6. 1106b29-30.

(1d) Plutarch, De Iside et Osiride 370e:

?? ??? ??????????? ??? ???????? ???????? ??????????? ??? ??? ?????? ?? ?? ?? ???????????? ?? ????? ?? ???? ?? ???????? ?? ?????????? <?? ????> ?? ?????? ?? ???????, ??? ?? ????? ??? ????? ?? ??????? ?? ????????? ?? ???????? ?? ?????? ?? ?????????? ?? ?????? ?? ????????? ?? ?????????, ?? ?????? ????? ???????? ???????????.

("The Pythagoreans, by various names, predicate of the Good the One, the Limited, the Permanent, the Straight, the Odd, the Square, the Equal, the Right-handed, the Bright; of the Bad Duality, the Unlimited, the Moved, the Curved, the Even, the Oblong, the Unequal, the Left-handed, the Dark, on the supposition that these are the principles of generation.")

Porphyrius, De Vita Pythagorica 38:

[???????] ??? ???? ??? ????????? ????? ??????? ?????, ???? ?? ???????? ?????. ?????? ??? ??? ???????????? ???????? ??? ??? ???????? ?????? ??? ??? ??? ?????? ??? ???? ??? ????? ??? ????, ??? ?? ??????? ????? ??? ?????? ??? ????????? ??? ?????? ??? ????????? ??? ?????????.

("[Pythagoras recommended] to sacrifice to the celestial gods with an odd number, to the terrestrial gods with even. For of the opposed potencies, he called the better one monad, light, right-handed, equal, permanent, straight; the worse he called dyad, darkness, left-handed, unequal, circular, moved.")

(3) For the term ????????? ("parallel row") cf. Metaphysica 1004b27-29, 1072a30-32, 1093b11-16, Physica 189a1, 201b25, Ethica Nicomachea 1096b5-6.

986b12-14

(1b) Physica 185a3-5.

986b18-27

= 21 A 30 Diels/Kranz

986b18-19

= 28 A 24 Diels/Kranz

986b22

= 28 A 6 Diels/Kranz

986b25-27

= 30 A 7 Diels/Kranz

986b27-987a2

= 28 A 24 Diels/Kranz

986b31-987a2

(1a) 1004b29-33.

986b33-34

(1d) The Parmenides passage which Aristotle has in mind is Diels/Kranz I 239, 9-10:

?????? ??? ????????? ??? ?????? ?????????,

??? ???? ?? ????? ?????? ?? ?? ???????????? ?????.

("They have established (the custom of) naming two forms, one of which ought not to be (mentioned): that is where they have gone astray.")

(3) Aristotle has to make two steps in order to place these "forms" in his scheme of "causes" (as he does in 986b33-34):

1. There is, beside the one, absolute being, "somehow" (viz. ???? ????? ["according to opinion"], cf. Theophrastus in Alexander (In Metaphysica, 31, 12-13): ???? ????? ?? ??? ?????? ??? ?? ??????? ????????? ??? ?????????? ??? ????? ??? ????? ["but in accordance with the opinion of the majority of men, for explaining generation of what appears, he makes the principles to be two"], and Diels/Kranz I 245, 15-17) also a dyad of being and not-being (cf. 986b34-987a2) in Parmenides' system. First of all the alternative is monism or pluralism.

2. It needs a second step to interprete this alternative as dispute about the number of principles; this dispute is expressly argued out in Physica 184b22-25; but from the immediate continuation (184b25-185a5) it appears why in Parmenides (contrary to the natural philosophers who represented a materialistic monism) it cannot be about the alternative "one or two causes". Therefore, the Parmenidean alternative (misunderstood by Aristotle as compromise) can be expressed only in two ways: What exists (?? ??) is one and in some sense also two (according to Physica i), or: One thing exists and in some sense also two (as in our context).

987a9-27

= 58 B 8 Diels/Kranz

(1a) 1002a8-12.

987a13-19

(3) What is said of the Pythagoreans applies also to Plato: Metaphysica 987b22-25, 996a4-9, 1001a4-19, 1053b9-16, Physica 203a3-6. The task set by Aristotle can be understood as follows: to find a convenient subject for the Platonic principles; insofar he shares the standpoint of the Ionians, their concept of reality.

987a20-21

(1a) 1078b21-25.

(1b) Magna Moralia 1182a11-14.

987a29-988a17

= Testimonia Platonica 22A Gaiser

(2) Zeller (1839, p. 199) already appears disconcerted by "the strange phenomenon that we get from Aristotle a totally different picture of Plato's philosophy than from Plato's own works [= the dialogues]". This picture is based on the "unwritten doctrines" (Physica 209b13-15), especially the lecture "On the Good" (???? ???????).

987a29-b9

(1a) 1078b12-31. 1086a37-b4.

987a29-b1

= 65 A 3 Diels/Kranz

987a30

(2) On the issue of Plato and the Pythagoreans consult Burnet 279-281, Erich Frank, Plato und die sogenannten Pythagoreer. Halle 1923. Burkert, pp. 74-81.

Frank (p. 95 + note 230 on p. 365) refers to Res publica 522c-531c. 546-547 (Platonic number, cf. Aristotle, Politica 1316a1). 587d (729 as absolute cosmic number). Protagoras 356d. Gorgias 493a. 508a. Leges 636d. Timaeus 90a.

987a32-34

(1a) 1010a11-15.

(1b) Rhetorica 1417b1-2.

(1c) Cratylus 439c2-3.

(1d) Diogenes Laertius iii 6. Apuleius, De Platone i 2.

Diogenes Laertius reverses the temporal relationship: Plato met Cratylus after Socrates' death.

987b1-2

(1a) 1078b17-18; 27.

(1b) De Partibus Animalium 642a28-31.

(1d) Xenophon, Memorabilia I, 1, 11-15; IV, 7, 6; Cicero, De Re Publica I, 10; Academica I, 4, 15. II, 39, 123; De Finibus V, 29, 87; Tusculanae Disputationes V, 4, 10; Gellius, Noctes Atticae XIV, 6, 5; Diogenes Laertius II, 21.

987b2-4

(1a) 1078b17-21.

(1b) Analytica Posteriora 73b26-27.

(1c) Meno 77a.

(3) The expression ??????? (987b3) comes from ???? ????, see Plato's Meno (77a). "Here the preposition ???? has not yet grown together with the dependent genitive into one word, let alone that this expression could be even substantivated to ?? ???????, as in Aristotle." (Kurt von Fritz, p. 47, n. 1) ???? ???? means, according to von Fritz (ibidem, p. 65) "'in relation to the whole' or, more precisely, 'in relation to the whole circuit of the objects designated by a word': e. g. valid, or true, or demonstrable." Pape gives as examples of the meaning "in relation to" Symposium 193c (???? ?? ??? ????? ???' ??????? ??? ?????? ??? ????????) and Phaedo 70d (?? ?????? ???' ???????? ?????? ????? ????? ???? ??? ???? ???? ?????? ??? ?????).

987b7-8

(2) For the first time, Plato uses the expression ???? in the Euthyphro (5d and 6d). According to Kurt von Fritz (pp. 51-52), the new use of the words ????? and ???? by Plato "is to be traced back to their full and original sense, in which they designate the visible form, generally what is visible of an object, in all its fullness. What happens in Plato is a translation to objects of quite another area: from the objects of sensation (???????????) to the objects of intellection (?????)."

The non-technical usage of ???? in the sense of "kind" is documented already in Democritus (Sextus Empiricus, Adversus Mathematicos VII, 139 = Diels/ Kranz ii 140, 14): ?????? ?? ??? ????? ?????. ("Of cognition there are two kinds".)

987b8-9

(2) Chernis (p. 178, n. 101): "?? ?' ??????? ???? ????? ??? ???? ????? ???????? ????? has usually been taken to mean: «and that the sensibles are apart from these and are called after them» (so Alexander, Metaph., p. 50, 20); but Ross (Metaphysics, I, p. 161) points out that this requires the supplying of ????? after ???? ????? whereas it is more natural to take ???????? with both prepositional phrases (for ???? in this sense he cites Ethica Eudemia 1228a35 and Cratylus 399a). The notion which Aristotle here reproduces is expressed in Parmenides 133c-d (?? ????? ?????????? ????? ?????? ?????????????) and Phaedo 103b (??? ?? ???? ??????? ????? ?? ??????? ???? ??? ????????? ?? ???????????), cf. Phaedo 102b (?????????? ????? ?? ??????? ??? ????? ??? ?????? ????? ?????????????? ????? ?????? ??? ????????? ??????); all sensibles have their denominations after the ideas according as they participate in them (note that Aristotle follows his statement with a reference to participation as the reason, 987b9-10). The fact that Aristotle always speaks of the ideas as existing ???? ?? ??????? (e. g. 1028b18-21; 1078b15-16, 31-32; 1086a31-b2) is itself a reason for not supplying ????? here, since that would make him say that the sensibles exist ???? ??? ?????. Cf. also Ethica Eudemia 1217b12: ?? ????????? ??? ?????, ? ??????? ?? ???????? ???????."

(3) The concept of "paronymy" used in Ethica Eudemia 1228a35-36 is explained in Categoriae 1a12-15. Accordingly, the ???? ????? ???????? of the particular sensible things means that, for example, the brave (????????) gets his name from the Idea of bravery (???????). To the instances adduced by Ross and Cherniss there can be added Plato, Cratylus 398d and Leges 654a.

987b9-10

(3) Here, for the first time, the Phaedo (100a) becomes discernible as standard source. Cf. 991a20-22, 991b3-4 and our note on 988a8-14.

987b10-14

= 58 B 12 Diels/Kranz

(3) The sentence "Things exist by imitation of numbers" says more than "Things are likened to numbers"; therefore it is insufficient to refer simply to 985b27-28; 32-33, 1092b13 (as does Burkert, p. 41, n. 158).

The idea that nature imitates something that only exists in the heads of men is involved in the sentence Protrepticus 49, 28-50, 1: ???????? ??? ?? ??? ?????? ? ????? ???? ???? ??? ?????, which is (as in the formally similar case 982b2-4) directed against an opinion hold by certain thinkers.

Further, the imitation idea agrees excellently with what is reported of Pythagoras in Iamblichus, Protrepticus, p. 51, 9-10 Pistelli (= Aristotle, Protrepticus, fr. 11 Ross): ?????? ?? ?????? ??????? ????? ??? ?????? ("he used to say he was an observer of nature"): nature (especially the heavens) as spectacle, the things being the actors and geometry the text. The celestial bodies are performing a round dance which displays the beauties of geometry.

987b13-14

(1a) 1045b8-9.

(1b) De Anima 407b29-30.

(1c) Gorgias 490b. Leges 968e.

(3) The translations of ??????? ?? ????? ?????? by Bonitz ("das haben sie andern zu untersuchen überlassen") and Ross ("they left an open question") presuppose the interpretation "rem in medio reliquerunt" (Zeller 1879, p. 112, n. 3, on p. 114; Liddell/Scott sub voce ??????, B III 3), which is based on the far-fetched comparison with Cicero, Pro Caelio 48: Hic ego iam rem definiam, mulierem nullam nominabo; tantum in medio relinquam. ("Here, now, I will lay down what I consider a general rule: I will name no woman in particular; I will leave the matter open for each of you to apply what I say as he pleases.") Allan (p. 133) translates "they set it aside as a subject for joint study", which is approved by Düring (p. 267, n. 135).

These interpretations firstly conflict with what is given correctly as meaning of ??????? + infinitiv by Liddell/Scott (V 2): "give up doing". To the example Diphilus (comedy writer of iv/iii B. C.) 94: ????? ??????? ?? ??????) may be added Epictetus ii 16, 47: ???? ??? ????? ??????, ?? ?? ?????, ????? ???? ??????, ???? ?????. ("For you seek peace where it is not, and neglect to seek it where it is.") Equivalent is ??? + infinitive, as in Euripides, Orestes 27:

?? ????' ?????? ?? ?????? ??????? ("I refrain from considering this publicly").

This verse is alluded to by Strabo (Geographica i 3, 18, 39-40): ????? ??? ?? ?????? ?? <??> ?? ????? ???????.

Secondly, from what is said in Liddell/Scott (sub voce ??, ii 3) about phrases like ?? ??????, ?? ????? is equivalent to ??????, "jointly" or "publicly" (sub voce ??????, B 1 + 2). In this way, two relevant passages in Demosthenes and Plutarch were understood by the translators:

?? ?? ?????? ??? ?? ???? ?????????? ???????, ??? ?' ?? ????? ?? ???????? ? ????? ????????? ??????? = "but inasmuch as you were present at every assembly, as the state proposed a discussion of policy in which every one might join" (Demosthenes, De Corona 273);

????????? ??? ?????? ?? ????? ????? ? ??????? = "let us all join in seeking out the reason" (Plutarch, Quaestiones Convivales 628b9).

In our present passage, as in the Euripides passage cited above, the meaning "publicly" is to be preferred, so that we arrive at the translation "they neclected to seek for publicly", i. e. Aristotle says that nothing is known to him about efforts in this direction.

Accordingly, in De Anima 407b29-30 the ?? ????? ??????????? ????? are "discourses that happened publicly".

987b14-18

(1a) 995b16-18. 997b12-13. 1002b12-14. 1028b19-21. 1059b6-8. 1069a34-35.

(1c) Res publica 510d-e.

(1d) Syrianus, In Metaphysica 159, 33-160, 5 Kroll (= De Philosophia fr. 11 Ross):

???? ??? ??? ????? ???????? ????? ????????? ???? ??? ??????? ?????????

???' ???? ????????????? ???? ?????????? ????????, ????? ?????? ???

??????????? ????, ???????? ?? ?? ?? ??????? ??? ???? ??? ?????????? ??????

?????? ??? ??????? "???? ?? ????? ??????? ?? ?????, ?? ??????????? ??,

???????? ???? ????? ??????? ??????? ??? ??? ??? ??? ?? ???????? ????

???????? ????? ???????;" ???? ??? ??? ?? ???? ???? ??????? ???? ???

??????? ????? ? ??? ????????? ??????? ????????? ???? ????????, ??? ??

??? ????? ?????? ???????? ???? ??? ????? ???????.

("Aristotle himself admits that he has said nothing against the hypotheses of the Platonists and quite fails to keep pace with the doctrine of the ideal numbers, if these are different from the mathematical. This is shown by the words in the second book of the work On Philosophy: 'Thus if the Ideas are a different sort of number, not mathematical number, we can have no understanding of it; for of the majority of us, at all events, who comprehends any other number?' Thus in fact he has addressed his refutation to the multitude who know no number other than that which is composed of units, and did not begin to grasp the thought of these divine thinkers.")

987b18

(1a) 1082b26.

Cherniss 222: "from the fact that each idea is an unique entity he infers that the Platonists meant to make the idea a substance in his own sense of the word".

987b18-20

(1a) 985b31-986a3. 988a10-11, 1086a26-28 and the note on 985b32-986a2.

(1d) Alexander in Simplicius (In Physica 454, 26-28 = De Bono, fr. 2 Ross):

???? ?????? ?????? ??? ????? ?? ????? ? ???????,

????? ?????? ?????? ????? ??? ??? ??? ?????? ??????? ????? ??? ??????

??????? ?????.

("Since number is, by nature, primary of all things, he [Plato] believed it to be principle and the principles of the primary number [the number two, the principles of which are unity and great-small] to be principles of all number.")

In this regard, it was spoken of a "derivation system" ("Ableitungssystem").

987b18-19

(1a) 1090a5-6.

987b20-988a14

(2) Cherniss 107-112

987b20-22

(1a) 1087b7-8.

(1b) Categoriae 5b11-6a11.

(1c) Res publica 476a. 524c. 525a.

(2) Burkert pp. 16. 21-23.

(3) The key to understanding this doctrine is offered by the passage on the exceeding and exceeded in ?, 1021a5-8, which is already drawn on (but misinterpreted) by Stenzel.

In Categoriae 5b15-6a9, it is explained in detail that great and small (as well as many and few) do not fall under quantity (5b15-29), or contrariety (5b30-6a9), but under relation (5a15-16. 29). Thus we may conclude that, in the division of beings into absolute and relative (cf. 990b20-21 with commentary), unity belongs to the side of the absolute.

987b22-33

= 58 B 13 Diels/Kranz

987b22-25

(1a) 987a14-19.

(1d) Theophrastus, Metaphysica 11a27-b12: see note on 1091a29-b3.

Alexander in Simplicius, In Physica 151, 6-8 Diels (= De Bono, fr. 2 Ross [pp. 116-117]):

????? ?? ? ?????????? ??? "???? ??????? ?????? ????? ???

????? ??? ????? ?? ?? ?? ???? ??? ? ???????? ????, ?? ???? ??? ??????

??????, ?? ??? ?? ???? ???? ??????? ??????????? ??????????".

("Alexander says: «According to Plato the first principles of all things, and of the Ideas themselves, are the One and the indefinite dyad, which he used to call great and small, as Aristotle relates in his work On the Good.»")

(3) Theophrastus' testimony is a clear evidence in favor of classifying Plato's metaphysics as "dualistic".

987b25-29

(2) Taylor 1926-1927. Gaiser 296-298.

987b25-27

(1a) 1087b12-18.

(1b) Physica 192a11-12. 203a15-16. 206b27-28.

(1c) Philebus 25c.

(3) In Plato's Philebus (25c), the ?????? ??? ??????????? is just "one aspect of the ???????" (Cherniss, p. 169); evidently, this does not suffice for the assumption (made by Cherniss, p. 87) that the Philebus was the only source that Aristotle had at his disposal.

987b29-33

(1a) 1042a12-13. 1069a28.

987b31-32

(1c) Phaedo 99e.

987b33-988a1

(3) With Zeller (II/1, p. 756, n. 3), I believe that the words ??? ??? ?????? are an interpolation: they run counter to the claim of explaining all numbers (and therewith all being). They come from someone who (as Aristotle and Alexander) thought that by "generation" be meant addition or multiplication (cf. our comment on 1084a4-7), but in contrast to these two, that the great and small be the principle of plurality in general, i. e. of multiplication, not of duplication (cf. our comment on 1082a14-14). So for him not the odd numbers remain unexplained (as for Alexander, who prefers to read ??? ??? ???????? [57, 12: ?? ?? ??? ??? ?????? ????? ???? ??? ??? ??? ????????]), but only the prime numbers.

988a1-5

(1b) De Generatione Animalium 732a3-9. 738b20-21.

988a3

(1a) 1081b26.

(3) Unity generates, together with the indefinite dyad, the number two (the "definite dyad"), which is the "primary number". Thus it has fulfilled its function and, like the demiurg in the Timaeus, can retire. Cf. our note on 987b18-20.

988a8-14

(3) Since Alexander (In Metaphysica, 59, 28-60, 2), commentators take offense that Aristotle ignores the passages where Plato shows knowledge of the efficient and the final cause. Alexander alleges Timaeus 23c and Epistula ii, 312e, Owens (p. 103) Philebus 53e and Phaedrus 245c-d. Aristotle's behavior can be explained by the supposition that he acknowledged as canonical (representative for the school, cf. our note on 991b3-4) only the Phaedo and De Bono, the former for the original version of the ideal theory, the latter for the late ideal number theory. Cf. our note on 987b9-10.

988a14-15

(1a) 1091b13-15. 1075a34-36.

(1b) Physica 192a14-16.

(1d) Eudemus in Plutarch, De Animae Procreatione in Timaeo 1015d:

???? ???? ?????? ????? ??? ??????? ???????? ?????????????? ??? ???????? ?? ??? ?? ??? ???????? ??' ????? ?????? ??? ??????? ???????????????? ?????? ????? ??? ????? ????????????.

("Yet from misapprehension shared with many others even Eudemus rallies Plato for not doing right in declaring whom he frequently calls by the name of mother and nurse to be the cause and principle of evils.")

988a18-b16

(1b) Physica 189b8-16. De Partibus Animalium 640b4-11. De Generatione Animalium 778b7-10.

988a30-31

= 63 Diels/Kranz

(1b) Physica 187a14-15. De Caelo 303b11-13.

988a34-b6

(2) Cherniss 223

988a34-35

(1a) 993a17-22.

(1b) De Generatione Animalium 778b5-7.

988b3-4

(1b) Topica 113a27-28.

988b12

(1a) 996a5-7. 998b9-10. 20-27. 999b26. 1001a4-b25. 1003b22-34. 1004b5. 27-28. 1005a8-10. 1018a35-38. 1030b10-11. 1031b8-9. 1040b16-24. 1045a36-b7. 1053b20-21. 25. 1054a13-19. 1054b19-21. 1089b19. 1059b27-31. 1060a36-37. 1061a15-18.

(1b) De Sophisticis Elenchis 182b24-27.

989a15-18

(1a) 1049b10-27. 1050a3-7. 1077a17-20.

989a26-30

(1b) De Caelo 305b1-5. De Generatione et Corruptione 314b10-12.

989a30-b21

(3) Anaxagoras is the most cited author in the Metaphysica. He is mentioned in: 984a11-16. 984b18. 985a18-21. 988a17. 28. 989a30-b21. 991a16. 1007b25. 1009a27. 1009b25-28. 1012a26. 1056b28. 1063b25-30. 1069b21-32. 1072a5. 1075b8. 1079b20. 1091b11. It seems that Aristotle owes to him the decisive impulse for his unmoved mover; see our note on 1072a24-26.

989a30-33

= 59 A 61 Diels/Kranz

(1a) 989b4-6.

989a33-b6

(1b) Physica 187a26-188a18. De Generatione et Corruptione 327b15-22.

989b4-5

= 59 A 61 Diels/Kranz

989b14-16

(1b) Physica 256b24-27. De Anima 405a13-17. 429a18-19.

989b16-19

= 59 A 61 Diels/Kranz

989b18-19

(2) This is the first of several passages (990b8-9. 11. 16. 23. 991b7. 992a11. 25. 27. 28. 31) where Aristotle puts forward Academic doctrines as his own: "In ???????, Aristotle speaks as a Platonist" (Schwegler iii 74). This is also Alexander's interpretation in his comment on 990b8-9, see below.

989b29-990a29

= 58 B 22 Diels/Kranz

(1a) 1090a20

For the text, see vol. i, pp. 80-85.

989b33-990a5

(1a) 1091a18-19.

990a8-12

(1a) The Pythagoreans cannot explain motion; the same reproach is made against Plato in 991a8-11 (=1079b12-15), cf. 991b3-9.

990a12-18

(1a) 1090a32-35.

(1b) De Caelo 300a14-19.

990a15-22

= Testimonia Platonica 48 A Gaiser

990a34-b8

(2) Cherniss 198-199.

990b6-7

(2) Cherniss (p. 195, n. 115): "The use of ???????? to express the relationship between ideas and particulars in a report of the theory may itself be a sign that the passage belonged to an older treatment. Here one would have expected ?????????, the word by which Aristotle represents Plato's ???????? when he is not objecting that there is no more than a verbal similarity between ideas and particulars. The critical use of ???????? occurs in this chapter at 991a6; and it is not probable that Aristotle would have used it there in his own sense and here in Plato's, if the two passages had been originally composed at the same time. On the other hand, it is difficult to admit the explanation that ???????? is here used in the critical sense, for Aristotle is reporting the Platonic theory in order to prove not that the ideas are essentially different from the particulars and only verbally similar but that the ideas are a duplication of the particulars, that is, as he says at 1086b10-11, that the separation of the universals results in making ideas and particulars the same things (cf. 1040b30-34). For such an argument ???????? in his own sense is out of place; but, if this passage originally stood in an early account, the word might have been used in Plato's sense and would then fit the context. In that case ??? ????????? in 987b10 may be a further indication of rewriting in that passage. Aristotle himself, however, sometimes uses ???????? in place of ????????? (Metaphysica 1034a22-23, 1034b1; De Generatione et Corruptione 328b21)."

990b8-17

(2) Cherniss 226-242.

990b8-9

(2) Alexander, In Metaphysica, 77, 35-78, 4:

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("The words 'we prove' show that in stating the doctrine of Plato, Aristotle is speaking as if in reference to his own opinion; for it is not as one refuting another's arguments and doctrines, but as one testing and examining his own opinion, that he contradicts for the sake of discovering the truth.")

(3) In the parallel version M 4-5, this "we" is systematically eliminated, being altered into "they" (1079a5. 7. 12. 20. 1080a6).

Since Aristotle, in A as well as in M, is arguing against the doctrine of Ideas, several modern interpreters (von Arnim, Cherniss, Primavesi) made desperate attempts to explain away the simple and clear meaning of the words. In A and B (997b3-5 and 1002b13-14), Aristotle speaks alternating in the first and in the third person of "those who posit the Ideas": this is the fact which has to be explained. (Jaeger 1962, p. 175; Merlan 1970; Madigan 1999, p. 132)

990b10-31

= Xenocrates fr. 93 Isnardi Parente

990b11-13

(1a) 1090a27-28. 35-b1.

(1c) Res publica 475b-480a.

(1d) Alexander, In Metaphysica, 79, 3-80, 6:

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("The Platonists used the sciences in more than one way to establish the existence of Ideas - as Aristotle relates in the first book of his work On Ideas; the arguments he here seems to refer to are as follows: (1) If every science does its work with reference to one self-identical thing, and not to any particular thing, there must be, corresponding to each science, something other than sensible things, which is eternal and is the pattern for the products of the science in question. Now that is just what the Idea is. (2) The things of which there are sciences must exist; now the sciences are concerned with things other than particular things; for the latter are indefinite and indeterminate, while the objects of the sciences are determinate; therefore there are things other than the particulars, and these are the Ideas. (3) If medicine is the science not of this particular instance of health, but just of health, there must be such a thing as health-itself, and if geometry is knowledge not of this equal and this commensurate, but of what is just equal and what is just commensurate, there must be an equal-itself and a commensurate-itself, and these are the Ideas. Such arguments do not prove the point at issue, that there are Ideas, but they do show that there are things other than sensible particulars. It does not follow, however, that if there are things other than particulars these are Ideas; for besides particulars there are universals, which we maintain to be the objects of the sciences. Take, again, the argument that there must be Ideas of the products of the arts, since every art refers its products to some standard, and the objects of the arts must exist, and must be different from particular things. The latter argument, besides failing, like the others, to prove the existence of Ideas, will be seen to involve Ideas of things of which the Platonists insist that there are no Ideas. For if, because the medical art is knowledge, not of this particular instance of health but simply of health, there is such a thing as health-itself, there will be a similar object of each of the arts. For an art is concerned not with the particular, with the 'this', but simply with that which is the object of the art; e. g. carpentry with bench simply, not with this particular bench, with bed simply, not with this bed; so too are sculpture, painting, building, and each of the other arts, related to their own objects. There will, therefore, be an Idea of each of the objects of the arts— which the believers in the Ideas do not want.")

(2) Cherniss 235-260.

Ross (1951, pp. 166-167): "What were the objects of science to which the (or some) Platonists denied the rank of Forms? A little lower down [990b22-29] Aristotle says 'According to the assumption on which our belief in the Ideas rests, there will be Forms not only of substances but also of many other things (for the concept is single not only in the case of substances but also in the other cases, and there are sciences not only of substance but also of other things, and a host of other such difficulties confronts them). But, according to the logic of the case and the opinions held about the Forms, if Forms can be shared in there must be Ideas of substances only.' Here Aristotle tells us what the 'other things' are which the Platonists do not believe to have Ideas corresponding to them though the argument from the sciences should lead to a belief in such Ideas; they are all things that are not substances. We need not concern ourselves with Aristotle's argument; for it is certain that, whoever the members of the Academy were who believed only in Ideas of substances, Plato was never among them. In the earlier [167] dialogues things like goodness and beauty are the most typical examples of Ideas. In the Parmenides they are among the Ideas of whose existence he was most sure. In the Sophista 'the greatest Forms' are existence, sameness and difference, rest and motion. In the Idea-number theory, which belongs to the latest period of his life, the primary Ideas are oneness, twoness, and the like. Everywhere except in the Timaeus Ideas of substances play a very subordinate part.

Most scholars seem to have overlooked the explanation which Aristotle himself gives in 990b22-9 of his statement ibid. 11-13 that the Platonic arguments from the sciences lead to Ideas of things of which nevertheless the Platonists think there are no Ideas. Relying on Alexander's [79. 22-80. 6] interpretation, they think the things referred to are not 'things other than substances', but works of art. Since Alexander bases himself on Aristotle's De Ideis, we may take it that, according to Aristotle, works of art were a second class of things Ideas of which were not admitted by the Platonists, though according to the arguments from the sciences they should have been admitted."

Fine 66-102.

990b13-14

(1c) Parmenides 131b.

(1d) Alexander, In Metaphysica, 80, 8-81, 22:

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("They also use the following argument to establish the existence of the Ideas. If each of the many men is a man, and each of the many animals an animal, and so too in all other cases, and these are not instances of a thing being predicated of itself, but there is something predicated of all men, &c., but identical with none of them, there must be something belonging to all of them, which is separate from the particular things and eternal; for in every case it is predicated alike of all the numerically different examples. But that which is one over many, separated from the many and eternal, is an Idea; therefore there are Ideas. This argument, Aristotle says, involves the Platonists in setting up Ideas even of negations and of non-existent things. For even a negative term is predicated as a single identical term of many subjects, and even of non-existent things, and is not the same as any of these subjects. 'Not-man' is predicated both of horse and of dog and of everything except man, and therefore is a one over many, and identical with none of the things of which it is predicated. Again, it remains always similarly predicable of similar things; for 'not-musical' is predicable truly of many things (of all that are not musical), and similarly 'not-man' of all that are not men; so that there are Ideas even of negations. Which is absurd; for how could there be an Idea of non-existence? If one is to accept such Ideas, there will be one Idea of dissimilar and wholly different objects, e. g. of line and man; for neither of these is a horse. Again, there will be a single Idea of an indefinite variety of objects. Again, there will be a single Idea both of what is primary and of what is secondary; for both man and animal are not-wood, but the one is primary, the other secondary, and of such things the Platonists did not claim that there are genera or Ideas. It is clear that this argument, like the others, does not prove the existence of Ideas; it, like the others, tends to show that that which is predicated in common is different from the particulars of which it is predicated. Again, the very people who wish to show that that which is predicated of many things in common is a single thing, and that this is an Idea, devise a proof from negations. For if one who denies something of several things must do so with reference to a single term— if one who says of a man and of a horse that they are not white does not deny of each of them a separate attribute, but referring to a single thing denies an identical whiteness of both of them— then he who affirms the same term of several things does not affirm something different in each case. There must be some one thing that he affirms; e. g. in predicating 'man' he is referring to one identical thing; for what is true of negation must be true of affirmation. There is, therefore, something apart from what there is in sensible things, something that accounts for affirmation that is true of many things and common to them, and this is the Idea.")

(2) Cherniss 260-272.

Ross (1951, 167-169): "We have to ask (a) whether the theory of Ideas really implies that there are negative Ideas, and (b) whether Plato ever denied that there are such Ideas.

There are three kinds of term which might in a very general way be called negative terms, and we must ask these questions about all of them.

(?) There are first the terms, beloved by some logicians but never used in ordinary life, which are purely negative in their meaning - terms like 'not-good', 'not-beautiful', 'not-tall'. Plato touches on such terms in the Sophista, but his attitude towards them is not altogether clear. In 257e2-4 he says 'the existence of the not-beautiful consists of its being marked off from a single definite kind of existing things' - from a kind, not as one. But in 257e9 he says 'According to this argument is the beautiful any more and the not-beautiful any less a reality?', and the answer that is expected and is forthcoming is 'No'. And in [168] 258b9 he says, 'Should we now make bold to say that «that which is not» is undoubtedly a thing that has a nature of its own-just as the tall was tall and the beautiful was beautiful, so too with the not-tall and the not-beautiful-and in that sense «that which is not», also, on the same principle, both was and is what-is-not, a single Form to be numbered among the many realities?' The doctrine is that not-being (which is identified with difference) is a genuine Form, indeed one of the greatest Forms. Of this Form Plato says, [258d7] 'We have shown that the nature of the different has existence and is parceled out over the whole field of existing things with reference to one another'; and he might be supposed to mean that purely negative terms like 'not-beautiful', 'not-good' stand for specific Ideas embraced under the generic Idea of not-being or difference. But he never says this, and his meaning is as likely to be that the Idea of difference is parceled out among all the individual things that are not beautiful or are not good. He expresses himself more definitely in the Politicus, [262c8-263e1] where he says that 'barbarian' (if it only means not-Greek) and 'not-ten-thousand', though they stand for parts of the genera man and number, do not stand for species of them, i. e. that there is no Idea of not-Greek or of not-ten-thousand.

(?) Secondly, there are terms negative in form but in fact having a positive as well as a negative meaning: Plato occasionally refers to Ideas answering to such terms, e. g. to the Idea of impiety and to the Idea of injustice, [Euthyphro 5d2-5; Res publica 476a4-7 (cf. 402b9-c8); Theaetetus 176e3-177a2] and there is no evidence that he ever ceased to believe in the existence of such Ideas. Nor was there any reason why he should; for such words clearly stand not only for the absence of a quality-since not everything that is not just is unjust-but also for the presence of another positive quality.

(?) Thirdly, there are terms not negative even in form, but definitely suggesting the absence of some desirable quality-terms such as 'sickness', 'evil', or 'ugly'. These, too, have a positive as well as a negative significance. Ideas answering to such terms are referred to in mature as well as in early dialogues, [Phaedo 105c4; Res publica 476a4; Theaetetus 186a8] and [169] there was no reason why Plato should cease to recognize them. It might be possible for a theory of Ideas to dispense with an Idea of evil and with Ideas of its species, and to explain all evil in the sensible world as due to the fact that the relation of the phenomenal to the ideal is never one of perfect instantiation but always one of imitation which falls short of its pattern. But there is nothing to show that Plato ever took this line.

Socrates' hesitation, in the Parmenides, [130c5-d9] to recognize Ideas of mud, hair, and dirt was presumably due to the suggestion of unpleasantness or else of triviality which such words suggested. But Parmenides' advice to Socrates, which represents Plato's better thoughts, was that he should discard such doubts and follow his general principle. [130e1-4] The same line of thought is to be found in the Sophista, [226e8-227c6; cf. Politicus 266d4-9] where he divides the purification of living bodies into that effected by medicine and that effected by bathing, and adds that 'the dialectical art never considers whether the benefit to be derived from the purge is greater or less than that to be derived from the sponge, and has no more interest in the one than in the other'.

Of these various types of 'negative term', it seems to have been about the first that Aristotle says that the argument of the 'one over many' involved Ideas corresponding to them, which nevertheless the Academy did not recognize; for Alexander's examples [In Metaphysica 80, 18-81, 13] are 'not-man', 'not-musical', 'not-horse', 'not-wood', 'not-white'. If Plato had ever resolved negation into assertion, had analyzed 'A is not B' into 'A is not-B', then-on the general principle that where one thing is asserted of many, a single Idea is being asserted-he would have had to recognize purely negative Ideas. But there is no evidence that he ever so analyzed negation. On the other hand there is no evidence that he ever ceased to recognize Ideas answering to general terms which, though negative in form, imply a positive meaning. There is thus no evidence of a change of view on his part."

Fine 103-119.

Dorothea Frede, p. 275: "And it is to be noted that in his extensive divisions in the Sophista and in the Politicus, Plato avoids negations, except as occasional shortcuts. On the other hand, in the Sophista's metaphysical part, Plato famously explains 'not being' as 'being different from' and includes negations of all sorts. The 'not beautiful' is no less than the beautiful (257a-258c), and in general 'not being' is said to 'split up just as much as does being.' If Aristotle relies on a general consensus among the Platonists that there should be no Forms of negative terms, then this consensus either ignores or intentionally contradicts the Sophista's contention."

990b14

(2) Cherniss 229.

990b14-15

(1c) Res publica 476e-477a. Parmenides 132b-c.

(1d) Alexander, In Metaphysica, 81, 25-82, 7:

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("The argument which establishes the existence of Ideas on the basis of the fact of knowledge is as follows: If when we think of man or land-animal or animal, we think of something real and at the same time not a particular (for the same thought remains even when the particular things have perished), clearly there is something apart from sensible particulars, something which we apprehend both when they exist and when they do not; for surely we do not then apprehend something non-existent. This is a Form or Idea.")

(2) Cherniss 272-275.

Ross (1951, 170): "The form of the argument described as ?? ????? ?? ????????? must have been somewhat as follows: 'Supposing we find, by study of a particular sensible equilateral triangle, that it must be equiangular; we retain this knowledge even after the particular triangle has been broken up; therefore the object of our knowledge must be another entity, which still exists, and such entities, which exist independently of their particular embodiments in individual things, are just what we call Ideas.' Aristotle argues that by parity of reasoning, since we can remember a perishable individual thing even after it has ceased to exist, there ought on Platonic principles to be an idea of such an individual. Plato's answer would no doubt have been that to argue thus is to ignore the difference between knowledge of universal truths and memory. In the former we are aware of an eternal connexion between entities themselves eternal, and therefore different from any perishable individual. In the latter we are aware (if for argument's sake it be admitted that memory is a kind of awareness) of an individual thing in which certain universals were connected, but we have no awareness that these are eternally connected, and therefore there is no reason to suppose that there is a complex universal consisting of them as so connected, i. e. an Idea of the perishable thing."

Fine 120-141.

990b15-22

= Testimonia Platonica 48A Gaiser

990b15-17

(1a) 1089b9-11.

(1d) Alexander, In Metaphysica, 82, 11-83, 17:

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("The argument that establishes Ideas answering even to relative terms is as follows: When the same term is predicated of several things not homonymously but so as to indicate a single nature, it is predicable truly of them either because they have in the strict sense the property indicated by the predicate (as when we say Socrates is a man and Plato is a man), or because they are likenesses of the tine possessors of the attribute (as when we predicate 'man' of men in pictures (for in these cases we refer to the likenesses of men, indicating a nature that is identical in them all), or because one of them is the pattern and the others are likenesses (as when we call both Socrates and the likenesses of him 'men'). We predicate of things in this world equality itself, which is only homonymously predicable of them; for neither does the same definition apply to them all, nor are we referring to things truly equal. For a sensible thing's size changes and varies continuously and is not determinate, nor does anything in this world answer precisely to the definition of equality. Nor, again, are they related as pattern and image; for one is not more pattern or image than another. Even if one were to allow that an image is not merely homonymous with its pattern, it always follows that particular equal things are equal only as being images of that which is strictly and truly equal. If this be so, there is an equal itself, a strictly equal, by reference to which things in this world, as being images of it, come to be, and are said to be, equal, and this is an Idea, serving as a pattern to the things [Reading ??????????????? ?? ???? ???.] that come into being by reference to it.")

83, 22-30: ?????? ?? ??? ????? ???? ??? ??? ????

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("This is the argument which according to Aristotle implies Ideas answering even to relative terms. At all events the proof in question has referred to equality, which is a relative term; but the Platonists denied that there are Ideas answering to relative terms, because for them Ideas exist in their own right, being substances, while relative terms have their being in their relation to one another. Again, if what is equal is equal to what is equal to it, there will be more than one Idea of the equal; for the equal-itself is equal to the equal-itself, since if it were not equal to anything it would not even be equal. Again, according to the same argument there will have to be ideas even of unequals (for where there are opposites there must be Ideas either of both or of neither); but even the Platonists admit that inequality involves more than one thing.")

(2) Cherniss pp. 229-233; 275-300.

Fine 142-202.

990b15

(1a) 1080a9-10.

990b17

(1a) 991a2-5.

(1d) Alexander, In Metaphysica, 83, 34-85, 12:

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("The argument which introduces the third man was as follows: The Platonists say that the things that are predicated universally of substances are precisely such as they are said to be, and that these are Ideas. They say, too, that things that are like one another are so by sharing in one identical thing, which is strictly what it is; and that this is the Idea. But if this be so, and if that which is predicated of certain things in common must, if it is not identical with any of them, be something else apart from them (for that is why man-himself is a genus— because while predicated of particular men it was identical with none of them), there will be a third man apart from the particular man (e. g. Socrates or Plato), and apart from the Idea, which is itself also numerically one.

There was an argument stated by the sophists that brings in the third man; it is as follows. If we say, 'Man walks', we are not saying either that man as Idea walks (for the Idea cannot move), or that any particular man walks. (For how [could we say this about one] whom we do not know? For we know that a man is walking, but we do not know which of the particular men it is of whom we say this.) [Hence] we are saying that some other man apart from these [two], a third man, walks; therefore, there will be a third man of whom we predicate walking. Now the occasion for this argument, which is sophistic, is provided by those who separate the common thing from particulars, as do those who posit the Ideas. In his book against Diodorus [Cronus], Phanias says that the sophist Polyxenus brought in the third man by saying, 'If it is both by sharing and participating in the Idea, i. e. in man-himself, that man exists, there must be some man who will have his being by reference to the Idea. But neither man-himself, which is an Idea, [exists] by sharing in an Idea, nor does any individual man. It remains that it is some other man, a third man, who has his being by reference to the Idea.'

The existence of the third man is also proved in this way. If that which is predicated truly of several things also exists in separation from these (this is what the believers in Ideas think they prove; the reason why, according to them, man-himself exists is that 'man' is predicated truly of the many particular men, and is other than they)— if this be so, there will be a third man. For if the 'man' which is predicated is different from those of whom it is predicated, and exists independently, and 'man' is predicated both of particular men and of the Idea of man, there will be a third man apart both from particular men and from the Idea. On this basis, too, there will be a fourth man, predicated both of the third man, of the Idea, and of the particulars; and similarly a fifth, and so ad infinitum. This argument is identical with the first, and follows from the assumptions that things that are like are like by participation in some identical thing, and that particular men and the Ideas are like.

Now Aristotle refuted both these arguments, although they appear to be more accurate: the first on the ground that it establishes Ideas of relatives as well, the second on the ground that it brings in the third man, then increases [the number of] men ad infinitum; and each of the other things of which the Platonists say there are Ideas will be similarly increased.

The first exposition of the 'third man' has been used by others and plainly by Eudemus in his book On Diction, and Aristotle himself has used the last in the fourth book of his work On Ideas, and also, a little later, in the Metaphysica.")

(2) Cherniss pp. 233. 292-298.

Fine 203-241.

(3) ???????? is translated with "introduce" by Ross (borrowing it from Alexander's ???????), with "involve the difficulty of" by Barnes. Both translations cannot be justified linguistically. Since ?????? is often equivalent to ?????? (e. g. in combination with ????), ???????? in l. 17 is likely to be equivalent with ???????? in l. 16. Then the sense must be "mean that there is" (or "are" respectively).

990b17-22

(1a) 1088a15-21

(2) Cherniss 300-305.

990b19-20

(1a) 1087b21-25.

(2) Gaiser 527.

990b20-21

(1a) 1088a21-b4. 1079a17.

(1b) Categoriae 5b27-29.

(1c) Sophista 255c (???' ???? - ???? ????). Philebus 51c (???? ?? - ???' ????).

(1d) Simplicius, In Categorias 63, 21-24 (= Xenocrates fr. 12 Heinze):

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("Others raise the accusation of superfluity in another way. Xenocrates and Andronicus and their followers seem to include everything in [the opposition] 'by itself' and 'relative', so that, according to them, so large a multitude of genera [as the ten categories] is superfluous.")

990b22-991a8

(2) Cherniss 305-308.

990b34

(1a) 1002b29.

991a2-5

(2) Cherniss, n. 210 (pp. 308-309).

991a5-8

(2) Cherniss n. 115 (p. 196).

991a8-b9

(2) Cherniss 376-379.

991a14-19

(1d) Alexander, In Metaphysica, 97, 27-98, 24:

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("To prove that it is not, as Eudoxus and some others thought, by the intermixture of Ideas that other things exist, Aristotle says it is easy to collect many impossible conclusions that follow from this opinion. These would be as follows: If the Ideas are mixed with other things, (1) they will be bodies; for it is to bodies that mixture appertains. (2) Ideas will be contrary to one another; for it is between contraries that mixture occurs. (3) Mixture will take place in such a way that either an Idea will be present whole in each of the things with which it is mixed, or only a part of it will be present. But if it is present whole, something that is numerically one will be present in several things (for the Idea is numerically one); but if mixture be by way of parts, it will be that which shares in a part of man-himself, not that which shares in the whole of man-himself, that will be a man. (4) The Ideas would then be divisible and partible, though they are not subject to change. (5) The Forms must consist of like parts, if all the things that contain a part of a certain Form are like one another. But how can the Forms consist of like parts? A piece of a man cannot be a man, as a piece of gold is gold. (6) As Aristotle himself says a little later, in each thing there will be an admixture not of one Idea but of many; for if there is one Idea of animal and another of man, and a man is both an animal and a man, he will partake of both Ideas. And the Idea man-himself, inasmuch as it is also animal, will share in animal-itself; but on that showing the Ideas will no longer be simple, but composed of many components, and some Ideas will be primary and others secondary. If on the other hand man-himself is not animal— it is surely absurd to say that a man is not an animal. [sc. 'Yet this follows from saying that man-himself is not animal'.] (7) If the Forms are mingled with the things that exist by reference to them, how can they still be patterns, as these thinkers maintain? It is not thus, by mixture, that patterns cause the likeness of the copies of them to them. (8) On this showing, the Ideas would be destroyed along with the things in which they are. Nor would they have a separate existence, but only existence in the things which share in them. (9) On this showing, the Ideas will no longer be exempt from change; and there are all the other absurd implications which Aristotle in the second book of his work On Ideas showed this theory to involve. This is why he said 'It would be easy to collect many insuperable objections to this view'; they have been collected in that work.")

991a20-22

(1a) 987b10-14. 992a24-29. 1045b7-9. 1075b34-37.

991a22-23

(1c) Cratylus 390e. Timaeus 28a.

991b3-4

(1b) De Generatione et Corruptione 335b9-16.

(1c) Phaedo 100d.

(2) Dorothea Frede (p. 293): "That the Forms are not meant to serve as moving causes is shown by the fact that the 'second sailing' [99c-d] is limited to the postulate of participation in Forms and in their interconnections."

(3) "We say in the Phaedo" (?? ?? ?? ??????? ???? ???????), the reading of Alexander (106, 7-10) and Asclepius (90, 19 and 30), has the virtue of being the lectio difficilior, and is approved by Jaeger (1965). It does not "extend Aristotle's allegiance to Platonism to the authorship of a Platonic dialogue", as Dorothea Frede (p. 292, n. 76) objects, but is best explained by my supposition (see note on 988a8-14) that the Phaedo was the canonical reference for the early version of the ideal theory.

991b6-7

(1a) 1070a18-19.

(1d) Proclus, In Platonis Parmenidem 888, 17-19 Cousin (= Xenocrates, fr. 30 Heinze):

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("… Xenocrates, supposing the Idea to be causa exemplaris of whatever subsists by nature …")

991b9

(1a) 987b21-22. 992b15-16. 1073a18-19. 1080b12. 1081a7. 12. 1082b23-24. 1083a17-18. 1086a11-12. 1090a16-17. 1091b26.

(1b) De Anima 404b24-27.

(1d) Syrianus, In Metaphysica, 160, 1-3 (= De Philosophia fr. 11 Ross):

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"Thus if the Ideas are a different sort of number, not mathematical number, we can have no understanding of it; for of the majority of us, at all events, who comprehends any other number?"

Alexander, In Metaphysica, 55, 26-56, 5:

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("And since Forms or Ideas are prior to the things which according to Plato have their being in relation to them and derive their being from them (the existence of these he tried in several ways to establish), he called the Forms numbers. For if that which is one in kind is prior to the things that exist only in relation to it, [Reading ???? ???? ?????.] and nothing is prior to number, the Forms are numbers. This is the reason why he called the first principles of number first principles of the Forms, and the One the first principle of all things.")

Theophrastus, Metaphysica 6b11-15:

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("Now Plato in reducing things to the principles might seem to be treating of the other things in linking them up with the Ideas, and these with the numbers, and in proceeding from the numbers to the ruling principles, and then, following the order of generation, down as far as the things we have named.")

Sextus Empiricus, Adversus Mathematicos X 258:

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("For see how the Ideas, which are incorporeal, exist before the bodies, according to Plato, and everything which becomes becomes because of its relation to them; yet they are not principles of existing things since each Idea taken separately is said to be a unit, but two or three or four when taken in conjunction with one or more others, so that there is something which transcends their substance, namely number, by participation in which the terms one or two or three or a still higher number than these is predicated of them.")

(2) Annas (p. 72) on Sextus x 258: "What is envisaged is something fairly simple, a development, as in the Philebus [14-18], of the idea that a general term 'contains' other general terms. This seems to have little connection with the theories of On the Good, and the extremely elaborate modern suggestions for interpreting the thesis that 'Forms are numbers'."

For the "quantitative world view" ("quantitative Weltauffassung") prevailing in Plato's times, Frank (p. 95 + note 233 on p. 366) refers to the "atomistic logic" explained in Theaetetus 204d.

(3) Firstly, we must correct an error of modern interpreters: there is no contradiction between Aristotle/Alexander ("the Ideas are numbers") on the one hand and Theophrastus ("the Ideas are to be reduced to numbers") on the other hand. The same duplicity occurs in one sentence 985b32-986a3: "… numbers seemed to be the first things in the whole of nature, … they supposed … the whole heaven to be number…". Likewise, we can say both "The Ideas are to be reduced to numbers" because their elements are primarily the elements of numbers (unity and indefinite dyad), and "The Ideas are numbers" because things which have the same properties are identical (see our explanation of the sentence "Things are numbers" in the notes on 985b27-986a3).

The real problem is that Sextus interprets the reduction of Ideas to numbers in a totally different way. ???? ???????? is reminiscent of Plato's Politicus 263d, where the "taking together" is additionally explained by "putting into the same (class)". It is thought that a certain number of Ideas is united into a higher class, so that there takes place a case of "participation" (??????), which establishes a prius-posterius relation between number and Idea. This number says nothing about the essence. Aristotle, in return, repeatedly (1081a11, 1084a14. 25; cf. Ross lxx) presupposes that each Idea has its own number. In other words: Aristotle makes the ideal numbers indicate not the relations, but the essences of the singular species (man, horse). It is Sextus' interpretation which agrees with Plato's later dialogues, especially the Philebus (18a-d).

The difficulty we have described reveals the opposition of two contrary "forms of thought" ("Denkformen"), the "generalizing" and the "elementarizing" ones (Krämer 2001, p. 161; 2014, p. 283). This opposition is already thematisized by Aristotle in Metaphysica B 3, and highlighted as an unsolved aporia in the Academic doctrine of principles.

Looked at historically, it is a concurrence of two influences, the Socratic and the Pythagorean ones, the heterogeneity of which is documented by the fact that the hostile biographical tradition about Socrates is of Pythagorean origin (Aristoxenus, fr. 53-54 Wehrli). Must we take it for granted that Plato managed to reconcile them in a higher synthesis?

992a6

(1b) De Generatione et Corruptione 320b23.

992a10-b18

= Testimonia Platonica 26A Gaiser

992a10-13

(1a) 1056b10-11. 1085a9-12. 1090b36-1091a1.

(1b) Ars Rhetorica 1363b7-12.

(1d) Alexander, In Metaphysica, 55, 20-26 Hayduck:

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("Both Plato and the Pythagoreans assumed numbers to be the first principles of existing things, because they thought that it is that which is primary and incomposite that is a first principle, and that planes are prior to bodies (for that which is simpler than another and not destroyed with it is prior to it by nature), and on the same principle lines are prior to planes, and points (which the mathematicians call semeia but they called units) to lines, being completely incomposite and having nothing prior to them; but units are numbers; therefore numbers are the first of existing things.")

Alexander in Simplicius (In Physica 454, 22-26 Diels):

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("Being in quest of the principles of real things, Plato considered that number came before all other things by nature, for the limits of lines are points, which are units having position, and without lines one can have neither surfaces nor solids, whereas number can exist without these.")

Sextus Empiricus, Adversus Mathematicos X, 278-279:

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[279] ??? ?????? ?? ?????? ????? ??????? ????????? ??????? ????? ???? ??????. ?????? ????? ???? ??? ????? ? ??????, ?? ?? ???????? ???? ??? ??????, ? ?? ????? ????? ???? ????????? ???? ?? ? ????, ???? ??? ?????? ?????????? ????????? ?? ??????.

("Thus the point, for example, is ranked under the head of the One; for as the One is an indivisible thing, so also is the point; and just as the One is a principle in numbers, so too the point is a principle in lines. So that the point comes under the head of the One, but the line is regarded as belonging to the class of the Dyad; for both the Dyad and the line are conceived by way of transition.

[279] And again: the length without breadth conceived as lying between two points is a line. So then, the line will belong to the Dyad class, but the plane to the Triad since it is not merely regarded as length, as was the Dyad, but has also taken to itself a third dimension, breadth.")

(3) Cherniss (p. 481) thinks "that this was a development different from Plato's own doctrine"; "against a distinction between the material element of magnitudes and that of numbers Metaphysica 1001b19-25 is conclusive" (p. 480). Gaiser (p. 487) contradicts Cherniss, but without going into his reference 1001b19-25.

The "development" supposed by Cherniss becomes tangible in a passage of Iamblichus (De Communi Mathematica Scientia 16, 18-17, 19 Festa), which is traced back to Speusippus by Merlan (p. 111). There, firstly (16, 18-17, 1), the same criticism is raised as in Metaphysica 1001b19-25:

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("If one will make one infinite matter the substratum of all things, probably the absurd result will happen that [the ?? in l. 20 is to be connected with ???????????? in l. 22], when the one Idea springs up in it, and if it is homogeneous throughout, also the same genera are accomplished. So that the result will be that absolutely all genera are numbers; for we will not have to apply any suiting difference, by which here the nature of numbers was created, then the nature of lines and surfaces and figures, and not always the same genus, originating from the similar and similarly connected elements.")

It is answered by positing a principle which is differentiated in itself, i. e. which is related to the subordinated principles as genus to species (17, 1-3):

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??????? ?? ??? ???????? ?????? ??????, ???????? ??

?????? ?? ???? ??????????? …

("if one is to suppose one first cause of all plurality and magnitude, but which exhibits many differences in itself …").

This is what we have before us in the present passage.

Against this solution, in turn, it is objected that such a principle is lacking the absolute simplicity which signifies an "element": ?? ??? ??????????? ???????? ????????? ?????. (17, 12-13, "for the most simple be element everywhere"). This may have been the step which led Speusippus to his "episodic" (cf. Metaphysica 1076a1 and 1090b19) ontology; for if also the principles of the subordinate spheres of being have to be absolutely simple, these spheres cease to be derivable from the supreme one.

992a13-19

(1a) 1020a11-14.

992a19-20

(3) Ross' translation "Further, from what principle will the presence of the points in the line be derived?" (which agrees with Bonitz, p. 122: "Ex quo principio […] repetetur ut lineis insit punctum") disregards the connection with the preceding section ll. 10-19, where, in l. 11, it was mentioned that, according to the Platonists, "the lines come from the short and long". Schwegler (i 24: "Further, from what will the points be derived?"; cf. Alexander 119, 17: ????? ??? ?? ?????? [scil. ??? ???????] ?????;) and Milhaud (340: "From what come the points which are present in the lines") take account of it, and if the text does not provide this meaning, it must be emendated: ??? ?? ??????? ?? ????? <?????> ????????????; ("Further, from what coming, the points will be present [in the line]?").

992a20-24

(1a) 1084a37-b2.

(2) Robin § 112 (pp. 229-230). Note 232 (pp. 229-232: I). Note 233 (pp. 232-233). § 215 (p. 472). Ross i 203-208.

(3) In the Timaeus, "Plato twice breaks off conspicuously the dimensional analysis of the elementary triangles into «even higher principles» (48c, 53d). It is brought to an end in the unwritten doctrine, firstly unto the so-called indivisible lines in the sense of minimal magnitudes of extension [992a21-22; 1084b1]" (Krämer 2014, p. 159).

Harold Cherniss (1944, p. 168) uses our passage to devalue Alexander's report about the identification of ideas and numbers: it "attributes to Plato the argument that number is primary because the points as limits of the line are prior to the line and points are «monads with position» (Simplicius, Phys., p. 454, 22-26; Alexander, Metaph., p. 55, 20-25), whereas Aristotle testifies that Plato rejected the point as an entity and tries to prove that the Platonists must nevertheless accept it if they accept the line, using for this proof the very argument from the limits here attributed to Plato to support the priority of the point".

In 1945, pp. 28-29 he adds: "If we accept his evidence in this matter, it follows that Plato in the [29] lecture on the Good did not give any account of the identification of ideas and numbers; for Aristotle could not have said that he gave the explanation which Alexander proposes, and if Aristotle had reported some other account Alexander would have had no reason to propose this one. Alexander himself indicates that in this explanation he is running together Platonic and Pythagorean doctrines. His reason for doing so is obvious. He is here commenting upon Aristotle's identification of ideas and numbers in Metaphysica A, 6, where Aristotle himself compares Plato's theory with Pythagoreanism. To explain this passage he cites the remarks on number in Aristotle's report of the lecture on the Good; but, since that report failed him in the crucial question of the identification of ideas and numbers, he has had to fill in the lacuna by conjecture and in so doing has failed to observe that his conjecture is inconsistent with another of Aristotle's reports. So Alexander's account betrays itself in the same way as does the modern higher criticism which uses it as factual evidence for the content of Plato's oral doctrine."

The critics of Cherniss, Cornelia de Vogel (1949, p. 311: "Alexander interprets Plato in Aristotelian terms") and Hans Joachim Krämer (1959, p. 418: "The commentators only preserved the mathematical terminology"), deny that there is a factual contradiction by simply asserting that the difference is only terminological. Equally no concern for the problem (minimal extension or non-extension?) is shown by Gaiser (p. 355).

992a23-24

(1b) De Caelo 299a6-11.

992a24-b9

(2) Cherniss 223-226.

992a24-29

(1a) 991a8-12. b3-9. 992b7-9. 991a19-22.

992a29-b1

(1a) 988b6-16.

(1c) Res publica 531d-532c.

992a30-31

(1a) 1065b3-4.

(1b) Physica 198a5-6. De Anima 415b15-17.

(1c) Phaedo 97b-d.

992a32-b1

(2) Tarán (p. 459): "Ross in his note on 992a33 contends that ?? ??? is primarily a reference to Speusippus. But the whole context (992a24-b9) shows that Aristotle is referring to the partisans of ideas (cf. 992a32 and b8, Cherniss, I, n. 132, esp. pp. 224-225). Moreover, the words ????????? ????? ????? ???? ???? ?????????????? (992a33-b1) are also an indication that Aristotle is not here thinking of Speusippus at all. The latter, having substituted numbers for Plato's ideas (cf. F 29a, F 30-36), would hardly have said that mathematics is to be studied for the sake of other things, a well known Platonic tenet (cf. Res publica 531d and 533b-e)."

992b1-4

(1a) 987b20-22. 1088a15-21.

992b4-7

(1a) 1042b21-25.

(1b) Physica 187a12-17.

992b7

(1a) 1004b28-29.

(2) ????? refers to l. 4 ?? ???? ??? ?????? (Zeller II/1, p. 950, n. 2).

992b10-11

(1a) 1003a9-10. 1031b21-22. 1086b7-10. 1090a17-18.

(1b) De Sophisticis Elenchis 178b36-179a10.

992b13-18

(1b) De Anima 404b19-21.

992b18-24

(1a) 1044b8-20. 1070a31-b10.

(1b) Topica 107a5-12. De Anima 410a13-21. Ethica Eudemia 1217b25-1218a1.

(2) Alexander, In Metaphysica, 129, 6-7: "it is possible to find such principles only of substance" (??? ??? ???????? ????? […] ????? ??? ?????? ?????? ?????). Likewise Schwegler (i 99), Bonitz (p. 124), Ross (i 209), Reale (p. 778).

(3) In the present passage (and the indicated parallels), "Aristotle seems to overlook focal meaning" (Owen 179), i. e. the relation of different senses "to one central point" (???? ??, 1003a33; cf. Owen, p. 169). Consequently, Owen sees a contradiction with Metaphysica ? [he is followed (without mention) by Aubenque (p. 207, n. 2) and Düring (p. 594)]. This is a fallacy, though.

The alleged contradiction would take place only if, according to ? and the related passages in Z and ?, the elements of substances were indirectly the elements of the other categories too, and in this way all beings had the same elements. But this is not the intention. The result is, in ? (1003b16-19) as well as in Z (1028b6-7) and ?, that "substance is the subject of our inquiry" (1069a18). As the superior sphere of being does not predetermine the properties and elements of the inferior one (of the sensible qua sensible), so the elements of substance are not the elements of quality as such and quantity as such or vice versa. It is the very objection against the Academic doctrine of principles that the alleged elements of substance are elements of quantity (1020a23-25), and even relatives (1088a21-22).

992b24-993a2

(1b) Analytica Posteriora 71a1-11. 99b28-30. Topica 141a28-30. Ethica Nicomachea 1139b25-31.

992b25-26

(3) For the construction of the clause cf. ll. 29-30. Literally: "in such a manner that it is possible to preexist knowing nothing before". ?? refers to ??? in l. 24. Cf. Ethica Nicomachea 1099b21-22 and Plato, Phaedrus 233c.

992b29

(1c) Res publica 534e. Sophista 235c.

992b30-33

(1b) Analytica Posteriora 71a1-9. Ethica Nicomachea 1139b26-29.

992b33-993a2

(1c) Meno 81c-d.

993a15

= 31 A 78 Diels/Kranz

993a17-24

(1b) De Anima 408a13-21.

993a17-22

(1d) Alexander, In Metaphysica, 135, 10-25:

???

?? ????? ?????? ?? ????????????, ???????????? ???????? ???????? ??

?????? ???? ??? ????? ?????? ?????, ?? ???? ??? ????? ? ??? ??? ???

????? ??? ???? ?????? ???' ????? (?? ??? ??????? ????????), ?????? ??

?? ?? ???? ?????? ??? ???? ?????? ???? ?????????, ?????

? ?? ???? ??????? ?? ????????? ????????

??? ??? ??? ???? ?????? ???? ???????? ??????,

??????? ?' ?????????? ?? ?' ????? ????' ????????.

?? ?? ???? ?????? ???? ??? ?????, ???????? ???? ?? ????? ??? ?? ?? ??

????? (????? ??? ????? ? ?????), ?? ?????? ????? ???' ?????, ????? ?? ???

?? ????? ??? ?? ????? ??? ?????? ??? ?????, ???? ???? ????, ???? ???

????? ??? ?? ????? ?? ?????? ? ??? ??? ?????? ?? ????? ??? ? ????? ?????? ???

??????? ????? ? ?????, ? ??' ???????. ??? ??? ??? ????? ??? ??? ?? ?????

? ??????? ?? ???? ????, ??? ????? ????? ?? ??? ?? ???? ?? ?? ??

?????? ?? ?? ???? ??, ???? ? ?? ??? ???' ????? ???? ???? ????? ? ????,

?? ??????? ?? ??? ??????? ???????? ? ????? ???? ????.

"([As evidence] that they did not say these things distinctly he mentions Empedocles, who said that bone is bone by reference to its formula but not by reference to its matter; for according to him the matter is common to the other things as well (for it is the four elements), but he says that bone comes to be in the qualitative and quantitative blending of these elements. His words are:

The kindly earth received in its broad funnels two parts of gleaming Nestis out of the eight, and four of Hephaistos.

So arose white bones.

But if, according to him, bones owe the fact that they are bone to their formula, i. e. to their form and essence (for this is what the formula is), it is clear that flesh too, and sinew, and each of the other things that are, such as stone [or] wood, has its being by reference to its formula and form; for it is either in all cases or in none that the form and the formula are responsible for each thing's being what it is. For it is because of the formula and the form that there is a difference among the things that are, and that one of them is this particular thing, flesh, another this particular thing, bone, and another this other particular thing, since the matter at least is, according to him, the same for all the things that are, as we have stated; for the four elements were his material principle.")

(2) Alexander is constantly misinterpreting ????? as "formula", instead of "proportion", what is evidently meant by Aristotle (Dooley, p. 178, n. 384). Also in the verses cited by Alexander it is about a proportion.

Book ?

993a30

(1a) 993b19-23. 983b2-3.

(1b) De Caelo 271b5-6. 298b12-13. De Generatione et Corruptione 325a17.

993b5

(1d) Alexander, (In Metaphysica, 140, 15-18) tells us that the proverb "Who would fail to hit a door?" "is taken from the archers who shoot at a mark; for these do not easily hit it, if it is narrow, whereas they all hit it, if it is broad".

993b6-7

See vol. i, pp. 101-102.

993b7-9

(1a) 1029b4-5.

993b9-11

(1c) Res publica 511e.

993b15-19

(1b) De Sophisticis Elenchis 183b28-34.

993b19-23

(2) "Philosophy" is identified here with "theoretical science". Contrarily, in E, 1026a18-19 it is implied that there are also practical (and even "productive") "philosophies"; "philosophy" being simply = ??????? ("thought") in 1025b25.

993b24-26

(1a) 1028b19 ?????? ???? (see vol. 1, pp. 172-173)

(1b) Analytica Posteriora 72a29-30. Ethica Eudemia 1217b8-11.

(1c) Res publica 515d2.

(1d) Iamblichus, Protrepticus, 57, 12-16 Pistelli: see note on 1048b37-1049a18.

Simplicius, In De Caelo 289. 2-4 (= De Philosophia fr. 16 Ross):

??????? ???, ?? ??? ???? ??

???????, ?? ??????? ???? ?? ??? ???????? ???? ??? ???? ?? ???? ???? ????

????? ???????, ????? ??? ?? ??? ???????, ???? ??? ?? ?? ?????.

("In general, where there is a better there is a best. Since, then, among existing things one is better than another, there is also something that is best, which will be the divine.")

994a4-5

(3) In animal bodies,flesh represents the dry (as blood the humid). It takes its origin, via earth and air, from fire as the most dry. So we have an example of the principle established in 993b24-26.

994a6-7

(2) Ross i 216: "The reference to Strife shows that Aristotle is taking an illustration from the cosmology of Empedocles. According to this, the sun was ????? ???????? ???? (["a vast collection of fire"] Diogenes Laertius viii. 77). I. e. it was formed by Strife, which leads to the segregation of the elements from each other and the aggregation of each together. The same impulse which formed it was doubtless thought to give it its motion. And the sun in turn, being fire, acts on the other elements (cf. A. 984b6, 985b1), and in particular on air (Aetius ii. 8. 2)."

In Aetius' Placita ii. 8. 2 (= Diels, Doxographi Graeci, p. 338, 5-9) we read: ?????????? ??? ????? ???????? ?? ??? ????? ????, ??????????? ??? ???????, ??? ?? ??? ?????? ????????, ?? ?? ????? ????????????, ???' ? ??? ??? ???? ??????. ("Empedocles [said] that the air yielding to the impetuous force of the solar rays, the poles received an inclination, whereby the northern parts were exalted and the southern depressed, by which means the whole world received its inclination.")

994a22-24

(1a) 1023b6-7. ? 24.

994b12-14

(1b) Ethica Nicomachea 1094a18-22.

994b16-20

(1b) Analytica Posteriora 82b34-83a1.

994b20-23

(1b) Analytica Posteriora 72b5-11.

994b29-30.

(1a) 981a28-30

994b32-995a3

(1b) Ethica Eudemia 1216b26-35.

995a12

(1b) Ethica Nicomachea 1122b8: ? ??? ??????????? ???????????. ("for nice calculation is a niggardly thing.")

(1c) Theaetetus 184c.

Book B

995a27-b4

(1b) Ethica Nicomachea 1145b2-7.

995a30-33

(1b) Ethica Nicomachea 1146a24-27.

995b2-4

(1b) De Caelo 279b7-12. De Anima 403b20-24.

995b10-13

(1a) 1004a2-6.

995b18-20

(1a) 1025a30-32.

995b20-25

(1a) 1003b22-1004a2. 1004a9-b4. 1004b27-1005a18. 1054a29-32.

995b27

(1a) 1004b3. 1055a19-20.

996a6

(1a) 998b9-10. 18-21. 1001a9-12. 29-b1. 1003b22-33. 1060a36-37. 1061a15-18.

996a20-21

(1a) 1059a22-23. 1061a19. 1078b26-27.

(1b) Analytica Priora 24a21. 48b4-5. 50a34-35. 69b8-15. Analytica Posteriora 75b12-13. Topica 105b5. 23. 31-37. 110b17-28. 155b31. 156b11. 162a2; 18. 163a2-3; 18-19. De Sophisticis Elenchis 171a36. 174b37. Physica 251a30. De Anima 427b5. Ethica Nicomachea 1129a13; 17. Ars Rhetorica 1397a7-19. 1405a12. 1410a20. 1418b4.

(3) Even more explicitly contrariety of the objects is made the condition for the unity of a science in K, 1059a22, whereas in the passages indicated under 1b it is only asserted that sciences do not have to be different because of this contrariety. Therefore Alexander holds the premise used here to be false: "For nothing prevents certain things which are not contraries from belonging to the same science; for example, the objects of geometry are not contrary to one another." (181, 16-17: ?? ??? ????????? ????? ????? ? ???? ???????? ??? ?? ????????? ?? ??? ???? ?? ???? ?????????? ??????? ????????.)

Likewise Thomas Aquinas (Sententia Metaphysicae, liber 3 lectio 4 numerus 2), who is almost indignant about the "frivolity" of the argumentation: "Quae quidem ratio si secundum superficiem consideretur, nullius videtur esse momenti. Videtur enim procedere ex destructione antecedentis, ac si sic argumentaretur: si principia sunt contraria, sunt unius scientiae: ergo, si non sunt contraria, non sunt unius scientiae." And he continues (Sententia Metaphysicae, liber 3 lectio 4 numerus 3): "Posset ergo dici, quod philosophus in his disputationibus non solum probabilibus rationibus utitur, sed etiam interdum sophisticis, ponens rationes quae ab aliis inducebantur. Sed non videtur esse rationabile, quod in tanta re tantus philosophus tam frivolam et parum apparentem rationem induxisset."

No offense is taken (negligently) by the modern commentators: Schwegler (iii 119), Bonitz (p. 139), Ross (i 227), Reale (p. 802).

Thomas' analysis ("destructio antecedentis") leads us to the following historical explanation. Aristotle's argumentation is of dialectical nature: In the new situation which has come about after the unity of ontology has lost the foundation which it had in ? (see the comment on 1004b22-1005a8), he maximally and provocatively increases the probability that now ontology will no more be possible.

The conditions for the unity of a science are discussed in Topica 110b17-25, 163b37-164a2 (cf. note on 1059a28-29) and Analytica Posteriora 87a38-39.

The second premise, that the principles are not contrary, is in contradiction to ?, 1005a3-4 (cf. vol. 2, p. 72).

996a21-b1

An interpolation, see vol. 2, pp. 55-56. With this, the reproach about ll. 21-22, made by Alexander (182, 38-183, 2: ????? ?? ?? ?? ???? ????? ???????? ??? ????? ?????? ?? ??? ?? ?? ???? ??? ????????? ?? ????? ???? ?? ?????, ??? ????? ??? ????? ???? ?? ???? ?????? ??????? = "There seems to be, in turn, a fallacy in this line of argument.For, even if not all the causes pertain to certain of the objects of science, it will not follow that it does not belong to one science to know about all") and Bonitz (p. 140: "In altera argumentatione quoniam a particulari ad universale fit conclusio, omnis desideratur concludendi necessitas."), becomes irrelevant: it does not be a "second argument" at all.

996a21-22

(1a) 1005a3-4. 1059a22-23.

(1b) De Generatione Animalium 742b33-34.

996a28-29

(1a) 985a9-10. 1072b1-3. 1078a31-b6. 1091a32-33.

(1b) Ethica Eudemia 1217b2-3.

(3) The (Platonic) "good-in-itself" is the causa finalis in the sphere of "unmovable things". Note the difference to A, 985a9-10 and N, 1091a32-33, where Aristotle identifies himself with those who use this term.

996a32-b1

(3) When Aristotle calls Aristippus "sophist", it seems that, in the present context, we must not think of Protagoras' theory of knowledge (Ross i 228), but of the general practicism of the sophistic. The reproach of 'uselessness' was made not only by the Cyrenaics (Diogenes Laertius ii 92). In Plato's Gorgias (484c sqq., 487c; cf. 515a and 519c), Callicles, as politician, is clearly distinguished from Callicles as Sophist. In Protagoras 318d-e, the Sophist says that it shall not be with his scholars as with those of other Sophists (Hippias), who "abuse young men, steering them back again, against their will, into subjects the likes of which they have escaped from at school, teaching them arithmetic, astronomy, geometry, music and poetry": by him they shall only be taught what suits their purpose: "What I teach is sound deliberation, both in domestic matters - how best to manage one's household - and in public affairs - how to realize one's maximum potential for success in political debate and action."

996b5-8

(1a) 983a26-32. 1043a29-33.

996b14-18

(1a) 1031b20-21.

996b18-22

(1b) De Anima 413a16-20.

996b26-33

(1a) 997a20-21.

(1b) Analytica Posteriora 77a26-31. 88a37-b1.

(2) Heath (p. 202): "'Common opinions' is in Aristotle an alternative term for 'axioms'. Elsewhere he calls them ????? simply (1061b18). We recognize here the same idea as in Euclid's term for axioms, 'common notions' (?????? ???????)."

997a5-9

(1b) Analytica Posteriora 75a39-b2. 76b11-16.

997a25-30

(1b) Analytica Posteriora 75a42-b2. Physica 193b26-28. Ars Rhetorica 1355b29-31.

997a31-32

(1a) 1025b10.

(1b) Analytica Posteriora 90b29-33.

997b3-12

(2) Madigan, p. 55: "Further, a Platonist might distinguish between Aristotle's understanding of eternity as infinite temporal duration and Plato's understanding of eternity as a completely atemporal way of existing; cf. Timaeus 37d-38b and Cherniss (1944: 211-13). But there is at least a question as to whether these replies carry the difference between Forms and perceptibles to the point where the Forms are no longer intelligible as principles or causes of perceptibles. Aristotle raises a similar objection at A 9, 991a8-14, and M 5, 1079b12-18. At Parmenides 133a-135a Plato seems to be concerned about a view that rules out any connection between the Forms and the things of our world."

997b5-9

(1a) 1040b30-34. 1086b7-10.

997b6-7

(1a) 990a18-22. 1080b16-20.

(1b) Physica 203a8-9. De Caelo 278b18-24.

997b8-12

(1a) 990a34-b2. 1040b29-32. 1086b7-13.

997b8-9

(1a) 1040b30-1041a3.

997b15-16

(1a) 1073b3-8.

(1b) Analytica Posteriora 78b39-79a2. Physica 194a7-12.

(1c) Res publica 529c-530c.

997b32-998a4

= 80 B 7 Diels/Kranz

998a2-4

(2) Heath (p. 204): "We know that the Epicureans and Sceptics objected to the whole of mathematics on the very same ground, namely that no mathematical points, lines, or planes exist in nature. No doubt it was on the same lines that Protagoras argued."

998a5

(1b) Physica 228b15.

(1c) Timaeus 39a.

(2) The 'spirals of heaven' "are no doubt the spirals into which, according to Plato, the independent circles described by the planets are 'twisted by the circle of the same'" (Heath, p. 124).

998a7-9

(1a) 1076a33-34; 38-b11.

998a7-9

(1a) 1076a32-35.

998a15-19

(1a) 1076a38.

998a20-999a23

(2) According to Krämer (1973, p. 151), the alternative discussed in B 3 reflects the antithesis of "generalizing philosophy of Ideas and mathematicizing elements-metaphysics", i. e. "of the Socratic and the Pythagorean components of Platonism".

998a20-b3

(2) Madigan, p. 68: "At Philebus 18b-d Plato distinguishes a one (spoken sound), an indefinite many (particular or token spoken sounds), and, between the two, the letters and groups of letters (spoken sound types). The way to understand spoken sound is to work out the types that lie between spoken sound in general and the indefinitely many tokens or instances of spoken sound. The threefold distinction of basic one, indefinitely many instances, and definite kinds is more sophisticated than the twofold distinction of kinds and constituents found in the present argument, but the two texts agree that spoken sound is not to be understood simply in terms of the kind or genus spoken sound."

998a28-32

(1a) 1014a31-35.

(1b) Physica 187a26. 204b33. De Generatione et Corruptione 322b1-2. 328b31-32. 329a16. 26. De Partibus Animalium 646a13. De Generatione Animalium 715a11. 736b31.

998b9-11

What is rejected here is presupposed in ?, 1003b21-22.

998b16

(1c) Sophista 229d.

998b17

(1a) 999a21. 1069a27. 992b12. 1038b16. 35-36.

998b20

(1a) 1070b7. 1059b27. 1060b3.

(1b) Topica 127a20-25.

998b21

(1b) Topica 127a27-28.

998b22-999a16

(2) The thesis that "the species predicated of individuals seem to be principles rather than the genera" (999a15-16) is ascribed to Xenocrates by Hans Joachim Krämer (1973, pp. 149-151), on the basis of a recently discovered Xenocrates fragment (Krämer, p. 131). Xenocrates' argument was (Krämer, p. 134):

1. The relation of species and genus corresponds the one of part and whole.

2. The part has a natural priority over the whole.

3. The species has a priority over the genus.

For the first premise, Krämer (pp. 138-139) refers to the "prehistory of the Aristotelian term ???????" (cf. our note on 987b2-3) and, "above all", "the characterization of the ???? ["species"] as a kind of ???? ["parts"] within the system of the genus" (Timaeus 30c, Politicus 262b, Philebus 12e. 14e); for the second one (p. 137) to Pseudo-Aristotle, De lineis insecabilibus 968a10-11 (= Xenocrates, fr. 42 Heinze: ?? ?? ???? ??????? ??? ???? ??? ????? = "the parts are prior by nature than the whole") and (p. 140, n. 90) to "Old Academic evidences": Divisiones Aristoteleae, codex Marcianus, divisio 65, p. 64, 22-24 Mutschmann (??? ?????? ???????????? ?? ???? ??????????, ??? ?? ???? ?? ????? ????? ?????? ?? ????? ????? = "the part being abolished, the whole is abolished; but the whole not existing, there is nothing to prevent the part from existing"), Aristotle, Topica Z 150a20-21 (??? ????? ????? ????? ?????? ?? ???? ?? ????? = "the parts existing, nothing prevents the whole from not existing").

(3) To the evidences for the first premise, there can be added Theophrastus, Metaphysica 10a4-5: ???' ??????? ??? ????? ? ????? ("taking each species or part by itself").

998b22

(1a) 1045b5. 1053b21. 1059b27-34. 1070b7.

(1b) Ethica Nicomchea 1096a19.

998b24-27

(1a) 1070b7.

(1b) Topica 144a32. 121a16. 127a28.

998b22-28

(1a) 1037b18-22. 1045b2-7.

(1b) Topica 127a28-34.

998b30-999a12

= Xenocrates fr. 122 Isnardi Parente

999a6-10

(1a) 1019a1-4.

(1b) De Anima 402b5-8. 414b28-32. Ethica Nicomachea 1096a17-18. Ethica Eudemia 1218a1-3. Politica 1275a34-38.

999a13-14

(1b) Categoriae 14b4-5.

999a26-29

(1a) 1060a4.

999b3

(1b) Analytica Posteriora 87b28-88a7.

(1c) Theaetetus 151d-186e.

999b17-20

(1a) 1043b18-21. 1060b26-28. 1070a13-15.

999b20-23

(1a) 1034a5-8. 1058b5-10. 1074a33-35.

999b24-27

(1a) ? 4.

999b26-27

(1a) 1086b32-37.

(1b) Analytica Posteriora 77a5-9.

1000a5-9

(1a) 1000b20-1001a3. 1060a27-36. 1075b13-14.

(1b) Analytica Priora 46a3-27. Analytica Posteriora 71b19-25. De Caelo 306a9-11.

1000a7-8

(1a) 1075b13-14.

1000a29-30

(1a) 985a28.

1000b2-3

= 31 B 36 Diels/Kranz

1000b5-9

= 31 B 109 Diels/Kranz

1000b14-16

= 31 B 30 Diels/Kranz

1000b18-20

= 31 A 52 Diels/Kranz

1001a4-8

(1a) 987a14-19. 1040b16-19. 1045b4-7. 1053b9-1054a19. 1060a36-b3. 1088a2-6.

1001b7-13

= 29 A 21 Diels/Kranz

1001b13-19

(1a) 1075b27-30.

(1b) Physica 231a24-26.

1001b19-25

(1a) 1080b7-12. 1081b31-32. 1090b32-1091a5.

(3) Cf. our note on 992a10-13.

1001b26-28

(1a) 1090b5-7.

1002a4-6

(1a) 1028b15-18.

1002a8-12

= 58 B 8 Diels/Kranz

(1a) 1028b15-18. 1090b5-7.

(1b) De Caelo 298b33-299a1.

1002a15-18

(1a) 1036a9-12.

1002a20-25

(1a) 1048a32-35. 1048b4-6. 1039a3-11.

1002a28-34

(1a) 1060b17-19.

1002b13-14

(2) Madigan (p. 132): "? ??????? ???? is equivalent to ?? ???? ? ???????, "the Forms which we posit" (v. Smith, §§ 2536-2537, Kühner/Gerth, § 556). The phrase can be assigned most naturally to the same semantic field as the expressions

1059b6-7 ?? ?????????? … ???????

988a35-b1 ?? ?? ???? ????????

1090b20-21 ???? ?? ??? ????? ??????????, cf. 1090a16 ?? ??? ??? ????????? ??? ????? ?????

Topica, 113a28 ???? ?????????? ????? ?????,

143b24 and 154a29 ???? ???? ?????????? ????? ?????, 143b31 ?? ??? ????? ?????????.

1002b22-25

(1a) 987b17.

1002b27-28

(1a) 989a30-33. b4-6.

(1b) De Generatione Animalium 769a35-b2.

1003a2-5

(1a) 1071b22-26.

1003a8-9

(1a) 1038b23-27. 1038b34-1039a3. 1053b16-21. 1060b19-23.

1003a12

1a 1033b22.

(1d) Alexander, In Metaphysica, 56, 30-31:

?? ??? ???????, ???? ???? ??

???? ??? ?????????.

("each thing being one since it is a 'this' and definite.")

Alexander in Simplicius, In Physica 455, 6-8:

??????? ??? ??????? ??????? ??? ??? ??? ???? ??? ??? ???

?????????, ??? ???? ???????, ??????? ?? ?????????? ??? ?????? ????, ???

???????? ??????.

("each of the Numbers, to the extent that it is a 'this' and definite, participates in Unity, but to the extent that it is divided and is a multitude, in the Indefinite Dyad.")

(3) The doxographical reports of Alexander, which are assigned to the indirect tradition of Plato, suggest that the reality criterium of being a 'this' (???? ??) was used already by Plato; so that Aristotle's critique of the Ideas is shown to be immanent. Cf. our note on 1086b16-19.

Book ?

1003a21-22

Otherwise, the expression ?? ?? ? ?? appears only in E and K.

1003a26-27

(1b) Physica 195b21-25.

1003a28-29

(1a) 1014a26-b15. 1025b3-7. 1042a4-6. 1059b21-24. 1070a34. b2-4. 22-24.

(1c) Res publica 511b-c. Meno 81c-d. Symposium 202e.

(1d) Iamblichus, Protrepticus 38, 22-39, 8 Pistelli (= Aristotle, Protrepticus, fr. 5 Ross, pp. 32-33):

???? ???

???????? ????????? ??? ?????? ??? ??? ?????????

????? ???????? ? ??? ???????. ?? ??? ????? ???

????? ???' ?? ?????? ?? ????? ???????, ???' ??

??????? ??? ??' ??????? ????? ???????? ???

?????????? ???????. ???? ??? ??? ???' ??? ???? ??????? ????

????? ????? ?????? ?????? ??? ?????? ??? ?????,

???????? ??? ????? ?? ?????????? ??????? ???????????

??? ??? ?? ??? ? ????? ???????? ???????? ??????,

? ?????? ????????? ????? ??? ????????? ?????;

("it is far more necessary to have knowledge of the causes and the elements than to have knowledge of what follows from them; for the latter are not among the highest objects, and the first principles do not arise from them, but from and through the first principles all other things manifestly proceed and are constituted. Whether it be fire or air or number or other natures that are the causes and originals of other things, if we are ignorant of them we cannot know any of the other things. How could one recognize speech if one did not know the syllables, or know these if we knew none of the letters?")

(2) The question about "the elements of reality" is of Academic provenance: "This book [N] shows that by the elements and principles of reality Aristotle understood the doctrine of the Great and Small, or Indefinite Dyad, and the One, from which Plato derived the Ideas. This later form of Plato's speculation was upheld also by Speusippus and other Academics, in many versions, the niceties of which we need not here consider. It makes it certain that to Aristotle in his early days metaphysics was a science of the elements and principles of reality." (Jaeger 1962, p. 191, n. 2)

1003a33-34

(1a) 1030a32-b3. 1024b9-16. 1043a36-37. 1045b27-28. 1046a9-10. 1061a10-11. 1069a20-21. 1070b1-2.

(1b) Physica 200b32-201a1. Ethica Nicomachea 1096a23-29. Magna Moralia 1209a19-31. Ethica Eudemia 1217b33-34. 1236a15-29. b25-26.

(3) The ???? ?? is discordant with the ?????? in ?, 1069a20-21. It means: no series, no gradation of rank; the different meanings radially lead to the fundamental meaning ("focal meaning").

In our note on 992b18-24 we have already explained why Owen is wrong in assuming contradiction with the Ethica Eudemia. Contra Owen also Flashar (1965, pp. 228-229; 241-242) and Code (p. 322).

1003b6-10

(1a) 1061a8-10.

(3) For ???? ?????? cf. 1020a19-20. 1038b28 (cf. 1038b27-29 with note). 1077b5. 298a27-b1.

By ???? ??? ?????? generation (???????) is meant (cf. Topica 139b20 ? ??????? ????? ??? ??????, and Plato's Sophista 219b), the opposite of ?????. Therefore it is preferable not to supply ?????? to the words ??????, ?????????, ?????????, as does Ross in his translation.

For ? ???????? ? ????????? cf. De Generatione Animalium 742a30-31: ?? ??? ????????? ??? ??????????, ? ???????, ???? ?? ?????????? ???? ??? ??????????; the latter is reference point in the sense of "for the sake of which" (?? ?????, ll. 28-30).

Obviously, Aristotle has in mind the things of nature, like man and horse, the standard examples of per se concepts already in the Academic discussions (cf. note on 1011b31). Entities like the mathematical objects are, however, not excluded (cf. 1020a19-20).

1003b10

(1a) 1030a25-26.

(1c) Sophista 258c2-3.

(3) The mode of reference to Plato's Sophista is different here and in Z, 1030a25-26. In ?, Aristotle ranks himself among those who stress that non-being is non-being (?????), whereas in Z he speaks of ?????, though he is agreeing with these ?????. This difference does not permit of another explanation but that Aristotle considers himself still to be a member of the Academy in ?, no more in Z. Then the relation between ?, 1003b10 and Z, 1030a25-26 is the same as between the doublets Metaphysica A, 990b2-991b8 and M, 1078b32-1080a11 (see Jaeger 1912, p. 33).

1003b12-15

(1a) 1030a34-b3.

1003b16-17

Cherniss n. 271 (p. 363) compares 1072b13-14: The prime mover, then, is the single entity in reference to which all beings are being, all units one, all goods good. He is ????? in the strictest sense.

1003b18

(1a) 1092b9.

1003b19-22

Concerning the text see vol 2, pp. 64-66.

(1a) 998b9-11. 17-21. 22-27. 1014b6-14. 1059b24-31. 1060b34-35. 1061a12. 14.

(1b) Analytica Posteriora 92b13-14.

(1c) Philebus 17a-e.

(1d) Sextus Empiricus, Adversus Mathematicos X 274-275:

???' ???? ?? ???' ???? ??? ?? ???' ?????????? ??? ?? ???? ??, ???? ????, ??????? ?????? ??????? ????????????, ??????? ?? ?? ??? ??? ?? ??????? ??? ????????? ??????? ?? ??? ????????, ????????, ?? ??? ????? ?? ???? ??????? ??' ???? ????????? ??? ?????????.

[275] ?????? ? ??? ?????? ?? ??? ???????? (?? ??? ?? ?????? ???? ????? ????? ????), ? ?? ???????? ?? ??????? ?? ??? ???????? ????????? ????? ??? ????? ?? ?? ??? ???????? ?? ?? ??????????. ???? ??? ? ??????? ??? ? ???????? ???? ??? ??? ???????? ?????? ????? ????????, ????????? ? ????? ??????? ??? ? ???????? ?? ????? ????, ?? ?? ?????????? ??? ?? ???????????.

("But since self-existents and opposites and relatives, which are genera, are found to be subordinate to other genera—namely, the One, and equality and inequality, and excess and defect,—let us consider whether these genera also can be referred back to others.

[275] Equality, then, is brought under the One (for the One first of all is equal to itself), but inequality is seen in excess and defect; for things of which the one exceeds and the other is exceeded are unequal. But both excess and defect are ranked under the head of the Indefinite Dyad, since in fact the primary excess and defect is in two things, that which exceeds and that which is exceeded.")

(3) According to Metaphysica ?, 'being' (??) is a genus. This is in line with the fact that the ??????? fall within a genus. In ?, the genus is the sphere of being which is composed of the contraries, see the comment on 1005a3-4. So the two offensive doctrines proper to ?, that being is a genus (implied also in K, 1060b34-35 and 1061a12. 14. For parallels see vol. 2, p. 155), and that all beings consist of contraries, are related to each other; confirming one another, they confirm the special status of Book ? (cf. vol. 2, pp. 72-77).

Alexander's excuse is: "He is using 'genus' in a more general sense, in place of 'one nature' [cf. 1003a34]" (245, 3: ?????? ??? ?????????? ???????? ???? ??? ?????? ????). [Likewise Bonitz (p. 175: "generis nomen latius extendit") and Reale (p. 840: "in senso lato".] In the same way Alexander makes do in his comment on 1020a17-26. He is disregarding the fact that elsewhere the same assertions (being is a genus, the mathematical objects are substances), in the same wording, are cited by Aristotle as opinions of others, i. e. that the meaning of the terms in question is already fixed. Nobody, after all, would speak of "categorical imperative", if he meant by it something else than Kant. Moreover, if "genus" is supposed to mean something else with regard to being than with regard to the sounds, the comparison ceases to be forceful as an argument.

Our citation from Sextus Empiricus shows the concordance with Academic doctrine.

1003b22-1004a2

(1a) 1054a 13-19.

1003b 22-24

(1b) Topica 121b7. 127a27.

1003b32

(1a) 1044a7.

1003b33-1004a2

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(1a) 1054a29-32. 1084a31-36.

1003b33-36

(1a) 995b20-24. 1021a9-12. 1054a29-32.

(1b) Physica 200b32-201a9.

(2) Thomas Aquinas (Sententia Metaphysicae, liber 4 lectio 2 numerus 14): oportet quod tot sint species entis, quot sunt species unius, et sibi invicem respondentes. Sicut enim partes entis sunt substantia, quantitas et qualitas etc., ita et partes unius sunt idem, aequale et simile. Idem enim unum in substantia est. Aequale, unum in quantitate. Simile, unum in qualitate.

(3) Aristotle does not say that the species of being are identical with the species of unity, but that they are equal in number. Comparison with 1021a9-12 shows how this is meant: to the species of unity identity, similarity, equality there correspond the species of being substance, quality, quantity. The same occur also in Physica 201a8-9, where the sentence construction is quite analogous to 1003b33-34. In the Physica passage, the ??? ("where" in Categoriae 1b26, = ?????, "place" in Physica 200b34) is added, following the assumption that all beings are somewhere (Physica 208a29-31). According to De Caelo 275b9-11 (cf. Physica 203a8-9), however, nothing intelligible is at a place; agreeing with this, the ??? is leaved out here.

1003b33

(1a) On the expression ???? ?? ?? cf. 1007a20-33. 1045a36-b7. 1091b25. 27.

1003b35-36

The correct text runs: ???? ?????? ??? ?????? <??? ????>, see vol. 1, p. 125.

(1a) 1021a9-12. 1054a29-32.

(1b) Categoriae 6b20-24. Topica 151b28-152b35.

(1c) Sophista 259d. Protagoras 329d. 331b. 349c.

(3) The mentioned "species of unity" (ll. 33-34), represented by identity (??????) and ??????, are quoted among the "????????? ("attributes") of being as such" in 1005a14-15. By some Plato interpreters, they are called "meta-ideas"; in Aristotelian language, they are primarily ????????? of the Ideas.

As appears from the parallels in ? and I, the choice of the three concepts ??????, ??????, ???? is not arbitrary; they, so to speak, form an inseparable and self-contained group, and as such they occur already in Plato's Sophista (259d). Their original field of application is dialectical discussion, which is dealing with abstracta like ??????? and ????? or the ????? of the natural philosophers (Topica 152b17-24), not with individuals, as Alexander and others are steadily presupposing. Who on the earth is doubtful about whether this man is identical with this horse or not (cf. Categoriae 2a11-14)? It is about whether the ??????? is identical with the ????? or not that people can dissent.

1003b36-1004a2

(3) Reduction of the sensible contraries to excess and defect occurs in 1042b21-25 and 30-35.

1004a1-2

(1a) b33. 1054a30-31.

(1b) Analytica Priora 46a16-17 (where we should read ???' ??????? ?? <???> ????????). Analytica Posteriora 98a1-2. Topica 105b12-15.

(1d) Alexander, In Metaphysica, 250, 17-20:

????????? ?? ???? ???? ??? ?????? ??? ?????? ????? ?? ??????? ?? ??? ????? ???????? ?? ?? ?? ??? ?? ?????? ??? ??? ??????? ??? ????????, ?? ???? ???? ?????? ????????????????. ?????? ?? ???? ??? ???????? ??????? ??? ?? ?? ??????? ???? ???????.

("Concerning the knowledge that almost all the contraries are reduced to one and plurality as a principle, Aristotle refers us to the Selection of Contraries, where he specifically treated of these; he has also spoken concerning such a selection in the second book of On the Good.")

1004a2-9

An interpolation, see vol. ii, pp. 66-67. It contradicts 1026a6-22, see comment on this passage.

(1a) 1026a18-19. 1069a30-36.

1004a2-6

(1a) 995a10-13.

1004a2-3

(1a) 1069a30-b2.

(1b) Physica 198a29-31.

(2) Mansion (p. 191): "The «philosophy» which is divided into primary philosophy and secondary philosophy is not the metaphysics of being as such". This confirms the opinion that the paragraph 1004a2-9 is "an erratic piece" (Mansion, p. 192). Likewise already Colle (III, pp. 52-53).

(3) This critique cannot be met by referring to 1003b17-17 (Reale 1994, pp. 115-116); for in what follows (1005a35) ontology is identified with one of the sciences which treat of the "entities", the science of the "primary entity".

1004a3-4

(1c) Philebus 59c.

1004a6-9

(1a) 1026a23-32.

1004a9-10

(1a) 1004b27-1005a6. 1055a31-33. 1059a21-23. 1061a18-24.

(1b) Topica 105b33. 109b17. 142a24-25. 155b30-32. 163a2-3.

(2) Zeller (II/2, p. 218, n. 2): "The foundation of this proposition lies mainly in the fact that, of opposites, one cannot be known without the other. This has different causes in different cases: in contradictory opposition, it arises from the negative concept Non-A immediately presupposing and containing the positive one A; in correlative concepts it arises from their mutually presupposing one another; in contrary opposition, and in ???????? and ???? (so far as that applies here) it arises because the knowledge of the opposed specific difference presupposes that of the common genus."

1004a10-16

(3) Recognized by Jaeger (see his edition, p. 62 and our vol. 2, p. 70) to be an interpolation. Here there occurs the Aristotelian substrate concept (ll. 15-16 ?????????? ??? ?????) which does not accord with the Academic doctrine of contraries. Therefore Happ (p. 448) thinks that this passage, combined with 1004b27 and K, 1061a18-28; 1063b17-19, be suitable for refuting Merlan's view that Aristotle in Metaphysica ?/K be still a partisan of the said doctrine. This can be conceded only for the first passage, which is, however, interpolated; in the other ones, there only occurs the term "privation" (????????), which does not necessarily bring with it the substrate concept, as Happ believes: it is present in the Categoriae, the doctrine of which even excludes hylemorphism.

1004a13-16

(1a) 1055b7-11.

1004a22

(1b) Physica 248b19-21.

1004a31-33

(1a) 995b20-25.

1004a34-b4

(1a) 995b25-31. 997a25-34.

1004a19

(1a) 1055b28.

1004a24

(1a) 1003b12-15.

1004a 28-31

(1a) 1055a35.

1004b2-3

(1a) 1026b17-18.

(1b) Categoriae 2a3. Topica 102b23. 160b26-27. De Sophisticis Elenchis 165b38. 169a22-25. 178b39-179a1.

(1c) Euthydemus 283b4-d6.

(2) Shields (p. 347) reconstructs (from 179a26-b6, see n. 7 on p. 368) "the spurious inference from:

(1) Socrates and Socrates seated are one and the same.

(2) When seated-Socrates stands, seated-Socrates goes out of existence.

to

(3) So, when seated-Socrates stands, Socrates goes out of existence."

1004b3

(1a) 1055a19.

(1c) Protagoras 332a-c.

1004b5-6

(1a) 1054b15-16. 18-22. 25. 1055b9-11. 1056a20-22.

1004b5-8

(1a) 997a25-34. 1026b14-21.

1004b10

(1a) 1026b14-21.

1004b10-15

(1a) 1020a19-20. 24. 1020b9. 17-18. 1021a9.

1004b17-26

An interpolation, see vol. ii, pp. 68-69.

1004b18-19

(1b) De Sophisticis Elenchis 165a21-23.

1004b19-20

(1b) Analytica Posteriora 77a31-32. Topica 101a36-b4. De Sophisticis Elenchis 172a27-30. Ars Rhetorica 1354a1-3. 1355b26-35.

1004b23-25

(1b). Ars Rhetorica 1355b17-21.

1004b25-26

(1b) Analytica Priora 46a3-10. Topica 100a25-b25. 105b12-15. 161a24-33. 162a15-18. De Sophisticis Elenchis 171b3-7. Historia Animalium 497a31-32. 525a7-9. 566a13-15. Ethica Nicomachea 1107a32-33. Ethica Eudemia 1228a28-29.

1004b26

(1b) ? ?? ????????? ?????????, ???? ?' ?? corresponds word for word with De Sophisticis Elenchis, 165a21 and 171b33-34.

1004b27-1005a8

Another interpolation, see vol. ii, p. 69 (where it is overlooked that ??? ??? ????? occurs already in l. 8).

1004b27-1005a2

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1004b27-29

(1a) 992b7. 1055b26-29.

(1b) Categoriae 14a19-25. Topica 142a19-21. 147b5-6. Physica 201b19-27. 226b15-16. De Caelo 286a26-28.

(1d) Sextus Empiricus, Adversus Mathematicos X 271:

??? ?? ???' ?????????? ?????? ??????, ?????? ????? ??????, ?? ???? ??? ?? ??????? ?? ??????? ??? ? ?????? ??? ????????????? ????????? ?????, ???? ????? ??? ?? ??????? (?? ??? ?????????? ?? ?????? ??? ?? ?????), ???????? ?? ?? ????????? (?????????? ??? ?? ?????? ??? ?? ?????).

"But of the opposites the equal and the unequal are, they [the Pythagoreans] said, the principles and hold the rank of genus; for in them is seen the nature of all the opposites, - that of rest, for instance, in equality (for it does not admit of the more and the less), and that of motion in inequality {for it does admit of the more and the less)."

The view that equality "does not admit of the more and the less" (Aristotelian usage, cf. Categoriae 6a24. 6b25. 10b26. 11a4. 11b1-7. Ethica Nicomachea 1155b13-14) is opposed to Categoriae 6b22, where Aristotle is following the common usage: it is spoken, indeed, of "approximately equal" quantities (?????? ???, Metaphysica 990b4; De Sensu et Sensibilibus 442a19). This may explain why he substitutes equality and unequality by unity and plurality.

(2) Thomas Aquinas (Sententia Metaphysicae, liber 4 lectio 4 numerus 10, on 1055b26-29): "Quod autem omnia contraria reducantur ad unum et ens, ostendit quidem primo quantum ad ens hoc modo. Inter duo contraria, quae a philosophis principia ponuntur, ut in primo habitum est, semper unum quidem est alteri correlativum, et ei coordinatum est, ut privatio. Quod ex hoc patet: quia semper alterum contrariorum est imperfectum respectu alterius, et sic quamdam perfectionis privationem alterius importat. Privatio autem est quaedam negatio, ut dictum est supra; et sic est non ens. Et sic patet quod omnia contraria reducuntur in ens et non ens."

(3) By "unity" and "plurality" is not meant the opposition of indivisible and divisible (cf. 1054a23-26, on the text see vol. 1, pp. 249-251), but that in which unity and plurality are opposed as possession (????) and privation (????????), i. e. occur in the same "subject" (1004a15-16) or "receptivum" (????????, Categoriae 12a27-28). This receptivum is identical with what consists "of the contraries" according to 1005a4. It is the substances, surely not, as in the Categoriae (4a10-11), the individual substances, but the substances in the sense of "spheres of being"; these consist, according to Academic doctrine, of contraries as of their "elements" (????????): the Ideas, considered to be numbers, consist of the equal and unequal (cf. Categoriae 6a26-27).

There is no getting away from the conclusion that, in Metaphysica ?, Aristotle is representing the doctrine of Ideas. Cf. the notes on 1003b10, 1003b35-36, 1009a36-38.

The deduction of the concept motion from the concept non-being is rejected in Physica ? (201b16-24). Eudemus in Simplicius (In Physica 431, 8-9) testifies that this deduction is Platonic:

?????? ?? ?? ???? ??? ?????? ??? ?? ?? ?? ??? ?? ???????? ??? ??? ??????? ??? ????? ????? ??? ??????? ?????.

("Plato says motion to be the great and small, the non-being, the irregular [cf. Timaeus 52e], and what comes down to the same.")

If we apply Categoriae 14a19-25 to our passage, the result is that being and unity are genera (cf. our note on 1003b19-22).

1004b29-33

An interpolation, see vol. ii, p. 70.

(1a) 1075a28-32.

(1c) Symposium 186d.

(3) The four examples in ll. 31-33 are composed of two pairs, each of them opposing principles of the Pythagoreans (odd and even, limit and unlimited) to principles of the natural philosophers.

The inclusion of the natural philosophers requires an expanded concept of contrariety, which embraces also those contraries which have an intermediate (cf. note on 1055b24-25). In contrast, rest and motion, the example mentioned in 1004b27-28, rank among the Pythagorean contraries (cf. 986a22-26), between which there is no intermediate stage. Thus, the interpolation seems to differ in doctrine from the surrounding text.

1005a3-4

(2) Alexander adds: "as the natural philosophers said" (262, 27: ????? ?????? ?? ???????); likewise Thomas Aquinas (Sententia Metaphysicae, liber 4 lectio 4 numerus 16) assumes that Aristotle is not representing his own opinion: "Sciendum tamen est, quod hoc, quod dixit, omnia entia contraria esse vel ex contrariis, non posuit secundum suam opinionem, sed accepit quasi opinionem philosophorum antiquorum".

But Merlan (p. 173) rightly stresses that "this is said by Aristotle here, not as a report on doctrines of others, but as his own conviction". "This is precisely the doctrine violently attacked by Aristotle in Metaphysica ?, ?, ?, ?. It is a doctrine in strict opposition to his form-privation-matter theory." (Merlan 165) In Metaphysica ?, Aristotle is still applying the Academic theory of principles.

Merlan's critics (Krämer 1959, p. 62, n. 24; Décarie 1961, p. 107, n.; Kirwan 1971, p. 85) do not go into this main passage, referring merely to other passages which prove nothing (except one postulates that the Corpus Aristotelicum is free from contradictions): 1005a9-10 (Krämer), 1004b29-30, 1005a1-2, 1005a7 (Décarie), 1075a28-34, 1087a29-b4 (Kirwan).

1005a8-11

An interpolation, see Jaeger's edition.

1005a10-11

(1b) Physica 226b34-227a6. 231a23. b8-9.

1005a16-18

(3) In the Divisiones Aristoteleae (65 Codex Marcianus = p. 64, 15-24 Mutschmann), species and genus, part and whole are subsumed under priority and posteriority.

1005a33-b2

(1a) 1026a23-32.

1005a35

??????? … ??????????.

(1a) 1003a24.

(1b) De Caelo 274a20-21.

???? ??? ?????? ??????

(1a) 1037a33-b4.

(1b) De Interpretatione 23a23-24.

(2) Alexander, In Metaphysica, 266, 5-18:

???? ??? ???

??? ? ?????? ????? ??? ??? ?????????, ???' ??? ? ?????. ????? ?' ??

??? ? ?? ???? ??? ?????? ?????? ???????? ??? ? ??????? ???? ?????

?????? ??? ??? ?? ????? ?? ????? ????? ??? ?????. ????????? ?? ?

???? ??????? ?????· ? ?? ??? ???? ??? ?????? ?????? ???????? ???

???? ??? ????? ?????? ??????, ??? ?? ?????? ??????? ?? ?????, ? ??

?????? ???? ??? ????? ? ?? ????????, ???? ?? ?? ??? ??' ???? ?? ???

???? ?? ?????????, ??????? ?? ???? ?????? ??? ?????? ???????, ????

?? ??? ?? ???? ???? ?? ???????? ??? ????? ??????????, ??? ??' ?? ??

????? ????. ??? ?? ?? ?? ?? ????? ?????? ?????, ?????? ??? ??????????

?????? ?? ??? ?????? ?????, ????? ??? ?? ??? ?????? ???? ?? ????? ???

??? ? ??????, ???' ?? ?????. ?? ??? ??? ?????? ?????? ? ????

?????? ??????, ????? ?? ??? ?????? ????? ??? ??????????, ??? ????? ??

?????????? ????? ?????? ??? ?????? ??? ?????? ?? ??? ??????????.

("For, while natural philosophy is a kind of wisdom and philosophy, it is not the primary kind. The primary wisdom or philosophy would be that which considers the primary substances, which considers in a universal way all substance and the things which are themselves beings by virtue of belonging to substance. The same science turns out to be primary in both ways: [i] as the science which considers primary substances it also considers all other things whose being depends on these; and [ii] as the science which considers in a general way being insofar as it is being it would (since being is among the things spoken of as derived from one thing and with reference to one thing) consider most of all this [highest] nature, to which the other things which it discusses are referred, and that from which they derive their being. That this, which he now calls general and primary philosophy, is that which he called 'wisdom' in the first book is clear from his statement 'natural philosophy too is a kind of philosophy, but not primary'. For it was to primary wisdom that consideration of these things belonged, but now he calls it 'philosophy', and he says that primary philosophy and primary wisdom, wisdom in the most proper sense, are the same.")

In recent times, Paul Natorp and Philip Merlan presented two opposite solutions, which are, strictly speaking, no solutions, both interpreters denying that there is a problem at all. Natorp (Philosophische Monatshefte 24, p. 43, n. 8) interprets the ??????? ("universal") as Alexander does, but denying that the ????? ????? ("primary substance") be a particular genus of being: "The ????? ????? ["primary wisdom"] deals with ????? in general and - what means the same - with the ????? ?????, i. e. the fundamental concept of ????? itself …". Reversely, Merlan interprets the phrase ???? ??? ?????? ?????? as Alexander does, but denying that that ??????? means "not confined to a branch": "Furthermore, the metaphysician is described as dealing with ??????? and the primary (uppermost) ?????, i. e. with being-as-such and just one part of being. Thus, everywhere in Metaphysica ? ????? as the subject matter of metaphysics means just one kind of being. Whenever he says that metaphysics deals with ?????, he means it deals with one kind of ?????. But this does not prevent him from saying that metaphysics deals with being-as-such. Metaphysica deals with what ultimately is, i. e. with ????? (or, if there are different kinds, with ??????); it deals with ????? by ascertaining its ultimate principles (elements, causes); the ultimate principles of ????? are being-as-such and its opposite (or the One and the many)" (From Platonism to Neoplatonism, p. 166).

Above all, it is questionable whether these two interpretations are grammatically possible. Natorp would be at a loss to explain how ???? ??? ?????? ?????? can mean "about entity which is the ?????? (in the sense of 1003b17-18)" ("das begrifflich Fundamentale", l. c., p. 39). Merlan cannot do without adopting Ross' (p. 262: "the student of the universal") and Jaeger's unjustified emendation <???? ??> ???????. ??????? is adverb to ??????????, being opposed to ???? ????? in 1005a29.

Irrespective of this, Merlan explains the relation between ontology and the science of the "primary entity" in a way which is philosophically plausible, agreeing with what Aristotle (Metaphysica A, 985b32-986a2 and 987b18-20; cf. M, 1086a27-28) reports as the structure of the Pythagorean and the Platonic systems: "first philosophy deals with the uppermost sphere of being and is general knowledge [= ontology], because the elements of this uppermost sphere are common to all […] spheres of being and therefore to all beings" (l. c., p. 173).

What we have to understand exactly by the "primary entity" will become clear from the passage 1009a 36-38.

1005b1-2

(1a) 995b12-13.

1005b11-17

(1c) The word ?????????? ("non-supposed") has no parallel in Aristotle; we must go back to Plato, Res publica 510b.

1005b20-22

(1b) De Interpretatione 17a35-37. De Sophisticis Elenchis 167a23-27.

(1c) Res publica 436d-e. 436b8-9.

1005b23-25

= 22 A 7 Diels/Kranz

1005b24

(1a) 1062a31.

1006a2-3

(2) Zeller (I, 830, n. 2): "Heraclitus is not indeed named, but is evidently intended".

1006a5-11

(1b) Analytica Priora 64b39-65a9. 65a7-9 = Analytica Posteriora 72b34-35. 72b5-73a20.

1006a15-18

(1b) Analytica Posteriora I. 33.

1006a24

(1a) 1008a34.

1006a25-26

(1c) Sophista 252b-c.

1006a28-31

(1c) Theaetetus 183a.

1007a27-29

(1a) 1030a3.

(1b) De Sophisticis Elenchis 170a24-26. Ethica Eudemia 1215a6-7.

1007b18-25

= 80 A 19 Diels/Kranz

1007b25-26

(1c) Phaedo 72b-c.

1007b26-29

(1a) 989b18-19. 1010a3-4. 1087a16-18.

(1b) Physica 197a9-10. 209b9. 210a6-8.

1008a28-30

(1a) 1062a36-b7.

(1d) Sextus Empiricus, Adversus Mathematicos VII, 389 (= Diels/Kranz II 111, 15-19):

????? ??? ??? ????????? ??? <??> ????? ??? ????? ??? ??? ??????????, ????? ? ?? ?????????? ??? ? ?????? [Theaetetus 171a. Euthydemus 286b-c.] ???????????? ?? ????????? ?????????? ?? ??? ???? ???????? ????? ??????, ??? ?? ?? ????? ????????? ????? ?????, ???? ????????? ???????????, ????? ??????, ??? ???? ?? ????? ????????? ????? ????? ????????? ??????.

("One cannot say that every presentation is true, because this refutes itself, as Democritus and Plato taught in opposing Protagoras; for if every presentation is true, the judgement that not every presentation is true, being based on a presentation, will also be true, and thus the judgement that every presentation is true will become false.")

1009a6

= 80 A 19 Diel/Kranz

1009a17-b1

(1b) De Anima 427a21-25.

1009a20-21

(1b) Topica 105a16-19. De Sophisticis Elenchis 165b11.

1009a36-38

(1a) 991b2. 996a7. 1001a6. 25-26. b29. 1002a28. 1076a25. 30-31. 1080a1.

(1b) Physica 189a29.

(2) Merlan (1975, p. 167): "A remarkable passage. It seems to imply, that the principle of contradiction, i. e. the assertion that nothing can be and not be at the same time, is more obvious when we turn to the supersensible sphere of being. One is almost tempted to say: being-as-such is present in the supersensible sphere in purer condition."

(3) If we want to understand this passage in the sense of ?, 1069a30-36 and 1071b3-5, the surplus ??? ????? is annoying. Ross (p. 274: "Another substance is contained among existing things") connects it with ?????, Merlan (p. 167: "We shall have to ask them to accept the existence of another sphere of being") with ??????. Both are neglecting the linguistic facts.

The phrase ????? (or ??????, or ?????) ??? ????? (or ??? ?????????) occurs on the ten passages indicated above. In all of them, Aristotle is referring to Academic doctrines, i. e. we have the same case as in 1003b19-22 and 1005a3-4, where Aristotle puts forward on his own behalf what he reports elsewhere as an opinion of others.

Cf. our note on 1004b27-29.

1009a38-b12

(1c) Theaetetus 154a-b.

1009b7-15

= 68 A 112 Diels/Kranz

1009b18-19

= 31 B 106 Diels/Kranz

1009b20-21

= 31 B 108 Diels/Kranz

1009b21-25

= 28 B 16 Diels/Kranz

1009b25-28

= 59 A 28 Diels/Kranz

1009b28-31

The passage, which is quoted also in De Anima 404a30, is not found in our editions of Homer (cf. Ilias 22, 355 ff.).

1010a1-3

=28 A 24 Diels/Kranz

1010a5-7

(2) Zeller (I, 609, n. 2): "What Epicharmus wrote about Xenophanes we cannot discover from this passage. The most natural conjecture is that he said of some opinion of this philosopher, that it might indeed be true, but that it was not probable."

1010a7-15

= 65 A 4 Diels/Kranz

1010a7

(1c) Theaetetus 157b-c. 182d-183b.

1010a22-25

(1a) 1063a27-28.

(1b) De Partibus Animalium 692b3-9.

1010a28

(1b) De Partibus Animalium 641b18-20.

1010b2

(1b) De Anima 418a11-13.

"As Plato also says": Theaetetus 178c-d.

1010b12

(1c) Theaetetus 171e. 178c.

(2) Cherniss 217: "In the Theaetetus Plato examines the hypothesis that reality consists in nothing but such process, that all things are constantly changing (179d1-5, 181b8-c2), and shows that, involving as it does continuous alteration as well as local motion, it would destroy the possibility of qualities and of sensation itself and would not only leave no room for fixed states and determinate processes but must also involve the denial of the law of contradiction (Theaetetus 181c-183b). In short the very "processes" into which all phenomenal existence is resolved by this hypothesis (cf. Theaetetus 156c-157c) imply the existence of immutable, determinate entities; otherwise it is no more possible to say that all is in motion than that all is at rest, and the phenomena which apparently have no stability at all must be supposed to be in fact most stable and certain (cf. Timaeus 49d4-e4 and 51d5-7; A. f. P., LVII [1936], pp. 452-456). Aristotle himself puts the same argument in his attack upon the relativists in Metaphysica ?, a passage which is patently influenced by the Theaetetus (cf. 1010b12 and Theaetetus 178c, 1012b13-18 and Theaetetus 171a-c, 1009b1-11 and Theaetetus 158a-e; even the "doxographical" extension of relativism in 1009a11-31 may be a "scientific improvement" upon Theaetetus 152d-e). The Protagorean doctrine is involved in the denial of the law of contradiction (1009a6-12, cf. 1008a31-34 and Theaetetus 183a)."

1010b14

(1a) 1047a4-6.

(1b) Physica 193a3-4.

1010b31-1011a2

(1b) Categoriae 7b22-8a6.

1011a4-6

(1c) Theaetetus 178b.

1011a6-7

(1c) Theaetetus 158b-c.

1011a17-18

For the expression ???? ???' ???? ("in their own right") cf.

(1a) 1076b21 ("by themselves").

(1b) De Generatione Animalium 716a1 (???? ???' ???? ????? "separately").

(1c) Timaeus 51b ("by themselves").

The singular ???? ???' ???? occurs in Z, 1037a2 and 21-22, ?, 1075a12-13.

1011a33-b1

(2) Schwegler iii 181: "????????? ??? ???????? is «switching the fingers». When I successively touch an object with two different fingers, it appears to me - i. e. to the sense of touch, without the aid of the sense of sight - to be double, the sense presents to me two objects. Cf. Problemata XXXI, 11. 958b14. XXXI, 12. 959a10 and especially XXXV, 10. 965a36, where ????????? stands for ?????????."

1011b25-28

(1b) Categoriae 2a7-10. De Interpretatione 16a9-18.

(1c) Cratylus 385b. Sophista 240d-241a. 263b.

1011b31

(1a) 1018b5-6. 1035b27-28. 1058a6. 1059b8.

(1c) "Man" and "horse" are Academic stock examples since Plato's Phaedo 78d10.

For the context to which these examples belong cf.

(1d) Hermodorus in Simplicius (In Physica 248, 2-3):

??? ????? ?? ??? ???' ???? ????? ????? ?? ???????? ???

?????, ?? ?? ???? ?????.

("He [Plato] says that of all things certain things exist by themselves, such as man and horse, and others with a relation to other things.")

Sextus Empiricus, Adversus Mathematicos X 263-265:

??? ??? ?????, ????, ?? ??? ???? ???????? ???????, ?? ?? ???' ??????????, ?? ?? ???? ??. ???? ???????? ??? ??? ????? ?? ???' ????? ??? ???' ????? ?????????? ??????????, ???? ???????? ????? ????? ?? ???? ??? ???? ?????? ??? ??????? ???????? ????????? ??? ??? ?? ???? ??? ???? ?????? ??????.

[264] ???' ?????????? ?? ???????? ??? ?? ??????????? ?????? ???? ?????? ?????????, ???? ?????? ??? ?????, ??????? ??????, ???????? ?????????, ????? ???????, ??????? ??????, ?????????? ???????, ?? ???? ??? ??????? ??????.

[265] ???? ?? ?? ????????? ?? ???? ??? ?? ???? ?????? ?????? ????????, ???? ?????? ?????????, ??? ????, ????????? ?????? ?? ?? ??? ?????? ??????? ???? ??? ?? ???? ?? ????????? ?????? ??? ?? ????????? ???? ??? ?? ???? ?? ??????, ?? ?? ???? ???? ??? ?? ???? ?? ??? ??? ?? ??? ???? ??? ?? ???? ?? ????· ??? ??? ??? ????? ?? ???????????.

("Of existing things some, they [the Pythagoreans] say, are conceived absolutely, some by way of contrariety, some relatively. Absolute, then, are those which subsist of themselves and in complete independence, such as man, horse, plant, earth, water, air, fire; for each of these is regarded absolutely and not in respect of its relation to something else.

[264] And contraries are all those which are regarded in respect of their contrariety one to another, such as good and evil, just and unjust, advantageous and disadvantageous, holy and unholy, pious and impious, in motion and at rest, and all other things similar to these.

[265] And relatives are the things conceived as standing in a relation to something else, such as right and left, above and below, double and half; for right is conceived as standing in relation to left, and left also as standing in relation to right, and below as related to above, and above as related to below; and similarly in the other cases.")

Stobaeus i 1, 3, ll. 2-8 Hense/Wachsmuth (= Stoicorum veterum fragmenta i 19, 20-24 von Arnim):

?? ?????????

???? ???? ???? ????? ???? ????, ?????? ?? ???? ???

?????? ???? ?????????? ?????? ????? ?? ??? ???

??????? ????? ???????????????. ??? ??? ???? ??

????????? ???????????? ????? ??? ?????, ???? ????????,

?????, ?????????? ?????? ?????? ??? ???? ??? ???

????? ?????? ???????? ????? ?????.

("They [the Stoics] say that the notions do not be something or of a certain quality, but presentations of the soul like something and as if of a certain quality; these be called 'Ideas' by the ancients. For the Ideas refer to the things which come under observation according to the notions, e. g. of men, horses, more generally of the animals and the other beings of which, to their belief, there are Ideas.")

(3) The categorial divisions preserved by Hermodorus, Sextus and Alexander (see note on 1018a20-25) are obviously identical in substance; for the two items ???' ?????????? ("contraries") and ???? ?? ("relatives") in Sextus fall within ???? ????? ("with a relation to other things", Hermodorus) or ??????????? ("opposites", Alexander) respectively.

The division is complete because quality (except the "differentia of substance", ??????? ??????, cf. 1020b2) has a "more and less" (?????? ??? ?????), and therefore falls within "excess and defect" (??????? ??? ????????).

Thus we get a division into

1. per se beings, which have neither a contrary nor a more and less,

2. contraries, which do not have an intermediate, and the positive members of which do not have a more and less,

3. relatives, which have both an intermediate and a more and less.

It is not a dichotomous division of the type of the arbor Porphyriana, it rather represents a descending scale of reality (cf. Sextus, X 274-275, see note on 1003b19-22):

things, the genus and principle of which is unity alone,

things, the genus of which is equal - unequal (???? - ??????),

things, the genus of which is great - small (???? - ??????).

In the middle class, unity is still present in the form of the equal, in the third class not any longer; it is the realm of indefiniteness, "the boundless sea of unlikeness" of Plato's Politicus (273d).

1012a4-5

(1a) 1027b18-19. 1051b2-5.

1012a24-28

(1a) 1063b25-30.

1012b13-22

Cf. note on 1008a28-30.

1012b22-26

(1b) Physica 253a24. 254a2.

(1c) Theaetetus 181c2.

1012b31

(1a) 1072a24-26. b7.

Book ?

1012b34-1013a23.

(1a) 1022a10-13. 1059b38-1060a2.

(1b) De Generatione et Corruptione 329a5-8. De Generatione Animalium 788a14-16. De Arte Poetica 1450b27-28.

(1c) Timaeus 48b.

1013a2-4

(1a) 1018b31-34.

1013a5

(1b) De Generatione Animalium 740a17-19.

1013a7-10

(1b) De Generatione Animalium 724a20-30.

1013a13-14

(1b) Politica 1282a3-7. Physica 194a36-b5. De Arte Poetica 1456b8-13. Ethica Nicomachea 1094a18-27. 1141b24-25. 1152b1-2.

1013a14-16

(1b) Physica 195a18-19. Analytica Posteriora 72a5-8.

1014a26-b15

(1a) 1041b31-33. 1059b21-24. 1070b22-25. 1087b13-14. 1091b12.

(1b) De Caelo 302a14-19. De Generatione et Corruptione 329a5-8.

1014a26-31

(1a) 998a23-32.

1014a27-30

(1b) De Arte Poetica 1456b22-24.

1014a27-30

(1c) Sophista 253a. Philebus 17b.

1014a31-35

(1d) Eudemus in Simplicius, In Physica, 7, 10-14:

???? ? ?? ?????? ?? ?? ??? ???????????

??? ??? ????????? ??? ?? ?????????? ????????? ?? ?? ???? ??? ?????

????????? ????? ??? ???? ???????? ??? ???????? ??? ???????????? ????? ???

????? ???????? ??? ???????? ?????? ????? ??????? ??? ???????? ?????,

?? ? ??????? ???????.

("Plato, promoting the doctrines of the Pythagoreans and the Eleatics to more clarity, duly extolled the supernatural, and, in the realm of nature and generation, he distinguished the elementary principles from the others, being the first who named them 'elements'.")

1014b2-3

(1b) Analytica Priora 44b6-7.

1014b3-4

(1a) 1059b23. 1087b13.

1014b16-17

(1b) Physica 193b12-13.

(3) ????? and ??? are etymologically related, but the direct derivation is an error. The Indo-European roots \*es and \*bhu are both used to express "being"; cf. English "be" with "is", German "bin" with "ist", Latin "sum" with "fui". The root \*bhu can, however, also mean "become, come to be", as is shown by Latin "fio". This duplicity is illustrated by Physica 193b12-13 ? ????? ? ???????? ?? ??????? ???? ????? ??? ?????, where ????? means first coming-to-be, whilst at the second time it is equivalent to "entity" (?????, cf. ???? ??? ????? with Metaphysica ?, 1003b7 ???? ??? ??????).

This coming-to-be is interpreted by the Greeks as stepping into appearance, as coming forward from darkness into light (cf. Heraclitus: ????? ?? ???' ?????????? ?????????? ?????, Diels/Kranz i 178, 8-9, where it is essential to understand ????? as opposed to ??????????, as in Sophocles, Ajax 646-647). Thus ????? gets the meaning "outward appearance" (in German: "Aussehen"), as in Homer, Odyssea 10, 303-304 (see Samuel Butler's translation: "As he spoke he pulled the herb out of the ground and showed me what it was like. The root was black, while the flower was as white as milk") and becomes equivalent to ????? or ????, so that these expressions can be used alternatively by Plato.

1014b17

For ?????????? ("pronouncing long") cf. De Arte Poetica 1457b35-1458a4.

1014b18-20

For ? ???? (likewise 11 ? ????) cf. Physica 192b13-32.

1014b26-32

(1b) Physica 193a9-17.

1014b35-1015a3

(1b) De Generatione et Corruptione 314b6-13. De Partibus Animalium 641a14-32.

1014b37-1015a3

(3) Aristotle is flagrantly misinterpreting the verses of Empedocles, the correct translation of which runs as follows:

"there is no generation ('nature' in the original sense of 'birth') in any one of the beings, but only mixing and exchange of what has been mixed; this is named 'generation' ('nature') [for the phrase ??? ???? ?????????? see Liddell/Scott, sub voce ???, III. 5] by men."

He is mislead by Plato's use of ????? in the sense of ????? ('entity'), cf. our note on 1014b16-17.

In the Oxford translation (p. 1602), the Empedocles passage is rendered in the way Aristotle understood it. For the full text of it (which is abridged by Aristotle) see Diels/Kranz i 312, 7-10.

1015a3-5

(1b) Physica 193a33-b6. Politica 1252b32-34.

1015a6-11

(1b) Physica 193a28-31.

1015a10-11

(1a) 1069b35-1070a4.

(1b) Physica 224a34-b13.

1015a20-b15.

(1a) 1026b27-31. 1064b32-1065a1. 1072b10-13.

(1b) Analytica Posteriora 94b37-95a3. De Partibus Animalium 639b21-640a6. 642a3-13. De Generatione Animalium 778b16-19.

1015a20-22

(1a) 1072b10-13.

1015a28-30

(1b) Ethica Eudemia 1223a31-32. Ars Rhetorica 1370a10-11.

1015a30-31

See Electra 248.

1015b6-9

(1b) Analytica Posteriora 73a21-23.

1015b11-15

(1a) 1072b10-13.

(1b) Ethica Nicomachea 1139b22-24. De Generatione et Corruptione 337b35-338a3. De Partibus Animalium 639b23-25.

1015b17-34

(1a) 999b33-34. 1087b33-1088a2. 1052a19-21.

(1b) Physica 223b12-224a15. 227b3-14.

1015b34

(3) Disjunction ????? - ????? - ???? as in 1020a19, Physica 228a8.

1016a17-20

(1a) 1015a6-11. 1049a24-27.

1016a24-28

(1a) 1024b6-9.

1016a28-32

(1b) Physica 224a4-12.

1016b16-17

(1b) De Caelo 269a20. 279b2. 285b18. 286b15. Ars Rhetorica 1407b27-28.

(2) Heath (p. 206): "? ??? ?????? is, of course, ? ??? ?????? ??????, 'the line (i. e. circumference) of a circle', not a circle. Cf. Meteorologica III, 3. 373a4-5: 'the equal straight lines will be inflected (at points which are) always on the circumference of a circle' (??? ?????? ???????)."

(3) In the realm of motion, the circle is nearest to unity. The line has beginning and end, in the point beginning and end coincide. Likewise in the circle (though less perfectly): in every point is both beginning and end.

Concerning the circle cf. 1072a10-12, 1073a26-34, 1078a11-13, 1087b34-37.

1016b17-20

(1a) 1021a12-13. 1052b16-19. 1053b3-8. 1072a33. 1087b33-34. 1088a4-6.

(1b) Ethica Eudemia 1218a25-32.

1016b24-1017a3

= Testimonia Platonica 35a Gaiser

(1a) 1020b26-1021a13. 1018b37-1019a4. 1017b17-21. 1060b6-19.

(1b) Topica 141b6-9. De Anima 409a3-7.

1016b24-31

(1b) Analytica Posteriora 73a34-37.

(1d) Alexander, In Metaphysica, 55, 22-25:

??? ?? ??????? ????? ?? ??????? ????? (?? ??? ?????????? ?? ??? ??

?????????????? ????? ?? ?????), ???????? ?? ??????? ???? ??? ?????

?????, ??????? ?? ???????, ?? ?? ??????????? ?????? ????? ?? ???????

??????.

("Surfaces come before Bodies (things that are simpler than other things and that are not destroyed by the destruction of the latter, have a natural precedence over those other things), and Lines by parity of reasoning come before Surfaces, and Points before Lines. What the mathematicians call Points they called Units.")

Alexander in Simplicius (In Physica 454, 23-26):

??? ??? ??? ??????? ??

?????? ??????, ?? ?? ?????? ????? ??????? ????? ???????, ???? ??

??????? ???? ?????????? ????? ???? ???????, ??? ?? ??????? ??? ?????

?????? ????? ????????.

("for the limits of Lines are Points, which are Units having position, and without Lines one can have neither Surfaces nor Solids, whereas Number can exist without these.")

Sextus Empiricus, Adversus mathematicos X 259-260:

??? ?? ?????? ??????? ????????????? ??? ???????, ???????? ?????? ??? ?????? ???' ???????? ??? ????? ??? ??????? ??????? ??? ??? ?????? ???? ??? ???????? ?? ??????? ??????? ??? ?? ?? ??????? ?? ?????? ???????????.

[260] ???? ??? ???? ?? ??????? ??????? ???? ??? ?? ??? ????? ????????? ??????? ??? ????? ????? ?? ?????????? ?????????? ??? ???????, ??? ?? ??????? ???????????????? ?????? ???? ????????, ??????? ?? ??? ?? ????? ??????? ???????? ???????? ??? ?? ?? ???????? ??????????.

("The solid forms also, which are of an incorporeal nature, are conceived before bodies; but they, again, are not principles of all things, for the plane forms precede them in conception, since out of these the solid are composed.

[260] Yet, indeed, one should not posit the plane forms either as elements of existing things, for each of these likewise is composed of prior things namely lines—and lines have numbers already pre-conceived, inasmuch as the compound of three lines is called a triangle and that of four a quadrangle.")

1016b26

(1a) 1084b26.

(1b) De Anima 409a6.

(1d) Sextus, Adversus Mathematicos X 278:

?????? ??? ?? ??????? ???? ??? ??? ??????? ????? ????????·?? ??? ? ????? ?????????? ?? ?????, ???? ??? ?? ???????, ??? ?? ?????? ? ????? ???? ??? ????? ?? ????????, ????? ??? ?? ??????? ???? ??? ????? ?? ????????. ???? ?? ??? ??????? ??? ??? ??????? ???? ?????, ? ?? ?????? ???? ??? ??? ?????? ????? ?????????? ???? ????????? ??? ??? ? ???? ??? ? ?????? ???????.

("Thus the point, for example, is ranked under the head of the One; for as the One is an indivisible thing, so also is the point; and just as the One is a principle in numbers, so too the point is a principle in lines. So that the point comes under the head of the One, but the line is regarded as belonging to the class of the Dyad; for both the Dyad and the line are conceived by way of transition.")

1016b31-35

(1a) 999b33. 1052a31. 1054a33.

(1b) Historia Animalium 486a14-b22.

(1d) Theophrastus, Metaphysica 9a4-7:

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("The identical something by means of which we know is identical either in essence or in number or in species or in genus or by analogy, or by any other divisions of identity that there may be besides these; but analogical identity spans the widest interval, as though there were here the greatest distance between the objects, this appearance of distance being due sometimes to ourselves, sometimes to the object, sometimes to both.")

1016b33-34

(1a) 1054b28.

1016b34-35

(1b) Physica 191a8-12. De Partibus Animalium 645b26. Ethica Nicomachea 1096b28.

(1c) Timaeus 31c.

1017a7-b9.

(1a) 1003b5-10. 1026a33-b2. 1051a34-b2. 1061a7-10, 1089a7-9.

1017a7-13

(1a) 1089a7-9.

1017a21

(1b) Analytica Posteriora 83a1. 81b29.

1017a22-30

(1a) 1026a35-b1.

(1b) Ethica Nicomachea 1096a23.

1017a23

For ?? ??????? ??? ?????????? cf.

(1a) 1029a4-5. 1074b1-2.

(1b) Categoriae 3b14. De Sophisticis Elenchis 166b10-19. Ars Rhetorica 1408b21-22.

Biese (I, p. 77, n. 1): "????? refers to what is external, denoting the general outlines of an object".

(3) In Aristotle, the verb ??????????, which originally means "accuse", is reinterpreted as "say about", by analogy with ?????? ?????, cf. vol. 1 on 984b19-20. The verbal noun ????????? can mean both "predication" and "predicate" (= ??????????????); at our present passage, unambiguously the former is the case, so that we must keep away the passages drawn on by Bonitz (1853, pp. 31-34), De Sophisticis Elenchis 181b27, Metaphysica 1004a28, 1028a28 where the latter meaning applies.

Again and again (e. g. in Flashar, 2004, p. 278) we read that the word ????????? "does not occur in the Categoriae". This is probably due to the fact, that the passages 3a35 and 37 are missing in Bonitz's Index Aristotelicus.

1017a27-30

(1b) De Interpretatione 21b9-10. Physica 185b27-30.

1017b7-8

Ross i 309: "A line is not, on his own view, a substance; the example is a concession to Pythagorean and Platonic views (cf. l. 19). Cf. also 1020a20 n."

1017b10-14

(1a) 1042a10-11. 1028b8-13.

(1b) De Caelo 298a29-32.

1017b13-14

(1a) 1028b36.

(1b) Categoriae 2a11-14. Analytica Priora 43a25-43. De Longaevitate et Brevitate Vitae 465b6-7.

1017b17-21

= Testimonia Platonica 33b Gaiser

(1a) 1002a4-8. 1028b16-18. 1077a31-b14. 1078a36. 1090b5-7.

(1b) Topica 141b5-14. 19-22.

(1c) Meno 76a. Res publica 528a-b. Sophista 235d. Politicus 284e. Timaeus 53c. Leges 817e. 819d. 894a.

(1d) Iamblichus, Protrepticus 38, 3-14:

??? ??? ???????????

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("The prior is always more knowable than the posterior, and that which is naturally better more knowable than that which is worse. For knowledge is more concerned with things that are defined and ordered than with their contraries, and more with causes than with effects; now good things are more defined and ordered than evil things, just as a good man is more defined and ordered than a bad man; there must be the same difference. Besides, things that are prior are causes, more than things that are posterior; for if the former are removed the things that have their being from them are removed, lines if numbers are removed, planes if lines are removed, solids if planes are removed, so-called 'syllables' if the letters are removed. [Reading ????????? ?? ?? ???????????? ????????, with Wilpert. Cf. Topica 141b9.]").

1017b21

(1a) 1030a6. 16. b4. 1030b26.

(1b) Analytica Posteriora 90b30. 91a1. 93b29. 94a11. Topica 154a31. De Partibus Animalium 642a25.

1017b23-24

(1a) 1029a24. 1049a34-36.

1017b24-26

(1a) 1029a27-30.

(1b) Categoriae 3a7-8. b10-23. De Anima 412a7-9.

(3) The two criteria for entity (?????) occur also in the Categoriae: ???? ?? in 3b10, "separability" (being ????????) under the title ?? ?? ?? ?????????? ????? 3a7-8, as appears from the explanation given in 1a24-25. The difference is that hylemorphism is absent in the Categoriae; in the Metaphysica, form becomes "primary entity" (????? ?????, cf. Categoriae 2b7-22 with Metaphysica 1032b1-2), because it is the reason (???' ??, De Anima 412a8) for the said criteria.

"This" (????) is an answer to the question "what?" (??), i. e. to the question about "entity"; in this sense, also species and genus are "a this" (???? ??, Categoriae 3b10-23). Restricting it to (sensible) individuality, as it is usually done (recalling Hegel's "das Diese"), is therefore a misinterpretation. The same is true of separability (see again 3a7-8).

1017b27

(1a) 1054a32.

(1b) Topica 151b29-30. 152b31-32.

1017b35

(1b) Analytica Posteriora 73b26-27. 87b32-33.

1017b27-1018a9

(1a) 1054a32-b3.

(1b) Topica 103a6-39.

1018a4-7

(1a) 1016a17-20. 1016b9-11. 1016b31-35.

1018a15-19

(1a) 1054b3-13.

1018a20-25

(1a) 1055a38-b1.

(1b) Categoriae 11b17-19. Topica 109b17-20.

(3) In Alexander (In Metaphysica, 56, 14), "all things" (??????) are divided into ???' ???? ???? ("per se beings") and ??????????? ("opposites"). In Sextus Empiricus, Adversus Mathematicos X 263-265 (see note on 1011b31), the opposites are subdivided into "contraries" (???????) and "relatives" (???? ??).

1018a24-25

(1a) 1051a11. 1055b37.

(1b) Categoriae 14a12. De Interpretatione 24b9. Topica 113a23. De Sophisticis Elenchis 167a9. De Caelo 283a17. b5.

(1d) Simplicius, In Categorias, 390, 19-25 (= De Oppositis fr. 4 Ross, p. 108):

????? ?? ?

??????????? ?? ?? ???? ??? ???????????? ?????? ????????, ?? ??????? ????????

??? ?? ?? ??????? ??????? ???????, ??? ???? ?? ?????? ??? ????? ? ??

??????? ? ??? ??? ????? ????? ???????? ??? ?? ??????? ????? ?????

???????? ???? ? ????? ?????, ???' ?????? ?? ??? ????? ?????? ? ??? ??

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("Aristotle himself in his book on opposites considered whether, if someone who has lost one of two things does not of necessity gain the other, there must be a mean between the two, or this is not in all cases so. A man who has lost a true opinion does not necessarily acquire a false one, nor does he who has lost a false opinion necessarily acquire a true one; sometimes he passes from one opinion either to a complete absence of opinion or to knowledge; but there is nothing between true and false opinion except ignorance and knowledge.")

1018a25-35

(1c) Phaedo 70e. Lysis 215e. Res publica 335d. Philebus 12d-e.

(1d) Divisiones Aristoteleae, Codex Marcianus § 23 = 34b9-35b2 Mutschmann:

?????????? ?? ??????? ???

????. ???? ??? ????? ?? ???

?? ?????? ????, ???? ?????

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?? ???????, ?? ?? ??

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35b ???????? ????????? ???

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("Contraries are divided into three species. For some of them are contrary as good to evil, for example health to disease and beauty to ugliness, and the like. Others are contrary as neutral to neutral (i. e., neither good nor evil to neither good nor evil), for example whiteness to blackness and lightness to heaviness, and the like. And still others are contrary as what is to be avoided to what is to be avoided, for example prodigality to niggardliness and warmth to chillness and thinness to thickness, and the like.")

Diogenes Laertius III 104-105 (= 34, 9-35, 9 Mutschmann):

?? ??????? ?????????? ??? ????? ???? ????? ?????? ???????

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(105.) ?? ???????? ?????????? ??????? ?????. ??? ???????? ??? ?? ???

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("Contraries are divided into three species. For instance, we say that goods are contrary to evils, as justice to injustice, wisdom to folly, and the like. Again, evils are contrary to evils, prodigality is contrary to niggardliness, and to be unjustly tortured is the contrary of being justly tortured, and so with similar evils. Again, heavy is the contrary of light, quick of slow, black of white, and these pairs are contraries, while they are neither good nor evil. Thus, of contraries, some are opposed as goods to evils, others as evils to evils, and others, as things which are neither good nor evil, are opposed to one another.")

Codex Marcianus § 68 = 65, 20-66, 13 Mutschmann:

??????????? ?? ??????? ?????. ??? ????? ??? ??? ????

?? ????????, ??? ?? ??. ????? ??? ??? ??? ??????? ???

?????? ??? ???? ????????? ????? ????? ????????, ????? ??

??? ????? ??? ????? ???? <??> ????????? ????? ??? ???

???????? ?? ?????, ????? ?? ?????, ????? ?? ??????. ???

???????? ?????? ????? ?? ??? ?????? ?? ??? ?????, ?? ??

??. ?????? ??? ??? ??? ????? ???? ?? ??? ?????,

???????? ?? ??? ??????? ????? ????? ??? ?????? ?? ???????

[66] ??? ????? ? ???????? ? ??????. ??? ???? ??? ???????

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???????? ???????.

("Contraries are divided as follows: Of some things there exists a contrary, of others not. For of gold and man and dress and the like there is no contrary, but of virtue and good and warm there exists a contrary. For to the good is contrary the evil, to virtue vice, to the warm the cold. Now, of the contraries themselves some do have a mean, others do not. For between good and evil there exists a mean, but between motion and rest there is no mean, because it is necessary that everything either is in motion or in rest. Also between life and death there is no mean, because everything susceptible to life either is living or dead.—The contraries themselves we call in three senses: either as the evil is contrary to the good, for example injustice to justice or self-indulgence to temperance and the like; or as the neutral is contrary to the neutral (i. e., the neither good nor evil to the neither good nor evil, for example the white is contrary to the black and the light is contrary to the heavy), for none of these is either good or evil. But as evil to the evil is contrary the excess to the defect and what we call according to excess and defect, for example the excessively being cooled (to the excessively being warmed)—these are called in the sense of excess—and the defective in warm to the defective in cold, because also these are contraries, viz., in the sense of defect.")

(3) According to the Categoriae (12b31-32), odd and even belong to the contraries without intermediate, hot and cold to the contraries with intermediate, whereas according to the (Old Academic) classification in Sextus (Adversus Mathematicos X 268), the latter class does not exist at all; to have an intermediate be rather characteristic of the relatives. In Symposium 186d hot and cold are contraries, in the Phaedo life and death, which belong to the former class.

1018a27-28

(1b) Categoriae 6a17-18. 14a19-25. Ethica Nicomachea 1108b33-34.

1018a28-29

(1a) 1055a29.

(1b) De Somno 453b27.

1018a29-30

(1b) Ethica Nicomachea 1094a10.

1018a38-b8

(1a) 1057b35-1058a8.

1018b9-1019a14

(1b) Categoriae 14a26-b23.

1018b37-1019a4

= Testimonia Platonica 33a Gaiser

1019a1-4

(1a) 1017b17-21. 1059b21-1060a1. 1071a34-35.

(1b) Categoriae 14a29-35. Topica 110b18-19. 123a13-15. 141b28-29. Ethica Eudemia 1217b11-13. Politica 1253a20-25.

(1d) Alexander, In Metaphysica, 55, 22-23:

?? ??? ?????????? ?? ??? ??

?????????????? ????? ?? ?????.

("things that are simpler than other things and that are not destroyed by the destruction of the latter, have a natural precedence over those other things")

Alexander in Simplicius (In Physica, 454, 22-26):

????? ??? ??? ????? ??? ????? ? ??????, ???? ?????? ?

??????? ?????? ???? ?? ????? ????? ??? ????? (??? ??? ??? ??????? ??

?????? ??????, ?? ?? ?????? ????? ??????? ????? ???????, ???? ??

??????? ???? ?????????? ????? ???? ???????, ??? ?? ??????? ??? ?????

?????? ????? ????????)

("Plato, being in quest of the Principles of real things, considered that Number came before all other things in nature, for the limits of Lines are Points, which are Units having position, and without Lines one can have neither Surfaces nor Solids, whereas Number can exist without these.")

Sextus Empiricus, Adversus Mathematicos X 269:

???????????? ???? ????? [scilicet ??? ??????] ????? ?? ???? ?????????????, ??? ?? ?????? ???????????? ?????' ????????????? ?? ?????.

("When it [the genus], then, is abolished all the species are abolished along with it, but when the species is abolished the genus is not also done away with.")

Divisiones Aristoteleae, Codex Marcianus § 65 (= 64, 15-24 Mutschmann):

????? ?? ????

????????, ???? ? ?? ????? ??? ?????? ??? ?? ????? ???

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("Prior by nature is, for example, the monad to the dyad, the part to the whole, the genus to the species, and in general, of what does not abolish simultaneously each other, the abolishing is prior, the abolished by nature posterior. For example, the monad being abolished, the dyad is abolished as well as every number; but the dyad being abolished, nothing prevents the monad from existing; so the monad is prior by nature to the dyad. Likewise the part being abolished, the whole is abolished, while the whole not existing, nothing prevents the part from existing.")

Codex Marcianus § 66 (= 65, 9-15 Mutschmann):

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("We may say that simultaneous is what is abolishing simultaneously each other and unable to exist separately from one another, like the double and the half. For these are abolished simultaneously with each other and the one cannot exist without the other; for the double being abolished, the half will not exist, and the half being abolished, the double will not exist, and it is impossible that if the double exists the half does not exist.")

(2) Krämer (2001, p. 164): "In general, it is an ontological relation of derivation, in which the higher degrees always possess an ontological priority with respect to what is below them (????????—??????? ?????), and in which, to speak with Plato's formula, the first can be or can be conceived without the second, the second cannot be or be thought without the first (??????????? ??? ?? ??????????????). There exists, therefore, an unilateral relation of dependence that is not reversible, in which, however, the higher level is only the necessary condition but not the sufficient condition for the succeeding ones. In fact, the Dyad of the great-and-small plays a fundamental role on all the levels as a material principle, but without a further grounding of its differentiation for the individual spheres of being; the categorial novum, hence, remains unexplained."

(3) I am not happy with the translation "abolish also" for ??????????? (Liddell/Scott, II. 3.). ???????? and its opposite ??????? (cf. Analytica Priora, 62b30, Liddell/Scott, sub voce ????????, II. 4.) are termini technici of logic, in German rendered by "aufheben" and "setzen", whereas "abolition" (or "destruction") is connoted with physical violence. The same is true of ??????????? (cf. our note on 1059b31); so if we want to preserve its character as terminus technicus, we have to create the new word "co-sublate", following A. V. Miller (p. 106) who translates Hegel's "aufheben" by "sublate" ("setzen" by "posit").

1019a15-17

(1a) 1020a4-6. 1046a9-16. b2-4.

1019a16-18

(1b) Physica 192b23-26.

1019b33-34

(2) "In geometry ??????? means a 'square', in accordance with the similar geometrical use of ????????. A straight line is said ???????? a certain area when it has the power of producing a certain area by being squared. To say of a straight line that it ???? ??????? ?? ??????????? ??? … means that the square on the straight line is equal to the <rectangle> contained by <two straight lines>. The substantive ??????? is generally used in the dative: thus ??????? ???, 'equal in square', is an alternative for ???? ???????." (Heath 207)

1020a7-32

(1b) Categoriae 4b20-5a14.

1020a7-10

(1a) 1063a27-28.

(1b) Categoriae 6a19-25.

(3) In Metaphysica K, "quantity" is = plurality.

1020a17-26

(1a) 1076a17-19.

1020a17-22

(1b) Analytica Posteriora 87a36.

(2) Alexander: "In calling [these quantities] 'affections and possessions of a substance of this kind', he uses the term 'substance' in a more general sense, but when he distinguished [the meanings of] substance [1017b17-21] he did say that even these things are called substance in some way." (397, 24-27: ???? ?? ??? ????? ??? ???????? ?????? ???? ?????, ?????????? ?? ??? ?????? ??????? ????????? ??? ??? ??? ????? ????? ??? ????????, ????? ?? ?? ??? ?????? ?????????.)

Thomas Aquinas (Sententia Metaphysicae, liber 5 lectio 15 numerus 7): "Sciendum autem est, quod quantitas inter alia accidentia propinquior est substantiae. Unde quidam quantitates esse substantias putant, scilicet lineam et numerum et superficiem et corpus. Nam sola quantitas habet divisionem in partes proprias post substantiam. Albedo enim non potest dividi, et per consequens nec intelligitur individuare nisi per subiectum. Et inde est, quod in solo quantitatis genere aliqua significantur ut subiecta, alia ut passiones."

Ross i 324 (on l. 20): "A line is not strictly a substance; it has no separate existence, but can only be separated in thought (M, 3 [1076a17-19]). But it is the subject of which long and short are attributes; it is a step nearer to substantiality than they are, and hence Aristotle treats it, relatively, as it were, as a substance. Cf. 1017b6 n."

(3) We have the same case as in 1003b19-22, where the harmonizing explanation contradicts the clear wording of the text as well. As in ?, Aristotle stands on the ground of Academic doctrine. Our passage gives us occasion to clear the sense of the "substantification" of the mathematical objects and the origin of the Aristotelian substance concept.

According to Categoriae 3b24-25 and 5b11, substance and quantity have in common that nothing is contrary to them. According to 5b13-16, the contraries ???? and ??????, ???? and ?????? are relatives; the relation substance - contraries is the relation absolute - relative, which is considered to be the origin of the Aristotelian substance concept (see our comment on 990b20-21). Quantities can be substances for as long as the criterium of "per se" is sufficient as qualification.

1020a23-26

(1b) Categoriae 5b11-6a11.

(2) Bonitz (p. 258): "Magnum autem et parvum, maius et minus, quod dicit 1020a24 ??? ???' ???? ??? ???? ?????? ????????, id non video quomodo conciliari possit cum Categoriae 6. 5b16: ????? ??? ???? ???' ???? ???? ??????? ? ??????, ???? ?? ???? ?????? ???????????."

Ross i 324 (on l. 23): "In Categoriae 5b15 'great' and 'small' are said to be not quantities but relative terms. According to that view there is no such thing as a great or small per se (contrast 1020a24 with 5b16)."

Reale (p. 938): "It seems that conciliation can be achieved […] by taking into account the fact that, in order to rate something as great or small, it is necessary, first, to interprete it as quantity."

(3) There is no contradiction. By "quality", the mathematical objects are meant (the subjects of the mathematical sciences, as numbers, lines, planes, solids), which are substances according to l. 20. The per se affections of them are the "species of the great and small" (1085a9-12).

1020a33-b25

(1b) Categoriae 8b25-9a13. Topica 122b16-17. Physica 226a26-29.

1020b4-5

Heath 209: "'Linear', 'plane', and 'solid' numbers were distinguished by the Pythagoreans. Prime numbers were called 'linear', ?????????, and, alternatively, 'rectilinear', ?????????????, by Thymaridas or 'euthymetric', ????????????, by others; they were regarded as having one dimension only, because they are measured by no number but by unity only."

1020b26-1021b11

(1b) Categoriae 6a36-8b21.

1020b26-1021a14

= Testimonia Platonica 35b Gaiser

(1c) Charmides 168b-d. Res publica 438b-d.

1020b26-28

(1b) Physica 200b28-32.

(1d) Alexander, In Metaphysica, 56, 24-26:

?? ??? ??? ????????? ??? ?? ????? ???????? ?? ??? ????????????,

?????? ?? ?? ???????? ?? ??? ???????????? ????????? ??? ??????

???? ????? ??? ????????? ????? ????????.

("The Double and Half are Exceeding and Exceeded respectively, but the Exceeding and Exceeded are not as yet Double and Half, and are therefore Elements of the Double.")

1020b32-1021a14

(1b) Topica 124b29-32. 125a25-28. 135b19-22. 147a29-31.

(1c) Epinomis 990e-991b.

1020b33-1021a8

(1b) Topica 150a33-36.

1020b34-35

(1c) Timaeus 31c.

1021a5-8

(3) The first question is: what is the subject to ???????? After the reading ???????? it ought to be ?? ???????? ?? ???????????? (Schwegler i 230). Stenzel (1931, p. 57-58) supposes absolute use, what is, however, linguistically impossible. By far the most natural is supplying ?? ????????, which is, after all, subject in what follows.

The second point is the contradiction noticed by Bonitz (p. 261: "parum apte coniunxit quae inter se manifesto repugnant, omnem numerum esse ????????? et haec dici ???? ?? ????????? ???????"), which is, however, only apparent. Firstly, it is said generally about number that it presupposes a common measure; then it is said of the exceeding that it does not need to have a common measure with the exceeded. No mention of an "amplification of the number concept beyond the commensurable numbers" (Stenzel, l. c., p. 57).

The issue becomes clear when we look at a concept pyramid. Here the exceeding is the higher genus, up to the "greatest genus" (cf. ??????? ????). Apples and pears are not summable qua themselves, qua fruits they do. That means that ????????? become ???????? by being subsumed under a higher genus.

1021a9-12

(1a) 1003b35-36.

(1b) Categoriae 6a26-35. 6b20-24. 11a15-19.

1021a11-14

(1a) 1016b17-20.

1021a12-13

(1a) 1016b17-20. 1052b25-27. 1053a10. 14-20. 1056b32. 1057a16-17. 1072a33. 1087b33-34. 1088a4-5.

1021a26-28

(1a) 1056b34. 1057a7.

1021b12-1022a3

(1a) 1055a10-16.

1021b20

(1b) Physica 246a13-17.

1021b20-23

(1b) 1106a15-21.

1022a24-36

(1b) Analytica Posteriora 73a34-b24.

1022a25-27

(1a) 1029b13-19.

1022a27

For the example ???? ?? ????? cf. 1039b25.

1022a35-36

(1a) 1060a12-13.

(3) Being "separate" (????????????) = separate existence falls within ???' ????, which can mean both separate existence and mere consideratio secundum se, "qua" itself (cf. 1078a5).

In our passage, Aristotle's connection to Plato becomes particularly apparent. The latter uses (Phaedo 67d) ???????? ????? ??? ??????? for the separation of the soul from the body, together with ???' ?????, the verb ????????: 67c, 64c, 67a ?????; and in the Parmenides (129d) ????? ???? ???' ???? ?? ????. In Plato, ???? ???' ???? has become a stereotyped phrase; alone in the Phaedo, it occurs five times (64c, 66a, 78d, 83b, 100b); Aristotle cites it in Categoriae 5b9, Physica 257a30, Metaphysica 1037a2, 1075a12-13, Magna Moralia 1182b13.

1022b1-14

(3) It is one single article, cf. Categoriae 8b35-9a13. Note the connecting ?? in l. 4.

1022b6-8

(2) Kirwan, p. 171: "Aristotle may have been prompted to give prominence to the special sense (3) in which 'hexis' means 'wearing' by a passage in Plato's Theaetetus. Both Plato and Aristotle make play with the distinction between possessing and using (Plato, Euthydemus 280b-d, Aristotle, Ethica Nicomachea I 8. 1098b31-1099a7) and between being in a certain state, e. g. being virtuous, and functioning in accordance with that state, e. g. doing something virtuous (Ethica Nicomachea X 6. 1176a33-b2). Commonly the word 'hexis' is used for the first member of this pair; but at Theaetetus 197b-c the hexis of knowledge is compared with wearing a coat and having hold of birds in an aviary, and contrasted with the mere possession (ktesis) of these things."

1022b10-14

(1b) Categoriae 8b26-28.

1022b15-18

(1b) Categoriae 9a28-10a10.

(3) The first of the meanings mentioned here is the only relevant one in philosophy. It covers only the "affections of the sensible things", see the Index rerum.

1022b22-1023a7

(1b) Categoriae 12a26-b5.

1023a5-7

(1a) 1055b23-25. 1056a24-25. 33-34.

(1b) Categoriae 12a21-25. Topica 123b17.

(3) ??? refers to 1022b32-1023a4; 1023a4-5 is an interpolation.

1023a8-25

(1b) Categoriae 15b17-33.

1023a17-21

(1b) De Caelo 284a20-26.

1023a26-b11

(1a) 994a22-24. 1044a23-25.

(1b) De Generatione Animalium 724a20-30.

1023a26-29

(1a) 1015a10.

(1b) Meteorologica 378a32.

1023b12-25

(1a) 1034b32-33.

1023b26-1024a10

(1b) De Arte Poetica 1450b26-27.

1023b36

(1a) 1016b11-13.

(1b) Physica 228b11-14.

1024a8-10

(1c) Theaetetus 204a.

1024b4-6

(1b) Topica 102a31-32.

1024b8-9

(1a) 1016a24-28. 1032b31-1033a2. 1038a5-9. 1045a23-25. 1058a23-26.

(1b) De Generatione et Corruptione 324b6-7. De Partibus Animalium 643a24.

1024b12

(1a) 1054a13. 1090a19.

(1b) Ethica Nicomachea 1096a24. Topica 103b20. De Sophisticis Elenchis 178a4.

1024b13-15

(3) The ???? in l. 14 are obviously identical with the ????????????? of 1017a22-27. Likewise, in the Categoriae it is alternated between ??? ????????? and ??? ?????:

??? ????????? ?? ??? ???? ????????? ???????, ?? ?' ???? ?????????. (1a16-17)

??? ????? ?? ??? ???' ??????????? ????? ??????? … (1a20)

1024b29-34

(1a) 1043b23-28.

(1b) Topica 104b20-21. De Sophisticis EIenchis 175b15. Physica 185b25-32.

(1c) Cratylus 429d. Euthydemus 283e-284c. 285d-286b. Theaetetus 201c8-202c6. Sophista 251b. Philebus 14c-e.

(1d) Diogenes Laertius vi, 3:

?????? ?? ??????? ????? ?????? ????? ????? ? ?? ?? ?? ? ???? ?????.

("He was the first to define explanation by saying that an explanation is that which sets forth what a thing was or is.")

(3) The views on being and truth reported here belong to the context of the Eleaticism discussion conducted by Sophists (Zeller I, p. 1370) and Socratics (of the Megarian school). Antisthenes' point of departure seems to have been a Parmenidean argument (Proclus, In Platonis Timaeum, p. 345, 26-27 Diehl = Simplicius, In Physica, 116, 32-117, 1 = Diels/Kranz I, p. 231, 13-14):

???? ??? ?? ?????? ?? ?? ?? ??? (?? ??? ???????)

???? ???????.

("For you could neither recognize that which is not, nor express it.")

Aristotle adopts the interpretation of truth as identity, distinguishing two kinds of it. Only in the case of absolute non-identity falsity happens, so that truth is possible also in accidental predications like "Socrates is musical".

According to the parallel Plato, Sophista 251b (drawn on by Zeller II/1, p. 293), the example in ll. 30-31 must be interpreted as follows: It cannot be said that Socrates is musical, but only that Socrates is Socrates, or that what is musical is musical. When we convert the subject-predicate proposition "Socrates is musical" into the existential proposition "The musical Socrates exists", we arrive at the "musical Socrates" in our passage, an example analogous to the "sitting Socrates" in 1004b2-3. Now there reveals itself the serious background of the reconstructed paralogism, which superficially appears to be a mere joke: the concept of a musical or sitting Socrates shall be shown to be an absurdity or non-entity, and therewith - in favor of the Eleatics - the idea of coming-to-be and passing-away, which presupposes a Socrates distinct from the predicates sitting or musical and their contraries, remaining the same.

From Theaetetus 202a6-b5 it follows that assuming a peculiar account (??????? ?????) is meant as an irrealis: if it were an account, but there is only a name. The ????? ("account") is an ???????? ???????? ("complex of names", Theaetetus 202b4-5); the Categoriae give a classification of the names.

It was said that the doctrine of categories was developed inter alia for combating the "logic" of Antisthenes. Let us note that to this end only the dichotomy substance - affection (????? - ?????) is needed (meant in l. 30 with ???? and ???? ????????), which occurs already in Plato's Euthyphro (11a).

1025a6-13

(1b) 1129a13. 1140b22.

1025a6-7

(1c) Hippias minor 365b. 372a. 374c. 376b.

1025a14-34

(1b) Topica 102b4-26. Physica 186b18-26.

1025a14-15

(1a) 1026b31-33.

1025a30

(1a) 1004b5.

1025a30-33

(1b) Analytica Posteriora 75a39-b2.

Book ?

1025b3-5

(1a) 1042a4-6. 1040b22. 1069a25-26. 1086a21-22.

(1b) Physica 184a11-14.

1025b7-10

(1a) 1064a2-4. 1003a21-26.

1025b10-18

(2) Asclepius 2, 17-20:

????? ??? ????? ????? ??? ?????? ?????????? ????????? ??? ?????

????? ??? ?????????. ?? ??? ??? ????? ????????? ??? ?????????????

??? ??????? ?????, ???? ???? ? ????? ????????? ??????????? ????? ???

????????? ??? ?????.

("It falls only to primary philosophy to demonstrate the principles of all sciences. For the other sciences do not demonstrate their proper principles [for this term cf. De Sophisticis Elenchis 172a19], but only the primary philosophy demonstrates the principles of the sciences.")

Likewise Owens, p. 295: "The other sciences establish the Being of the things with which they deal, but not by demonstration. In contrast, the Primary Philosophy is being conceived as a science that demonstrates both Being and entity in regard to the things treated by the other sciences." His premise is:

"'Being' was denied to sensible things, since their nature was mobile. The 'Being' of the Mathematicals had been made the subject of an aporia by Aristotle himself [997b2-998a19]. The Being in each of these orders may be accepted without question by the physicist and the mathematician respectively, but for the Primary Philosopher that Being is not immediately evident." (ibidem)

Gómez-Lobo (186-187): "I shall hold that the text states explicitly that:

(A) the particular disciplines do not discuss the what-is-it of their genus, and that

(B) the particular disciplines do not discuss the if-it-is question in relation to their genus.

In opposition to (A) and (B) I take the text to be implicitly stating that

(C) first philosophy does discuss the what-is-it of its genus, and that

(D) first philosophy also discusses the if-it-is of its genus.

In other words, first philosophy and the particular disciplines are not being distinguished here on the basis of the different attitude that the latter and the former have towards the principles of the latter, but on the basis of the difference between the attitude of the particular disciplines towards their peculiar starting points and that of first philosophy towards its own principles."

Gómez-Lobo did not take note of Analytica Posteriora 77a29-31, see our comment on 1025b10-12.

Kahn (p. 316) points to "the paradoxical fact that the basic proof of the existence of immobile substance is provided not by First Philosophy (as the statement cited above from E 1 would lead us to expect) but by physics, as part of the account of ????? of motion; the proof in Metaphysica ? is essentially parasitic upon the proof in Physica VIII."

(3) The question about the what-is-it and the if-it-is of the particular sciences is the business of dialectic. This does not mean, however, that the dialectician (or the philosopher) be completely competent for the foundations of the particular sciences, but: when the question is about the what-is-it and the if-it-is e. g. of number, the specialist knowledge of the mathematician must be added by the transdisciplinary competence of the dialectician.

It is the same case as with rhetoric in Plato's Gorgias. The right answer to Socrates' insidious questions, which Gorgias fails to find, would have been: rhetoric is a transdisciplinary ability, so that it deals in a certain sense with all subjects (457a5-6 ???? ??????, cf. 456a7-8). As the orator does not need to know the totality of things and cases, the dialectician and the philosopher must know the meta-ideas (cf. our note on 1003b35-36), not the totality of essences.

In sensible substance, essence and existence are known by sensation, on the former see 1042b21-25. 31-35. It is the "affections" (????) of the sensible substance qua sensible. In non-sensible substance, an inquiry is required. This includes the critique of the doctrines of Ideas and numbers.

1025b10-12

(1b) Analytica Priora 43a20-b11. Analytica Posteriora 72a14-24. b13-15. 76a32-36. b16-19. 77a26-31. b5-6. 88b27-29. Topica 101a36-b4. Physica 253b5-6. Ethica Nicomachea 1095a32-b5. 1142a20.

(1c) Res publica 510c-d.

(2) Ross (1949, p. 543) on Analytica Posteriora 77a29-31: "Such an attempt would be a metaphysical attempt, conceived after the manner of Plato's dialectic, to deduce hypotheses from an unhypothetical first principle. Aristotle calls it an attempt, for there can be no proof, in the strict sense, of the axioms, since they are ?????. What Aristotle tries to do in Metaphysica ? is is rather to remove difficulties in the way of acceptance of them, strictly. It is obvious that no proof of the law of contradiction, for example, is possible, since all proof assumes this law."

(3) The "principles" (?????) in Topica 101a36-37 (cf. 1055b27. Analytica Posteriora 72a28. 31. b5. 13. 76a32. 90b27. 100b4) are identical with what must be "supposed" (Analytica Priora 43b2-3), "the subject" (43b2 ????) being identical with the if-it-is and the "definitions" (ibidem) with the "what-is-it" in Metaphysica E.

1025b10

(1a) 1005a29-30. 1078b27-30.

(3) ?????? ????? ????????? (????? ????????? ???? ????? "to talk about something", Pape) is manifestly equivalent to l. 17 ????? ???????. This was disregarded by the ancient commentators, who take this expression to mean "demonstrate". This seems to be deduced from ll.14-16: if demonstration (?????????) is equated with ????? ?????????, the sentence can be understood as conclusion from l. 10.

It is another matter when the existence (the "if-it-is") of a first mover (of the genus of theology) is proved. This is a demonstratio a posteriori (inference from effect to cause, see Analytica Posteriora 78a22-b31), whereas in l. 13 it is about demonstratio a priori as customary in mathematics.

The ancient commentators are right, however, that ????? ????????? must refer to the genera of the particular sciences (against Gómez-Lobo); only then the "induction" is complete.

One reason for "talking about" the principles is the fact that foundations of knowledge (e. g. the existence of motion or the principle of contradiction) were disputed by the "eristics".

In Plato, dialectic leads "to a first principle that is not a hypothesis" (??' ????? ??????????, Res publica 510b); in Aristotle, the principle of contradiction is introduced as an ???? ?????????? (1005b11-14), but without the claim of deducing from it the suppositions of the particular sciences.

1025b11

(1a) 980a26-27.

(1b) Topica 131b19-36. De Partibus Animalium 644b22-645a4.

(2) Asclepius 359, 29-32:

??? ????? ??? ?? ??? ??? ???????? ?? ?????????

????????? ?????. ????? ? ?????????? ??? ????????? ???? ?? ????? ??? ???????

?? ??? ???? ???? ??????? ?? ??? ????? ????? ??? ???????????? ???

????????.

("Part of the sciences makes plain the principles from sensation. Like the astronomer [makes plain] that the figure of the universe is spherical from seeing the stars rising and setting constantly from the same places.")

Pseudo-Alexander, In Metaphysica, 441, 16-20:

????? ? ??????? ?? ????? ??? ???????? ??????? ??? ??

???????? ?? ???????? ???????? ????. ????? ??? ??? ?? ??????? ???? ??????

?????????? ???? ??? ?? ????? ???????????. ???? ?? ??? ??? ?? ??? ???

?? ???? ?? ??? ?????? ??? ?????, ?? ?? ??? ????? ??? ??????, ???

????? ?? ???????? ???? ????????, ?? ?? ????.

("As medicine has made plain by sensation the causes and elements of the composed bodies. For seeing that they are dissolved into the four simple bodies, it recognized that they are composed of them. But also the facts that whater is cold and humid, while fire is arid and hot, are made plain by sensation, not by reasoning.")

Thomas Aquinas (Sententia Metaphysicae, liber 6 lectio 1 numerus 6): "Ipsum autem quod quid est sui subiecti aliae scientiae faciunt esse manifestum per sensum; sicut scientia, quae est de animalibus, accipit quid est animal per id quod apparet sensui, idest per sensum et motum, quibus animal a non animali discernitur."

Fonseca: "Itaque si sola haec scientia de ente disserit, quatenus ens est, necessario efficitur ut ad eam solam pertineat agere de essentia, et quiditate rerum, quatenus quiditas est. Quo loco adverte Metaphysici proprium esse non solum agere de quiditate, quatenus quiditas est, sed etiam de specialibus rerum quiditatibus, quatenus sunt quiditates. Nulla enim particularis scientia ostendere potest per sua principia id, quod assumit ut quiditatem rei, de qua agit, esse quiditatem illius, quandoquidem solus primus Philosophus docet, quo pacto se habeat quiditas ad rem, cuius est quiditas, et ad cetera quae de re dicuntur. Ita fit, ut particulares scientiae non demonstrent, quid res sit; sed aliae ex quiditate rei per sensum, seu a posteriori declarata, ut naturalis Philosophia ex definitione materiae, quam ex motu colligit; aliae ex quiditate rei initio supposita, et ab alia superiori scientia desumpta (veluti Geometria ex definitione puncti, aut lineae, quam accipit a Naturali) proprias illius affectiones aut lenioribus, aut firmioribus demonstrationibus ostendunt."

Schwegler (ii 5) contents himself with citing Asclepius, Bonitz (p. 280) and Ross (i 352) follow Pseudo-Alexander.

(3) The fact that the expression ????? ?????? is used both in l. 11 and in l. 18 indicates that ???????? is opposed both to ????? ????????? and to ????????.

Kant (Critik der reinen Vernunft, A 854) reproaches Aristotle with the inconsistency of transcending "experience" after having restricted cognition to "experience" (= the realm of sensation). Aristotle does so, concluding first from certain observations that the universe is spherical (and therefore self-contained), and then drawing analogies from the microcosm man on the macrocosm (Physica 252b26-27).

1025b13

(1a) 1064a6-7.

(1b) Analytica Posteriora 86a16-21. De Generatione et Corruptione 333b24-26 (where it suggests itself to read, with Bekker, ? ???? ?? ???, instead of the nonsensical ????? ?? ???; this ???? ?? ??? ("in some way or other") can be interpreted as a variant to ??????? ? ???????, which was inserted by ?). Ars Rhetorica 1396a34-b1.

(3) Of the parallels given above, only the first one offers an explanation. According to it, e. g. the syllogism known from Kant (Critik der reinen Vernunft, A 322):

All men are mortal.

Caius is a man.

Caius is mortal.

belongs to the class of the "more lax" ones. For "mortal" are, according to Aristotle, all sublunar animals, so that this "superior" concept (cf. 86a20 ???????), as medius terminus of the syllogism, would assign the reason of mortality more accurately.

1025b14-16

(2) Owens (p. 288) gives a wrong paraphrasis: "The particular sciences establish in some other manner the Entity with which they deal." Likewise already Asclepius (p. 360, 1-10).

1025b15

(1a) 1064a8.

1025b16-18

(1b) Analytica Posteriora 76b2-11. Physica 184b25-185a3. 185a12-17. 193a3-4. 253b2-6.

(2) Ross (1936, p. 461) on Physica 185a2-3: "The Greek commentators say that the science referred to is dialectic, and this might be partially supported by Analytica Posteriora 77a26-29. Cf. Topica 101a36-b4. But dialectic is not according to Aristotle a science, and the reference is more probably to metaphysics […]."

(3) In discussing Physica 184b25-185a17, Gómez-Lobo (p. 192) ignores the reference to "a different science or one common to all" in ll. 2-3.

1025b17-18

(1b) Analytica Posteriora 93a16-29. b21-28.

1025b18-26

(1b) Topica 145a15. 157a10. Ethica Nicomachea 1139a27.

1025b19-21

(1a) 1014b18-20. 1015a13-17.

(1b) Physica 192b13-32.

1025b22-24

(1b) Magna Moralia 1197a3-10.

1025b25-28

(1a) 1037a13-17.

(1b) Physica 194a12-27. De Anima 403a29-b16.

1025b25

(1a) 1026b4-5. 1064a10-11. 1075a1.

(1b) Topica 145a15-16. 157a10-11. De Caelo 306a16-17. Ethica Nicomachea 1139a27-28. 1178b20-21.

(2) Jaeger (1962, p. 374): "The celebrated division into theoretical and practical and productive, with the division of the first into theology and mathematics and physics, is nowhere realized and does not embody his [Aristotle's] actual system; it is a merely conceptual classification."

(3) Separating practical from theoretical philosophy was required after the Idea of good had been rejected (Ethica Nicomachea 1096a11-1097a14, Ethica Eudemia 1217b1-1218b27). Only then ?? ??????? ?????? ("the good that can be done", cf. Ethica Nicomachea 1095a16-17. 1097a22-23. De Anima 433a29-30) could be thematisized.

Instead of the trichotomy practical - productive - theoretical, the dichotomy productive - theoretical occurs in the following passages: Metaphysica 1075a1-3. De Caelo 306a16-17. Ethica Eudemia 1216b10-19. 1221b5-6. 1227b28-30. In contrast, there is only one passage with the dichotomy theoretical - practical: Metaphysica ? 993b20-21.

On the distinction between "making" (???????) and "doing" (??????) see Ethica Nicomachea 1140a2-3 and b3-7.

1025b30-32

?? ????? and ?? ?????? are Aristotle's favorite examples for illustrating abstraction, cf. 1030b28-1031a1. De Anima 431b13-15.

1026a2-3

(1a) 1036a28-30.

1026a5-6

(1a) 1070a24-27.

(1b) De Anima 403a29-b16. De Partibus Animalium 641a32-b10.

1026a6-22

(2) Natorp (p. 550): "If the special disciplines of philosophy should be divided according to the "classes of substances" (??????, cf. Natorp, p. 43), as stated in ? 2, 1004a2-3, "then mathematics ought really not to be mentioned at all, because it has not a third class of substances […] for its subject, treating, qua pure [i. e. qua arithmetic and geometry], of no substance at all, qua applied [i. e. qua astronomy], of no substances other than the physical ones".

pp. 51-52, n. 23: Placing mathematics alongside physics and theology "would be justified only if mathematics had for its subject a particular class of substances".

Merlan (p. 59): "The tripartition of being is, as a rule, reported by Aristotle as Platonic (Metaphysica A6, 987b14-16; 987b28-29; Z 2, 1028b19-21; K 1, 1059b6-8; but see also Metaphysica K 1, 1059a38-b2; Physica III 5, 204a35-b2 with Ross' note ad locum); the tripartition of theoretical philosophy he professes as his own doctrine.

Now it is obvious that this tripartition of philosophy fits the preserved writings of Aristotle very badly, as was stressed e. g. by Zeller (1879, pp. 179-181). It is strange that it should so often be overlooked that it has its roots in what Aristotle reports to have been Plato's tripartition of being […]."

Merlan (p. 60) about Physica 198a29-31: "This tripartition is obviously much more in tune with Aristotle's non-realistic interpretation of mathematicals and recommended particularly by his tripartition expressed in Metaphysica ? 1, 1069a30; 6, 1071b3."

1026a9-10

(1b) Physica 193b23-194a12.

1026a13-16

(1a) 1026a16. 1064a35. 1064b11-12. 1075a11-15. 1074a35-37.

(1b) Physica 194b14-15.

"To be in …" is opposed to "to be separate", cf. 1077b14-15, 25-26 ?? ???? ?????????. In the Categoriae, this "in …" is conceived as ?? ??????????: 1a24-25.

1026a16-18

(1b) De Caelo 306a9-11.

1026a18

(1a) 986a11.

(1b) De Partibus Animalium 644b22-28.

1026a18-19

(1a) 987b14-16. 995b16-18. 997b12-13. 1002b13-14. 1028b19-21. 1042a11-12. 22-24. 1064b1-3. 1069a34. 1076a19-20.

(3) ?????????? = sciences, as in Plato's Theaetetus, 143d (???? ?????????? ? ???? ????? ??????????).

If the principle applies: ??????? ???? ?????????? ????? ???? ??? ?? ?????? (?, 1004a2-3), mathematics ought not to occur in the present enumeration. It is missing, indead, at 1037a14-16, 1069a30, Physica 198a29, De Partibus Animalium 641a34-36.

1026a19-21

(2) The divinization of eternal motion (astral theology) is in accord with Plato. Chroust (in his edition of De Caelo, pp. xxi-xxiii) points out to passages in De Caelo where the prime mover seems to be still absent.

1026a21-22

(1a) 999a13-14.

(1b) Categoriae 14b4-5.

1026a22-23

(1c) Timaeus 89d-90d.

(3) This evaluation means a break with Socrates, which was carried out already by the late Plato, cf. Jaeger 1962, pp. 15-16: "Socratic thought always kept close to real life, and the early Plato was a reformer and an artist. In contrast to this, Aristotle's thought was abstract, and his attitude was that of the pure scientist. But these traits were not his private property; they were common to the whole Academy during the time when he belonged to it. In the Theaetetus we have the apotheosis of the un-Socratic philosopher of Plato's later days. The machinery of the dialogue gives the delineation of the type to Socrates, but the picture he draws has no resemblance to himself, according to his own faithful characterization of himself in the Apologia, but to the mathematical recluse; and it is obvious that the new [16] conception of the 'theoretical' life has helped to determine its features. Socrates had concerned himself solely with man, and not with that which is above the heaven or under the earth. The Theaetetus [173e-174a], on the other hand, speaks of the philosophical soul as 'geometrizing' and 'astronomizing'. She is indifferent to what is near at hand; she despises precisely those practical activities that occupied the lives of Socrates' favorite hearers; and she roams in lofty distances, as is solemnly quoted from Pindar."

In the Protrepticus, Pythagoras and Anaxagoras are presented as pioneers (51, 6-15):

??? ????? ???? ??? ?????

?? ????? ? ????? ???? ???????? ??? ? ????. ?? ??

????? ???? ????????? ??????????, '?? ?????????' ????

'??? ???????', ??? ?????? ?? ?????? ??????? ????? ???

?????? ??? ?????? ????? ????????????? ??? ??? ????.

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??????? ??? <??> ???? ?????, ????? ?? ??? ??????? ???

?????', ?? ??? ????? ?? ?????? ??????? ????? ?????.

After ???? ????? a comma must be put: stars, moon and sun together are ?? ???? ??? ???????.

("and knowledge is that for the sake of which nature and God have brought us into being. Pythagoras, when asked what this end is, said 'to observe the heavens', and used to say he was an observer of nature and it was for this that he had come into being. And they say that Anaxagoras, when asked for what end one would choose to come into being and to live, replied 'to observe the heavens and what is in them, stars, moon, and sun', everything else being nothing worth.")

The Anaxagoras-dictum is cited also in Ethica Eudemia 1216a10-14.

Another passage of the Protrepticus (53, 15-54, 5) is instructive about the original meaning of ??????:

????? ??? ??????, ??

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????????), ??? ?? ???????? ?? ????????? ??? ??

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(54.) ?? ??? ????? ??? ??? ????????? ??????????? ??????

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("It is nowise strange, then, if wisdom does not show itself useful or advantageous; we call it not advantageous but good, it should be chosen not for the sake of anything else, but for itself. For as we travel to Olympia for the sake of the spectacle itself, even if nothing were to follow from it (for the spectacle itself is worth more than much wealth), and as we view the Dionysia not in order to gain anything from the actors (indeed we spend money on them), and as there are many other spectacles we should prefer to much wealth, so too the contemplation of the universe is to be honored above all the things that are thought useful. For surely it cannot be right that we should take great pains to go to see men imitating women and slaves, or fighting and running, just for the sake of the spectacle, and not think it right to view without payment the nature and reality of things.")

In two places, which, in all probability, have Aristotle as common source, (both were assigned to the Protrepticus by Rose, as fr. 58) the vita contemplativa is identified with living on the islands of the blessed:

"Tullius in Hortensio dialogo disputans, Si nobis, inquit, cum ex hac vita migrassemus, in beatorum insulis inmortale aevum, ut fabulae ferunt, degere liceret, quid opus esset eloquentia, cum iudicia nulla fierent, aut ipsis etiam virtutibus? nec enim fortitudine egeremus nullo proposito aut labore aut periculo, nec iustitia cum esset nihil quod adpeteretur alieni, nec temperantia quae regeret eas quae nullae essent libidines. ne prudentia quidem egeremus nullo delectu proposito bonorum et malorum. una igitur essemus beati cognitione naturae et scientia, qua sola etiam deorum est vita laudanda." (Augustinus, De Trinitate 14, 9, 12)

… ?? ??? ???? ???? ??? ??????? ?????? ?? ??????? ?????????. ???? ??? ??????? ????? ???? ??? ????? ????? ?????? ?? ???????, ????? ?? ???????????? ?? ??????????? ??? ???????, ????? ??? ??? ????????? ????? ???? ?????. (Iamblichus, Protrepticus, p. 53, 3-7 Pistelli)

("… if someone carried us in thought to the islands of the blest. There there would be need of nothing, no profit from anything; there remain only thought and contemplation, which even now we describe as the free life.")

The "moral virtues" (?????? ??????), which are no longer needed in these fields, were precisely what Socrates was occupied with (Metaphysica M, 1078b17-18: ????????? ?? ???? ??? ?????? ?????? ???????????????).

Likewise characteristic of this anti-Socratic turn is the anecdote about the encounter of Socrates with an Indian (Eusebius, Praeparatio evangelica xi 3, 6-8):

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(7.) ??? ?? ???? ??? ??????????, ?????? ?? ??? ???? ???? ??????. ????? ?? ?? ???????? ?? ????????? ???????? ????, ?? ?? ?? ???? ???????? ???????·??????? ??? ?? ?????? ???? ???? ???????????? ???????????? ??? ???? ??????? ??????, ???? ?????? ??? ??? ???????? ??????? ?????????? ??? ??? ???? ????? ??????? ????????? ????? ?? ????? ??? ????? ??? ???????? ??? ??????? ??????, ?? ??? ????????, ?? ?? ??? ??????, ?????????? ?? ?? ??? ??????? ??? ??? ??????? ??? ????? ?????????.

(8.) ???? ?' ??????????? ? ???????? ????? ????? ??? ????? ??????. ??????? ??? ???????? ???????? ??? ?????? ??????? ??? ???? ??????? ????? ??????????? ?? ????? ???????????·??? ?? ???????? ??? ????? ???? ??? ?????????? ????, ??????????? ??? ?????, ??????? ?? ???????? ???? ?? ????????? ???????? ????????? ?? ?? ????.

("Plato however, though he perceived that the science of things divine and human was one and the same, was the first to make a distinction, asserting that there was one kind of study concerned with the nature of the universe, and another concerned with human affairs, and a third with dialectic. [The common division of philosophy into physics, ethics and logic, attributed to Plato also in Diogenes Laertius, iii 56.]

But he maintained that we could not take a clear view of human affairs, unless the divine were previously discerned: for just as physicians, when treating any parts of the body, attend first to the state of the whole, so the man who is to take a clear view of things here on earth must first know the nature of the universe; and man, he said, was a part of the world; and good was of two kinds, our own good and that of the whole, and the good of the whole was the more important, because the other was for its sake.

Now Aristoxenus the Musician says that this argument comes from the Indians: for a certain man of that nation fell in with Socrates at Athens, and presently asked him, what he was doing in philosophy: and when he said, that he was studying human life, the Indian laughed at him, and said that no one could comprehend things human, if he were ignorant of things divine.")

The synthesis of pre-Socratic and Socratic philosophy, which was brought about by the late Plato, has found its classical formulation in the definition of "wisdom" transmitted by Cicero (De Officiis ii 5): "Sapientia autem est, ut a veteribus philosophis definitum est, rerum divinarum et humanarum causarumque, quibus eae res continentur, scientia".

1026a25-27

(1a) 1064b8-9. 1077a9-10. 1077b17-22.

(1b) Analytica Posteriora 74a17-25.

(2) Heath (p. 223): "In speaking of universal propositions in mathematics applying to a wider class of entities than those of magnitudes, numbers, and the objects of particular mathematical sciences, Aristotle no doubt had in mind such propositions as that in which it is proved that, if four terms are in proportion, they are also proportional alternando. Aristotle pointed out [Analytica Posteriora 74a17-25] that this proposition used to be proved separately for numbers, lines, solids, and times, 'but is now proved universally for all'. The reference is obviously to the proof forming part of Eudoxus' new theory of proportion. What Aristotle would have called the more general category of things to which the proof would apply does not appear, but it seems most likely that it would have been ?????, quantity. What was the word used by Eudoxus in his proposition we do not know; Euclid, who reproduced Eudoxus' theory, speaks of 'magnitudes'. If Eudoxus' word was 'magnitudes' it is odd that, in 1077b17-20, Aristotle should say that the general theorems referred to do not relate to a separate class of entities different from magnitudes, numbers, etc., and yet apply to these things not qua such as to have magnitude or to be divisible; for, as Ross says, one would have thought that divisibility was an essential characteristic of all the objects of mathematics (except points and units). Yet Aristotle does seem to say that general mathematics treats magnitudes, numbers, etc., as being members of some more general category (?????, or whatever else Aristotle would have called it)."

(3) So it seems that the example of mathematics serves to show that it is a different case with mathematics and philosophy. The fact that, implicitly, a difference is made between philosophy and mathematics, is in accordance with ?, 1004a2-9, but in contradiction with 1026a18-19.

Why may we not argue that arithmetic "is universal in this way, because it is primary" (cf. 1026a30-31)? Because the properties of number (even and odd) are not the properties of quantity (equal and unequal, see Categoriae 6a26-35).

The phrase ????? ????? occurs also in Physica 185a2-3. In Physica 184b25-185a3 the alternative is whether it is "for a science common to all sciences" or "for a another science", i. e. a science of its own, to discuss the fundamental suppositions of physics or geometry respectively. Aristotle does not think at all about a general science (a "metaphysica generalis") of its own without any particular object. On the existence of such an object ("the divine", see 1026a20) it depends whether there is an ontology as a science of its own; otherwise, ontology would coincide with physics (cf. ?, 1005a29-33 and vol. 2, pp. 88-90).

1026a27-30

For the term ????? ????????? ("primary philosophy") cf.

(1a) 1037a10-17. 1074a31-38.

(1b) Physica 192a34-b2. 194b14-15. De Caelo 277b9-12. De Generatione et Corruptione 318a3-6. De Anima 403a29-b16. De Partibus Animalium 645a2-4. De Motu Animalium 700b7-9. Cf. also Physica ?, ??????? ???? ??? ????? ??? ??????.

1026a30-31

(2) Theology is "universal in the sense that (or "because") it is primary", because "in all ordered series, the first member is (potentially) present in the successive members" (Defilippo, p. 15; cf. De Anima 414b29-30). We have an example in De Anima 414b19-33, where Aristotle draws up a series of animals:

1. Plant (nutritive)

2. Animal (nutritive + perceptive)

3. Human (nutritive + perceptive + intellectual).

By applying (with Defilippo, p. 21) this structure to Metaphysica ?, we get the series:

1. Unmoved Mover (form)

2. Heavenly (form + local matter)

3. Sublunar (form + local matter + corruptible matter).

The said structure is that of the "mathematicizing Academic elements-metaphysics" (Krämer 2014, p. 286): as in mathematics (cf. our note on 982a25-28), the objects of the subaltern sciences are constituted by "addition" (?????????) to the object of the primary (supreme) science. "In the primary sphere, the ?? ? ?? occurs in its purest form, but it is contained also in the other ones" (Krämer, l. c., n. 46).

This solution is anticipated by Thomas Aquinas in his comment on 982a25-28 (Sententia Metaphysicae, liber 1 lectio 2 numerus 12):

"Deinde cum dicit «scientiarum vero» [982a25-26], ostendit tertium eidem inesse, tali ratione. Quanto aliquae scientiae sunt priores naturaliter, tanto sunt certiores: quod ex hoc patet, quia illae scientiae, quae dicuntur ex additione ad alias, sunt minus certae scientiis quae pauciora in sua consideratione comprehendunt ut arithmetica certior est geometria, nam ea quae sunt in geometria, sunt ex additione ad ea quae sunt in arithmetica. Quod patet si consideremus quid utraque scientia considerat ut primum principium scilicet unitatem et punctum. Punctus enim addit supra unitatem situm: nam ens indivisibile rationem unitatis constituit: et haec secundum quod habet rationem mensurae, fit principium numeri. Punctus autem supra hoc addit situm. Sed scientiae particulares sunt posteriores secundum naturam universalibus scientiis, quia subiecta earum addunt ad subiecta scientiarum universalium: sicut patet, quod ens mobile de quo est naturalis philosophia, addit supra ens simpliciter, de quo est metaphysica, et supra ens quantum de quo est mathematica: ergo scientia illa quae est de ente, et maxime universalibus, est certissima."

(3) On this line, the relation of ontology and theology was treated already in vol. 2 (pp. 69, 88-90, 173).

1026b14-15

(1c) Sophista 235a. 237a. 240c. 254a.

1026b16-20

(1b) Topica 104b25-27.

1026b17-18

(1b) De Sophisticis Elenchis 178b39-179a1.

1026b18-20

(1b) De Generatione et Corruptione 319b25-30.

(1c) Euthydemus 283c-d.

1026b21-24

(1a) 1088a29-33.

1026b27-30

(1b) De Interpretatione 19a7-22. Topica 112b1-2.

1026b31-33

(1b) Physica 196b10-13. De Caelo 283a32-b1. De Divinatione per Somnum 463a2-3. Ars Rhetorica 1369a32-34.

1027a5-8

(1a) 1024b29-32.

1027a12-13

(1a) 1032a20-22. 15. 1039b27-31.

(1b) De Interpretatione 19a7-22. De Caelo 283b4-5. De Generatione et Corruptione 335a32-33.

1027a18

(1a) 1015b14-15.

1027a20-21

(1a) Analytica Posteriora 87b22-23. Physica 197a18-20. De Generatione Animalium 777a19-21. De Partibus Animalium 663b27-29.

1027a29-32

(1a) 1002a28-34. 1033b5-8. 1043b14-16. 1044b21-29. 1025a14-16. 24-25.

1027b18-23

(3) In E 4, it is about combination and separation of concepts, as in Plato's Sophista (260a-268d explanation of ?????? ("falsity"), the reference point of ? 29 and Categoriae 1a16-18. b25-27). Combining concepts which are only "sometimes" (??????) connected in rerum natura is near to error = ?? ?? in the sense of ?????? (1026b21).

1027b18-19

(1a) 1012a2-5. 1012b8-11.

1027b23-28

(1a) 1051b17-22.

(1b) Categoriae 13b10-11. (Cf. 1a16-19.) De Interpretatione 16a9-18. De Anima 430a26-28. 432a11-12.

1027b27-28

(1a) 1063a13-17.

(1b) Physica 212a24.

(1c) Politicus 269d5-6.

1027b34

(1a) 1025a24-30.

(1b) Physica 196a2. 196b27-28. 197a8. Ars Rhetorica 1369a32-34.

Book ?

1028a10

(1b) Physica 185a21.

(3) ?? ?? ??????? ???????? = "There are several senses in which a thing is said to be" (Ross/Barnes), more literally: "being is spoken of in various senses", cf. the phrase ?????? ???? "to speak of somebody". Of course, Aristotle's inquiry is occasioned by the fact that "being" is the great theme of philosophy since Anaximander (cf. 1028b2-6).

To be compared linguistically are the chapters 6-8 and 13-15 of book ?. In ?, it concerns throughout predicates, which mostly also stand for predicates in the text (e. g. 1015b16). If the predicate talked over is grammatically subject, the article is added: 1022a14, 1023a8 and 26, 1024b17. The article is mistakenly added in 1017a7 (cf. 1015b16, 1024a29), 1020a33 (here deleted by Bonitz) and 1023a26 (cf. 1013a24, 1014b16, 1022b4. 15. 22, 1023b12). Hence ?? ?? ??????? ???????? can be translated also by: "the predicate 'being' is said (used) in various senses".

1028a11-12

(1a) 1017b24-26. 1037b26-27. 1038b26-27. 1039a14-16.

(1c) Timaeus 49d-50a.

(2) Ravaisson, p. 380, n. 4 (pp. 380-381): "The ???? ?? expresses the immediate object of intuition, and consequently the essence, the individual being as opposed to the quality which can be the object of a general conception."

1028a20-30

(1a) 1088b4.

(1b) Analytica Posteriora 73b5-10. 83b11-12. 83a25-28, Physica 185a31-32. 190a31-b1. 203b32-34. De Generatione et Corruptione 317b8-11.

(3) The common dichotomy substantia - accidens goes back to Analytica Posteriora 73b5 and 83b11 (cf. also Metaphysica A, 989b3, ?, 1007a31-32).

1028a30-31

For the phrase ??? ?? ?? ?? ???' ?? ????? cf.

(1b) De Sophisticis Elenchis 167a2-6. 180a36-38. Physica 187a5-6. 225a15-17. 226a2-3. De Generatione et Corruptione 318a33-34. 319a3-4. 13. Ars Rhetorica 1402a2-16.

(2) The ?? is interpreted as accusativus respectus by Ross ("i. e. not in a qualified sense but without qualification") and Frede/Patzig (II 19), as predicative complement by Barnes ("and is simply, (not is something))".

(3) The latter interpretation is the right one; most compelling are the examples in De Generatione et Corruptione 319a15-17.

1028a31-b2

(1a) 1018b34-36. 1038b27-28. 1049b10-12. 1077a36-b9. 1084b9-13.

(1b) De Partibus Animalium 646a35-b5.

1028a33-34

(1b) Categoriae 2b5-6.

1028b1-2

(1a) 1030a21-27.

1028b2-4

Barnes 78: "The question «What is being?» is an ontological question, a question about existence: «What is being?» means «What is existent?» - or better, «What items exist?»"

1028b4-7

(1a) 983b18-984a16.

1028b8-13

(1a) 1017b10-14.

(1b) De Caelo 268b27-29.

1028b15-32

= Testimonia Platonica 28a Gaiser

1028b15-27

= Speusippus fr. 29a Tarán

(1a) 1002a4-8.

1028b15-18

= Diels/Kranz I, 457, 1-3

(1a) 1002a4-8. 1060b12-17. 1076a16-19. 1090b5-7.

(1b) De Caelo 298b33-299a1.

(2) According to Asclepius (379, 3-4), the ????? ("some") are Pythagoreans.

1028b19-21

(1a) 987b14-18.

1028b21-24

(1a) 1072b30-34. 1075b37-1076a3. 1090b13-20. 1091a33-36. 1092a11-15.

(1d) Iamblichus in Stobaeus, Eclogae I, 49, 33-36 (= Speusippus, fr. 40 Lang = fr. 54a Tarán):

???? ?? ????? ?? ?? ????? [scilicet ??? ?????] ?? ?????, ????? ??

??????????, ??? ???? <?> ?????????. ?? ?????? ??? ??? ???????

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("One genus of soul is figure, being limit of extension, and extension itself. In these very terms Severus the Platonist defined it, in terms of 'idea of the extended in every way' Speusippus.")

(3) Speusippus is mentioned by name only here and 1072b31, Xenocrates never.

1028b24-27

= Xenocrates fr. 103 Isnardi Parente

(1a) 1069a33. 1076a19-23. 1080b21-24. 1083b1-3. 1086a5-11.

(1d) Theophrastus, Metaphysica 6a23-b9 (= Xenocrates, fr. 26 Heinze):

??? ?' ?? ?? ?????? ????? ????? ????????

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(6b.) ???????? ??????, ???? ????? ??? ????? ??? ???????,

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("But now most people go to a certain point and then stop, as those do also who 12 set up the One and the indefinite dyad; for after generating numbers and planes and solids they leave out almost everything else, except to the extent of just touching on them and making this much, and only this much, plain, that some things proceed from the indefinite dyad, e. g. place, the void, and the infinite, and others from the numbers and the One, e. g. soul and certain other things; and they generate simultaneously time and the heavens and several other things, but of the heavens and the remaining things in the universe they make no further mention; and similarly the school of Speusippus does not do so, nor does any of the other philosophers except Xenocrates; for he does somehow assign everything its place in the universe, alike objects of sense, objects of reason or mathematical objects, and divine things as well.")

Sextus, Adversus Mathematicos VII, 147-149 (= Xenocrates, fr. 5 Heinze):

?????????? ?? ????? ????? ?????? ?????, ??? ??? ???????? ??? ?? ?????? ??? ?? ???????? ??? ????????, ?? ???????? ??? ????? ??? ????? ???????, ?????? ?? <???> ?????? ??? ????? ???????, ???????? ?? ??? ???????? ??? ????? ??? ???????? ????? ??? ??? ???? ?? ????????, ????? ?? ??' ???????????.

[148] ?????? ?????? ?????? ??????? ??? ??????, ??? ??? ????? ??????? ??? ?????? ??????

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[149] ??? ??? ????? ??? ??? ???? ????? ????? ??? ?? ?????. ???? ??? ????? ??????

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("But Xenocrates says that there are three forms of existence, the sensible, the intelligible, and the composite and opinable; and of these the sensible is that which exists within the Heaven, and the intelligible that which belongs to all things outside the Heaven, and the opinable and composite that of the Heaven itself; for it is visible by sense but intelligible by means of astronomy.

[148] This, then, being the condition of things, he declared that the criterion of the existence which is outside the Heaven and intelligible is knowledge; and the criterion of that which is within the Heaven and sensible is sense; and the criterion of the mixed kind is opinion. And of these generally the criterion afforded by the cognitive reason is both firm and true, and that by sense is true indeed but not so true as that by the cognitive reason, while the composite kind shares in both truth and falsehood; for opinion is partly true and partly false.

[149] Hence, too, we have by tradition three Fates—Atropos, the Fate of things intelligible, she being unchangeable, and Clotho of things sensible, and Lachesis of things opinable.")

Themistius, In De Anima, p. 11, 20-12, 1 (= Xenocrates, fr. 39 Heinze) on 404b18-21:

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(12.) ?? ??? ???? ?????? ???????????.

("These men assumed that the incorporeal entity, not subsisting in mass, be altogether alien to the continuous quantity, but proper to the distinct one; for they supposed that also of that entity there is a multitude composed of real units - not of those units with which we are dealing in the case of the bodies, of which none is strictly one, but many, rather infinite in number. Therefore, they called this number 'ideal', because it is composed of ideas, and they supposed these numbers to be ideas of the beings: 'all things, too, are like unto number' [cf. our note on 985b23-986a13]. Now of the 'animal itself', i. e. of the mundus intelligibilis, they made to be the primary elements some of the ideal numbers: the idea of the one and that of the primary duality and that of the primary trinity and that of the primary quaternity. For because it is necessary that in the mundus intelligibilis there appear completely the principles of the mundus sensibilis, and the latter is already composed of length, breadth and height, they declared that the primary duality be the idea of length (for the length is from one to one, i. e. from one point to another), the primary trinity the idea of both length and breadth (for the triangle is the first of all plane figures), and the primary quaternity the idea of length, breadth and height. All this can be learned from Xenocrates' On Nature.")

(2) Since Asclepius (379, 17) this passage is referred to Xenocrates.

1028b33-1029a3

(2) Mary Louise Gill, Aristotle on Substance, pp. 15-40.

1029a2-5

(1b) The same as classification of entity (?????) in De Anima, 412a6-9.

1029a7-30

(1a) 1017b23-26.

1029a11

For ????????? ("it is beyond us to say", literally: "escapes") cf.

(1a) 1001b28. 1002a27.

1029a11-12

For ?????????????? ("when taken away") cf.

(1b) Categoriae 7a32. 35. b2. 5. 7.

1029a12-16

(1a) 1001b28-1002a4.

1029a18

For ?????????? ("bounded") cf.

(1a) 1017b17.

1029a20-21

(1a) 1037a7. 27. 1049a24. 1043a12. 27. 1007b28.

(1b) Physica 191a7. 209b1-11. De Caelo 306b17.

(2) One of the three "classic definitions of matter" quoted by Happ (pp. 296-297); the other two are 1042a27-28 and Physica 192a31-32.

1029a26

(1b) Physica 192a5-6.

1029a27-28

(1a) 1020a8. 1030a5-6. 1033b22. 1037b26-27. 1038b24. 1060b1.

(1b) Categoriae 3b10. Physica 214a12. De Generatione et Corruptione 317b8-9. 21. 31-32. De Anima 402a24. 416b13.

(1d) Alexander, In Metaphysica, 56, 30-31:

?? ??? ???????, ???? ???? ??

???? ??? ?????????.

("each thing being one since it is a 'this' and definite")

Alexander in Simplicius, In Physica 455, 6-8:

??? ??? ??????? ??? ??????? ??????? ??? ??? ??? ???? ??? ??? ???

?????????, ??? ???? ???????, ??????? ?? ?????????? ??? ?????? ????, ???

???????? ??????.

("Each of the Numbers, to the extent that it is this Number and one and definite, shares in Unity, but to the extent that it is divided and is a multitude, in the Indefinite Dyad.")

(2) Trendelenburg (1846, p. 54) translates ???? ?? by "determined in form" ("in der Form begrenzt"), equating it with ?????????. Cf. 1033b22.

(3) By application of this criterium, the limits of the bodies were considered to be entities (??????), 1028b15-18; cf. the comment on 1017b24-26.

1029a33-34

(1a) 1028b8-9. 1032a18-19. 1042a24-25. 1060a13-14.

(2) "Some of the sensible substances are generally admitted to be substances." (Ross)

"It is agreed that there are some substances among sensible things." (Barnes, reading ???? instead of ?????, with Frede/Patzig ii, p. 53.)

(3) Frede/Patzig and Barnes have overlooked the parallel 1060a13-14.

1029b3-12

(1a) 982a23-25. 1018b31-34.

(1b) Analytica Posteriora 71b33-72a5. Topica 141b3-142a16. Physica 184a16-21. Ethica Nicomachea 1095b2-4. Ethica Eudemia 1216b32-35.

1029b12-13

(1a) 1030a25-26. 1041a27-28. 1069a27-28.

(1b) Physica 264a7-9.

1029b13-22

(1a) 1022a25-27.

(2) Ross i 127: "The phrase is a generalization from such phrases as ?? ?? ???? ?? ?????? ?????" (De Partibus Animalium 649b22).

(3) ???? ?? ?? ???? ?? ?????? ????? is athetized by the translators Peck and Ogle, unjustly. In ll. 26-27 blood is compared with white man. The argument of ll. 649b21-27 means that blood is per se hot only in so far as "hot" is included in the definition of "blood", as "white" is included in the definition (and in the ?? ?? ?????, cf. 1029b26-27) of "white man". ???? refers to ??? (in l. 21) as in Metaphysica 1034a15-16, Analytica Priora 46b28-29, Analytica Posteriora 71b8.

The next related passages are Physica 219b14 (????? ?' ?? ???? ?? ??? <?????>) and De Anima 419a9-11 (????? ??? ?? ???? ?? ??????? ?????, ?? ???????? ????? ??? ???' ????????? ?????????).

Since Trendelenburg (1828, p. 482), the datives are interpreted as dativi possessivi. This does, however, not exclude (as Trendelenburg, pp. 463-464 thinks) that case attraction takes place. The decisive instance is Categoriae 12b38: ?? ????? ?? ?????.

The preference for the dative is motivated by the fact that the (more natural) accusative could be understood as assertion of existence (as in Analytica Posteriora 72a23-24) or as mere predication (cf. 1031b5-6).

1029b16-18

(1a) 1022a29-32.

1029b24-25

(1a) 1054a6. 1071a2.

(1b) Topica 120b26.

(2) "Motion" (???????) is here "the abbreviated expression for ?????? and ???????" (Trendelenburg 1846, p. 135, Schwegler iv 53). According to Physica 200b32-201a3, however, there is no separate category of motion.

1030a4

For ???? ???? ?? ("what a 'this' is") cf.

(1b) Topica 116a23-28. De Sophisticis Elenchis 179a4. 179a6.

1030a6-11

(1b) Analytica Posteriora 92b26-34.

1030a21-27

(1b) 1017a22-24. 1089a7-9.

1030a25-26

(1c) Sophista 258b8-c3.

(2) Cherniss (n. 61, pp. 93-94): "If this is a reference to the Sophista, as Ross thinks (Metaphysics, II, p. 171), the specific passage which Aristotle has in mind is probably Sophista 258c: ???? ?? ??? ?? ?? ?? ???? ?????? ?? ?? ??? ???? ?? ??. This does not, however, mean, as he interprets it, that absolute non-being 'is non-existent' (cf. 258e7-259a1, 238c8-10); ?? ?? ?? is the 'idea of difference,' exemplified by the comparison with [94] ?? ?? ???? and ?? ?? ?????, and the meaning is that it is what is other than 'being' (cf. 257b9-c3)."

Hölscher (p. 210): "The non-being meant here is noways the nothing or the non-existent (as believes Ross II 171 ad 25), but, e. g., the non-white: of it, it is said '… is not white'."

1030a35

(1a) 1004a24.

1030b8-10

(1a) 1045a12-14.

(1b) Analytica Posteriora 93b35-37. De Arte Poetica 1457a28-30.

1030b14-27

(1b) Physica 194a12-14. De Anima 403b2. 412b11.

1030b16-20

(1a) 1025b30-1026a6. 1036b21-24. 1037b3-4.

(1b) Politica 1309b23.

(1c) Res publica 474d.

1030b23-26

(1a) 1025a30-33.

1030b31-32

(1b) De Sophisticis Elenchis 182a4-6.

1031a2-5

(1b) Analytica Posteriora 73a37-b3. De Sophisticis Elenchis 173b8.

1031a21-24

(1a) 1026b14-21.

1031a28-b18

(2) Cherniss 334-336.

1031a29-31

(2) Cherniss, Riddle, p. 53.

1031b11-14

(1a) 1003b11-16.

1031b15-18

(2) Cherniss 333.

1031b18-1032a6

(2) Cherniss 336-340.

1031b18-22

(1a) 992b9-13.

1031b21-22

(2) Cherniss (n. 244, p. 336): "Ross (Metaphysics, II, pp. 178-179) rightly says that ??? ???? ??? ??????? here cannot mean the Platonic «separation»; he consequently interprets it as «by the exhibition of instances,» following Pseudo-Alexander who paraphrases it with ?? ??? ???????? (Metaphysica, p. 484, 10). The sentence gains point, however, if ??????? here refers to that «logical abstraction» or «isolation» which in De Sophisticis Elenchis 179a3 is distinguished from the Platonic «separation» by the words: ?? ?? ?????????? ?? ????? ??? ?????? ????????. Aristotle then contends that even the isolation of the essence in thought far from supporting the Platonic view that it is other than the entity proves that the two are identical."

1032a6-11

(1a) 1049a24-27.

1032a20-22

(1a) 1027a13-15.

1032a22-23

(1a) 1022a17-19. 1015a3-11. 1070a9-13.

1032a17-19

(1a) 1042a7-12. 1043b21-23. 991b3-9.

1032a25-28

For ??? ???????? ("from thought") cf.

(1a) 1049a5. 1070b31.

(1b) Analytica Posteriora 95a3. Physica 196b22.

1032a29

(1b) Physica 197a36-b37.

1032a30-32

(1b) Historia Animalium 569a11. De Generatione Animalium 732b12.

Balme (pp. 99-100): "Ross ad. loc. cites the cases of eels (Historia Animalium 570a7), fishes (569a11), testaceans (547b18, De Generatione Animalium 761b23), insects (539a24, De Generatione Animalium 732b12). But, as has been seen, in none of these cases does the De Generatione Animalium give the generation of any one species [100] both ?? ????????? and ??' ?????????, and in this matter the Historia Animalium presents the same view. Moreover the De Generatione Animalium provides a theoretical argument against such a possibility: 715b8-15 if spontaneous animals were able to generate further animals, the offspring would be either like or unlike the parents: if like, then the parents ought also to have been generated in the same way; if unlike, and if able to generate still further animals, then there would be an infinite production of unlike animals. Hence spontaneous animals can only produce ??? ??????? ?????? ???? ???????? ?????, ?????? ?? ??????????, 721a6, 723b5, 732b13, Historia Animalium 539b10, 556b22. Add to this his statement that where there is male and female the action of the male must be needed, 741b3."

1032b1-2

(2) Cherniss (p. 364): "Now, at times we are told that the «primary reality» — for «reality» represents ????? more exactly than the conventional «substance» — is the particular (Categoriae 2a11-14, De Generatione Animalium 731b34, 767b32-34) and that the species is more real than the genus because it is nearer to the particular (Categoriae 2b7-8, cf. De Generatione Animalium 767b30-32) but at other times that it is the form (Metaphysica 1032b1-2, 1037a27-30 and 1037b3-4), [Cf. also Metaphysica 1054b1 where ? ????? ????? is form or essence; and cf. the ?????? ?????? of De Interpretatione 23a23-26, distinguished as pure actuality from the concrete sensibles, and the ????? ????? of Metaphysica 1005a35.] the particular complex of form and matter being more real than matter because it is nearer to the form (Metaphysica 1084b9-13, cf. 1029a29-32 with 1029a5-7)."

1032b2-6

(1a) 1046b7-15.

(1b) Physica 191a4-7. 195a11-14. De Anima 430b20.

1032b6-8

(1b) Ethica Eudemia 1227b28-33.

1033a5-7

(1b) Physica 245b9-246a4.

1033a34-b5

(1a) 1070a2-4.

1033b5-8

(1a) 1039b23-26. 1042a29-31. 1044b21-29.

1033b19-1034a8

(2) Cherniss 330-333.

1033b21-24

(1a) 1038b34-1039a2.

(1c) Timaeus 49d-e.

1033b26-28

(1a) 991a8-12. 991b3-9. 1070a27-30.

(1c) Phaedo 100b-102a.

1033b31

(1a) 1078b24.

1033b34-1034a1

(2) Balme (92): "But (a) this genus is named in De Generatione Animalium and Historia Animalium as ???????; [De Generatione Animalium 755b18, 777b5, Historia Animalium 495a4, cf. 493a31, 501a6] (b) this argument would defeat the explanation given in De Generatione Animalium II. 7-8 of hybrids and mules, namely that interbreeding can occur between animals whose nature is 'near' but whose kind is different, ???? ???????? ??? ????? ???????, ??? ?????????? ?? ?? ????? 746a30: the De Generatione Animalium explanation depends upon the difference of kind and would be upset by acknowledging that horse and ass are after all of the same ?????; (c) the Metaphysica ?. argument depends upon the classificatory use of ????? and ?????, but the comparable passages in De Generatione Animalium use ????? and ????? interchangeably and are not based on genus-species hierarchies: they argue from the universal and the particular. [De Generatione Animalium II. 8: IV. 3; cf. esp. 747b30-748a7, 767b24-25.]"

1034a3-4

(1a) 1017b10-14. 1028b8-13. 1032a17-19. 1042a7-12. 1043b21-23.

1034a2-5

(1a) 1017b10-14. 1028b8-13.

1034a5-8

(1a) 1058a18-21. 1058b5-8.

1034a30-32

(1b) De Motu Animalium 701a8-9. Ethica Nicomachea 1147a25-31.

1034a31-32

(1a) 1078b21-25.

1034a33-b1

(1b) De Generatione Animalium 735a4-9.

1034b1-4

(1b) De Anima 415a26.

1034b16-19

(1a) 1049b17-29. 1071b12-14.

1034b20-24

(1a) 1023b17-19. 22-25.

1034b24-28

(1a) 1014a26-31.

1034b28-30

(1a) 1019a6-14.

1034b31-32

(1a) 1019a1-4.

1034b32-33

(1a) 1023b15-17.

1035b4-14

(1b) Topica 141b25-34.

1035b6-8

(1a) 1084b7-9.

1035b11-14

(1a) 1025b25-28.

1035b14-16

(1a) 1017b14-16. 1043a33-36.

(1b) De Anima 412b9-10.

1035b16-18

(1a) 1036b30-32.

1035b19

(1a) 1025b34-1026a6.

1035b24-25

(1a) 1036b30-32. 1040b5-7.

(1b) De Generatione Animalium 726b22-24. 734b24-27. Politica 1253a20-23.

1035b26-27

(2) Balme (p. 92): "[…] Aristotle calls the supreme part of the body ?????? ? ?????????, which is strange when compared with the emphatic and repeated teaching of his biological works that this part is the heart. [Cf. De Partibus Animalium 665a12. 666a8. 666b14. 681b15. 681b32. De Generatione Animalium 743b25. 771a3. 773a9. 781a22. De Respiratione 469b5. 478a24.]"

1035b27-30

(1a) 1015a6-11. 1045b17-19. 1070a17-21.

1036a2-6

(1a) 1039b27-30. 990a29-32. 1043b28-32.

1036a8-9

(1b) Physica 207a25.

1036a9-12

(1a) 1036b32-1037a5. 1043a33-34. 1045a34-b2.

(1b) De Anima 429b18-20.

1036a31-34

(1a) 1018a38-b7.

1036a34-b3

(1a) 1027b29-34.

1036b8-13

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(2) Cherniss (n. 233, p. 328): "This is a reconstruction of the motivation of the Pythagorean theory (cf. Crit. Pres. Phil., pp. 42 and 225; Kapp's identification [Philologus, LXXIX, p. 232] of ????? in 1036b8 with Socrates the younger is unconvincing in view of the tradition [cf. Ross, Metaphysics, II, p. 202], the construction of the passage [which on Kapp's view would require us to suppose without any evidence that this Socrates rejected ideas in any and every sense], and the mention of Pythagoreans in 1036b18-19 which, when compared with 987a25-27, is seen not to be introduced here merely «beiläufig zur Diskreditierung der Ideenlehre»; even if Kapp's interpretation of the intention of Socrates' comparison be correct, this Socrates would more probably be included in the ?? ??? of 1036b14 than in the ????? of 1036b8); and then with these Pythagoreans Aristotle connects, among those who posit ideas, the sect which identifies the dyad and the absolute line (??????????), for he contends that the result both for them and for the Pythagoreans is a single form for many things that are clearly different in form (1036b13-19; cf. 987a25-27)."

1036b12-13

(1a) 1043a33-34. 1078b21-22.

(1b) Magna Moralia 1182a12-14.

(2) Zeller (I/1. p. 511, n. 1): "?????, it is certain, means the Pythagoreans; the Platonists are subsequently expressly distinguished from the Pythagoreans."

Burkert 59, n. 90: "In this context, it is about separation of ????? and ???; therefore Pythagoreans cannot be meant."

(3) The parallels given above are in favor of Zeller. And it is the Pythagoreans who are opposed to those who posit "separate" entities (e. g. 987b29-31).

1036b13-15

(1d) Sextus Empiricus, Adversus mathematicos X 259-260: see note on 1016b24-31.

Ibidem, X 278-280:

?????? ??? ?? ??????? ???? ??? ??? ??????? ????? ?????????·?? ??? ? ????? ?????????? ?? ?????, ???? ??? ?? ???????, ??? ?? ?????? ? ????? ???? ??? ????? ?? ????????, ????? ??? ?? ??????? ???? ??? ????? ?? ????????. ???? ?? ??? ??????? ??? ??? ??????? ???? ?????, ? ?? ?????? ???? ??? ??? ?????? ????? ?????????? ???? ????????? ??? ??? ? ???? ??? ? ?????? ???????.

[279] ??? ?????? ?? ?????? ????? ??????? ????????? ??????? ????? ???? ??????. ?????? ????? ???? ??? ????? ? ??????, ?? ?? ???????? ???? ??? ??????, ? ?? ????? ????? ???? ????????? ???? ?? ? ????, ???? ??? ?????? ?????????? ????????? ?? ??????.

[280] ????????? ?? ????? ???????, ????? ??? ?? ???????? ???????????, ?????? ?? ???? ????? ??? ?? ??? ????? ?????????????? ???????, ????? ?? ????? ???????????, ???????? ???????????. ?? ?? ??????? ????? ??? ?? ????, ??????? ?? ???????????, ???? ??? ??????? ????????. ???? ??? ????? ????????, ?? ????????, ????????? ??????????? ????? ????? ?????? ??????? ??????????? ??????????? ????? ??????? ???????? ???? ??? ??? ??? ????? ??????????, ????? ?????? ?????.

("Thus the point, for example, is ranked under the head of the One; for as the One is an indivisible thing, so also is the point; and just as the One is a principle in numbers, so too the point is a principle in lines. So that the point comes under the head of the One, but the line is regarded as belonging to the class of the Dyad; for both the Dyad and the line are conceived by way of transition.

[279] And again: the length without breadth conceived as lying between two points is a line. So then, the line will belong to the Dyad class, but the plane to the Triad since it is not merely regarded as length, as was the Dyad, but has also taken to itself a third dimension, breadth.

[280] Also when three points are set down, two at an interval opposite to each other, and a third midway in the line formed from the two, but at a different interval, a plane is constructed. And the solid form and the body, as also the pyramid, are classed under the Tetrad. For when the three points are placed, as I said before, and another point is placed upon them from above, there is constructed the pyramidal form of the solid body; for it now possesses the three dimensions length, breadth, and depth.")

(2) Ross translates: "And of those who assert the Ideas some make two the line itself, and others make it the Form of the line".

Cherniss (pp. 567-568): "Ross' perverse interpretation of this passage not only makes nonsense of the passage but also violates the elementary rules of Greek grammar, for ?????????? without the article must be predicate to both ??? ????? and ?? ????? ??? ???????."

(3) Burkert's (n. 54 on pp. 22-23) objection requires to substantiate in more detail Cherniss' interpretation. Burkert refutes himself by adducing as parallels 1083b17, De Anima 404b24, Physica 203a10, because there the article is added twice, so that in our passage too it had to be added already to ???????????. Secondly, the distinction between ?????? and ????? ??? ??????? which follows in ll. 15-17 (see next note) makes sense as an argument only if no distinction concerning the line was made in the first possibility (??????????? ??? ?????). So, as Cherniss states, ?????????? must be the common predicate of both sentences.

1036b15-17

(3) This refers to the "intelligible matter", cf. our note on 1036a9-12, especially 1043a33-34.

1036b24-28

(1c) Sophista 218b. Theaetetus 147d. Politicus 267c.

(2) Cherniss (n. 231, p. 327): "The «comparison in the case of animal» Aristotle here ascribes to «the younger Socrates» (cf. Politicus 257c-258a, Theaetetus 147d, Sophista 218b, and Novotný, Platonis Epistulae, pp. 275-276); in Epistula VII, 342-343 the circle is the example used to illustrate what is true of ???? as well as of all other things. E. Kapp (Philologus, LXXIX, pp. 228-233) argues that the intention of the younger Socrates was not to establish an idea of man but to justify the reduction of mathematical definitions to purely numerical terms. A comparison of 1036a34-b7 with De Caelo 278a4-10 makes this appear improbable."

1036b28-32

(1a) 1043a33-b4. 1035b22-25.

1037a2

For the expression ???? ???' ???? ("bare") cf.

(1a) 1037a21-22 ("independent"). 1075a12-13 ("by itself").

(1b) Magna Moralia 1182b12-16 ("by itself").

1037a13-17

(1a) 1025b25-28.

(1b) Physica 194a12-27.

1037b2-3

(1b) Physica 194a3-7.

1037b4-7

(1a) 1031b22-28.

1037b8-10

?? ???? ???????????:

Analytica Posteriora 92a27-33.

1038a5

(1a) 987b8. 1030a12.

1038a6-8

(1a) 1024b6-9. 1045a23-33.

(1b) De Partibus Animalium 643a23-27.

1038a8-9

(1a) 1043a19-20.

1038a9-30

(1a) 1045a12-14.

1038a9-11

(1b) Analytica Posteriora 96b35-97a2. De Partibus Animalium 643b17-23.

1038a12-13

(1b) Analytica Posteriora 97a1-6. 35-b6.

(2) Lloyd (p. 72): "Aristotle now [in De Partibus Animalium] complains that dichotomy splits up the natural groups, such as birds and fish (vide De Partibus Animalium 642b10-13, 643b10-13, and contrast Analytica Posteriora 97a1-6, 97a35-b6, where it was assumed that both the genus 'animal' and the groups 'birds' and 'fish' could be divided dichotomously). In contrast, then, with the discussions of division in Analytica Posteriora II 13 and Metaphysica Z 12, in which dichotomy was held to represent a valid method whereby the infimae species may be defined, in De Partibus Animalium I 2-4 there is a total rejection of this method as applied to zoology.[642b6-7, 644b19-20 ????? ?? ?????????? ?? ??? ???????? ?? ?? ?????, ???????.] Further, some of the examples which are now given of false dichotomies, may be compared with divisions which Aristotle himself had used and accepted at an earlier stage. At De Partibus Animalium 642b32-33, 643b19-23, he specifically rejects the division into '????????' and '???????', which had been mentioned as an example of a possible type of division at Metaphysica 1038a12-13 (cf the use of ??????? at 1037b22, 1037b33)."

1038a17-18

(2) Lloyd (pp. 71-72): "The fact that the number of species will be the same as the number of differentiae […] is now [in De Partibus Animalium] used to show the absurdity of applying this method to the classification of species (De Partibus Animalium 643a7-24)."

1038a18-21

(1b) Analytica Posteriora 96b12. De Partibus Animalium 644a29.

(2) Lloyd (p. 72): "The fact that a definition will consist of the genus and the last differentia […] is now [in De Partibus Animalium] used as an objection to Division because each species requires more than one differentia (vide De Partibus Animalium 643b28-644a11)."

1038a21-25

(1b) De Partibus Animalium 643b34-644a1.

1038a25-28

(1b) De Partibus Animalium 643b17-23.

1038a30-34

(1b) Analytica Posteriora 97a23-34.

(2) Cherniss (n. 32, p. 44): "Nevertheless, in the process of constructing a definition, Aristotle says (Analytica Posteriora 96b30-97a6, 97a25), it makes a difference which attribute is predicated first and which second; diaeresis enables one to achieve the right order and to be sure of omitting none in proceeding to the ultimate differentia. Bonitz (Aristotelis Metaphysica, p. 346) is right in saying that these two passages are not inconsistent; but it is instructive that Aristotle himself speaks quite differently and in what might well seem at first a self-contradictory fashion when he is explaining the nature of definition and essential nature and when he is describing the method of discovering them. One should bear it in mind that a similar difference is possible for Plato - and that Aristotle never considers the possibility."

1038a33

(1a) 999a10-14.

(1b) Analytica Posteriora 96b30-97a6.

(2) Lloyd (p. 67): "the remark that ????? ?' ??? ????? ?? ?? ????? seems to imply a correction of his earlier ideas. (In Analytica Posteriora II 13 [96b30-31. 97a23-25], and elsewhere [Topica 144b10-11], he held that the order in which the differentiae are taken will contribute to the successful outcome of the procedure of division). This correction, and the other slight differences in the two treatments of division in Analytica Posteriora II 13 and Metaphysica ? 12, suggest that the discussion in Metaphysica ? 12 may well be somewhat later."

1038b6-8

(1a) 1069a26-30.

1038b8-1039a14

(2) Cherniss 318-321.

1038b8

(1b) De Generatione Animalium 767b24-35.

1038b10

(1a) 1041b27.

1038b10-12

(1a) 1002b22-27.

1038b11

(1b) De Interpretatione 17a39-b1. De Partibus Animalium 644a27-28.

1038b15-16.

(1a) 1017b10-14. 1029a7-9.

(1b) Categoriae 2a11-14.

1038b26

(1a) 1088b4.

1038b27-29

(1a) 1019a1-4. 1077a36-b4.

Disjunction ????? - ???? as in 1058b23, 1077b5, 1089a10, Topica 145a3-4 (????? - ???????), 678a32, Plato, Euthyphro 11a, Hippias major 301b.

1038b28

(1a) 1088b4.

1038b34-1039a3.

(1a) 1003a5-9. 1053b16-21.

(1b) De Sophisticis Elenchis 170a8.

1039a2-3

(1a) 990b15-17.

1039a3-7

(1a) 1048a32-35. 1051a21-24. 29-31.

1039a8-14

(1b) 303a8-10.

1039a8-10

(1b) De Caelo 303a6. De Generatione et Corruptione 325a35.

1039a9-11

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(1b) De Caelo 303a5-7. De Generatione et Corruptione 325a34-36.

(1d) Simplicius, In De Caelo 295, 13-14:

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("being quite silly that two or more things become one.")

1039a11-14

(1a) 1084b19-23.

1039b4-6

(1a) 991a12-19.

1039b27-1040a5

(1a) 1036a6-9.

(1b) Analytica Posteriora 74b32-39. Topica 131b21-23.

1039b27-31

(1b) Ethica Nicomachea 1139b18-24.

1039b31-1040a2

(1b) Analytica Posteriora 73a21-23. 75b24-26. 88b30-89a3.

(1c) Res publica 477a-480a.

1040a2-5

(1a) 1036a6-7.

(1b) Topica 131b21-23.

1040a14-17

(1b) Topica 128a20-29.

1040a21-22

(1a) 1019a1-4. 1083b32-36. 1059b27-31. 38-1060a2.

1040a31

(2) ???????????, opposed in sense to ????????? ("shining by night", Diels/Kranz I 243, 19 = Plutarch, Adversus Coloten, 15 p. 1116a), is probably Parmenidean as well as the latter (Jaeger 1957, p. 44).

1040b5-7

(1a) 1035b22-25.

1040b7-10

(1a) 1070a9-13.

1040b13-14

(1b) De Anima 409a9. 411b19-22. 413b16-24. 433b19-27.

1040b16-19

(1a) 1001a4-8.

1040b19-21

(1a) 1001a12-15.

1040b27-30

(1a) 1086b16-19.

1040b32-34

(1a) 997b8-12.

(1b) Ethica Nicomachea 1096a34-b3. Ethica Eudemia 1218a10-12.

1041a15

(1b) Analytica Posteriora 89b23-25.

1041a26-28

(1a) 1029b12-14.

1041b11-33

(1c) Theaetetus 205d.

1041b28

(1a) 1017b15. 1043a2.

1041b31

(1a) 1070b22-24. 1091b3. 13. 1092a6-7.

Book ?

1042a26-29

(1a) 1029a1-3.

1042a29-31

(1a) 1039b20-26.

(1b) De Anima 414a15.

1042a32-b1

(1a) 1069b9-14. 1088a29-33.

(1b) Physica 243a6. 260a26.

1042b2-3

(1b) Physica 201a3-5.

1042b3-6

(1a) 1044b6-8. 1050b12-16. 20-22. 1069b24-26. 1072b4-8.

1042b11-15

(1a) 985b13-19.

1042b12-15

(1b) De Generatione et Corruptione 327a16-19.

1042b21-25

(1a) 992b4-7.

(1b) Physica 187a15-17. 189b8-11.

1042b31-35

(1a) 992b4-7.

(1b) Physica 187a12-23.

(1d) Sextus Empiricus, Adversus Mathematicos X 273:

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("The relatives, however, are classed under the genus of excess and defect; thus great and greater, much and more, high and higher are conceived by way of excess; but small and smaller, few and fewer, low and lower by way of defect.")

1043a9-12

(1b) Analytica Posteriora 90a19. 95a16. De Generatione et Corruptione 330b28-29.

1043a14-19

(1a) 996b5-8. 1039b27-31. 1039a14-19.

1043a19-26

= 47 A 22 Diels/Kranz

1043a35-36

(1b) De Anima 412b4-6.

1043b4-6

(1a) 1041b11-27.

1043b11

For ?? ????' ??? ("if these are matter") cf.

(1a) 1038a5-9.

1043b14-16

(1a) 1026b21-24. 1033b5-8.

1043b18-21

(1a) 999b17-20.

1043b23-32

An interpolation, see vol. 2, pp. 123-124.

1043b23-28

On the text see vol. 1, pp. 219-220.

(1a) 1024b32-34. 1041b9-10.

(1c) Theaetetus 201b-202c. Sophista 251b-c.

(1d) Simplicius, In Categorias 208, 28-32:

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("Some of the ancients did away with qualities entirely while agreeing that there were things qualified, for example Antisthenes, who on one occasion was arguing with Plato and said: «Plato, I can see a horse, but I cannot see horseness.» Plato replied: «That is because you have the eye with which the horse is seen, but you have not yet obtained the eye with which horseness is contemplated.»")

Diogenes (vi 53) tells the same story of Diogenes and Plato.

(2) Zeller II/1, p. 295: "If nothing is to be explained by something else, that means: All that is real is absolutely individual. General conceptions do not express the essence of things, but they express men's thoughts about them. Plato having derived from the Socratic demand for a conceptual knowledge a system of the most decided Realism, Antisthenes derives therefrom a Nominalism quite as decided."

(3) Antisthenes anticipates the distinction of the two categories substance and quality, which are used by Aristotle too for criticizing the doctrine of Ideas: the universal only indicates a quality (Categoriae 3b13-23). In comparing silver and tin, it is about a permanent quality (white, cf. 1054b12-13), which is substantialized in the doctrine of Ideas. As in 1024b32-34, it is the same couple of two categories which is used.

Let us note that the Academic standard examples man and horse (cf. ad 1011b31) possibly are used by Antisthenes, as well as by Eurytus (1092b11).

What we are told by Aristotle fits together with what is referred to Antisthenes in Plato, if we place it under the title of "unity and multitude". Then, Antisthenes' argument ends in the conclusion that Plato's Ideas cannot have the status of reality attributed to them because they lack absolute unity, the Eleatic criterium of beingness.

1043b24

For ?????????? ("uneducated") cf.

(1d) Antisthenes in Arrianus, Epicteti Dissertationes I, 17, 12:

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("The beginning of education is the examination of terms.")

(3) ?????????? gets its polemical point only if we understand it as an allusion to Antisthenes' claim to teach the elements of education.

1043b27-28

(1a) 1054b12 (on the text of which see vol. 1, p. 251).

(1b) Meteorologica 388a19-20.

(3) The quality common to silver and tin is white (1054b12). Both belong to the "homogeneous bodies" (?????????). These appear to be meant by the simple entities which cannot be defined according to Theaetetus 201d8-202b8. "It is certain that Antisthenes, who was an out-and-out sensationalist, meant by a complex a thing which could be divided into sensible parts or elements. Cf. Theaetetus 201e ?? ????? ????????? ????????, ?? ?? ????? ?? ?????????? ??? ?????." (Ross ii 233) What humans consist of is "bones and sinews" (Phaedo 98c6-7), which, according to Meteorologica 388a17, belong to the homogeneous bodies as well. The remark (Theaetetus 202b6) that the elements are "sensible" (???????) gains illustration from the example of the white color of silver and tin.

1043b28-32

(1a) 1039a14-23.

(1c) Theaetetus 202e.

1043b32-34

On the text see vol. 1, p. 220, and vol. 2, p. 124. I now prefer my second thought ??????? <?????> ("being units"), in concordance with 1004a8 ????? ??? ???? ("being an unit").

(1a) 1039a11-14.

1043b34-36

(1a) 1044a11-14. 1082b28-32. 1082a34-35. 1085a24-26. 1043b33.

1044a2-4

(1a) 1039a11-14. 1075b34-37.

1044a5-9

= Speusippus fr. 66a Tarán

1044a9-11

(1b) Categoriae 3b33-34. 6a19-20.

(3) According to the Categoriae, substance and quantity are closest to each other insofar both have no "contrary" (????????, 3b24-25 and 5b11) and no "more and less" (?????? ??? ?????, 3b33-34 and 6a19-20).

1044a11-14

(1d) Theophrastus, Metaphysica 6b11-14:

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("Plato in reducing things to the principles might seem to be treating of the other things in linking them up with the Ideas, and these with the numbers.")

1044a15-20

(1a) 1015a6-11. 24. 1023a26-29.

(1b) De Generatione et Corruptione 333a16. Meteorologica 378b32. De Anima 410a1.

1044a27-29

(1b) Physica 194b9.

1044a34-b1

(1a) 1071b28-31.

(1b) De Generatione Animalium 727b31-32. 728b22. 729a30.

1044b1-3

(1b) De Generatione et Corruptione 335b4-7. De Generatione Animalium 715a4-7. 732a3-11.

1044b6-8

(1a) 1042b3-6.

1044b13-15

(1b) Analytica Posteriora 90a14-18.

1044b15-17

(1b) De Somno 455a20-26. 456a4. De Partibus Animalium 653a10.

(2) "[…] yet this question is fully discussed in de Somno, which leaves no doubt about the parts played by heart and head respectively. [Cf. esp. 456b23-28, 457b10-458a9.] Ross explains 1044b17 and similar passages as cases where Aristotle is using other people's hypotheses; yet when taken together with the other discrepancies they seem suspicious." (Balme, p. 92 with note)

1044b21-26

(1a) 1002a28-b5. 1033b16-19. 1039b20-27. 1042a29-31. 1033b5-8.

(1d) Simplicius, In Categorias 389, 5-10:

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("He [Aristotle] says in his On Opposites that justice is contrary to injustice; he says that the just man is not said to be contrary, but to be contrarily disposed, to the unjust man. He says: «If these things too are contraries, then 'contrary' will be being said in two different ways: things will be called contraries either per se, as for example virtue and vice, movement and rest, or by participating in contraries, as for example the thing moved to the thing at rest, and the good thing to the bad thing.»")

1045a12-14

= Speusippus fr. 66b Tarán

(1a) 1030b8-10. 1052a29-31.

(1b) De Partibus Animalium 643b17-23.

1045a14-17

(1a) 1037b10-15.

1045a17-20

(1a) 1036b32-33.

1045a23-25

(1a) 1016a34-35. 1024a36-b6. 1036a9. b35. 1038a5-9. 1039a14-19. 1043b34-36. 18-30. 1045a33-35. 1058a23-25.

(1b) De Generatione et Corruptione 324b6-9.

1045a33-35

(1a) 1024b8-9. 1038a6-8. 1058a23-24.

(1b) Physica 200b7-8. De Generatione et Corruptione 324b6-7. De Partibus Animalium 643a24.

1045b7-23

(1b) Physica 185b25-32.

1045b7-9

(1a) 991a19-22.

1045b9-11

= 83 A 1 Diels/Kranz

1045b18

For ?????? ??? ("proximate matter") cf.

(1a) 1035b27-30.

1045b19-20

(1b) De Anima 412b6-9.

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1045b33-34

(1a) 1050a23-28. 34-b1.

(1b) Physica 194b7-8. Ethica Nicomachea 1094a4-5.

1046a5-6

(2) Makin, p. 22: "The back reference at 1046a5-6 ('we have shown elsewhere') is to Metaphysica ? 12. Aristotle there pointed out the use of 'potentiality' (???????: more appropriately translated as 'power') in mathematics (1019b33-4; compare Plato's pun at Politicus 266a-b: human beings are like the diagonal in that each has the power of two feet)."

1046a6-9

(1a) 1019b21-34.

1046a9-11

(1a) 1019a15-18.

1046a10-11

(1a) 1919b34-1020a2.

1046a11-13

(1a) 1019a19-23.

1046a13-16

(1a) 1019a26-32.

1046a16-19

(1a) 1019a23-26. 1019b11-15.

1046a19-22

(1a) 1019a32-b3. 1020a2-4.

1046a29-31

(1a) 1019b15-19.

1046a31-34

(1a) 1022b22-29.

1046a34-35

(1a) 1022b31-36.

1046b4-24

(1a) 1061a18-19.

(1b) Analytica Priora 24a21. 48b4-5. Topica 105b33-34. 109b17. 142a24-25. 155b30-31. 163a2-3. Physica 251a30.

(1c) Hippias minor 366a-368a. Res publica 333e-334a. Politicus 298a-b. Leges 816d-e.

1046b4-7

(1a) 996a18-21. 1050b30-34.

(1b) De Interpretatione 22b36-23a4.

1046b7-10

(1a) 1032b2-6.

(1b) De Caelo 286a25-26.

1046b29-1047a8

= 80 A 17 Diels/Kranz

1046b29-32

(2) Zeller II/1, p. 257, n. 4: "In refuting this statement Aristotle observes that it would make all motion and becoming impossible [1047a14]; which was just what the Megarians wanted."

1047a4-7

(2) Makin, p. 66: "Aristotle's charge is that in the case of perceptually accessible properties a Megarian is committed to a view stated and criticized by Plato in the Theaetetus (151e-152c for a statement, 170a-172c, 177c-179b for substantial criticism: Aristotle's examples hot, cold, and sweet at 1047a5 are all to be found in the Theaetetus, 152b, 152c, 171e, 178c). The view is the extreme relativist position that things are just and only as they are perceived to be. It will be convenient to follow Aristotle in referring to this view as Protagorean, and to finesse questions about the historical Protagoras (a fifth-century Sophist: for a full treatment see Guthrie 1971)."

1047a14

(1a) 1047a30. 1050a22.

1047b3-30

(1b) De Interpretatione 19a7-22. 21b12-17. De Caelo 282a4-14.

1047b12-14

(1a) 1019b23-27.

(1b) De Caelo 281b2-3.

1047b29-30

(1b) Analytica Priora 34a5-24.

1047b31-35

(1a) 1049b29.

(1b) Ethica Nicomachea 1105a17-b18.

1048a30

(1a) 1050a21.

1048a34-35

(1b) Physica 255a33-34. De Anima 417a24-29.

1048b9-11

On the text see vol. i, pp. 233-234.

(1b) Physica 206a18. 217b20-23.

1048b18-35

(1b) De Sophisticis Elenchis 178a9-11. De Sensu 446b2-6. Ethica Nicomachea 1140a1-23. Magna Moralia 1197a3-10.

(2) Ackrill, pp. 122-128.

1048b37-1049a18

(1a) 1032a20-22. 1042a27-28. 1042b9-10. 1043a12-13. 1043a20. 1043a32-33. 1045a23-24. 1050a15-16. 1050b2-3. 1050b27. 1071a8-10. 1071a18-19.

(1b) De Anima 412a6-10. 414a14-17. De Generatione et Corruptione 335a32-33. Ethica Eudemia 1225b11-12, Magna Moralia 1201b10-12.

(1c) Euthydemus 277e-278a. Theaetetus 199a.

1d: Iamblichus, Protrepticus 56, 13-59, 18 Pistelli:

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(57.) ??? ?????????? ????????, ?? ?????), ????? ??? ??? ??

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(58.) ?????? ??? ?????? ??????? ??? ????? ????????

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("That those who have chosen the life according to intellect also enjoy life most will be clear from the following argument. The word 'live' seems to be used in two senses, one implying a potentiality, the other an actuality; for we describe as 'seeing' both those animals which have sight and are born capable of seeing, even if they happen to have their eyes shut, and those which are using this faculty and looking definitely at something. Similarly with cognition or knowing; we sometimes mean by it the use of the faculty, actual contemplation, and sometimes the possession of the faculty of knowledge. If, then, we distinguish life from non-life by the possession of perception, and 'perception' has two meanings, meaning properly the using of the senses, but in another significance the being able to use them (it is for this reason, it seems, that we say even a sleeping man perceives),2 it is clear that 'live' will correspondingly have two meanings; a waking man must be said to live in the true and proper sense, a sleeping man must be said to live because he is capable of passing into the activity in virtue of which we say that a man is waking and perceiving something; it is for this reason and with reference to this that we describe him as living. When, therefore, each of two things is called by the same name, and one of the two is so called by virtue of acting or being acted on, we shall assign the name by preference to this one; we shall use the word 'know' rather of him who is using than of him who merely possesses knowledge, and 'see' rather of him who is directing his sight than of him who merely can do so. For we apply the comparative degree not only to that which possesses more completely an attribute that has a single definition, but also to that whose possession of the attribute is prior; e. g. we say that health is better than wholesome things, and that which is by its own nature worthy of choice than that which tends to produce this, though we see that it is not by virtue of the definition's being predicable of both that we describe both useful things and virtue as good. Thus we must assign life in a higher degree to a waking man than to a sleeping one, to a man who is exercising his soul than to one who merely possesses a soul; for it is because of the former that we assign life also to the latter, because he is such as to act, or be acted on, in the former way. The exercising of anything, then, is this: if the faculty admits only of one realization, it is exercised when one does just that thing; if the faculty admits of more than one realization, it is exercised when one brings about its best realization; e. g. one uses the flute either only, or most completely, when one is actually playing it; for presumably it is on the basis of this that the 'uses' of it by other people are called uses. So we must say that he who uses a thing aright uses it in a higher degree, since the natural purpose and the natural manner belong to the man who uses the thing well and accurately. Now thinking and reasoning are, either alone or above everything else, the work of the soul. It is a simple inference, one that anyone can easily draw, that the man who thinks aright lives in a higher degree than others, that he who reaches truth in the highest degree lives in the highest degree, and that this is the man who thinks and theorizes according to the most precise knowledge; and it is then and to these men that living completely must be ascribed— to those who think and to those who have the capacity to think. Now if living is, alike for every animal, its true being, it is clear that the thinker will be in the highest degree and in the most proper sense, and most of all when he is exercising this faculty and contemplating what is the most knowable of all things. But further, perfect and unimpeded activity contains in itself delight, so that the activity of contemplation must be the most pleasant of all. Further, there is a difference between enjoying oneself while drinking and enjoying drinking; for there is nothing to prevent a man who is not thirsty, or is not getting the drink he enjoys, from enjoying himself while drinking, not because he is drinking but because he happens at the same time to be looking at something, or to be looked at, as he sits. So we shall say that such a man enjoys himself, and enjoys himself while drinking, but not because he is drinking, nor that he is enjoying drinking. In the same way we shall say that walking, sitting down, learning, any activity, is pleasant or painful, not if we happen to feel pain or pleasure in the presence of these activities, but if we are all pained or pleased by their presence. Similarly we shall call that life pleasant whose presence is pleasant to those who have it; we shall say that not all who have pleasure while living enjoy living, but only those to whom life itself is pleasant and who rejoice in the pleasure that comes from living. Now we assign life to the man who is awake rather than to him who is asleep, to him who thinks rather than to him who is thoughtless, and we say the pleasure of living is the pleasure we get from the exercise of the soul; that is true life. If, then, there are more than one exercise of the soul, still the chief of all is that of thinking as well as possible. It is clear, then, that the pleasure arising from thinking and contemplation is, alone or most of all, the pleasure of living. Pleasant life and enjoyment, therefore, belong in truth only to philosophers, or to them most of all. For the activity of our truest thoughts, that which is replenished from the most real realities, and preserves steadfastly for ever the perfection it receives, this is of all activities the most productive of joy. Thus even for the sake of enjoying true and good pleasures men of sense ought to practice philosophy.")

(2) Makin, pp. xxviii-xxix: "Energeia is the earlier neologism. It is found in one of Aristotle's earliest works the Protrepticus, and means 'activity'. Aristotle is led to the term through reflection on an earlier Platonic distinction between possession and use (Euthydemus 280b-282a; Theaetetus 197a onwards).

A standard example of the distinction between a power (dunamis) and its exercise (energeia) in the early Aristotle [see under 1d] was that of possessing knowledge and using knowledge."

1049a27

(1a) 1037b27. 1060b1.

(1b) Categoriae 3b10. De Anima 416b13. De Generatione Animalium 767b32-35.

1049b5

(1b) De Interpretatione 23a21-23.

1049b6-7

(1a) 1020a4-6.

1049b7-8

(1a) 1019a32-b3.

(1b) Physica 192b21-23.

1049b8-10

(1a) 1014b18-20.

(1b) Meteorologica 361b17.

1049b17-19

(1a) 1033b29-33.

1049b23-27

(1a) 1032b30-31. 1092a15-17.

(1b) Physica 202a11-12. De Anima 431a2-4. De Generatione Animalium 734b20-22. De Partibus Animalium 640a24-25.

1049b33-1050a2

(1a) 992b30-33.

(1b) Ethica Nicomachea 1139b26-29.

(1c) Meno 80d.

1049b33-34

(1b) Analytica Posteriora 71a29-30.

1050a4-5

(1b) De Partibus Animalium 646a24-29.

1050a15-16

(1b) Physica 192a22.

1050a16-23

(1a) 1050a21.

1050a23-28

(1b) Ethica Eudemia 1219a13-17.

1050a30-34

(1b) Physica 202a13-16.

1050a35-b1

(2) Kahn 333, n. 31: "The examples actually fit human ??????, but precisely at the point in which it resembles the divine. Aristotle seems to have had the distinction of ? 6 in mind from the beginning: the question whether the ???????? of the principles is distinct from ??????? is one of the ??????? of B 1 (996a11-12)."

1050b2-3

(1b) Ethica Nicomachea 1098b12-22.

1050b22-24

(1b) De Caelo 284a24-26.

1050b22-30

(2) Kahn 332, n. 30: "compare De Generatione et Corruptione II 10, 336b27-337a7, for the imitation of eternal celestial cycles by elemental transformation. The connection with the final causality of the Prime Mover is there clearly established by a chain of being leading up to the first principle and connected by a desire for what is best, i. e. for eternal actuality, with perpetual becoming as the sublunary second-best."

1050b24-28

(1b) De Caelo 284a14-18.

1050b28-30

(1b) De Generatione et Corruptione 337a1-4.

1050b34-1051a2

(2) Cherniss (n. 241, pp. 333-334): "That potentiality is involved in the being of the ideas, that their essence is not actuality, is intimated in other contexts (Metaphysica 1075b20-24, 1071b14-20); and here too the [334] implication is that what the Platonists call ideas are mere potencies. The usual interpretations of the passage, however, misrepresent the course of Aristotle's reasoning. He does not start with the premise that the ideas are potencies and from this conclude that «there must be something more scientific than science-itself» (so e. g. Ross, Tricot, Rolfes) or that «the particulars will be prior to the ideas» (so Schwegler ad loc.; Grote, Aristotle [1872], II, p. 328; [Alexander], Metaph., p. 393, 22-31). As in 1040b27-1041a3 he had argued that if the ideas are substances they are rightly separated but if separate substances they cannot be the ???????????? and ????????? that the Platonists make them, so here his point is that the ideas of the Platonists must be actual substances but that in that case ???????????? and ??????????? cannot be ideas as the Platonists say they are. These examples of Platonic ideas Aristotle probably took, the first from Parmenides 134, the second from Parmenides 129d-e or Sophista 254d ff. Since in the former passage Parmenides makes ???????????? the knowledge which God has and in the present chapter of the Metaphysica Aristotle has already mentioned the actuality of the prime mover (1030b4-6) and the eternal mobile in which no potency is involved (1050b20-28), it is most likely that the ????????? ?? and the ?????????? of the present passage hint at God and the astral spheres which for Aristotle take the place of the ideas as the eternal actual substances. The likelihood of this reference is supported by the fact that in 1040b27-1041a3 a similar reference is certain."

1051a17-19

For ???? ?? ???????? ("apart from the things") cf.

(1a) 987b29-30. 999a17-19.

(1b) Physica 200b32-33.

(2) Makin, p. 223: "Aristotle denies that the bad exists in addition to bad things. What is Aristotle's point? One option is that he is objecting to the Platonic view that there is a Form of Evil (Ross 1924: ii. 268; Res publica 402c; 476a; Theaetetus 176e). However, if that were his purpose, Aristotle could have made a parallel point about the good, since he also objects to the Platonic Form of Good (Ethica Nicomachea 1. 6). But 1051a17-18 is supported by a claim which applies only to the bad (1051a 18-19: the bad is posterior in nature to the potentiality). So it is unlikely that 1051a17-18 has a Platonic target."

1051a21-22

(2) According to Heath (p. 216), "as in Categoriae 14a39 and Metaphysica ?. 10. 1014a36, geometrical propositions including the proofs of the same, and not merely 'diagrams' or even 'constructions'".

1051a23-24

(2) "The dividing up is effected by inserting additional lines, etc. Given a figure in which it is required to prove a certain relation, our ordinary procedure is to join certain points by straight lines, to draw perpendiculars from certain points to certain lines, to bisect certain angles, to draw certain circles, and the like, all in the hope that certain relations will then emerge, the use of which will lead to the result desired." (Heath 216-217)

1051a26-29

(1b) Analytica Posteriora 94a28-35.

?2

1051a34-b2

(1a) 1017a22-b8. 1026a33-b2.

1051b1

The words ?????? and ? ???????? are problematical.

Pseudo-Alexander (In Metaphysica, 587, 32-598, 1) refers ?????? to ??????? ? ????????? and makes depend ? ???????? on ???????.

Thomas Aquinas (Sententia Metaphysicae, liber 9 lectio 11 numerus 1) omits ?????? and reads (effectively) ??? ???????? instead of ? ????????.

Fonseca refers ?????? to ?? and ?? ?? and ? ???????? to potentiality and actuality.

Ross makes ?????? refer to the categories and ? ???????? to ??????? ? ?????????: "firstly with reference to the categories, and secondly with reference to the potency or actuality of these or their non-potency or non-actuality (cf. Schwegler: "oder dem Gegentheil")".

Tricot makes both ?????? and ? ???????? refer to the categories.

Barnes interprets as if the text had ? ??? ????????: "firstly with reference to the categories, and secondly with reference to the potentiality or actuality of these or their opposites (cf. Bonitz: "derselben oder deren Gegentheil")".

(3) As for ??????, the case is easy to decide by comparison with 1017b2 ??? ????????? ??????. With this, we have an important indication that ?2 too goes back to ? 7, as does E (1026a34) and Z (1028a10-11).

In the case of ? ????????, it was overlooked that this phrase can be meant adverbially (like ??????????, on which see Liddell/Scott sub voce ????????, II, 1, c), in the sense of "or contrarily", "or conversely" (Plato, Philebus 28d; Aristotle, Politica 1295b7). This meaning supposed, the words look like a gloss: "perhaps conversely, potentiality and actuality are fundamental to the categories". Otherwise, they had to be referred, with Fonseca and Ross, to potentiality and actuality; but what shall we understand by "non-potency or non-actuality"? The explanation given by Fonseca ("ad actum et potentiam reducuntur eorum negationes") requires the grammatical interpretation proposed by us.

1051b1-2

(1a) 1089a20-21. 26-28.

(2) Aubenque pp. 168-169.

(3) ????????? ?? was expunged by Ross (ii 274-275) and Reale (p. 1144). In doing so, they overlook that these words are supported by what follows. The concept of truth becomes fundamental, when the incomposite is included in it.

The reduction of being to truth is what is put forward in Plato's Sophista, according to Aristotle (Metaphysica N, 1089a20-21). In (partially) equating the ???? ("beings") with the ???????? ("what is said"), the Categoriae follow this approach (cf. our note on 1024b13-15).

1051b2-6

(1b) Categoriae 2a8-10. De Interpretatione 16a12-18. De Anima 432a11-12.

1051b6-9

(1b) De Interpretatione 18b32-34.

1051b17-22

(1a) 1027b23-28.

(1b) De Anima 430a26-27. 431a8.

1051b22-26

(1b) Physica 202a7-9. 242b24-26. 243a3-6. 251b1-5. 255a34-35. De Generatione et Corruptione 322b21-25. 327a1-6. De Generatione Animalium 734a3-4.

(1d) Theophrastus, Metaphysica 9b8-16:

????? ??? ??? ????? ???????? ??' ??????

???????, ????? ??? ??? ????????? ????????????

???? ?? ??' ???? ?? ???? ??? ?????

????????????, ?????? ????????, ???? ??? ?? ?? ?????

?????? ???? ??? ??? ???????? ????????? ?????

???? ?? ??????????? ???????. ???? ?' ??????

??????????? ?? ???? ?? ?? ??? ???????? ?

?????? ??????? ??? ???? ???????, ??? ??? ???

????? ????? ???? ????.

("Up to a point, then, we can speculate causally by taking starting-points from our sense-perceptions; but when we pass to the limits and first things themselves, we can no longer do so, whether because they have no cause or owing to our own lack of power to look, as it were, at things of the most dazzling brightness. Perhaps this is a truer way of putting it, that the contemplation of such things is by reason itself, touching and as it were laying its finger on them; wherefore also there is no possibility of deception about them.")

(2) Zeller (II/2, pp. 356-357): "Aristotle conceives of the operation of the motive principle upon the thing moved as conditioned by continuous contact between them. Indeed, this appears to him so necessary that he asserts even of what is absolutely incorporeal that it acts only through contact: even thought apprehends its object by touching it".

1051b26-28

For ??? ?? ???????? ?????? ("non-composite substances") cf.

(1a) 1023b1-2. 1070a14.

1051b28-30

For ?? ?? ???? ("being itself") cf.

(1a) 1061b6. 1089a3.

(1b) Physica 187a7-8. 259b26.

(1c) Res publica 537d6. Sophista 257a1.

(2) Thomas Aquinas (Sententia Metaphysicae, liber 9 lectio 11 numerus 17): "Dicit ergo quod omnes substantiae simplices sunt actu entes, et nunquam entes in potentia: quia, si quandoque essent in actu, et quandoque in potentia, generarentur et corrumperentur: sed hoc non potest esse, ut ostensum est: nam huiusmodi substantiae sunt formae tantum, unde etiam secundum se sunt entes; ens autem secundum seipsum non generatur neque corrumpitur. Omne enim quod generatur ex aliquo generatur: ens autem simpliciter inquantum ens, non potest ex aliquo generari. Non enim est aliquid extra ens, sed extra tale ens; utputa extra hominem est aliquod ens. Unde hoc ens potest generari secundum quid, sed ens simpliciter non. Id ergo, quod est ens secundum se, per hoc, quod ipsum est forma, ad quam sequitur ens, non est generabile. Unde non est quandoque in potentia, quandoque in actu."

1052a1-4

(1b) Topica 108a11. Ethica Nicomachea 1096b28-29.

Book I

1052a19-21

(1a) 1015b36-1016a17.

1052a22-25

(1a) 1016a17-20. b11-13. 1023b34-36.

1052a25-29

(1a) 1016a5-9. b16-17.

1052a29-31

(1a) 1016a32-b3.

1052a31-34

(1a) 1016b6-11. 31-35.

1052b7-9

(1a) 1040b16-19.

1052b10

(1a) 1053b15-16.

(1b) Physica 203b7-16 (= Diels/Kranz i 85, 15-21).

(1d) Theophrastus in Simplicius, In Physica, 24, 13-16 (= Diels/Kranz i 83, 3-5):

??? ?? ?? ??? ?????????? ??? ??????? ???????? ???????????? ???

????????? ????????, ????? ????????? ???????? ??? ???????, ????? ?? ???

????????? ?????? ??? ????? ?? ???????, ?????? ????? ??????? ???????

??? ?????.

("Of those who say the principle is one and in motion and infinite, Anaximander, the son of Praxiades, of Miletus, the successor and student of Thales, said the principle and element of existing things was the infinite, being the first one to introduce [cf. Liddell/Scott, sub voce ??????, II. 5] this name ['infinite'] of the principle [for the phrase ????? ??????? ??? ????? cf. Aspasius, In Ethica Nicomachea Commentaria, 137, 1-2: ? ??? ?? ?????? ????? ? ?? ???? ????? ????????? ????? ?? ????? ??? ?????, where by ????? ?? ????? there is meant '?????'].")

1052b15-23

(1a) 1016b17-20.

1052b18-24

(1a) 1016b17-20.

1052b24-27

(1a) 1087b33-1088a2.

1052b31-35

(1b) Analytica Posteriora 84b37.

1053a10-12

(1b) De Caelo 287a23-26.

1053a17-18

Heath (p. 218): "The statement that 'the diagonal and the side of a square and all magnitudes are measured by two (measures)' remains a complete puzzle."

1053a27-30

(1a) 1057a2-7. 1088a6-8.

(1b) Physica 207b5-8.

1053a30

(1a) 1085b10. 1088a4-8.

(1b) Physica 220a27-28.

(2) Cherniss n. 106 (p. 183): "Aristotle did not regard one as a number."

(3) Therefore, two is "the smallest number" (Physica 220a27), or "the first plurality" (1056b25-28. 1085b10).

1053a31-33

(1a) 1016b3-6.

1053b9-1054a19

(2) Cherniss 322-324.

1053b11-15

(1a) 996a4-9.

1053b15-16

Empedocles, Anaximenes, Anaximander.

1053b28-32

(1b) Meteorologica 342b5-7. De Anima 418a26-419a25. De Sensu 449a22. De Coloribus 792a4.

1054a13-19

(1a) 1003b22-32. 1045a36-b2.

1054a20-32

= Testimonia Platonica 41A Gaiser

= Speusippus fr. 68 Isnardi Parente

1054a23-24

(1a) 1018a20-22. 1055a38-b4. 1057a33-37.

(1b) Categoriae 11b17-19. 12b26-13a17.

1054a29-32

(1a) 1003b32-1004a2.

1054a32-35

(1a) 1018a6-9.

1054b18

(1a) 1054b1-2.

1054b30-31

(1a) 1024a36-b4.

(1b) Topica 102a31-35. 153a17-18.

1055a3-5

(1a) 1018a25-35.

(1b) Categoriae 6a17-18. 14a19-20. Physica 226b32-34. Ethica Nicomachea 1108b33-34.

1055a5-9

(1a) 1054b27-30.

1055a6-7

(2) Balme (pp. 92-93): "So flatly expressed, it is of course inapplicable to biology as to many other things: dog does not change into horse. But Ross shows that in the [93] context Aristotle must be restricting the name 'genus' to the categories; the species will therefore be the members of a given category. This will make biological sense in every category but that of substance. Yet the parallel passage at ?. 1044b30 suggests that it is substance that Aristotle has in mind, for the examples there given of are wine and vinegar, living body and corpse. These are 'biological' examples, but the argument has no basis in biology: vinegar does not become wine, nor a corpse a living body, except in a quite remote sense. The argument belongs to logical or ontological analysis, as the succeeding lines 1045a1-6 show (cf. its use at Topica 123b3, 125b37, Physica ?. 240b21), and is not supported by anything in Aristotle's extant biology."

1055a10-16

(1a) Metaphysica ? 16.

1055a17

(1a) 1018a25-35.

1055a29-30

(1a) 1075b22-24.

(1b) De Caelo 286a25-26.

1055a38-b1

(1a) 1018a20-25.

(1b) Categoriae 11b17-23.

1055b7-8

(3) Misunderstood by Bonitz and Ross. ??????????? is opposed to ???????????? and means "separate"; it is the same kind of privation as in l. 4 ?? ???????? ???? ?????. That two kinds of privation were distinguished is presupposed in l. 9 ????????? ?? ?????. Our passage is misunderstood already in 1058b27-28, where ???????? ?????????? is taken as definition of ????????.

1055b18

(1b) De Generatione et Corruptione 319a29-b4.

1055b23-24

(1a) 1061a20-21.

(1b) Categoriae 12a21-25.

1055b24-25

(1b) Categoriae 11b38-12a20. 12b31-32.

(3) The additional example of the Categoriae, health and disease, comes from Plato's Gorgias, 495e. There, the impossibility to co-exist in the same subject (man) is the condition for contrariety in general. This is in concordance with the narrower concept of contrariety in Sextus Empiricus, who (Adversus Mathematicos X 266) adduces, beside motion and rest, good and evil, health and disease as example for contraries, the characteristic of contraries being that they cannot co-exist, in contrast to the relativa which are characterized by co-existence (??????????) and simultaneous abolition (????????????) (X 267).

The difference in the conception of contrariety results from the fact that Sextus follows the mathematizing (Pythagorizing) tradition of the Academy, whereas Aristotle, by his larger concept, wants to integrate the doctrine of the natural philosophers. In the realm of nature (of coming-to-be and passing-away) there is always transition from one contrary to another via an intermediate stage. The table in Metaphysica A, 986a23-26 contains nothing but contraries without intermediates; for good and evil too, if of the same kind as the others, seem to be conceived like that, all the more if equated with unity.

1055b26-29

(1a) 1004b27-29.

1055b30-1056b2

(2) Cherniss n. 60 (pp. 88-89): "Aristotle has a polemical discussion of the contrariety ????-?? ???? ??? ?? ?????? in Metaphysica 1055b30-1056b2 where he argues that ???? is also the contrary of ?????? and considers the possibility (which may have been the contention of his opponents) that ?????? and ?? ???? ??? ?? ?????? have the same significance, which, he says, supports those who call ?? ?????? a dyad. By those who use the contrariety, ????-??????, therefore, he probably means to indicate Plato and certain of his followers. In a fragment of Hermodorus (Simplicius, Physica, p. 248, 2-18) ?????? as an example of ?? ?????? ??? ?? ????? is opposed to ?? ????, and this is supported by the Philebus (25a) where 'the things that are compatible with ?? ???? ??? ???????' are put into the class of the ????? and are opposed to those that admit of ?????? ?? ??? ?????, etc. which fall into the class of the ???????."

1056a12

(3) The equal as intermediate (??????) between the great and small is analogous to the good as intermediate (???????) between excess (????????) and deficiency (??????) in Categoriae 14a2-4. From this passage, it can easily be seen how the equation of goodness and unity (cf. 1091b13-15) could come off.

1056a22-24

(1d) Nicomachus, Introductio arithmetica 1, 17, 2-3:

??? ???? ?? ?????? ????? ??? ?? ??????? ??????? ?????????? ?????, ?????? ??? ????????? ??? ??? ?? ????????? ???? ?????? ??????????? ???? ???? ??????? ? ??????, ?????? ?? ???? ????? ?????.

[3] ?? ??? ??? ???? ?????????, ???? ??? ????????????? ?? ?????? ???? ??????? ???? ??????? ???? ??? ??? ?????? ?????????.

("Of relative quantity, the supreme genera are two, equality and inequality; for every one of two, when considered in comparison with the other, is either equal or unequal, there is no third possibility.

[3] Equality is considered when, of the two things compared, the one is neither exceeding nor deficient in comparison with the other.")

1056a24-27

(1b) Categoriae 11b38-12a25.

(1c) Gorgias 467e. Symposium 202b.

(1d) Sextus Empiricus, Adversus Mathematicos XI 3-5 (= Xenocrates fr. 76 Heinze):

?????? ??? ?? ???? ?????? ?????????? ????????? ??? ?????????, ??? ???????????? ???? ?????? ?? ?? ??? ??? ??????? ????????? ??? ?? ??? ??? ?????????, ??? ?? ??? ?????, ??????? ???????????? ?????? ??? ????? ?? ??? ????? ?????, ?? ?? ????, ?? ?? ?????? ??????, ???? ??? ???????? ?????????

[4] ?????????? ?? ???? ???? ?????? ? ?????????? ??? ???? ??????? ??????? ???????? ??????? "??? ?? ?? ? ?????? ????? ? ????? ????? ? ???? ?????? ????? ???? ????? ?????."

[5] ??? ??? ?????? ????????? ????? ?????????? ??? ???????? ????????? ??????????? ????? ?????? ??? ????????? ????????????????. ?? ??? ???? ?? ???????????? ?????? ??? ?????? ??? ????? ??? ??? ???? ?????? ???? ?????, ?????? ???? ?????? ????? ? ??? ????? ??????. ??? ?? ??? ?????? ?????, ?? ??? ????? ?????????? ?? ?' ??? ????? ??????, ???? ????? ????? ? ???? ????? ????? ???? ?????? ?????? ?? ?? ????? ?????, ?? ??? ????? ???????, ?? ?? ???? ?????? ????? ???? ????? ????, ????? ?? ??? ????? ????????????. ??? ??? ?? ?? ???? ?????? ????? ? ????? ????? ? ???? ?????? ????? ???? ????? ?????.

("All the philosophers who seem to teach systematically the principles (of Ethics), and, most notably of all, those of the Early Academy and the Peripatetics, and the Stoics also, are accustomed to make a distinction by saying that "of existing things some are good, some evil, some between these two," and these last they term "indifferent";

[4] but Xenocrates, in phrases peculiar to himself and using the singular case, declared that "Everything which exists either is good or is evil or neither is good nor is evil."

[5] And whereas the rest of the philosophers adopted this division without a proof, he thought it right to introduce a proof as well. "If," he argued, "anything exists which is apart from things good and evil and things neither good nor evil, that thing either is good or is not good. And if it is good, it will be one of the three; but if it is not good, it is either evil or neither evil nor good; and if it is evil, it will be one of the three, and if it is neither evil nor good, again it will be one of the three. Therefore everything which exists either is good or is evil or neither is good nor is evil.")

Divisiones Aristoteleae § 68 (= p. 65, 26-66, 1 Mutschmann):

?????? ??? ??? ??? ????? ???? ?? ??? ?????,

???????? ?? ??? ??????? ????? ????? ??? ?????? ?? ???????

??? ????? ? ???????? ? ??????.

("For between good and evil there exists a mean, but between motion and rest there is no mean, because it is necessary that everything either is in motion or in rest.")

(3) In the reports of Hermodorus and Sextus Empiricus, good and evil are subsumed under contrariety (???? ???????, Hermodorus in Simplicius, In Physica 248, 3-4, or ???' ??????????, Sextus, Adversus Mathematicos X 264 and 266 respectively), what means that they do not have an intermediate. This contradiction comes about by the fact that in the tradition which they had before them, good - evil was identified with equal - unequal (???? - ??????).

1056a30-35

= Speusippus fr. 110 Isnardi Parente

1056b1-2

(1a) 1055a29-30. 1054b24-27. 1057a26-28.

1056b3-1057a17

(2) Cherniss n. 60 (p. 89): "The contrariety ??—????? Aristotle criticizes in 1056b3-1057a17 just after his discussion of the contrariety of the «equal» and the «great and small» the two were announced together at 1055b31-32 as if they were somehow related principles. The pair ??—????? is apparently the same as the more frequently mentioned ??—??????, for ?????? is referred to as a principle alternative to ?????? and ???? ??? ?????? in Metaphysica 1091b30-32, 1092a29, 1092a35-b2. The identification of ?? ????? and ?????? in this sense is further supported by the fact that in the passage before us Aristotle concludes by showing (1057a12-17) that ?????? is strictly contrary neither to ?????? nor to ??."

1056b12-13

(1b) De Generatione et Corruptione 329b30.

1056b16-20

(1a) 1024a8-10.

1056b28-32

59 A 60 Diels/Kranz

1056b33-34

(1b) Topica 142a26-30.

(3) It is not essential to the ????????? ("thing known") to be object of ???????? ("knowledge") (cf. 1057a10-11; Categoriae 7b22-35).

1056b34-1057a1

(1b) Topica 149b11.

(3) In 1021a26-b3, given by Schwegler (iv 200), Bonitz (p. 440) and Ross (ii, p. 297) as reference, there is no mention of the "contraries", as Ross himself concedes. The reference must be to a (lost) text, where a dichotomy was made between per se and per accidens relativa (as in 1021b3-8), the former being identical with the contraries. This is contradictory to Topica 121a1-2 and 124b20-22, where it is expessly denied that good and bad belong to the relativa. Perhaps, in the said writing the concept of relativity was as broad as in Xenocrates, who divided the beings into ???' ???? ("per se beings") and ???? ?? ("relativa").

1057a9-12

(1a) 1021a26; 1053a31-b3.

(1b) Categoriae 7b27-8a6.

1057a19

(1b) Physica 224b32. De Partibus Animalium 661b10-11.

1057a21-26

(1b) Physica 226b24-26.

1057a24-26

(1b) Categoriae 12a9-13.

1057a37-b2

(1b) Physica 227a7.

1057b7

(1b) Topica 143b8-9.

1057b8-11

(1b) Topica 107b26-32. 119a30. 153a33.

(1c) Timaeus 67d-e.

1057b35-1058a8

(1a) 1018a38-b7.

1057b35-36

(1a) 1054b30.

1058a5-7

(1a) 1038a21-28.

1058a21-22

(1a) 991a29-b1. 998b22-28.

1058a22-26

(1a) 1024b6-9.

1058a26-27

(2) Lloyd (p. 67): "No detailed zoological examples are given, but that Aristotle had in mind the application of this method in zoology is clear from the references to the genus 'animal' at 1057b36-37, 1058a2ff and 1058a5ff. Again, in the next chapter of Metaphysica ?, discussing why difference in sex does not amount to a difference in species (although male and female are contraries), Aristotle illustrates the fact that some contrarieties do make things different in species with the example of 'walking' and 'flying' animals (1058a35-36). It seems that in both these passages in Metaphysica ?, he assumes the validity of the method of Division and applies it to zoology; and as in the passages from the Analytica considered above [97a14-15. 19-21], so too here he recognizes the rule that division should be by contraries."

1058b8-10

(1a) 1018b3-8. 1059b34-38.

1058a35-36

(2) Lloyd (p. 72): "At De Partibus Animalium 643a35-b3 division by 'functions common to body and soul', e. g. '?????????' ["walking"] and '????? ["flying"],' is rejected. Yet previously, Aristotle himself had referred to, and accepted, the categories 'walking animal' and 'flying animal' (Topica 144b22-30, 133b7-11) and '?? ?????' ["with feet"] and '?? ????????' ["with wings"] are mentioned as contrary species at Metaphysica ? 1058a35-36 (cf also the differentiae of 'animal' given at Topica 143b1-2, Categoriae 1b18-19, 14b37-38)."

1058b5-10

(1a) 1034a5-8.

1058b23-24

(2) Balme (p. 95): "[…] the same may be implied at N. 1092a32. It is clearly implied in three passages of Physica A and B, [190b4, 196a31, 199b7] where ?????? illustrated the ??????????? from which come plants and animals: by putting animals with plants Aristotle shows that he is thinking of the seed as that which becomes the embryo." According to Balme, this contradicts De Generatione Animalium A 17-B 3: "It may be sufficient to attribute this discrepancy to the departmentalism which undoubtedly is a feature of Aristotle's science. But it feels easier to suppose that the Metaphysica view of generation, which is roughly that of Plato, was Aristotle's view before he went into the matter thoroughly. It is hard to see how he could have gone on repeating it after the careful and polemical argument of De Generatione Animalium" (pp. 95-96)

1058b27-28

(3) The parenthesis ???????? ??? ???????? ?????????? ("for privation is a determinate impotence") is spurious, see our note on 1055b7-8.

1059a10-14.

(1b) Topica 148a15-18.

(2) Cherniss n. 120 (p. 202): "In Metaphysica 1059a10-14 the attempt to disprove the existence of Platonic ideas by showing that the idea and the particular cannot be ?? ????? ????? turns upon the argument that ?? ??????v and ?? ???????? are ????? ????? and so a fortiori ????? ?????. [This argument requires ????? and ????? to have the technical meanings, genus and species; but the proof that ??????? and ???????? are ????? ????? 1058b26-29, seems to prove rather that they are different in species. Ross, therefore, takes ????? and ????? to mean «kind» and «form» in 1058b26-1059a10 and supposes that this part of the chapter was written before Aristotle had begun to use the words in their technical sense whereas 1059a10-14 was «added later under the supposition that generic as opposed to specific difference between the perishable and the imperishable had been proved» (Ross, Metaphysics, II, p. 305). It is difficult to see, however, why the chapter was written at all except for the polemic of 1059a10-14; and the fact that in the Topics the imperishability of the ideas is made the foundation of a topos to be used against Platonic definitions of «perishables» (Topica 148a14-22) makes it improbable to suppose that 1059a10-14 is an «afterthought.» Moreover, the technical distinction of ????? and ????? runs through all of Book X (cf. chaps. 3, 4, 7, 8, 9), so that Ross would have to suppose that 1058b26-1059a10 is earlier than not merely 1059a10-14 but practically the whole book in which it stands. We must admit the integrity of chap. 10, therefore; and, if we are not to suppose that the whole argument rests upon an equivocation, we must suppose Aristotle to have thought that the contrariety in question is clearly inherent in the generic matter (cf. 1054b27-30), since what is perishable is not merely actually not eternal but has not even the generic potency of being so (cf. the interpretation of St. Thomas quoted by J. Tricot, Aristote, Métaphysique, II, p. 95, n. 2).] For Aristotle's conception of the nature of the ideas the significant fact is that it is the imperishability of the idea which is chosen to refute the specific identity of the idea of man and the particular man. In the various topics suggested as useful against those who posit the ideas we have seen that Aristotle takes it for granted that there is no characteristic to distinguish the idea from the immanent universal except the marks of its transcendence as an unique individual, i. e. eternity, immobility, impassivity (see pages 1-10 supra). Cf. also Metaphysica 1060a16-18 where in the rejected suggestion of separate substances equal in number to the sensibles the differentiation of the two classes consists only in the distinction ???????—??????."

K1

1059a22

(1a) 996a20-21.

1059a28-29

(1b) Topica 110b17-25. 163b37-164a2.

1059b18-19

(1b) Rhetorica 1359b9-11.

1059b23

(1a) 998a28. 1014a32.

1059b30

For ????? ?? ????? ("primary by nature") cf.

(1a) 1019a1-4.

1059b31 + 38

(1a) 1060a1.

(1b) Categoriae 7b15-8a6. Topica 123a14-15.

1059b34-35

(1a) 990a33-b4.

1059b38-1060a1

(1a) 1019a1-4. 1090b16-20.

(1b) Topica 123a14-19. 141b28-34.

1060a12-13

(1a) 1022a35-36.

1060a16-18

(1a) 990a33-b4.

1060a22-23

(1b) Physica 192a34-b2.

1060a24-27

(1a) 1075b24-27.

1060b6-9

(1a) 987b20-22. 1081a14-17.

1060b12-17

(1a) 1028b15-18.

(1b) De Caelo 286b27-28. 299a2-3. 305a35. De Generatione et Corruptione 315b30-32. 329a21-23.

1060b14-15

(1a) 1002a18-20. 34-b5. 1002b8-11.

1060b17-19

(1a) 1002a28-b5.

1060b28

(1a) 1043b18-23.

(1b) De Anima 403a10-16. 413a3-4.

1061a8-10

(3) In vol. 2, p. 150, we noted the fact that in K1, instead of substance (?????, as in ?), being qua being (?? ? ??) is the reference point of the "reduction". This is a philosophically flawless conception, and there is no need for the desperate measure of substituting ?? ? ?? by ????? (vol. 2, l. c.). The nearest parallel for the combination ????? + ???? + ???????? + ??????? (l. 9) is 1001b29-30 (???? + ???????? + ?????????). There the predicates (???' ???????????) of the physical bodies are in view. These predicates are called "being" (????), "insofar" the physical bodies "are beings" (? ????). It appears that the projected science is defined only by an aspect; it is left open whether it has as object a separate sphere of being.

Since ?????, ???? and ???????? fall within quality (???????) (?, 1022b15-18; Categoriae 8b26-27. 9a28-29), we have a perfect parallel to ?, 1069a22 ????????? ??? ???????? - another proof that K1 and ? belong together (cf. vol. 2, pp. 161-163). Further, the comparison shows that the difference between K1 and ? is not a doctrinal one: K1 only avoids the offense taken by Natorp (cf. vol. 2, p. 95) by postponing "the more exact designation of the topic" (Natorp) to ? 1 - the same case as with the "principles of being as such", which are introduced not until K 7, the parallel to E.

1061a10-15

= Testimonia Platonica 42A Gaiser

1061a12-13

(1a) 1061a32. b25. 13. 1069b6. 13. 33.

1061a15

(1a) 1004a34-1005a1.

1061a18-19

(1a) 996a20. 1004a9.

1061a20-21

(1a) 1055b23-25.

1062b13-19

= 80 A 19 Diels/Kranz

1063b19-24

(1b) Categoriae 13a13. De Caelo 312b1.

(1d) Divisiones Aristoteleae 65, 24-66, 3 Mutschmann:

???

???????? ?????? ????? ?? ??? ?????? ?? ??? ?????, ?? ??

??. ?????? ??? ??? ??? ????? ???? ?? ??? ?????,

??????? ?? ??? ??????? ????? ????? ??? ?????? ?? ???????

??? ????? ? ???????? ? ??????, ??? ???? ??? ???????

????? ????? ??? ?????? ?? ??????? ??? ???? ??? ????

???????? ?????, ? ?? ? ????????.

("Now, of the contraries themselves some do have a mean, others do not. For between good and evil there exists a mean, but between motion and rest there is no mean, because it is necessary that everything either is in motion or in rest. Also between life and death there is no mean, because everything susceptible to life either is living or dead.")

(3) The examples ??????? - ??????, ??? - ??????? are adduced also by Sextus Empiricus, Adversus Mathematicos X 268. According to the tradition followed by Sextus, opposite concepts which have an intermediate are not contraries but relatives.

Book ?

1069a19-21

For ???? ?? ("a whole") cf.

(1a) 1023b29-32.

(1b) Analytica Posteriora 96b15. Physica 184a25-26.

For ?????? ????? ("primary part") cf.

(1b) Meteorologica 344a10.

(2) Bonitz (pp. 469-470): "obscurius haec dicta ut recte interpretemur, reputandum est, vocabulo ???? Aristotelem fere significare id, quod per certam formam definitum ac consummatum est (cf. I 1. 1052a22: ?? ???? ??? ???? ???? ?????? ??? ?????. ? 6. 1016b12: ?? ?? ?? ???? ?, ????? ?? ?? ?? ?? ????? ??? ??. ? 2. 1077a28. 8. 1084b30), adeo ut vel ipsam per se formam eodem nomine designet (cf. H 6. 1045a10, ubi opponitur ?????, et ad ? 25. 1023b20). Illam si tenemus vocabuli vim, hoc videtur Aristoteles dicere: si universitatem rerum cogitamus esse quasi totum aliquod corpus, definita per formam materia, substantia, nimirum ? ???? ??? ????? ????? (cf. ad A6. 987b21), sive forma, prima esse pars putanda est. Etenim ?? ????? ???????? ??? ???? ??? ?????? ??, ? 3. 1029a6; forma autem et materia quod partes (?????? ????? a20) dicuntur esse rei definitae et concretae, cf. ? 25. loco laudato [1023b20]."

In his Index (p. 304a37-38), Bonitz compares 1005a11.

Ross (ii 349): "Bonitz's explanation is, however, not satisfactory. Substance is here contrasted not with matter but with the other categories. The substance which is the subject of study in these chapters (1-5) is not specially substance as form but substance in all the senses enumerated in ?. 8, Z. 2, including substance as matter (1069a25, 1070a9), as form (1070a11), and as individual thing (1070a12). The contrast is simply that between the view of the universe as a genuine unity, in which substance is the primary element, and the view of it as forming a loosely connected series (the view, in fact, of Speusippus, which is referred to in this book, 1075b37) - in which case substance is at any rate the first member."

Düring (p. 188) thinks that Aristotle has in mind Plato's idea of the universe as an animal.

(3) For Aristotle, "all meanings of 'being'" and "all beings" (= "the universe") is not an alternative. The distinction of meanings is a "division" (?????????), the parts being "genera" (Analytica Posteriora 83b15-16, Topica 103b20, 107a3, De Sophisticis Elenchis 178a5, Physica 189b24). Cf. 1004a2-9, where "parts" of philosophy are assigned to the "genera" of being.

1069a20-21

(1a) 1063a27-28. 1083a10-11. 1088a22-26.

(1b) De Anima, 414b19-415a11.

(3) According to 1083a10-11, reversely quantity is prior to quality.

1069a25-26

(1a) 1042a4-6.

1069a28

For ??? ?? ??????? ?????? ("owing to the abstract nature of their inquiry") cf.

(1a) 987b29-988a1. 1050b34-1051a2.

1069a30-36

= Speusippus fr. 31 Tarán

1069a30-33

(1a) 1071b3-4.

(1b) Physica 198a29-31.

1069a30

(1d) Sextus Empiricus, Adversus Mathematicos VII 147 (= Xenocrates fr. 5 Heinze):

?????????? ?? ????? ????? ?????? ?????, ??? ??? ???????? ??? ?? ?????? ??? ?? ???????? ??? ????????, ?? ???????? ??? ????? ??? ????? ???????, ?????? ?? <???> ?????? ??? ????? ???????, ???????? ?? ??? ???????? ??? ????? ??? ???????? ????? ??? ??? ???? ?? ????????, ????? ?? ??' ???????????.

("Xenocrates says that there are three forms of entity, the sensible, the intelligible, and the composite and opinable; and of these the sensible is that which exists within the Heaven, and the intelligible that which belongs to all things outside the Heaven, and the opinable and composite that of the Heaven itself; for it is visible by sense but intelligible by means of astronomy.")

(2) Krämer (1969, p. 368 n.): "With the term ????? in the sense of 'sphere of being', Aristotle seems to continue the terminology of the Academic 'degrees of being' theory, which is used for the purpose of comparison in Book XII repeatedly: cf. 1 1069a33 ff., 10 1075b37 ff.; cf., besides Z 2 1028b20 sqq., especially Xenocrates, fr. 5 Heinze, a further evidence of the trichotomy […]."

1069a33-36

= Speusippus fr. 42 Lang = 31 Tarán

1069a33-35

= Xenocrates fr. 106 Isnardi Parente

1069a33

(1a) 1028b24.

1069a34

(1c) Politicus 284e.

1069a35

(1a) 1083b1. 1086a5. 1090b27. 1028b24.

1069b3-7

(1a) 1055a5-9. 1057a26-28.

(1b) Physica 188b21-23.

1069b7-9

(1a) 1087a36-37.

(1b) Physica 226a10-11.

1069b9-14

(1a) 1042a32-b1. 1088a29-33.

(1b) Physica 201a8-9. 243a6. 260a26. De Anima 406a12-13.

1069b19

= 12 A 16 Diels/Kranz

(1a) 989a30. b16.

1069b20-22

= Diels/Kranz 59 A 61

(1a) 989b14-15. 1075b1-4. 1092b6-8.

(1b) Physica 187a20-23 (= Diels/Kranz i 85, 36-37).

1069b22-23

= 68 A 57 Diels/Kranz

1069b29-32

(1a) 988a3-4. 1034a5-8. 1074a33-35.

1069b32-34

(1b) Physica 189b16-18.

1069b35-1070a4

(1b) Physica 224b11-13.

1070a2-4

(1a) 1033b3-5. 11-13.

1070a4-9

(1a) 1034a21-26. 1032a24-25. 1033b29-33.

1070a8

(2) Bonitz, Index Aristotelicus, 59b41: "solenne generationis naturalis exemplum."

Cherniss n. 121 (p. 203): "the eternity of the natural species being the result of the procreation of the individuals (De Generatione Animalium 731b31-35, De Anima 415b3-7 [cf. Plato, Symposium 206c, 206e, 207d, Leges 721c])".

Dirlmeier (pp. 334-335, on Ethica Nicomachea III 7, 1113b17-19): "The sentence is so versatile because it has both a biological side and a metaphysical side already in Plato. For the former see e. g. Leges 776b2: by procreation of children the torch of life is passed on continually to new generations; for the latter Leges 721c5; 773e7: the continuous series of generations is participation in immortality."

1070a9-13

(1a) 1040b7-10. 1015a3-5. 1032a22-23.

1070a13-19

= Testimonia Platonica 64 Gaiser

(1a) 991b6 (= 1080a5). 999b19. 1060b28.

(1d) Alexander, In Metaphysica (A 9, 990b11), 79, 22-80, 6 (= Aristoteles, De Ideis, fr. 3 Ross, pp. 122-123):

???? ?? ????

????? ????????? ?? ????? ?????, ??? ?? ?? ????????? ????? ?????

????????????? ????? ?????. ?? ??? ????? ? ??????? ?? ???? ????? ??? ???????

???????? ???' ????? ???????, ????? ???? ??? ??????, ????? ??? ??? ??? ??????

???????. ?? ??? ??? ???' ?????? ???? ????? ?????, ???' ????? ???????

???? ? ?????. ???? ? ????????? ????? ?????? ???' ?? ?????, ??? ?????

?????? ???' ?? ?????? ?????? ??? ? ????????????????? ??? ? ??????? ???

? ?????????? ?? ??? ??? ????? ?????? ?????? ???? ???? ?? ??' ??????.

????? ??? ??? ??? ??? ??? ?????? ??????? ????, ???? ?? ?????????.

("The last argument, in addition to the fact that it does not prove that there are Ideas, will also be seen to establish Ideas of things for which the Platonists do not wish there to be Ideas. For if, because medicine is not a science of this health but simply of health, there is such a thing as health-itself, there will also be [something of this sort] in the case of each of the arts. For [an art] does not deal with the particular thing nor the 'this', but simply with that which is its object, as carpentry simply with bench, not with this bench, and simply with bed, not this bed; in similar fashion both sculpture, and painting, and building, and each of the other arts is related to the things subject to it. Therefore, there will also be an Idea for each of the objects of the arts, the very thing the Platonists do not wish.")

1070a13-15

(1a) 991b6-7. 999b17-20.

1070a15-17

(1a) 1026b21-24. 1033b5-8.

1070a18-19

On the text see vol. i, pp. 277-279.

(1a) 991b6-7. 1043b18-23. 999b19. 1060b23-28.

(1c) Epistula vii, 342d.

(1d) Proclus, In Platonis Parmenidem, 136 Cousin (= fr. 30 Heinze):

???? ????? ? ??????????, ????? ??? ????? ??????? ?????? ??????????????? ??? ???? ????? ??? ??????????. ? ??? ??? ?????????? ?????? ?? ????????? ?? ?????????? ??? ???? ??? ????? ?????????.

("As Xenocrates says, supposing that the idea is causa exemplaris of whatever subsists by nature. Now Xenocrates recorded this definition of the idea as held by the leader [of the Academy, i. e. Plato]")

Seneca, Epistulae Morales 58, 19:

"Quid sit idea, id est quid Platoni esse videatur, audi: 'idea est eorum quae natura fiunt exemplar aeternum'."

(2) Robin (n. 175, pp. 174): "The question whether it is true that Plato did not admit Ideas of artefacts is one of the most delicate raised by Aristotle's exposition of Platonism. There is contradiction between Aristotle's affirmation and a certain number of texts of Plato where mention is made of Ideas of artefacts."

Four solutions of the problem were proposed (Robin, pp. 174-176):

1. When Plato speaks of Ideas of artefacts, they serve only as examples.

2. Aristotle has exposed Plato's doctrine vitiously.

3. Plato has modified his doctrine in the last part of his life.

4. The modification was not made by Plato, but by his disciples.

Robin's own explanation that Aristotle committed a confusion of "imitations of art" and "products of art" (p. 178) does not account for the tradition documented above.

Cherniss (pp. 244-246): "This would seem to be direct evidence that Plato denied the existence of ideas of artefacts; certainly Aristotle's purpose in quoting him is to lend support to his own contention that there can be no separate form of «non-natural» objects, and that implies on his part this interpretation of Plato's words.

Yet in the dialogues Plato does assume ideas of artefacts. The ideas of shuttle in the Cratylus (389a-b), of bed and of table in the Republic (596b, 597c) are notorious; furthermore, in mere consistency the theory requires that there be an idea for every concept without restriction, and this doctrine is either expressed or directly implied in many passages throughout the dialogues (Res publica 596a6-10 [cf. 507b, 493e]; Phaedo 75c-d; Cratylus 386d-e, 440b4-c1; Parmenides 130d-e, 135b5-c2; Timaeus 51b-e [cf. Taylor, Mind, N. S. V, 1896, p. 304, n. 1 and Ritchie, Bibliothèque du Congrès International de Philosophie, IV, 1902, p. 178, n. 1]; Philebus 16c-d [cf. Shorey, What Plato Said, p. 604]). Most appropriately significant, however, is the fact that in the last book of Plato's latest work the procedure of the master-craftsman is described in exactly the same words as those which are used in the Republic and the Cratylus to explain how the artisan fashions shuttle, table, or bed with his eye fixed upon the idea that he is copying. On the evidence of Plato's own writings, [245] therefore, it is certain that he posited ideas of artefacts; and there is no suggestion in these writings nor any direct evidence in Aristotle's that he ever altered his opinion on this subject. Nevertheless, in support of the possible contrary implication of Aristotle's «quotation» (?????? ??? ??? ???? ????? ????? ?????) one might adduce the definition of the idea given by [246] Xenocrates: ????? ?????????????? ??? ???? ????? ??? ??????????, a definition preserved by Proclus who interprets it as an implicit denial of ideas of ?? ???? ????? and ?? ???? ?????? (Xenocrates, frag. 30). This definition Xenocrates apparently believed to represent Plato's own opinion; and Plato's conception of the idea is described in similar phraseology by Diogenes Laertius (III, 77: ??? ?? ????? ????????? ?????? ????? ??? ????? ??? ??????' ????? ?? ????? ?????????, ?????? ????? ????). On the other hand, the story of Plato's reply to Diogenes the Cynic concerning ?????????? and ????????, the point of which is the discomfiture of Diogenes and which consequently cannot have arisen among the Cynics, shows that by Platonic sympathizers of some kind Plato was believed to have posited ideas of artefacts (Diogenes Laertius, VI, 53); and Albinus, who himself mentions the definition of the idea as ?????????? ??? ???? ????? ???????, says that most of Plato's disciples refuse to admit ideas of artificial objects and so by implication recognizes a disagreement on this subject within the school."

Bluck (1947, pp. 75-76): "Now Metaphysica ? 1070a18-19, where Plato is (supposedly) named, (i) has an important variant reading, and (2) is capable as it stands (in Ross' edition) of suggesting, contrary to the usual assumption, that Plato believed in Forms of artefacta. For (1) Ross says that 'Alexander as recorded by Averroes read ?? ?? ???? ????????? ??????, and Themistius seems to have had the same reading'. It is easy to see how ?????? could have crept into the text from being a gloss on ?? ?? ???? ?????????, but not so easy to imagine the reverse. Post-Platonic Platonists may be meant. [Footnote: "Beckmann supposed ?????? was a later addition: Num Plato artefactorum ideas statuerit, 29-35."] But (2) Aristotle has just been saying that the Form does not exist apart from the object in the case of artefacta, and that if the Form ever exists apart, it is in the case of natural objects. And the remark, 'so that Plato was not wrong in saying there are ??????? ???? of all natural objects, if there are such Forms at all' may well imply 'but of course he was wrong in saying there are Forms of artificial products'. [Footnote: "????? is not necessarily restrictive in meaning, cf. Plato, Ep. VII, 344a; and ???? at Metaphysica 990b12, 1011b33.] Certainly there is no conclusive evidence here that [76] Aristotle believed Plato to have rejected Forms of artefacta.

At Metaphysica ? 988a2, after discussing Plato's Forms, Aristotle says: ?? ??? ??? ?? ??? ???? ????? ????????, ?? ?' ????? ???? ????? ?????, ???????? ?' ?? ???? ???? ??? ???????. Despite the vagueness of ?? ???, Aristotle seems to have had Plato himself in mind; [Footnote: "Cf. ?????? ??? ??? … ???? ????????, ll. 7-8."] and the taking of 'table' as an example might suggest that Aristotle thought Plato believed in a separable Form of Table. [Footnote: "Cf. Res publica 596b."] But knowing Aristotle's habit of arguing from his own standpoint, we might be unwise to draw the conclusion. Again, we should not, perhaps, take Aristotle's phrases au pied de la lettre: even when we are distinctly told that Plato posited ??????? ???? of ????? ?? ??????? [Footnote: "Metaphysica 987b8, 988a12. The statements, too, that the Forms are as many as or not fewer than sensible particulars (990b4-5, cf. 1078b fin.), and that there are Forms ?????? ??? ??????? ????????? (1078b33-34) almost certainly refer to Plato."] (cf. ????? ???? ??????, 987b19, 988a11), it may be that Aristotle, if pressed, would have replied that he meant, of course, everything in the world of nature. And again, many of Aristotle's arguments, especially in the later books of the Metaphysica, are chiefly aimed at the post-Platonic Platonists who still believed in ??????? ???? of ?? ?????; and Aristotle is trying to refute that belief when he urges that separable Forms of artefacta, which they reject, are a necessary corollary of it (cf. Metaphysica 991b6). Yet his attacks on this corollary [Footnote: "e. g. 1033b5-26, 1070a13-17."] are sufficiently detailed, perhaps, to suggest that some person of importance may have held it to be sound.

Xenocrates' definition of a Form (as given by Proclus, In Parmenidem i. 888. 18, v. 136, Cousin) begins: ????? ?????????????? ??? ???? ????? ??? ??????????, and we are told ?????? ?? ??????????? ?? ?????????? ??? ???? ??? ????? ????????. Ross interprets ??? ???? ????? in the narrow sense, of natural objects only; but it seems to me that the phrase here may mean no more than 'the things of this world'. At least this seems no less likely than that Aristotle's ????? ?? ??????? should have been loosely used for ???? ?? ?????. [Footnote: "Or, if the text is authentic, Xenocrates' own views may have had something to do with the choice of the phrase, despite his claim to have obtained Plato's sanction for the definition as a whole."] And at least we can hardly allow such dubious evidence to outweigh the direct testimony of Plato, Ep. VII. [Footnote: "Diogenes Laertius' evidence is self-contradictory: cf. iii, 77 with vi, 53."] This brings me to the second half of my argument.

At Ep. VII, 342a, Plato tells us of an ?????? ?????, ???????? ??' ???? ??? ??????? ?????? - i. e., almost certainly, expounded in lectures. In the course of the summary that follows it is made clear that separable Forms exist ???? ?? ?????? ??? ??? ?????????? ???????? ??? ?????, ???? ?? ?????? ??? ????? ??? ???????, ??? ???? ??????? ??????? ????????? ?? ??? ???? ????? ?????????, ????? ?????? ?? ??? ??? ???????? ??????, ??? ???? ????????? ???? ??? ?? ?????? ?????, ??? ???? ???????? ??? ???????? ????????. [342d]

We could not ask for clearer testimony than this. Even if a forger wrote this letter, which is most unlikely, he would hardly have assigned to Plato views contrary to those held by the School after Plato's death, if Plato had not been known to have held them himself. I conclude, then, that Plato did not reject Forms of any artefacta, and I do not think Aristotle ever intended to suggest that he had."

Ross (1951, pp. 171-175): "Plato expressly assumes the existence of Forms of artefacta not [172] only in the Cratylus and in the Res publica, where Forms of shuttle, auger, bed, and table are mentioned by name, [Cratylus 389b1-d3; Res publica 596b3-597a3] but also in the Timaeus and in the Leges (in both of which, as in the Cratylus and the Res publica, the good craftsman is said to work with his eye on the Form of that which he is making), [Timaeus 28a6-b1; Leges 965b7-c8] and in the Epistula VII. [342d3-e2] Artefacta do not occur among the kinds of thing, the existence of Forms of which is discussed in the 'first part' of the Parmenides, but we cannot infer from this that when he wrote that dialogue Plato denied or doubted the existence of such Forms. There is nothing improbable in the story Diogenes Laertius tells, [VI, 53] that when Diogenes the Cynic said to Plato 'I see a table and a cup, but certainly not tableness and cupness', Plato replied 'Naturally, for you have eyes, by which a cup or a table is perceived, but not reason, by which tableness and cupness are seen.'

On the other hand, Aristotle's statement derives some support, or seems to do so, from the remark made by Proclus, [In Parmenidem 691 Stallbaum] that 'Xenocrates placed on record this definition of the Idea as one satisfactory to the Founder-"a pattern-like cause of the things that from time to time are constituted according to nature-a separable and divine cause".' (????? ?????????????? ??? ???? ????? ??? ?????????? … ??????? ??? ???? ?????) […]

Here, then, we seem to have definite evidence of a divergence from the doctrine of the Res publica, that there is an Idea answering to every common name; how is this to be explained? The question has been well discussed by Robin. [174 n.] He considers various hypotheses. (a) It may be said that when Plato speaks of Forms of artefacta he is speaking loosely and half-humorously. [So Proclus in Timaeum 29 C, i. 344.5-14 (Diehl); Bonitz, Aristoteles Metaphysica 2. 118-9] In reply it must be pointed out that Forms of artefacta are required by the [173] general doctrine that wherever there is a common name there is a Form, and that the Forms of bed and table play an essential part in Plato's argument against art in the tenth Book of the Res publica. [596a5-602b11] (b) It may be said that Aristotle has misinterpreted Plato in saying that he recognized only Forms of natural objects. [So Zeller, Platonische Studien 262] But Aristotle's interpretation is supported by the definition of 'Idea' which Xenocrates described as commending itself to the Founder. (c) It may be said that Plato changed his opinion. [So Zeller, Philosophie der Griechen ii. 14. 703 f., 947; Heinze, Xenokrates 53 f.; Jackson, passim.] This view cannot be definitely rejected; but we can at least say that there is no evidence, in Plato or in what we read about him elsewhere, of such a change. (d) It may be suggested that it was only Plato's followers that changed the theory. Beckmann supposed [Num Plato artefactorum ideas statuerit, 29-35] that the name of Plato was substituted for 'the believers in Ideas' in the one place (Metaphysica 1070a18) where he is definitely named in this connexion in the text of Aristotle. There is some evidence for this, [Alexander as reported by Averroes had ?? ?? ???? ????????? ??????, but all the manuscripts of Aristotle have ?????? (or ? ??????) ???. Themistius' paraphrase, which agrees with Averroes, is so free as hardly to count.] but the weight of the evidence is against it (e) Robin suggests that Plato rejected Forms of the products of the imitative arts, the copies which merely reproduce the outward form of their originals, but did not reject Forms of the products of the useful arts, which have a form dictated by their end as truly as natural objects have one; and that Aristotle misinterpreted him as having denied Forms of the latter also. This suggestion agrees with the doctrine of the Res publica, [596b6-10, 597b2-598d6] where the actual bed stands at one remove from the Form just as a natural object does, the painted bed at two removes. There is no Form of the painted bed; the pattern to which the painter looks is not a Form but the actual bed. In the Res publica, [510a5-6] too, the whole class of manufactured things (i. e. the products of the useful arts) is put in the same section of the Line as living things, the second section; and in the Sophista [265c1-266d7] the products of imitative art are said to be to the products of useful art as dream-images, shadows, and [174] reflections are to living things, and would therefore belong to the first and lowest division of the Line (though not mentioned in the Line passage).

[…] Of the passages bearing on the question, the only one in which Aristotle mentions Plato by name is that in which he says 'Plato recognizes Forms just as many as the things that exist by nature'; his other reference may equally well refer to some Platonist who had gone farther than his master by denying the existence of Forms of any artefacta, not merely of Forms of products of the imitative arts. The question is, what Plato meant by the word ?????, 'by nature'; is this opposed to 'by art' or to 'contrary to nature'? Aristotle takes it in the former sense; but, as we have seen, Plato habitually puts the products of the useful arts on the same level as living things, on the ground that they answer the real needs of human nature. In discussing the principles on which classification should be based, Plato more than once insists that not any and every subdivision of a class which ingenuity can devise answers to a subdivision ordained by nature. In the Phaedrus [265e1-3] he insists that we ought 'to divide a genus into species at the joints established by nature, and not try to break up any part, like a bad cook'. In the Politicus he insists that while every species is a part of a genus, not every part is a species, [263a2-b11] and lays down the rule 'let every part have at the same time a Form', [262b1] i. e. be not an arbitrary subdivision but one that answers to a real articulation in the nature of things. It is highly probable that it was to this principle, and not to any distinction between natural and manufactured products, that Plato was referring when he said 'there are Forms as many as the things that exist by nature'. [Metaphysica 1070a18] As positive evidence that he was not putting the products of art in general (i. e. those of the useful as well as those of the imitative arts) on a lower level of reality than those of nature, we have the words in his latest work, [Leges, 890d1-8] 'The legislator should defend the claim [175] of law itself and of art to be natural, or no less real than nature, since they are products of mind in accordance with sound reasoning.'

If this very probable conjecture is right, there is no real evidence that Plato ever denied the existence of Ideas answering to the objects of the useful arts. But early Platonists evidently did so; for Aristotle says distinctly [991b6] that they did not recognize Ideas of house and ring."

According to Krämer (1969, p. 489), this definition "is proved to be authentically Academic-Xenocratic by its concordance with the Timaeus (?????, ??????????) and the Sophista (??????????, ?? ??? ????? … ??????????? of the ???? and ????????? ????? 265c3, 265e4; cf. Xenocrates, Fr. 28: ??????????) as well as with the definition transmitted by Aristotle in ???? ????? (???????????? for ?? ???? ????? ?????????).

(3) The contradiction is only apparent. It is resolved when we distinguish between the questions whether Ideas "exist" as concepts, and whether they exist in rerum natura, endowed with some sort of independent causality. This is only the case if they, by means of the Eros, motivate the animals to preserve their species, reproducing themselves. This alliance with a natural power (as it is conceived already since the Symposium) helps the Ideas to a quite different kind of existence than they have as patterns for the human craftsman. In the Phaedo (99e), by the "refuge in discussions" it is indicated that the Ideas are "causes of being" in the sense of a ratio cognoscendi, a qualification ignored by Aristotle in his critique (991b3-5).

1070a24-27

(1a) 1025b34-1026a6.

(1b) De Anima 408b18-30. 413a4-7. 413b24-27. 430a17-18.

1070a27-30

(1a) 991a8-12. 991b3-9. 992a24-29. 992b7-9. 1033b26-28. 1034a2-5. 1071b14-17. 1075b27-30.

1070a33-34

(1a) 1088a22-24.

1070a35-36

(1a) 1096a20. 1088a21-25.

1070b1-4

(1a) 1086b37-1087a4.

1070b22-24

(1a) 1041b31. 1091b3. 13. 1092a6-7.

1070b30-34

(1a) 1032a24-25. 32-b1. b11-14. 1033b29-33. 1049b27-29. 1070a27-30. 1074b38-1075a3. 1075b8-11.

1070b34-35

(1b) Physica 198a35-b4.

1071a11-17

(1b) De Generatione et Corruptione 336a31-b2.

1071a15-16

(1b) De Generatione et Corruptione 336a31-32. 336b15-19.

1071b5

(1a) 1070b36-1071a3. 1071a33-36.

1071b6-11

(1b) Physica 251b10-13.

1071b12-14

(1a) 1050b6-28.

1071b20-22

(1b) De Interpretatione 23a23-26.

1071b22-26

(1a) 1040a21-22.

1071b26-27

= 1 B 9 Diels/Kranz

(2) Patzer (pp. 61-62): As in Book I, a physical doctrine is traced back to the most ancient poets. The same method, applied to the ???? ?????, occurs in Diogenes Laertius I, 4:

??? ?? ????? ????? ????? ????? ??? ?????? ????????? ??????? ?? ???????????, ????? ??? ??????? ???????, ??? ???? ??? ?????? ????????. ????? ???? ??? ????????? ????

?? ???? ??? ??????, ?? ? ??? ????' ????????.

???? ????? ?????????? ????? ??? ??????? ????????? ????, ???? ?? ??????? ???? ???????????.

("Linus is said to be the son of Hermes and the Muse Urania. He composed a poem describing the generation of the world, the courses of the sun and moon, and the growth of animals and plants. His poem begins with the line:

Time was when all things grew up at once;

and this idea was borrowed by Anaxagoras when he declared that all things were originally together, but Intellect came and set them in order.")

1071b30-31

(1b) De Generatione Animalium 716a13-17. 727a2-4.

1071b28-31

(1a) 100434-b1.

1071b31-34

= 67 A 18 Diels/Kranz

(1b) Physica 250b18-21. De Caelo 300b8-11. 17-18. De Generatione Animalium 742b17-23.

(1c) Timaeus 30a.

(1d) Hippolytus, Refutatio omnium haeresium 1, 13, 2:

????? ?? ?? ??? ?????????? ??? ????? ?? ?? ????.

("He [Democritus] supposed that the beings are permanently moved in the vacuum.")

1071b37-1072a3

(1b) Topica 140b3-4.

(1c) Phaedrus 245c. Timaeus 46d. Leges 895b-c.

1072a2-3

(1b) De Caelo 279b32-280a28.

(1c) Timaeus 34a-b.

1072a8

(2) Ross (II, p. 371): "??????? refers to Empedocles' doctrine of cycles (De Caelo 279b14-17, Physica 250b26). ????? refers to any view which, without committing itself to cycles, holds that the main characteristics of the universe remain the same. In the next sentence Aristotle concentrates on the belief in cycles, though what he says of its implications would apply also to the alternative view referred to in ?????."

Paulus (p. 397 n.): "This is an error. Aristotle, for his own part, teaches the periodicity and uses it as hypothesis for pursuing his demonstration (a9). The periodicity in question is, therefore, proper to the Aristotelian system; it means apparently the one which results from the sun's motion toward and away from the earth, and which can be noted in the seasons, and in the alternation of generation and corruption."

1072a10-12

(1b) De Generatione et Corruptione 336a31-b7.

1072a12-13

??? ??? ???' ???? ???????? ("act in one way in virtue of itself")

(2) "the own motion, annual" (Ravaisson p. 563 n.).

1072a14

?? ?????? ("of the first")

(2) "the daily motion of the whole heaven" (Ravaisson p. 563 n.).

1072a14-15

?????? ???? ?? ?????? ?'?????? ("this again causes the motion both of the third agent and of the second")

(2) "the daily motion, ??????, is the cause both of oblique motion, ????, in so far as periodic, and of perpetual generation and corruption, ???????" (Ravaisson p. 563 n.).

1072a24-26

(1a) 1072b7.

(1b) Physica 256b20-27. De Anima 429a18-19. 433b13-18.

(3) According to Aristotle's interpretation (989a30-b21; note our restitution of the text in vol. 1, pp. 78-80), Anaxagoras' intellect represents "definiteness" (?? ?????????), i. e. the positive side of the Pythagorean-Academic "column" (?????????, see l. 35). Aristotle's cosmic intellect makes sure that the motion of the celestial bodies is regular, which would be irregular if matter would follow its own nature, see Plato, Timaeus 52e (????????) and his definition of motion as "irregular" (cited in our note on 1084a31-36).

1072a27-b1

(1a) 1004a2. 1004b27-1005a1. 1054a29-32.

(1b) De Anima 433b10-18. De Motu Animalium 700b15-701a2.

1072a30-b2

= Testimonia Platonica 47 A Gaiser

1072a30

(1c) Sophista 248d-e.

1072a30-32

(1a) 1004a34-b4. 1004b27-29. 1032b2-6. 1051a12-14.

(1b) Physica 201b25-26. De Caelo 286a25-26. De Generatione et Corruptione 319a14-17. De Anima 430b20-21. 433a18-20.

1072a30-31

(1a) 999b2. 1031b20-21. 1072a34.

(1b) Ethica Nicomachea 1096a24-25. Ethica Eudemia 1217b30-31.

1072a32-34

(1a) 1052b18-20.

1072a34-b1

(1b) De Motu Animalium 700b32-35. Ethica Nicomachea 1096a23-27. Ethica Eudemia 1217b25-33.

1072a35-b30

(1a) 1074b15-1075a10.

(1b) Ethica Nicomachea 1177a12-1178a8. 1178b21-32. Ethica Eudemia 1245b16-19. Politica 1323b23-27.

1072b1-3

(1b) Physica 194a34-36. De Anima 415b2-3. 20-21. (Both passages interpolated.) Ethica Eudemia 1249b15.

(3) The phrases ???? ?? ????? and ????? ?? ????? are, of course, grammatical nonsense; for ?? ?????, we have to substitute ?????? and ????? respectively: "good for somebody" (cf. Topica 116b8. Ethica Nicomachea 1152b26-27. Ethica Eudemia 1228b18-20, 1235b31, 1236a9-10), "end of something" (cf. B, 996a26, Ethica Nicomachea 1139b2-3). Metaphysica B, 996a27-29 confirms that it is the "that for the sake of which" in the latter meaning which "does not exist among unmoved entities".

An alternative solution is distinguishing between ?????? ("good") and ????? ("beautiful"), see 1078a31-32.

1072b10-13

(1a) 1015b11-15.

1072b13-14

(1b) De Anima 415a26-27.

1072b14-16

(1b) Ethica Nicomachea 1177b26. 1178b26-27. Politica 1339b17.

(1c) Theaetetus 176b1-2.

1072b16-18

(1b) Ethica Nicomachea 1154b24-31. Politica 1323b21-26.

1072b21

(1a) 1051b24.

(1b) De Generatione et Corruptione 323a20-33.

1072b23-24

(1b) Ethica Nicomachea 1178b20-32.

1072b28-30

(1b) De Caelo 286a9.

1072b30-1073a3

= Speusippus fr. 34a Lang = fr. 42a Tarán

(1a) 1092a9-17.

(1d) Iamblichus, De Communi Mathematica Scientia 16, 12-14 Festa: see note on 1091a35-36.

1072b30-34

= 58 B 11 Diels/Kranz

1072b30

(1a) 1091a30. 1092a9.

1073a5-12

(1b) Physica 258b24-26. 267b17-26.

1073a18-22

= Testimonia Platonica 62 Gaiser

(1a) 986a8-10. 1084a12-15. 29-32. 37-b2.

(1b) Physica 206b32-33.

(2) Zeller i.6 504-507:

"For as they considered numbers over ten to be only the repetition of the first ten numbers, all numbers and all powers of numbers appeared to them to be comprehended in the decad, which is therefore called by Philolaus, great, all-powerful and all-producing, the beginning and the guide of the divine and heaveuly, as of the terrestrial life. According to Aristotle, it is the perfect and complete, which includes in itself the whole essence of number; and as nothing, generally speaking, would be knowable without number, so in particular, we are indebted solely to the decad that knowledge is possible to us. Four has a similar importance, not merely because it is the first square number, but chiefly because the four first numbers added together produce the perfect number, ten. In the famous Pythagorean oath, Pythagoras is therefore celebrated as the revealer of the quaternary number (Tetractys), and this in its turn is praised a's the source and root of the eternal nature. Later Pythagoreans are fond of arranging all things in series of four: how far this is derived from the ancient Pythagoreans cannot be determined. But each of the other numbers has its particular value. One is the first from which all the other numbers arise, and in which the opposite qualities of numbers, the odd and the even, must therefore be united; two is the first even number; three the first that is uneven and perfect, because in it we first find beginning, middle and end; five is the first number which results by addition from the first even and the first uneven number. Six is the first number which results from them by multiplication. Six multiplied by itself gives a number which again ends in six; all the multiples of five end either in five or ten; three, four, and five, are the numbers of the most perfect right-angled triangle, which together form a particular proportion; seven is the only number within the decad which has neither factor nor product; this number is moreover compounded out of three and four, the significance of which has just been discussed; lastly, to pass over other things, it is together with four the mean arithmetical proportion between one and ten. Eight is the first cube, and the great Tetractys is formed out of the four first uneven and the four first even numbers, the sum of which (36) equals the sum of the cubes of one, two, and three. Nine, as the square of three, and the last of the units, must have had a special importance."

1073b3-8

(1a) 989b32-33.

(1b) Physica 194a7-8.

1074a31-38

(1b) De Caelo 276a18-277b23.

(1c) Timaeus 31a-b.

1074a33-35

(1a) 1034a5-8. 1058b5-8.

(1b) De Caelo 278a23-28.

1074a38-b3

(1b) De Caelo 270b5-8. 279a22-23. 284b3. 284a2-13. b3. De Anima 405a29-b1.

(1c) Cratylus 397c. Philebus 16c. Timaeus 40b-c.

(1d) Clemens Alexandrinus, Protrepticus 66 (p. 50, 20-21 Stählin):

? ??? ??? ??????????? ???????? ????? ???? ???? ??????? ????? ???????? ?????.

("Alcmaeon of Croton believed that the stars are gods, because they are animate.")

(2) Jaeger 1962, pp. 131-132; 138; 142; 165-166.

Aubenque, pp. 335-355.

1074b5-8

(1b) Politica 1252b26-27.

1074b7

Verdenius (p. 57): "Aristotle sometimes stresses the antiquity of a traditional view to such a degree that he makes the impression of regarding this antiquity as a value in itself. The question why the antiquity of a view should be a guarantee of its truth, is not answered by him, but […] we may deduce the answer from another passage. 'What is long established seems akin to what exists by nature.' [Ars Rhetorica 1387a16] Accordingly, the antiquity of a tradition is a justification of its existence and thus a guarantee of its truth."

1074b9

(1b) De Caelo 279a22-23.

1074b10-13

(1b) Physica 223b24-25. De Caelo 270b19-20. Meteorologica 339b27-30. Politica 1329b25-27.

(1c) Timaeus 21d-23c. 25c-d. Leges 677a.

(1d) Iamblichus, De Communi Mathematica Scientia 83, 6-22 Festa:

???????? ??? ????????????? ???? ???

????????????? ? ???? ??? ???????? ???????????. ???? ???

??? ?????? ??? ??? ??????????? ?? ???? ??? ??????

??? ?? ??? ?????? ??????????? ??????????,

??????????? ?? ????????? ??? ???? ?????? ????????????

??????, ???? ???????? ??? ??? ????????, ????????????

?? ??? ????????? ????? ??????????? ??????????.

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("The study of precision with regard to the truth is admittedly the youngest of all pursuits. For after the catastrophe of the flood men were compelled to think first about food and the preservation of life; when they had become better provided they worked out the arts that conduce to pleasure — music and the like; and it was only when they had acquired more than enough of the necessities of life that they essayed philosophy. But those who concern themselves with geometry and calculation and the other sciences have from small beginnings made by now such progress in a very short time as no other race has made in any of the arts. Yet while all men join in promoting the other arts by giving them public honor and rewarding the artists, we not only do not encourage mathematicians, but often even put difficulties in their way; yet these studies make most advance, because they have a natural precedence; for that which is later in coming to be is prior in essence and perfection.")

Proclus, In primum Euclidis elementorum librum commentarii, 28. 13-22 Friedlein:

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("That to those who pursue it mathematics is desirable for its own sake is shown, as Aristotle somewhere says, by the fact that, though no reward is held out to those who pursue it, facility in the study of mathematics increases so rapidly, and also by the fact that all who have had even a slight experience of what it can give one feel at home in it and are willing to spend their time in it, neglecting all else, so that those who despise the knowledge of mathematics can never themselves have tasted its delights.")

Philoponus, In Nicomachi Isagogen I 1, 9-49 (=De philosophia fr. 8 Ross):

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«???????? ?? ?????? ?????? ???????????? ????·

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("Wisdom (?????) was so called as being a sort of clearness (??????), inasmuch as it makes all things clear. This clearness, being, as it were, something light (????), has acquired its name from that of light (????, ???), because it brings hidden things to light. Since, then, as Aristotle says, things intelligible and divine, even if they are most clear in their own nature, seem to us dark and dim because of the mist of the body which hangs over us, men naturally gave to the knowledge which brings these things into the light for us the name of wisdom. But since we use the words ' wisdom' and ' wise' in a general way, it must be realized that these words are ambiguous. They have been taken by the ancients in five ways, which Aristotle mentions in his ten books On Philosophy. For you must know that men perish in diverse ways— both by plagues and famines and earthquakes and wars and various diseases and by other causes, but above all by more violent cataclysms, such as that in the time of Deucalion is said to have been; it was a great cataclysm but not the greatest of all. For herdsmen and those who have their occupation in the mountains or the foothills are saved, while the plains and the dwellers in them are engulfed; so, at least, they say that Dardanus was swept by the flood from Samothrace to what was afterwards called Troy, and thus was saved. Those who are saved from the water must live on the uplands, as the poet shows when he says: 'First Zeus the cloud-gatherer begat Dardanus, and he stablished Dardania, for not yet was holy Ilios built upon the plain to be a city of mortal men, but still they dwelt on slopes of many-fountained Ida. The word 'still' shows that they had not yet courage to live in the plains. These survivors, then, not having the means of sustenance, were forced by necessity to think of useful devices— the grinding of corn, sowing, and the like— and they gave the name of wisdom to such thought, thought which discovered what was useful with a view to the necessities of life, and the name of wise to anyone who had had such thoughts. Again, they devised arts, as the poet says, 'at the prompting of Athene'— arts not limited to the necessities of life, but going on to the production of beauty and elegance; and this again men have called wisdom, and its discoverer wise, as in the phrase ? wise craftsman framed it', 'knowing well by Athene's promptings of wisdom '. For, because of the excellence of the discoveries, they ascribed the thought of these things to God. Again, they turned their attention to politics, and invented laws, and all the things that hold a state together; and such thought also they called wisdom; for such were the Seven Wise Men— men who attained political virtues. Then they went farther and proceeded to bodies themselves and the nature that fashions them, and this they called by the special name of natural science, and its possessors we describe as wise in the affairs of nature. Fifthly, men applied the name in connexion with things divine, supramundane, and completely unchangeable, and called the knowledge of these things the highest wisdom.")

(2) Jaeger 1962, p. 137.

1074b13-14

(1b) De Caelo 284a2-3.

1074b18

(1b) Ethica Nicomachea 1178b19-20.

1074b25

(1b) Ethica Nicomachea 1177b31-1178a2. Politica 1325b28-30.

(1c) Alcibiades major 134d-e. Res publica 380d8-381c9.

1074b26-27

(1c) Res publica 380d8-381c9.

(1d) Simplicius, In De Caelo 289, 2-15 (= De Philosophia fr. 16 Ross):

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("In general, where there is a better there is a best. Since, then, among existing things one is better than another, there is also something that is best, which will be the divine. Now that which changes is changed either by something else or by itself, and if by something else, either by something better or by something worse, and if by itself, either to something worse or through desire for something better; but the divine has nothing better than itself by which it may be changed (for that other would then have been more divine), nor on the other hand is it lawful for the better to be affected by the worse; besides, if it were changed by something worse, it would have admitted some evil into itself, but nothing in it is evil. On the other hand, it does not change itself through desire for something better, since it lacks none of its own excellences; nor again does it change itself for the worse, since even a man does not willingly make himself worse, nor has it anything evil such as it would have acquired from a change to the worse. This proof, too, Aristotle took over from the second book of Plato's Republic.")

Subsequently (289, 15-26), Simplicius cites Res publica 380d8-381c9.

1074b28-29

(1a) 1050b22-24.

1074b29-33

(1b) Magna Moralia 1212b39-1213a7. Ethica Eudemia 1245b16-18.

1074b29-30

(1b) 1245a1-11.

(1c) Phaedo 66a.

1074b33-35

(1b) Magna Moralia 1212b38-1213a4. Ethica Eudemia 1245b16-18.

(1c) Charmides 169a. Alcibiades major 132d-133c.

(2) Thomas Aquinas (Sententia Metaphysicae, liber 12 lectio 11 numerus 16): "Quanto autem aliquod principium perfectius intelligitur, tanto magis intelligitur in eo effectus eius: nam principiata continentur in virtute principii. Cum igitur a primo principio, quod est Deus, dependeat caelum et tota natura, ut dictum est, patet, quod Deus cognoscendo seipsum, omnia cognoscit."

Fonseca: "intelligendum vero esse de cognitione immediata, et cum exclusione aliarum rerum, ex eo constat, quia Aristoteles non respondet ad alteram partem secundae quaestionis [1074b23], nempe si mens illa intelligit alia a se, num semper ea intelligat, an vero modo hoc modo illud cum mutatione sui. Si enim id quod expresse concluditur, nempe mentem illam se ipsam intelligere, sic accipi potest, ut non excludantur alia ab immediata eius cognitione, reprehendendus omnino est Aristoteles, qui non explicavit semperne cetera omnia intelligat, an modo haec modo illa cum mutatione sui. Qua tamen explicatione opus non fuit, eo quod re vera loquebatur de sola immediata cognitione; quo pacto ea quae in utraque conclusione dicta sunt [1074b33-35], intelligenda esse voluit cum exclusione omnium aliarum rerum."

In the 19th century, inter alios, Franz Brentano (Psychologie des Aristoteles 246-247) followed Thomas' view, of which Zeller (II/2, p. 371, n. 1 - unconsciously, as it seems, agreeing with Fonseca) states that it is "lacking any valid proof". Zeller's disapproval is shared by the commentators Ross (p. cxlii) and Tricot (p. 703).

(3) If our knowledge of God is, in a certain sense, knowledge of all being (under the aspect of being, ? ??), this must apply equally to the knowledge which God has of himself. Thus, the alleged contradiction with ?, 983a5-10 (Ross I, p. 123) is removed: God is in perfect possession of the requested science, which turns out to be the science of being as such.

1074b38-1075a3

(1a) 1032b1-2. 1032b11-14.

(1b) De Anima 430a2-5. 19-20.

1075a7-10

(1a) 1041b9. 1045b23. 1051b17-30. 1072b14-16. 24-25.

1075a11-12

For ? ??? ???? ????? ("the nature of the universe") cf.

(1b) De Caelo 268b11 ???? ??? ??? ?????? ??????.

1075a19-20

(1b) De Generatione Animalium 744b17-21.

1075a25-32

(1a) 1087a29-b6.

1075a28-32

(1a) 1004b29-1005a3. 1087a29-31.

1075a30-31

(1b) Physica 190b33-34.

1075a32-37

= Speusippus fr. 35d Lang = 46a Tarán

1075a32-33

(1a) 1087b4-6. 1091b30-32.

(1b) Categoriae 6a26-27.

1075a34-35

(1a) 1091b35-37.

1075a31-b1

= Speusippus fr. 46a Tarán

1075a31-32

(1b) Physica 189a24-26. 190b33-35.

1075a38-b1

(1a) 988b6-16.

1075b1-4

(1a) 985a4-10. 1091b10-12.

1075b10

(1a) 1032b11-14. 1070a27-30. 1070b33-35. 1074b38-1075a3.

1075b12-13

(1a) 985a4-10. 989a30-b21. 993a19-24.

1075b13-14

(1a) 1000a7-9. 1060a27-31.

1075b16-17

(1b) De Generatione et Corruptione 318a13-25. 336a15-18.

1075b20-24

(2) Cherniss (pp. 103-104): "«The others» have to admit the existence of something contrary to the highest wisdom, a necessity which presumably follows from the contrariety of their first principles inasmuch as Aristotle escapes it by having nothing contrary to his first principle. The ignorance which is contrary to knowledge implies an object contrary to the object of that knowledge; but since there is no contrary to Aristotle's first principle there can be no ignorance contrary to the knowledge of it. So far as the Platonists are concerned, the implication is that they must admit their «matter» to be the object of an ignorance which is the contrary of the highest wisdom, because they conceive the object of that wisdom to be itself contrary to «matter.»

It has been suggested (Ross, Metaphysics, II, p. 404) that Aristotle is here alluding to Res publica 477-478 where Plato assigns ?????? to absolute non-being and ?????? to being; and Aristotle's tendency to identify ?? ?? ?? with Platonic matter lends this suggestion a high degree of probability. In any case, the criticism rests upon the contrariety of principles assumed for Plato and the Presocratics; and in the case of Plato the «contraries» must be matter and the ideas (1075a32-33, 1075b17-20). Against the criticism of Aristotle, then, one could point out that the ?? ?? of the Res publica is not «matter» and that the «receptacle» of the Timaeus, which Aristotle himself takes to be Plato's ???, is an object of reason (even though a bastard reason, Timaeus 52b) and neither the object of ignorance nor the contrary of any of the ideas (50e) which are the objects of knowledge (52a); but the implications of this piece of criticism for Aristotle's interpretation of Plato go far beyond his customary assumption of non-being as an element in the Platonic system. The reason which Aristotle adduces to explain why his first principle has no contrary is that all contraries have matter and so involve potentiality in their existence (1075b23: ??????? ????? ?????, Ross); if, then, his first principle is without a contrary because it itself has no matter and is pure actuality, the argument that Plato must [104] assume an ignorance contrary to the highest knowledge presumes that the ideas are a contrary and so that they have matter and exist «potentially.» Aristotle reached the interpretation that Platonic matter must be the contrary of Platonic form by identifying the latter with absolute being and making it a unitary principle to which, then, matter had to be contrasted as non-being; but his own conception of contrariety thus introduced forces him to reverse the argument and to conclude that the ideas as one term of a contrariety must themselves have a material substrate."

1075b20-22

(1a) 1054b24-27. 1055a25-29. 1087a31-b4.

(1b) De Anima 430b24-26. Ethica Nicomachea 1141a16-20.

1075b24-27

(1a) 1060a26-27.

1075b24-25

???? ?? ????? ???? ?? ??????? ???? ("if besides sensible things no others exist"): This was the question of B 4 and K 2.

1075b27-28

(1a) 991b3-9.

1075b28-30

(1a) 1001b13-19. 1083b13-16.

(1b) Physica 231a24.

1075b31-32

(1a) 1050b11-12. 1071b22-26.

1075b31

For ??? ????????? ??? ????????? ("productive or moving") cf.

(1b) De Generatione et Corruptione 323a15-20.

1075b34-35

(1a) 1044a2-9. 1045a7-b23.

1075b37-1076a4

= Speusippus fr. 33e Lang = 30 Tarán

(1a) 1028b21-24. 1090b13-20.

(1d) Theophrastus, Metaphysica 4a13-14:

??????????? ????? ???? ??????? (???? ?????? ???? ?? ??????? ??? ???? ??? ??????) ??? ?? ???????????? ?? ???.

("It is more reasonable to suppose that there is a connexion and that the universe is not a mere series of episodes.")

(2) Jaeger (1962, p. 225): "In ? the omission of the last sentence [????? ??????? ????????] makes the picture of 'a nature without connexion between its scenes' obscure to the point of incomprehensibility. Instead of it he here switches over to the magnificent simile of the monarch and the many rulers, which makes an equally striking picture of the structureless anarchy of Speusippus' theory of the first principles. Why does he drop the simile with which he began? Precisely because he no longer feels it vividly enough to do it full justice. He simply produces it from his store as something ready-made and quite familiar."

1076a2

(1a) 1090a11-13.

1076a4

The quotation is from Homer, Ilias 11, 204.

M1

1076a19-22

Speusippus fr. 32 Tarán

(1a) 1028b19-27. 1069a33-36.

1076a20-21

= Xenocrates fr. 34 Heinze = fr. 107 Isnardi Parente

(1a) 1028b24-27. 1080b21-24.

1076a21-22

(1a) 1080b11-16.

1076a22-32

(2) Jaeger (1962, p. 177): "In this scheme the first two parts, the discussion of the being (?????) of mathematical objects and the criticism of the original theory of Ideas—with both of which we are familiar from Plato's dialogues—have really no independent significance. They are simply stages in Aristotle's methodical exposition of that which was their historical consequence, namely the doctrines of Speusippus and Xenocrates. The latter are the main objects of interest in the inquiry, as would be clear merely from the length of their treatment. They obviously constituted the actual problem at the time when M was in the writing, whereas the Platonic Ideas are mentioned only for the sake of completeness. Aristotle definitely tells us this in the passage where he is giving the Idea-theory its place in the book. Not because it still has supporters in the Academy is he going to include it in this discussion, but merely 'for form's sake as it were' [l. 27]."

1026a26-29

(2) Jaeger (1962, p.178): "In the first two books this theory is still the acknowledged centre of philosophical interest; he there regards it as the starting-point for all metaphysical and logical speculation whatever. In M, on the other hand, we can already detect clear signs of the Academy's reaction to his criticisms. He is now able to treat the classical form of Plato's metaphysics as admittedly superseded. To refer to it he merely appeals to his own earlier, detailed criticism—not to the first book, but to his exoteric writings, which, as they are widely known, he need not here repeat."

1076a27-28

(2) The phrase ???? ????? ????? was translated differently:

"just for forms sake" (Liddell/Scott sub I 1c);

"merely for forms sake as it were" (Jaeger);

"only as far as the accepted mode of treatment demands" (Ross);

"only as far as systematic treatment demands" (Barnes).

Ross (ii 408) cites the parallel mentioned by Liddell/Scott Athenaeus, Deipnosophistae vii 39, 15-16 Kaibel (=Diphilus fr. 43, 13-14):

????? ?????

????? ??? ?????, ???' ???? ????? ?????.

(3) For my understanding, this parallel suggests the translation "no more than necessary" (which in substance agrees with Ross and Barnes).

1076a28-29

(1b) Physica 217b30-31. ?thica ?icomachea 1102a26-27. 1140a2-3. ?thica ?udemia 1217b22-23. 1218b33-34. Politica 1278b31-32. 1323a21-23.

(1d) Cicero, De Finibus, V, 5, 12 : populariter scriptum quod ?????????? appellabant [Aristotle and Theophrastus];

Ad Atticum, IV, 16, 2: quoniam in singulis libris utor prohoemiis ut Aristoteles in iis, quos ??????????? vocat.

Plutarch, Adversus Coloten, XIV, 1115b-c:

??? ?? ??? ????? […] ???????? ????? ??????????? ??? ????? ?????? ??????? ?????? ?? ???? ??????? ??????????? ?? ???? ????????, ??? ??? ?????????? ???????? …

("Aristotle, who everywhere assails the Ideas and brings up against them every sort of objection in his treatises on ethics and on natural philosophy and in his popular dialogues …")

(3) I see no sufficient reason for deviating from the view established since Cicero, to which Barnes returns in the revised translation ("popular works"). Ross' objection (ii 409) that the preposition ??? in the Physica passage must refer to arguments, not books, is refuted by the Plutarch passage cited above.

The meaning of ?????????? can be defined from the opposition with "philosophic" (???? ??????????) in Ethica Eudemia 1217b22-23. The latter expression occurs in the following passages:

Topica 101a27-28. 34. 104b20. 163b9.

Physica 191a24-25.

De Partibus Animalium 642a5-6.

Ethica Eudemia 1217b22-23.

Politica 1282b19.

Of these, the Politica passage is the one which shows most clearly the opposition to "popular" (l. 18 ????? ?????). This opposition also underlies the Physica passage: "Those who studied philosophy" (?? ???? ??????????), searching for "the true nature of the things", opposed the opinions of the crowd, as did most radically Parmenides. It is the current opinions (?? ??????) too, from which dialectic takes its departure (Topica 100a18-20); from this, the Topica passages become clear. It comes as somewhat of a surprise that in De Partibus Animalium the "philosophical treatises" are distinguished from the present inquiry, which is attributed to a quite philosophical character in 645a7-10. Apparently, the special inquiries into animals do not have a rank equal to, e. g., the statements of natural philosophers about the necessity of generation (cf. 642a2-4; ?? ???????? ?? ??????? are those who ignore the final cause, cf. Physica 198b10-16; perhaps, ????? ????????? has dropped out after ?? ???????, cf. Alexander, De Anima libri mantissa, 183, 2: ??? ?? ??????? ????? ????????? ????????). Philosophy seems to be limited to topics which are of general interest, so that there are popular beliefs about them.

So nothing prevents us from identifying, with Plutarch, the ?????????? ????? with the dialogues, just as in De Arte Poetica 1447b11 the ?????????? ????? are dialogues.

1076a32-35

= Speusippus fr. 32 Tarán

1076a33-34

(2) Madigan, pp. 61-62: "It is difficult to know for certain whose view this is. At M 1, 1076a33-34, Aristotle attributes it to 'certain people'. The following are candidates.

1. The Pythagoreans. At N 3, 1090a20-25, Aristotle credits the Pythagoreans with the view that beings are numbers: that is, not that numbers exist as separate from beings, but that beings consist of numbers. The claim that mathematical entities are present in perceptible things might be understood as a paraphrase of this view. Clearly the Pythagoreans held that perceptibles are in some way or other mathematical, and perhaps they tried out the formulation that numbers are present in perceptibles. But at A 6, 987b27-9, Aristotle says that the Pythagoreans thought that things were numbers and did not posit mathematicals as intermediates. In any case, it would be anachronistic to credit the original Pythagoreans with a theory of intermediates, because talk about intermediates (998a7) presupposes the Platonic distinction between perceptibles and Forms.

2. Plato. At Phaedo 102d5-103a3 Plato has Socrates distinguish what he calls the tallness-in-us and shortness-in-us from the Forms tallness itself and shortness itself. It is not entirely clear how far Plato is here committing himself and to what. Talk about things 'in us' has been taken as an indication that he maintains a 'tripartite ontology' of Forms, perceptibles, and immanent characters; cf. Vlastos (1981a [= Platonic Studies]: 83-6). If that is right, then Plato's doctrine matches the doctrine discussed here. But talk of things 'in us' may be just a way of speaking about the presence of Forms in things, without any commitment to a third class of entities distinct from Forms and perceptibles; cf. Gallop (1983: 195-6). Whatever we make of the Phaedo, Aristotle had other grounds for construing Plato as positing immanent characters as a distinct third class. The dilemma of participation in Parmenides 131a-e pictures Forms as divisible into parts, with each participant having a part of the Form. Parmenides 133a-135a suggests that Plato was concerned to avoid a complete separation of Forms from perceptibles. Philebus 23c-27c construes perceptible things as produced by the mixture of something unlimited with a limit or limiting factor. None of this is quite the same as saying that intermediates are present in perceptibles-terminology not found in the dialogues - but Aristotle could have paraphrased the statements of the dialogues in this terminology. Still, Metaphysica A 6, 987b27, reports that Plato held a theory of intermediates existing alongside (????) perceptibles, and this raises the question of why he would have held another theory of intermediates present in perceptibles.

3. Eudoxus. At A 9, 991a14-19, while arguing that the Forms contribute nothing to perceptible things, Aristotle considers the possibility that they might contribute something to perceptible things if they were present in them; he says that this view, which was held by Anaxagoras, Eudoxus, and [62] certain others, is easily upset. This text imputes to Eudoxus not the view that intermediates are present in perceptibles, but the view that Forms are present in perceptibles. Still, Aristotle suggests at 998a11-13 that these two claims stand or fall together. Perhaps Eudoxus thought that Forms were present in perceptible things precisely by virtue of the presence of intermediates in these things."

1076b11-16

(1a) 997b12-998a19.

1076b36-39

(1a) 1016b24-28.

1077a9-14

(1a) 1077b17-20, 1026a25-27.

(1b) Analytica Posteriora 74a17-25.

1077a14-16

(1b) De Caelo 269a19-20. De Partibus Animalium 646a25-b10.

1077a17-20

(1b) De Partibus Animalium 646a25-26.

1077a24-31

(1b) De Caelo 268a20-24.

1077a36-b14

(1a) 1029b29–33; 1061a28; 1077b9.

(1b) De Caelo 299a15-17. De Anima 403b14. 429b18. 431b12. 432a4.

1077a36-b4

(3) Equivalent to the formula ?? ????????????? (cf. note on 1019a1-4).

1077b2-3

(1a) 1019a1-4.

1077b9-11

For ?? ?? ?????????? ("the result of abstraction") cf.

(1a) 1027b29-34. 1030a32-b3. 1061a28-b4.

(1b) De Caelo 299a15-17. De Anima 403b14-15. 429b18-19. 431b12-16. 432a3-6.

(3) The standard Latin translation (e. g. in Thomas Aquinas) for the Greek term ????????? (literally: "taking away") is abstractio. Mathematical abstraction means considering sensible objects under a certain respect, "qua possessed of certain definite qualities (? ??????)" (1077b22). So considering "being qua being" must mean an act of abstraction ("metaphysical abstraction", as it was named). The metaphysician "abstracts from everything except pure being" (Schwegler iv 304). Conversely, the objects of physics and mathematics are constituted by "addition" (?????????) to the object of ontology, as Thomas Aquinas teaches: "ens mobile de quo est naturalis philosophia, addit supra ens simpliciter, de quo est metaphysica, et supra ens quantum de quo est mathematica" (Sententia Metaphysicae, liber 1 lectio 2 numerus 12).

The most abstract science is the most exact one, see Metaphysica 982a26-28. 1078a9-13. Analytica Posteriora 87a31-37. For the Platonic background see Philebus 55c-59d (especially 56c10-11, 57e3-4).

1077b17-20

(1a) 1077a9-12.

1077b20-1078a31

(1a) 1061a28-b3. 1036a9-12. 1026a7-10.

(1b) Physica 193b31-35. De Anima 431b15-16.

1078a9-13

(1a) 982a26-28.

1078a17-21

(1a) 1089a24-26.

(1b) Analytica Posteriora 76b41-77a1.

1078a25-28

(1a) 1019b33-34.

1078a31-32

(1a) 996a32-b1.

(2) Schwegler (iv 306) indicates contradiction to 1072b1-4, De Anima 433b15-16, Ethica Eudemia 1218a22.

(3) Speusippus too distinguished between ?????? and ?????, see note on 1091a35-36.

1078a36-b1

(1b) Topica 142a19-21. De Caelo 312a15-16. De Partibus Animalium 641b18-20. Ethica Eudemia 1218a22-23. De Arte Poetica 1450b36-37. Politica 1326a29-34.

(1c) Gorgias 504a-b. 507e-508a. Res publica 500b-c.

(1d) Theophrastus, Metaphysica 6b27-28:

???? ???

??????????? ??????????? ? ????? ??? ?? ???????.

("for order and definiteness are most appropriate to the things of highest worth")

Iamblichus, Protrepticus 38, 3-14 Pistelli (= Aristotle, Protrepticus, fr. 5 Ross, p. 32): see note on 1017b17-21.

Sextus, Adversus Mathematicos IX 26-27 (= De Philosophia fr. 12b Ross):

????? ?? ??? ??? ?????????? ??? ???????? ??? ???????? ??????? ????????????? ???? ??? ????? ???? ??? ???? ????????? ??? ?????? ????????? ??????·????? ??? ?? ??? ??? ??? ??????? ??????????? ???? ???? ??? ??? ??????? ????????? ???? ?????? ?????? ??? ?????? ???? ??????? ??????????,

?????? ??? ????? ??? ???????? ??? ???????,

?????? ?' ????????,

?????? ?? ? ???????? ??? ??????? ???? ??? ??? ???? ??? ? ????????? ??? ???????? ????? ??? ????????????? ???? ??' ????? ???????????? ???????????, ???? ?????? ? ????? ??? ??? ?????, ?? ????

???????? ?????? ?? ??? ?????? ??????????,

[27] ??? ?? ?????? ? ???????? ????, ??? ?? ????????? ???????? ???? ????? ?????????? ???????? ??? ???? ???? ??????? ??????????????, ???????? ??? ???? ??? ? ?????????? ?????? ??? ??? ???? ???????????? ??????? ???????, ????? ?? ?????? ??? ??????? ???????????? ??? ?????????? ????? ??? ???? ??? ???????? ????? ?????? ??????? ???????????, ??????? ?? ????????? ????? ???????, ????????? ??? ?????????? ??? ??????????? ?????? ????????????, ??? ?? ?????????? ???????????? ?????????? ?????, ???' ??? ????? ?????????? ??? ???????? ??????, ???? ?? ????.

("Some men, when they come to the unswerving and well-ordered movement of the heavenly bodies, say that in this the thought of gods had its origin; for as, if one had sat on the Trojan Mount Ida and seen the array of the Greeks approaching the plains in good order and arrangement, 'horsemen first with horses and chariots, and footmen behind', [Homer, Ilias 4, 297] such a one would certainly have come to think that there was someone arranging such an array and commanding the soldiers ranged under him, Nestor or some other hero who knew 'how to order horses and bucklered warriors'. [Homer, Ilias 2, 55] And as one familiar with ships, as soon as he sees from afar a ship running before the wind with all its sails well set, knows that there is someone directing it and steering it to its appointed harbours, so those who first looked up to heaven and saw the sun running its race from its rising to its setting, and the orderly dances of the stars, looked for the Craftsman of this lovely design, and surmised that it came about not by chance but by the agency of some mightier and imperishable nature, which was God.")

1078b11-12

(2) Schwegler (iv 307): "A passage important in so far as Aristotle expressly distinguishes the number theory as a later form of the Platonic doctrine from the original form of the theory of Ideas".

1078b17-19

(1b) De Partibus Animalium 642a24-26.

1078b19-21

= 68 A 36 Diels/Kranz

(1b) Physica 194a20-21. De Partibus Animalium 642a26-28.

1078b21-23

= 58 B 4 Diels/Kranz

(1a) 985b23-986a13.

(1b) Ethica Nicomachea 1132b21-23.

1078b24-25

(1a) 1034a30-32.

1078b25-26

(1a) 988a1.

(1b) De Sophisticis Elenchis 184a8-b3.

(1c) Meno 86c-87b.

(2) Schwegler iv 308: "Not all syllogisms proceed from the definition, but only the apodeictic one (Analytica Posteriora 74b10), not the dialectical one (Topica 100a30.)."

In Plato's Meno, "the opposed assertions about whether virtue is teachable or not are examined without defining virtue" (Heyder, p. 126).

1078b26-27

(1b) Topica 105b33. 110b19-20.

1078b28

(1b) The expression ????? ????????? occurs also in Topica 108b7-12.

(1d) Suda, sub voce ??????? (§ 1923, 21-26), alleges as an example Plato, Phaedo 70e-71d:

???? ????????, ?? ?

???? ????????, ??? ?? ?? ??? ????????? ?? ?????? [71d]? ????

???????????? ?? ?? ???? ????? ??? ????? ?????????, ??? ?? ??? ???????? ??

??????? [70e]. ??? ???? ?? ?? ??????? ?????????????? ?? ????? ????? ???

??????, ??? ?? ????????? ?? ??? ??????????? ??? ???????? [71c-d], ??? ??

?????? ?? ??? ?????????? ??? ???????? [70e-71a].

(2) Reinhard (p. 5): "Videtur enim nomen ???????? inde ortum, quod haec argumentatio exemplis constat et similitudine. Nam afferre similitudinem, Graecis est ??????? ?????? seu ??????????."

Ross (1949, pp. 482-483) pleads for assuming this sense at our present passage; "for in fact Socrates adduced individual examples much more often to refute a general proposition than he used them inductively, to establish such a proposition".

(3) This meaning goes also well with the Phaedo passage used by the Suda lexicon; for the chief aim is not to establish the general proposition that "contraries come to be from contraries", but to make plausible, by adducing similar examples, the individual case that "the living come to be from the dead". This procedure includes both "induction" in the sense of "way from the particular to the universal" (Topica 105a13-14) and syllogism: after the general proposition "contraries come to be from contraries" is established (by induction), the living and the dead are subsumed under the concept of "contraries" (= minor of the syllogism).

1078b30-32

(1a) 1086b2-5.

(1c) Parmenides 129d-131b.

(2) The theory that the Ideas have an existence "separate" from what participates in them is stated only in the late dialogue Parmenides, where it is criticized at the same time. The fact that Aristotle in criticizing this theory does not take into account Plato's self-criticism, has disturbed the philologists.

Ueberweg (1861, p. 176): "Nowhere Aristotle cites the dialogue Parmenides by naming its title; nowhere he even mentions thoughts or expressions of it in a manner that a relation to it were to be asssumed with probability."

In contradiction to this, Erler (p. 224a) finds the following parallels which, in his opinion, prove that Aristotle was acquainted with the Parmenides:

130c with 990a34-b8;

131a-c with 991a8-19. 1039a33-b14. 1079b12-23;

132a-b with 990b15-17. 991a2-5. 1032a2-4. 1079a11-13. [To be added is De Sophisticis Elenchis 178b36-37.];

132c-d with 991a19-b1. 1079b23-35;

133b-134c with 991a12-13. 1031b3-7. 1079b15-17.

He does, however, not go into the argument (mentioned by him on p. 223b) that Aristotle, if he had been acquainted with the Parmenides, could not have reproached Plato for having neglected to make clear the meaning of "participation" (Ueberweg 176).

Julius Stenzel (Studien, p. 19): "[…] essential for the whole development of the doctrine of the transcendence of the Idea was the fact that this doctrine was amalgamated with religious aspects, as it is expessed already in the doctrine of immortality and anamnesis of the Meno".

p. 133: "Plato found the sphere in which this absolute entity showed itself to him in the hereafter religion, which was already philosophically revised by the Pythagoreans (cf. Meno 81a)."

1080a9-11

(1b) For the meaning of ??????????? ("more abstract") cf. De Caelo 275b12.

1080a12-b33

= Testimonia Platonica 59 Gaiser

1080a15-b4

(3) The difficulties discussed by Ross (ii 426-427, the same misunderstanding in Schwegler iv 311 and Bonitz 543-544) disappear, if we refer l. 17 ?? ??? … ?? ?' (cf. b12 ??? ??? ?????? ?? ???????? ??? ???????) not to the singular numbers (as does already Pseudo-Alexander 743, 17-18 and 20-21), but to the units of one number. The criticism beginning with 1080b37 deals from the start with the units. Number is plurality, the one not being a number (1088a6). And about this plurality it is the question whether in it is a prius and posterius (???????? ??? ???????).

1080b2-3

(1a) 1083b11-12. 1090a32.

1080b4-33

= Testimonia Platonica 59 Gaiser

1080b11-17

= Speusippus fr. 42c Lang = fr. 33 Tarán

1080b11-14

(1a) 987b14-18. 1028b19-20.

1080b14-16

(1a) 1075b37-1076a3. 1076a19-23. 1086a2-5. 1090a25-28.

1080b16-21

= 58 B 9 Diels/Kranz

1080b19-20

(1a) 990a12-13. 1083b10-16. 1092b8-9.

(1b) De Caelo 300a14-19. 303a8-9. De Anima 409a10-11.

(1d) Aetius I, 3, 19 (286b5-9 Diels):

???????? ??????????? ??? ??? ??????????? ?????? ?? ?????????

?????? ??? ?? ?????. ??? ???

??????????? ??????? ????? ??????

????????? ?????????.

("Ecphantus of Syracuse, one of the Pythagoreans, [said that] the indivisible bodies and the vacuum [are the principles] of all things.")

(2) Zeller/Nestle (p. 486): "The corporeality of the Pythagorean numbers is deduced by Aristotle from the doctrine that all is number; the Pythagoreans can never have explained numbers and their elements as something corporeal; for Aristotle expressly says that they did not intend, by their concept of the Limited, the Unlimited and the One, to describe a substratum of which these concepts were predicated; and this would unquestionably have been the case if the Unlimited had been, in their opinion, merely unlimited matter."

Zeller/Nestle (pp. 490-491): "We are expressly told that Ecphantus, a later philosopher, who scarcely can be numbered among the Pythagoreans at all, was the first to explain the Pythagorean monads as something corporeal. The ancient Pythagoreans cannot have held such an opinion, for in that case they must have believed the corporeal to have been something original, instead of deriving it, as we have just shown that they did, out of mathematical figures."

Kirk/Raven (p. 247): "It is true that Aristotle, in discussing the views of earlier thinkers, often confronts them with such logical consequences of their doctrines as they themselves never either enunciated or foresaw; and no doubt in 303 [Aristotle Metaphysica M 8, 1083b8-19] he is, to some extent at least, pursuing this usual practice. But 302 [Aristotle Metaphysica M 6, 1080b16-33] leaves no doubt that the Pythagoreans did indeed assume, even though the assumption was only tacit, that units are spatially extended; and when we come to consider the paradoxes of Zeno we shall find that it is against this assumption, along with the confusion of points and units, that they have their greatest force (see pp. 289 ff.)."

1080b16-18

(1a) 1083b8-19.

1080b19-20

(1a) 1080a18-23. 1082b4-7. 1083b10-16. 1092b18-25.

(1b) De Anima 400a20.

1080b22-23

= Xenocrates fr. 34 Heinze = fr. 108 Isnardi Parente

(1a) 1028b24-27. 1076a20-21. 1083b1-8. 1086a5-11. 1090b20-32.

1080b23-30

= Xenocrates fr. 37 Heinze = fr. 118 Isnardi Parente

= Speusippus fr. 42c Lang = fr. 33 Tarán

1080b23-25

(1d) Theophrastus, Metaphysica 6a28-b1, see note on 1028b24-27.

1080b25-28

(1a) 1028b21-23. 1069a36. 1076a16-22.

1080b37-1081a17

(2) Ross (1951, p. 180): "This criticism is a complete mistake. When Plato described the numbers as incomparable (which we must take it from Aristotle that he did), by the number 2 he meant twoness and by the number 3 threeness; and it is no fancy, but the simple truth, that twoness is not a part of threeness. A group with three members has as part of itself a group with two members, but Plato is not speaking of groups but of universals, and what he says of universals is plainly true. The view, then, that numbers are incomparable has nothing to do with the special views which Plato later developed about the generation of the number series, or with the reduction of all Ideas to numbers; it is a necessary consequence of the recognition of twoness, threeness, &c., as Forms, to be distinguished from the groups which are simply exemplifications of these Forms."

1081a12-1082a15

= Testimonia Platonica 60 Gaiser

1081a12-17

(2) Cherniss (1945, p. 59): "If your opponent asserts a thesis which you undertake to refute, you do not begin by proving that he asserts it."

Annas (p. 67): "the identification of Forms and numbers is not presented as a report of what Plato actually said but as the conclusion of an argument. Forms must be identical with numbers, because they both come from the same principles."

(3) Cf. our note on 985b27-28.

1081a14-17

(1a) 1081b17-26. 1082a13. b30. 1091a4. 990b19.

1081a14-15

(1a) 1088a15-16.

(1d) Theophrastus, Metaphysica 6b11-22:

?????? ??? ??? ?? ??

??????? ??? ??? ????? ??????? ?? ???????? ???

????? ??? ??? ????? ???????, ?????? ?' ??? ????

????????, ?? ?? ?????? ??? ??? ?????, ???? ????

??? ??????? ????? ??? ?????????? ?? ?? ???

????? ?????. ????? ?? ??? ??? ???????? ??

???????? ?? ??? ???? ????? ???? ??? ?????.

????????? ?? ?????????? ? ?? ???? ?????? ????????·

?? ???????? ??? ?? ???? ??? ????? ??????????

??? ???? ????????? ??? ?????????? ???? ?? ???

???????? ???? ??? ??? ??? ?????, ?? ?? ????

??????? ??? ??? ????? ? ???????.

("Now Plato in reducing things to the principles might seem to be treating of the other things in linking them up with the Ideas, and these with the numbers, and in proceeding from the numbers to the principles, and then, following the order of generation, down as far as the things we have named; but the others treat of the principles only. And some even find the truth of things only in these; for they concentrate reality entirely in the principles. But this is the very opposite of what happens in all other studies; for in them the parts of the science that come after the principles are more powerful and, as it were, more complete; and perhaps this is even what might reasonably be expected; for here the search is for the principles, but in other studies it proceeds from the principles.")

Ibidem, 11a27-b12: see note on 1091a29-b3.

Alexander, In Metaphysica, 56, 18-20:

??? ??? ???????? ????? ?????? ?????, ??? ?????????,

???? ?? ???????? ???? ?? ????????????, ???? ????????, ?????????, ???'

???????? ?? ??? ???????.

("For this reason he spoke of the dyad as indefinite, because neither the exceeding nor the exceeded, as such, are definite, but indefinite and infinite.")

(2) Burkert (n. 33, pp. 19-20): "Whether the term ???????? ???? ["indefinite duality"] goes back to Plato could be doubted (cf. Ross Metaphysics I 169; Plato's Theory of Ideas 184 f.), until it emerged in the new-found Speusippus fragment: Speusippus himself opposed ?????? ["multitude"] as the second principle to the ?? ["unity"], not the ???????? ????, so if that term does not belong to him, it must surely belong to Plato."

1081a17-21

(1a) 1083b3. 1090b33.

(3) Expressions equivalent with ??? ??? ????? are ??????? ????????? (1086a5. 1088b34. 1090b35), ??????? ?????? (990a31-32), ?????? ??????? (1080b22. 1081a21-24. 1091a24).

1081a21-25

= Testimonia Platonica 60 Gaiser

1081a23-29

(3) In l. 23, the ???, emphasized by front position, is opposed to ????? in l. 21. The fact that all numbers are generated at the same time (ll. 21-23) is explained by the fact that the units in the dyad are generated at the same time (ll. 23-24). Ross' substitution of the rare ?????? ?? (only in 1039b2 and 1040a23) by the frequent ???? ?? (approved by Reale, p. 1327) in l. 25 is quite plausible (cf. vol. i, pp. 324-325), for ll. 23-29 form a single argumentation, as realized by Schwegler (ii 317) and Bonitz (548).

Interpreting ll. 23-24 with Annas (168) by "that the units in a number are, for the Platonists, produced simultaneously with that number" is linguistically impossible.

1081a21-23

(1d) Alexander, In Metaphysica, 56, 10-12:

???? ?? ? ???? ?????

???? ?? ??, ?????? ?? ???? ??? ?? ???? ??? ?? ??????· ?? ??? ???

????????? ????, ?? ?? ????? ??????, ? ????? ?? ?? ?????.

("The Dyad comes first besides the One, containing both the Much and the Little in itself. For the Double is much, and the Half little, and both are contained in the Dyad.")

Alexander in Simplicius (In Physica, 454, 28-32):

?????? ?? ??????? ? ????, ?? ????? ?????? ????? ?? ??

?? ??? ?? ???? ??? ?? ??????. ???? ??? ???? ????, ?????? ??? ?????????

????? ?? ?????· ???? ??? ?? ????????? ????? ?? ????, ?????? (??????

??? ??? ??????? ??? ??????? ?? ?? ?????????), ???? ?? ?????, ?????????.

??? ???????? ??? ???????? ??? ???? ??? ?????? ????? ?? ???? ???? ?????.

("But the first Number is the Dyad, whose Principles he said were the One and the Great and Small. For being a Dyad, it holds both Multitude and Fewness in itself. In so far as there is Doubleness in it, it includes Multitude—for the Double is a case of Multitude and Excess and Magnitude—and in so far as Halfness is in it, it includes Fewness. Excess and Defect and the Great and the Small are accordingly in it.")

1081a24-25

(1a) 1001b19-23. 1091a24-25. 1091b30-32. 1083b23-25. 1083b30-32. 1091a23-26.

(1d) Sextus Empiricus, Adversus Mathematicos X, 276-277:

???????? ??? ????? ?????? ???? ?? ??????? ? ?? ????? ????? ??? ? ???????? ????? ?? ?? ???????? ???? ?? ?' ?? ???? ???????? ?? ??? ??? ??? ??????? ????? ?????, ??? ??? ??? ?????? ??????? ?? ??, ??? ?? ??? ??????? ??? ??? ???????? ?????? ?? ???. ??? ??? ?? ?? ???, ??? ???? ??????????? ?? ???? ???????? ??? ??? ???? ?? ??? ?? ?? ???????, ???' ?????? ?? ??? ???????? ??????, ??? ????? ?? ?????? ?? ??? ??? ??????? ??????? ? ?? ???? ???????? ????.

[277] ???? ????? ?? ??? ?? ?????? ??????? ?? ?????? ?????????????, ??? ??? ???? ??? ???????????, ??? ?? ???????? ?????? ??? ???????? ??? ??? ??????? ?????? ???? ???????? ???????????. ???? ????? ?? ???? ?????? ??????? ??? ??? ??? ??????? ?????? ????? ??????? ??? ??????, ??? ?? ??? ????????? ???? ??? ?????? ??? ?? ?????? ???? ?? ????? ?????????? ???????? ??????????, ???? ??? ??? ?????? ??? ????? ?? ?? ????? ????????????.

("Thus as the highest principles of all things there have emerged the primary One and the Indefinite Dyad; and from these, they say, spring both the numerical one and the numerical two,—the one from the primary One, and the two from the One and the Indefinite Dyad. For the two is twice the one, and when the two did not as yet exist among the numbers neither did the twice exist amongst them, but it was taken from the Indefinite Dyad, and in this way the numerical two sprang from it and the One.

[277] And in the same way the rest of the numbers were constructed from these, the One always limiting and the Indefinite Dyad generating two and extending the numbers to an infinite amount. Hence they say that, of these principles, the One holds the position of the efficient cause and the Dyad that of the passive matter; and just as they have constructed the numbers composed of these, so also they have built up the Universe and all things in the Universe.")

Alexander, In Metaphysica, 56, 20-21:

?????????? ?? ?? ??? ??? ???????? ?????

????????? ??? ?? ???? ???????? ?????? ?? ??? ?? ????? ? ???? ? ???????.

("When limited by the One, the Indefinite Dyad became the Numerical Dyad. For this Dyad was one in kind.")

(2) Krämer (1959, p. 251): By this "it is probably meant that, by the One, the indefinite dyad is limited to the number two".

(3) ???? ("great") and ?????? ("small") are two unequal quantities. If they are made equal (??????????), there result the units (???????) of which the number two is composed. ???? - ?????? becomes ????????? ("double") - ????? ("half").

1081a24

(1a) 1086a11, 1090b32.

(2) Ross ii 435-436: "? ?????? ????? ["the first holder of the theory"] scilicet ??? ??? ????? ??????? ????? ["that the ideal number exists"] (cf. I. 21)."

1081b17-26

(1d) Alexander, In Metaphysica, 56, 8-35:

???? ??? ????? ?? ???? ???????? ?? ?? ?? ??? ?? ???? ?? ??,

? ???? ????? ?? ??? ?????, ? ?????? ???? ?? ?? ????? ?? ??????, ?????

????? ??????? ??? ?? ?????? ??? ??? ??????. ???? ?? ? ???? ?????

???? ?? ??, ?????? ?? ???? ??? ?? ???? ??? ?? ??????? ?? ??? ???

????????? ????, ?? ?? ????? ??????, ? ????? ?? ?? ?????? ???? ?? ???????

?? ???, ?? ?? ?? ??? ?????????? ?? ?? ??????????. ??? ?? ?? ???? ??? ??

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("And since in Numbers we meet with Unity and with what surpasses Unity, and since this last is Many and Few, the origin of what surpasses Unity lies in the latter, and he made this the Principle of the Many and Few. The Dyad comes first besides the One, containing both the Much and the Little in itself. For the Double is much, and the Half little, and both are contained in the Dyad. And the Dyad is opposed to the One, being divided, whereas the One is undivided.

Plato also tried to show that the Equal and Unequal were universal Principles both of self-existent things and the opposites, for he tried to reduce everything to these as being most simple. He connected Equality with the Unit, and Inequality with Excess and Defect. For Inequality is to be found both in the Great and the Small, in what surpasses and falls short. For this reason he spoke of the Dyad as indefinite, because neither the exceeding nor the exceeded, as such, are definite, but indefinite and infinite.

When limited by the One, the Indefinite Dyad became the Numerical Dyad. For this Dyad was one Species, and the first of the Numbers. Its Principles were the Exceeding and the Exceeded, since both Double and Half are present in the primary Dyad. The Double and Half are Exceeding and Exceeded respectively, but the Exceeding and Exceeded are not as yet Double and Half, and are therefore Principles of the Double. And since, when bounded, the Exceeding and Exceeded become Double and Half (for these are not indefinite any more than the Triple and the Third, or the Quadruple and the Quarter, or any other case of definite Excess), it must be the nature of Unity which effects this bounding (each thing being one since it is this definite thing). The Elements of the Numerical Dyad are therefore the One and the Great and Small. But this Dyad is the primary Number, and so these are the Elements of the Dyad (and of every Number).

Such, more or less, are the reasons why Plato made Unity and the Dyad the Principles of the Numbers and of all things, as Aristotle tells us in the books On the Good.")

1081b17-22

(1a) 1024b34-36. 1082a13-15. 28-32. 1083b35-36. 1091a9-12.

(2) Annas (p. 46): These passages suggest "production of the powers of two, i. e. the sequence 2, 4, 8 … numbers of the form 2n".

1081b25-26

(1a) 1081a24-25. 1082a15. 1083b36. 1091a24-25.

1082a11-15

= Testimonia Platonica 60 Gaiser

(1a) 1083b36.

(1d) Sextus, Adversus Mathematicos X, 261-262:

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[262] ??? ??? ??? ????? ?????, ? ?? ????? ?????, ?? ???? ??????? ????? ?? ????????? ??????? ???????? ???????, ??? ? ???????? ????, ?? ???? ??????? ?? ????????? ?????? ???? ??????.

("Pythagoras, moved by these considerations, declared that the One is the principle of existing things, by participation in which each of the existing things is termed one; and this when conceived in its self-identity is conceived as One, but when, in its otherness, it is added to itself it creates the «Indefinite Dyad,» so-called because it is not itself any one of the numbered and definite dyads but they all are conceived as dyads through their participation in it, just as they try to prove in the case of the monad.

[262] There are, then, two principles of existing things, the Primary One, by participation in which all the numbered ones are conceived as ones, and also the Indefinite Dyad, by participation in which the definite dyads are dyads.")

Ibidem, 276-277:

???????? ??? ????? ?????? ???? ?? ??????? ? ?? ????? ????? ??? ? ???????? ????? ?? ?? ???????? ???? ?? ?' ?? ???? ???????? ?? ??? ??? ??? ??????? ????? ?????, ??? ??? ??? ?????? ??????? ?? ??, ??? ?? ??? ??????? ??? ??? ???????? ?????? ?? ???. ??? ??? ?? ?? ???, ??? ???? ??????????? ?? ???? ???????? ??? ??? ???? ?? ??? ?? ?? ???????, ???' ?????? ?? ??? ???????? ??????, ??? ????? ?? ?????? ?? ??? ??? ??????? ??????? ? ?? ???? ???????? ????.

[277] ???? ????? ?? ??? ?? ?????? ??????? ?? ?????? ?????????????, ??? ??? ???? ??? ???????????, ??? ?? ???????? ?????? ??? ???????? ??? ??? ??????? ?????? ???? ???????? ???????????. ???? ????? ?? ???? ?????? ??????? ??? ??? ??? ??????? ?????? ????? ??????? ??? ??????, ??? ?? ??? ????????? ???? ??? ?????? ??? ?? ?????? ???? ?? ????? ?????????? ???????? ??????????, ???? ??? ??? ?????? ??? ????? ?? ?? ????? ????????????.

("Thus as the highest principles of all things there have emerged the primary One and the Indefinite Dyad; and from these, they say, spring both the numerical one and the numerical two,—the one from the primary One, and the two from the One and the Indefinite Dyad. For the two is twice the one, and when the two did not as yet exist among the numbers neither did the twice exist amongst them, but it was taken from the Indefinite Dyad, and in this way the numerical two sprang from it and the One.

[277] And in the same way the rest of the numbers were constructed from these, the One always limiting and the Indefinite Dyad generating two and extending the numbers to an infinite amount. Hence they say that, of these principles, the One holds the position of the efficient cause and the Dyad that of the passive matter; and just as they have constructed the numbers composed of these, so also they have built up the Universe and all things in the Universe.")

1082a13

(2) Ross ii 438: "???????, 'having received' not 'having taken'. The material principle receives the formative principle as the female receives the seed, which is the formal principle of generation. For the analogy cf. A. 987b33-988a7, and for the literal sense of ????????? cf. Historia Animalium 559b8, 577a31, 32, 578a14, 632a28."

1082a14-15

(1d) Alexander, In Metaphysica, 57, 4-6:

??? ??? ???????? ????? ??????. ??? ???

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("for this reason he also called it 'duplicative'. For by making into two each thing to which it is applied it somehow divides that thing, not allowing it to remain what it was; and this division is the generation of numbers.")

(3) Unlike the generation of the dyas (cf. 1081a24-25), here it is the "definite dyas" which functions as the small; by an additional great being equalized with it, the four results.

Therewith, the generation of the ideal numbers is probably brought to a close (cf. De Anima 404b16-27, discussed in the note on 1090b21-23); for the number 10 is but the sum of the numbers 1-4 to the Pythagorean opinion.

1082b5-6

(1b) Categoriae 6a26-7.

1082b23

(1b) Analytica Posteriora 96a37-38. Topica 156a39-b1.

1082b35-36

(2) Pseudo-Alexander, In Metaphysica, 762, 20: ???? ???????, ???????? ???? ????????? ??? ??? ???????.

According to Apelt (pp. 250-251), the context demands the meaning "separately, i. e. without one number depending from the other". For this, he refers to Plutarch, Moralia 644b: ?? ?????? ???? ?????? ????????, "which means 'to be served separately by portions, so that each guest has his separate dish'" (Ross ii 440). Apelt's explanation is adopted by Ross, who translates: "we count by addition or by separate portions". Barnes, by contrast, returns to Pseudo-Alexander's explanation, translating: "we count by addition or by partitions".

(3) A literal parallel from late times is Dorotheus of Gaza (vi A. D.), Epistulae 1, 181, 17: ??? ???? ??????? ???????? [scilicet ?? ?????, cf. l. 14], "if the meal is set before divided into portions".

1083a8-11

(1b) De Caelo 299a17-18.

1083a10-11

(1a) 1020b2-8. 1069a20-21.

1083a20-b19

= Testimonia Platonica 56 Gaiser

1083a20-b1

= Speusippus fr. 42d Lang = 34 Tarán

1083a20-35

= Speusippus fr. 34 Tarán

1083a20-24

(1a) 1028b21-24. 1075b37-38. 1080b14-16. 25-28. 1091b20-26.

1083a24-25

(1d) Iamblichus, De Communi Mathematica Scientia, 17, 13-19 Festa:

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("[If we do not want to suppose one first cause of both all multitude and magnitude, cf. ll. 1-2] it remains, supposing an other cause of magnitude, to posit, like unit according to the One in numbers, so point in lines. [And to posit that] position and distance of places appeared first in the realm of lines, planes and solids, and that, accordingly, place appeared in this realm because the difference of the receptacle conferred something peculiar to the genus stemming from it.")

This passage is discussed in Merlan, p. 130.

(2) Happ (p. 212, n. 668): "Instead of the ??, Iamblichus mentions, more exactly, the ????? ???? ?? ??; i. e., Speusippus has distinguished the One as principle of the series of numbers from the superessential One as supreme principle of being. ???? ?? ??, 'according to the One', means that it is not any ?????, but ????? as the principle of numbers corresponding with the ??; cf. Liddell/Scott, sub voce ????, B iv 3."

1083a31-b8

= Xenocrates fr. 109 Isnardi Parente

1083b2-3

= Xenocrates fr. 34 Heinze = 109 Isnardi Parente

1083b3-8

(1a) 1091a5-9.

1083b8-19

= 58 B 10 Diels/Kranz

1083b10-13

(1a) 1080b16-21. 30-33.

1083b11

(1a) 1090a32.

1083b13-16

(1a) 1075b27-30. 1080b19-20.

(1b) De Caelo 303a20-24. De Anima 409a10-11.

(2) Schwegler iv 325-326: "Aristotle could not conceive of things consisting of numbers but by presupposing that the latter have magnitude. But if the Pythagoreans had said this expressly, it would be inexplicable why Aristotle could be in any doubt whether their numbers were to place ?? ?? ???? ????? or not (Metaphysica 986b4-8). It is only Ecphantus of Syracuse who is told that he, firstly, has posited the Pythagorean monads to be corporeal."

1083b23-25

(2) Ross (1951, p. 184): "Aristotle sometimes speaks of 'the great and small', but oftener of 'the great and the small'. The difference is important; the second phrase suggests two principles, the first a principle having two characteristics. Though he sometimes presses the second alternative, [1083b23-28, 1087b12-16; Physica 203a15-16, 206b27-28] there can be no doubt that the first represents Plato's meaning."

1083b28-29

= 58 B 2 Diels/Kranz

1084a4-7

(1a) 1091a10-12.

(1c) Parmenides 143e. 144a.

(1d) Alexander, In Metaphysica, 57, 24-28:

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("For the odd numbers are produced by the addition of a unit to each of the even numbers, but the unit is not the One as a principle (for this latter One confers a form and is not material); but just as the great and the small were 2 when limited by the One, so each of them is also said to be a unit when limited by the One.")

(2) Ross (Introduction lix-lx): "Aristotle describes three modes of the production of number. 'In one way, if the One falls on an even number, an odd number is produced' (sc. by addition); 'in another way, if the dyad falls' (sc. on the One), '2 and its powers are produced' (sc. by multiplication); 'in another way, if the odd numbers fall' (sc. on even numbers), 'the other even numbers are produced' (sc. by multiplication). If this line of thought be followed out, the numbers up to 10 would have been produced as follows:

1 x 2 = 2 2 x 2 = 4 4 x 2 = 8

2 + 1 = 3 4 + 1 = 5 8 + 1= 9

3 x 2= 6 5 x 2= 10

6 + 1 = 7

But it is practically certain that it was not thus that Plato conceived the numbers as being generated. This presentation takes account of the fact that the material principle was a dyad; it takes no account of its being indefinite, nor of what was [lx] apparently for Plato its fundamental character, that of being 'great and small'; 'dyad' seems to have been simply a convenient way of referring to this twofold character of the material principle. [Footnote 1 Alexander 56. 8-13 gives a rather different explanation. He says that the dyad was selected as the material principle because it is the first thing after 1 in the number-series and contains the much and the little in their lowest terms, since its factors are in the ratio of 2:1. But this amounts to making the number 2 the material principle of all numbers (including itself). The material principle is not the number 2 (the 'definite dyad'), but the indefinite dyad; Aristotle is careful to preserve this distinction.] Again, this way of generating numbers is as regards the odd numbers simply addition (which according to Aristotle's own view is the only mode of generation of numbers), [Footnote 2: M. 1081b14] and as regards the even numbers it is simply multiplication, which is just abbreviated addition; but Plato distinguished the ideal from the mathematical numbers just in this, that while the latter were addible the former were not. [Footnote 3: M. 1082b28-36.]"

ii 447: "The peculiar words ???????, ????????? (not elsewhere found in Aristotle, nor, perhaps, in other authors, in this connexion) are probably Academic terms to express the mode of generation of numbers. There are three cases:

(1) By addition (??? ???) of 1 to an even number an odd number is produced.

(2) By multiplication (??? ??) (a) of 1 by 2 a power of 2 is produced,

(b) of an even number by an odd number, an even number not a power of 2 is produced. ??? ?? ?? is apparently to be supplied with ???????????, being understood from ? ??' ???? ???????????????, while with ??? ?? ??? ???????? we must supply in thought the ??? ??? ?????? of ll. 4, 5. The main opposition is that between generation of numbers by addition and by multiplication, the latter being subdivided. Accordingly Aristotle says ??? ?? ??? ??? ??????, meaning to continue with ??? ?? ????????. But by an oversight he continues with ??? ?? ??? ????????."

Wilpert (pp. 208-209, referring to the Alexander passage indicated above): "In addition to the indefinite dyad, which leads to even numbers, there is a second process which is circumscribed as addition of the One to an even number." Likewise Krämer 1959, p. 255.

Krämer 2001, p. 158, n. 12 (1990, p. 246): "Concerning the process of generation of the Ideal Numbers, in modern studies numerous theories have been developed, of which, nevertheless, none has hitherto received general acceptance. It is possible that Plato himself has not presented any definitive solution, but that he left this question, which from the philosophical point of view is subsidiary, programmatically in suspension."

(3) In order to demonstrate that each number is either even or odd (1084a2-4), Aristotle must assume that the three methods of generating numbers described in ll. 4-7 are complete. In 1091a10-12, Plato is reproached with having considered only one of them (the second one). From this follows that the other two methods cannot be Plato's, and that, therefore, the whole passage cannot be used for reconstructing his "doctrine of principles". Aristotle approaches the latter with the preconceived idea that "generation" of numbers is possible only by addition or multiplication. In this sense, however, Plato cannot have understood his "generation", see the comment on 987b33-34.

1084a7-10

= Testimonia Platonica 63 Gaiser

1084a10-17

(1a) 1073a19-21.

1084a10-12

(1a) 1073a17-22.

(1b) Physica 206b32-33.

1084a12-b2

Testimonia Platonica 61 Gaiser

(1a) 1073a18-22.

Ross (1951, pp. 179-180): "The series of numbers has no limit in the upward direction; but there is good evidence to show that Plato assigned, as the Pythagoreans had done before him, a prerogative position to the numbers from 2 to 10. We should know from the Metaphysica only that some members of the Academy did so, [1073a20, 1084a12-b2] but in Physica 206b32-33 Aristotle says that Plato 'makes number extend to the number 10. We must, however, not take this too literally; Plato cannot have supposed that a group of eleven members is not characterized by eleven-ness, as much as a group of ten by ten-ness. But he saw that he must stop his 'generation' of numbers somewhere, and he naturally stopped at the limit suggested by the Greek system of numeration, which is purely decimal. He may have thought that his procedure was further justified by the fact that within the series 2 to 10 there are already examples of the three types of number into which the Greeks divided numbers-2 and its powers, odd numbers, and products of an odd number multiplied by 2 or a power of 2; [1084a5-7, Philolaus (?) fr. 5] thus he may have thought that if he could generate the numbers up to 10 he could generate all the numbers.

There is a further consideration which may well have led Plato to end his 'generation' of the numbers with the number 10. 1 was undoubtedly, for him, the formal principle of the ideal numbers; and according to one passage in which […] he is referred to, [1090b20-24] we read that 2 was the formal principle of the line, 3 that of the plane, 4 that of the solid. And in another passage in which it is at least probable that he is referred to, [De Anima 404b18-27] not only is that stated, but also that 1 was the formal principle of reason, 2 that of science, 3 that of opinion, 4 that of sensation. He could account therefore both for the formal structure of the sensible world and for that of the mind without going beyond the sacred ????????? [sum of the first four numbers] of the Pythagoreans, 1+2+3+4 = 10.

For the Greeks of Plato's time the term 'number' applied only [180] to natural numbers. They had no zero and no negative numbers, and they did not apply the name 'number' to fractions or to irrationals. Thus it was the integers from 2 to 10 that Plato set himself to derive."

1084a12-17

= Testimonia Platonica 61 Gaiser

(1b) Physica 206b24-33.

1084a12-13

(1a) 1073a16-22.

(1b) Physica 206b30-33.

(3) Pythagorean origin is obvious, cf. 986a8-10 with comment.

1084a14-25

(1a) 991b9-13.

(2) "It is visible that Aristotle does not affirm explicitly that Plato has attributed to each Idea a determined number" (Robin, p. 456).

1084a25-27

(2) The fact that the ideal numbers reach only to the decad is in disfavor of the supposition that the numbers correspond to the Ideas each to each (Robin 455).

1084a29-31

(1a) 1084b2-13.

1084a31-36

(1a) 1003b32-1004a2. 1004a16-22. 1004b27-29. 1004b33-1005a3. 1091b13-15. 30-32.

(1d) Theophrastus, Metaphysica 6a23-b9 (= Xenocrates fr. 26 Heinze): see note on 1028b24-27.

Eudemus in Simplicius, In Physica, 431, 8-9 Diels:

?????? ?? ?? ???? ??? ?????? ??? ?? ?? ?? ??? ??

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("Plato says motion to be the great and small, the non-being, the irregular [cf. Timaeus 52e], and what comes down to the same.")

Ibidem, 13-14: "?? ?? ???????? ????? ??? ??? ??????? ?? ??????????? ??? ?

?????? ???????????.

("The Pythagoreans and Plato rightly assign indefiniteness to motion.")

1084a31-32

(1a) 986a8-11.

1084a36-37

(1a) 1083b28-30.

(2) Annas 49: "In two passages in the Metaphysics Aristotle makes criticisms which suggest that Plato took one to be specially connected with odd numbers; it is thought of as what makes odd numbers odd. There seems to be a confusion with the additional unit which transforms an even-membered group into an odd-membered one. At 1084a36 ff. Plato is said to have identified the odd with one because 'if [the odd] were in 3, how would 5 be odd?' The suggestion is that Plato identified the odd with one because it is always the presence of a one that makes an odd-membered group odd. Adding one to an even number is confused with adding an extra unit to an even-membered group. This confusion is additional evidence that Plato did not free the idea of number from that of numbered group. It is presupposed in the other passage also, 1083b28 ff.: 'But what about the units in 3? For one of them is odd. Perhaps this is why they put 1 in the middle of the odd.' 'In the middle' suggests the Greek way of representing numbers by dots or pebbles: an odd number contains dots paired off in one-one correlation plus an extra one 'between' the two rows."

1084a36-37

(1a) 1083b29. 1084a4.

(2) Robin (pp. 665-666, note 266-IV): "for then the pentad would not form itself conformly to the definition given in 1084a4-5 by the application of the unity to the even number, but by adjunction of the dyad to the odd number".

1084a37-b2

= Xenocrates fr. 41 Heinze = fr. 126 Isnardi Parente

(1a) 1090b20-24. 992a10-13. 1089b11-14. 1085a31-34. 1085a9-14.

(1b) De Anima 404b18-27.

1084b2

Robin, Annotation 270 (p. 289): "The word ??? seems to indicate that Aristotle wants to extend to magnitudes (?????) what he has said about numbers."

1084b7-9

(1a) 1035b3-8.

1084b19-23

(1a) 1039a3-14.

1084b25

For ?? ??? ????? ??? ??????? ("from the standpoint of universal formulae") cf.

(1a) 1050b34-1051a2.

1084b26-27

(1a) 1016b24-31. 1084b24-25.

(1b) De Anima 409a6.

(1d) Alexander in Simplicius (In Physica, 454, 24 Diels):

?? ?? ?????? ????? ??????? ????? ???????.

("points be units having position")

1085a3-7

(1b) Physica 226b32-33. 227a19-21.

1085a7-14

= Testimonia Platonica 27A Gaiser

1085a7-9

(1a) 992b13-18.

1085a9-23

(1a) 992a10-20. 1087b16-17. 1089b9-15.

1085a9-14

(1a) 992a10-13. 992b11. 1036b12-17. 1089b11-14. 1090b20-24.

(1b) De Anima 404b18-27.

1085a9-12

(1a) 992a10-13.

(1d) Hermodorus in Simplicius (In Physica, 248, 7-8):

??????? ?? ??? ?????????? ??? ?????????? ??? ????????? ??? ?????????? ??? ????? ?? ????? ???????? ??? ??????? ??????????.

("Likewise broader and narrower, heavier and lighter, and all of this kind will go ad infinitum.")

1085a12

(1a) 1089b14.

1085a31-b4

= Speusippus fr. 51 Tarán

1085a31-35

= Speusippus fr. 49 Lang = fr. 51 Tarán

1085a32-33

(1d) Iamblichus, De Communi Mathematica Scientia 17, 14-16 Festa:

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?????? ???? ?? ??, ????? ??????? ?? ????????

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("to posit, as unit according to the One in numbers, point in lines")

1085a33

(1b) Topica 108b26-27.

(1d) Sextus Empiricus, Adversus Mathematicos X 278:

?? ??????? ???? ??? ??? ??????? ????? ????????.

("the point be ranked under the head of the unit")

1085b4-27

= Speusippus fr. 48c Lang = 40 Tarán

1085b4-12

= Speusippus fr. 40 Tarán

1085b10-12

(1a) 1082a20.

1085b27-34

= Speusippus fr. 51 Tarán

1085b27-31

(1b) Physica 231a24. 231b16. 232a23.

1085b31-34

(1a) 992a19-20.

Cherniss n. 83 (pp. 132-134): "We may note that in Metaphysica 992a19-20 the same question (from what can be derived the points present in the line?) is used to embarrass a theory which is different from those of Plato, Speusippus, and Xenocrates (see Appendix I) but which, Aristotle implies, might try to defend itself by falling back upon Plato's rejection of the point as an entity (992a20-24: note the concessive ??? ??? followed by Aristotle's rejoinder ?????? … ???' …). So Aristotle here requires those Platonists who rejected the point to account, nevertheless, for its relationship to the line as well as for that of the line to the plane and for that of the plane to solid figure (992a13-14) just as he does Speusippus who posited the point as the formal principle of magnitudes. Moreover, in none of these Platonistic theories was point, line, or plane regarded as the material constituent of line, plane, or solid; yet Aristotle's objections are based upon the supposition that they meant to compose the solid of planes, the plane of lines, the line of points (cf. 992a13-14, 16-18, 19-20; 1085b33-34, and n. b. 1085b29-30 [Speusippus made the point the formal principle of magnitude; Aristotle assumes that he must have posited other points, derived from this, to serve as the components of lines and ultimately of all magnitude. In short Speusippus' construction of magnitude is treated as if it were identical with that of the Pythagoreans, cf. 986b6-8, 1080b16-21]). Just as he assimilates Pythagorean to Platonic doctrine by arguing as if the Pythagorean corporeal units must have been incorporeal mathematicals (cf. Crit. Pres. Phil., p. 43), so he identifies the Platonists' «construction» of body with that of the Pythagoreans by arguing as if the Platonists made the line an aggregation of points. His notion that body in the Timaeus is merely an aggregation of planes may have been one point of departure for this interpretation; the fact that planes, atomic lines, or points are like the Pythagorean «units» and the Atomistic «solids» in being treated as «indivisibles» led him in his polemical passages to treat the mechanisms of these theories as identical.

This conflation of Pythagoreanism and Platonism would make it easy to think of both as reducing body to the «limits» of body (for Aristotle points, lines, and planes are potentially existing ?????? which are actualized by division; cf. Metaphysica 1002a18-b 11, Physica 263a23-b 9, 262a21-26), and in so doing Aristotle would be encouraged not only by the Pythagorean and Platonic use of the word ????? but also by his own tendency to associate ????? and ????? (cf. Metaphysica 1022a8-10; De Caelo 293b12-15, 310b7-11; De Generatione 335a18-21; Physica 211b12-14). Nevertheless, he did not overlook the fact that the Pythagorean unit was inseparable and that, while the Pythagorean doctrines seemed to be rather mathematical than physical, they were meant [133] to apply to sensibles apart from which they recognized no existence (Metaphysica 989b33-990a32, 1080b16-21, 1090a30-35); therefore, although he may think of Pythagoreans and Platonists as alike in constructing body of ??????, since he knows that the former thought of these limits as sensible only (cf. Parva Naturalia 439a30-b1), where he talks of those who construct body of limits which are separable from sensibles it is Platonism of one kind or another that is in question. So in Metaphysica 1002a4-b11, while lines a11-12 (?? ?' ??????? ??? ?????????) might by themselves refer to both Pythagoreans and Platonists (Ross follows Alexander in referring them to the Pythagoreans and Plato [Metaphysics, I, p. 248] although later [op. cit., II, p. 481] he says that the Pythagoreans are here distinguished from the Platonists!), the separability of planes, lines, and points (1002a6-8) certainly excludes the Pythagoreans and the presence of the point in the theory (1002a4-6, 15-16) should exclude Plato and Xenocrates. In 1028b15-18 both Pythagoreans and Platonists generally are probably meant by «those who think that the limits of body have substantial existence»; this group is then divided into those who think that no such substance exists apart from sensibles (i. e. Pythagoreans; cf. 990a3-5, 986b4-8, 1036b7-13 contrasted with Platonists in 13-17) and those who think that there are apart from sensibles other substances more real than sensibles; these are the Platonists among whom the theories of Plato, Speusippus, and Xenocrates are then distinguished, the first two by name (1028b18-27). The objection that, if one posits lines and planes as principles, these are certainly not separable but are divisions and limits—the planes of bodies, the lines of planes, the points of lines—·, all of which inhere in other things (1060b12-19), this is obviously aimed at Platonists, not Pythagoreans; and here again the special attack on the substantiality of the point (lines 17-19) suggests Speusippus to the exclusion of Plato and Xenocrates. The implied interpretation, that the Platonistic doctrine here attacked is a development of the Pythagorean theory with an intensification of the difficulties of the latter, is explicit in 1090b5-13. There Aristotle says that there are some who think that points, lines, and planes must be real existences. To this he objects, first, that these are limits and not substances and, second, that, even if they are substances, they would all be substances of sensibles and so would not be separable. Here the first objection could have been intended as an answer to the Pythagoreans as well as the Platonists, but the second can apply only to the latter; and the mention of the point, in addition to the fact that the passages immediately preceding [134] (1090a 35-b5; cf. Lang, Speusippus, pp. 28-30 and frag. 30) and following (1090b13-20) are concerned with Speusippus, makes it highly probable that it is his theory particularly that Aristotle has in mind in all these passages, although his procedure in Metaphysica 992a19-21 (see this note, init.) indicates that he considered it legitimate to extend the specific objections to Speusippus' theory to the Platonists generally. (For the bearing of these passages on the Pythagoreans cf. further Crit. Pres. Phil., pp. 40-42.)"

1085b36-1086a5

= Speusippus fr. 35 Tarán

1086a2-13

= Testimonia Platonica 57 Gaiser

1086a2-5

= Speusippus fr. 35 Tarán

(1a) 1080b11-16.

1086a5-11

= Xenocrates fr. 34 Heinze = fr. 110 Isnardi Parente

(1a) 1080b21-24.

(1d) Sextus, Adversus Mathematicos VII, 147-149 (= Xenocrates, fr. 5 Heinze), see note on 1028b24-27.

1086a11-13

(1a) 1080b11-16. 1083a31-35. 1090a16.

(3) For not making superfluous the ????? which follows ??????????, the sentence must be constructed as follows: "He who for uttered the first time that Ideas exist, and that the Ideas are numbers (??? ???????? ?? ????), and that the mathematical objects exist, had the good sense to separate both."

1086a16-18

(1b) Ethica Nicomachea 1167b25-27.

M2

1086a21-22

(1b) Physica 184a11-14.

1086a23-24

Cf. previous note. If the reference is to Physica A, then, reversely, 192a34-b1 may be a preannouncement to the treatise whose beginning is preserved in M2.

1086a32-37

(1a) 987b2-6. 1078b30-32.

1086b16-19

(1a) 1040b27-30. 1089a20. 1091a32.

(1c) Euthyphro 10c. Meno 75e. Res publica 431a. Theaetetus 156c. Symposium 187a. Leges 892c.

(2) The combination ????????? ?????? is "an expression for that which a philosopher 'understands' by his conceptions" (Jaeger, p. 187).

(3) Aristotle's critique is immanent: he points to a notion of "entity" (?????) which he is sharing with the Academicians. "The dilemma is logically valid only for those who stand on Platonic ground." (Jaeger 1962, p. 188) This concordance becomes especially clear from a passage in Alexander's report of Plato's lecture De Bono (56, 30-31): ?? ??? ???????, ???? ???? ?? ???? ??? ?????????. As in Aristotle, being "a this" is the condition of unity and therewith of entity.

Jaeger is wrong, however, when he continues: "the contradiction can be resolved only by a new notion of substance". As it appears from ll. 7-10, the task is rather to find the adequate specimen which really fulfils the conditions of "separateness" and "beingness". In other words: the Academicians have asked the right question, but given a wrong answer.

1086b22-32

(1a) 999b27-1000a4.

1087a10-25

(1b) Analytica Posteriora 71a17-b8. Physica 247b4-7. De Anima 417a28-29. 417b29. 431a2.

1087a15-18

(1a) 1070a32.

(1b) Analytica Posteriora 87b37-39.

(2) Schwegler ii 338: "With the particular, I possess the universal, universalia in re." ("Im Einzelnen habe ich das Allgemeine, universalia in re.")

Zeller II/2, pp. 310-312: "This expedient, however, does not suffice by far. The knowledge of the particular arises only by the application of universal propositions. The certitude of that knowledge depends on their certitude. Such knowledge, therefore, as Aristotle expressly recognizes, has not for its object the individual as such, but, on the contrary, the individual too is known only in the form of universality. On the other hand, if the individual be that which is originally actual, then it ought to be precisely, qua individual, the proper object of knowledge, and the knowledge of the universal ought to depend upon it for its truth and certainty. In fact, it would be the individual— and not, as Aristotle taught, the universal — which should be in its own nature the better known and the more certain. If, conceding this, we were to say that the genus had in itself more of essence than the species, but that, on the contrary, for us the species had more than the genus, we should thereby place ourselves in opposition to the definite statements of Aristotle, who insists without qualification that all Substance, in the strict sense of the word, is individual Substance - not that it appears to us as such. There is only one case which would make it possible to escape the difficulty: that is, if there were a principle which, being individual, could be at the same time truly universal, for this could be at the same time, as substantial, a basis of actuality, and, as universal, a basis of truth. Such a principle seems to be found in the keystone of Aristotle's entire system— namely, in his theory of Pure Thought, or of God. To him the Divine, as thinking being, is Subject; as the End, Mover and Form of the world, it is also an absolute universal. The conception of it has existence in one individual Being, not merely contingently, but by reason of its own nature; whereas, in all finite things, the universal presents itself, or at least might present itself, in a plurality of individuals. From this standpoint it would be possible to seek a solution of the difficulties suggested, by saying that in God, as the supreme principle, absolute certitude for thought coincides with absolute actuality of being, but that, in all derivative forms of being, the greater actuality falls to the share of the individual and the greater cognizability to the share of the universal. That this solution, however, would be in accordance with all Aristotle's premisses is not yet proven. Aristotle himself does not draw the distinction. He says without any qualification that all knowledge consists in the cognition of the universal, and that substantiality pertains to individuals alone."

Cherniss (pp. 340-343): "It must be observed that in the formulation of this problem Aristotle assumes not only that substance must have separate existence in the fashion of particulars but also that the elements or principles of substances must be either particulars or universals. Nor does he solve the problem by openly qualifying this alternative. Instead, he avoids the dilemma by distinguishing between knowledge potential and actual: the potentiality, being as matter universal and indefinite, has for its object the universal and indefinite but the actuality, being definite and a determinate thing (???? ??), is of a definite and determinate thing. Universal color (?? ??????? ?????), Aristotle then says, is seen incidentally because this color (???? ?? ?????) which is seen is color, and this A (???? ?? ????) which the grammarian contemplates is A; so universal A, it would appear, is known only incidentally to the knowledge of this A.

The real meaning of this solution is unfortunately not so clearly expressed as is the difficulty to which it is applied. If Aristotle means to say that the sensible particular is the real object of knowledge in the full and proper sense, he is, as many [341] critics have insisted, denying the doctrine which he everywhere else maintains, namely that actual knowledge is of the universal while particulars are objects of sense-perception only, and such a denial should involve him in the relativism which he himself contends is the result of identifying the objects of knowledge with the objects of sensation. Since, however, knowledge of all the particular cases is implicit in knowledge of the universal and when the existence of such a particular is recognized the potential knowledge of it is actualized so that knowledge of the universal is in a sense potentially knowledge of the particulars (pages 69-71 supra), it might seem, as some have supposed is the case, that Aristotle means to identify all actual knowledge with this recognition whereby the implicit knowledge of particulars becomes explicit. Yet when he says that knowledge [342] of the particulars is implicit in knowledge of the universal, he cannot mean that the latter is nothing more than a «possibility of knowing particulars,» that one has no actual knowledge of the universal except as one apprehends it realized in a particular. In the first place, in such apprehension what was previously potential and is thereby actualized is knowledge of the particular, not knowledge of the universal at all. He himself insists that actual knowledge of the universal is not incompatible with ignorance of the particulars (cf. Analytica Posteriora 79a3-6, Metaphysica 981a21-30, Ethica Nicomachea 1146b35-1147a3) and that actual grasp of the particular is in itself not knowledge of the universal either actually or potentially (Analytica Posteriora 86a22-30), so that there are three kinds of error possible because actual knowledge of the universal, actual apprehension of the particular, and the application of the first to the second are three different states (Analytica Priora 67b3-11). Furthermore, the [343] recognition of a particular as the realization of an universal should itself presuppose actual knowledge of the universal (see page 79 supra); and Aristotle himself, when establishing the priority of actuality, argues that the concept of the geometer is actuality prior to the potency of the particular construction which is actualized by that prior actual knowledge (Metaphysica 1051a29-33; cf. Ross, Metaphysics, II, pp. 272 f.). Finally, had Aristotle made the particular in any sense the object of actual knowledge, he could not have distinguished knowledge from sensation by asserting that the actualization of the former is not dependent, as that of the latter is, upon external objects (De Anima 417b19-26)."

(3) From Zeller's criticism it appears that we have before us the same problem as with the compatibility of ontology and theology in E (see note on 1026a30-31). By analogy, also in the present passage there is only the one solution, that "this individual alpha" is not the sensible one (with all peculiarities distinguishing it from the other alphas), but reduced to what it has common with all other alphas. For every being, this is the individual form (cf. 1037a5-10), which is identical in content with the form as an universal. This is the solution already intimated by Schwegler.

1087a19-20

(1a) 981a18-20.

Book N

1087a30-31

(1a) 1075a28. 1004b29-33.

(1b) Physica 188a19.

1087a31-b4

(1a) 1075b20-23.

1087a35-36

(1a) 1019a5.

(1b) Physica 189a31-32.

(3) The presupposition is that the subject (substrate) is prior to the predicate. This argument is disavouwed by Z 3: There is no reason for rejecting the Academic principles because they are only predicates, if they can be principles also in the sense of form.

1087a36-37

(1b) Physica 191a4-5. De Caelo 270a14-16. De Generatione Animalium 724b3-4.

(1c) Phaedo 102b-103c. Timaeus 50d-51a.

(2) Cherniss (pp. 90-91): "Yet the axiom that contraries are incompatible, and will not abide each other, the ultimate basis for Aristotle's assumption of a substrate that is not contrary to form, is explicitly stated in the Phaedo (102b-103c), where the [91] distinction between the subject that 'partakes of the ideas' and the ideas themselves is made to show that the former can change from one contrary qualification to the other by the inherence of one contrary and the withdrawal of the other but the idea itself cannot become other than itself and so must recede before the advance of its contrary. With emphatic repetition Plato points out that, while a contrary itself can never become its contrary so that in this sense no genesis of contraries from each other is possible, contraries do arise from contraries in the sense that the subject which partakes of one form may partake of its contrary in turn (103a-c), and he even goes on to distinguish between accidental and inseparable or essential predicates and to show that a subject, to the existence of which a given form is essential, cannot abide the presence of the contrary of that form but must cease to exist if that contrary form enters it (103c-105b). Here, then, is stated the rule of contraries on the basis of which Aristotle attacks the Platonic conception of 'matter,' and here is apparently the origin of Aristotle's doctrine of substrate, form, and privation. Certainly the author of the Phaedo shows as clearly as could be that he did not consider the 'substrate' to be one term of a contrariety; and in establishing the formlessness of the 'receptacle' in the Timaeus (50d-51a) Plato reveals that he is still true to this doctrine: if the receptacle had form of any kind itself, he argues, some of the forms that it would have to receive would be contrary to its own and it would be unable to accept them without distortion; it can assume the likeness of all the forms only if it is itself like none and so contrary to none; it never loses its own character, for it admits all the forms and never itself becomes any one of those that it receives (50b)."

Without mentioning Cherniss, Düring notes (p. 257). "This question was solved, however, already by Plato in Phaedo 102e".

1087b2-3

(1b) Categoriae 3b24-27. Physica 189a32-33. 225b10-11. De Generatione et Corruptione 335a6-9.

1087b3-4

(1a) 1075b10-34.

(2) One of the presuppositions of the criticism: "The immobile Entity that N seems to presuppose as established [cf. 1087a29 and our comment in vol. ii] is not composed of contraries". (Owens 436)

Further presuppositions are revealed in 1088b14-28, 1092a9-17, 1090b13-20.

1087b4-31

= Xenocrates fr. 99 Isnardi Parente

1087b4-12

= Testimonia Platonica 49 Gaiser

1087b4-9 + 26-33

= fr. 39 Tarán

1087b5 + 7-8 + 10 + 13-14

(1a) 987b25-26. 988a26.

1087b6 + 8

= Speusippus fr. 48b Lang = 39 Tarán

(1d) Iamblichus, De Communi Mathematica Scientia 15, 6-17 Festa:

??? ?? ??????? ??? ??????????? ??? ???

????????? ??? ??????? ????????? ?????, ?? ?? (???? ??

???? ?? ?? ??? ??????, ??? ?? ?????? ????? ??? ??? ??

????? ??? ???????? ??? ?????, ??? ?? ????? ??????

????? ???????? ??? ?????? ?? ????? ????), ??? ?????

????? ????? ??? ??? ???????, ?? ??? ????????? ????

?' ????? ???' ???? ??????????, ??? ??? ????? ????

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("Of the mathematical numbers there are to be supposed two most primary and supreme principles, the One (which is not to be called 'being', because it is simple it is principle of the beings, and the principle does not be such as the things of which it is principle), and again another principle, the principle of multitude, which is per se able to confer division, and which we may conveniently declare to be similar to an altogether humid and pliant matter; and with some probability that out of these, the principle of unity and the principle of multitude, there is produced the primary genus, the genus of numbers which are composed of these two.")

The passage is discussed in Merlan, pp. 98-122.

Ibidem, 17, 13-19: see note on 1083a24-25.

1087b4-9

= Speusippus fr. 39 Tarán

1087b4-5

(1a) 1075a32.

1087b6-31

(1a) 1085b5. 1087b6. b8-9. b27. b30-31. 1091b31. 1092a35-36.

1087b7-9

(1a) 1088a15-16.

(3) Great and small do not be contraries, see Categoriae 5b14-15. Contrariety has place between this dyad and unity. This is analogous to the relation between some kinds of good and evil, as described in Categoriae 14a2-4: here the evil is a dyad of excess and deficiency (???????? and ??????); the good as intermediate (???????) between the extremes is contrary to both. Surely, there is a contradiction in so far as, according to the Categoriae passage, also excess and deficiency are contraries. This, in turn, is in accord with Physica 187a16-17.

1087b12-18

(1d) Alexander, In Metaphysica, 56, 8-32: see note on 1081b17-26.

1087b16-17

(1a) 1056b10-11. 1088a18-19.

(1b) Historia Animalium 486b7-8.

1087b17-18

(1a) 992b6-7. 1004b12.

(1b) Physica 187a16-17. 189b10-11.

(1c) Politicus 283c11. Philebus 24a-e. 26d.

(1d) Alexander, In Metaphysica, 56, 17-26: see note on 1081b17-26.

1087b18-21

(1a) 1085b10-11.

1087b21-26

(1a) 990b17-22. 999a6-10. 1079a14-16.

(1b) Ethica Nicomachea 1096a17-19. Ethica Eudemia 1218a1-10.

1087b26-33

= Speusippus fr. 48b Lang = fr. 39 Tarán

(1a) 1056b5-6.

1087b33-1088a14

(1a) 1053b11. 1054a9-19.

1087b33-1088a2

(1a) 1016b21-24. 1053a5-14.

1087b33-34

(1a) 1016b17-19. 1021a12-13. 1052b18. 1053b4-6. 1072a33. 1088a4-5.

(1b) Ethica Eudemia 1218a25-32.

1087b34-1088a2

(1a) 1053b9-1054a13.

Further examples are: point (De Caelo 300a14) or indivisible line respectively (992a21-22), ?? ??? (Physica 219b11-12, 233b33-234a5, De Caelo 300a14, Pseudo-Aristoteles, De lineis insecabilibus 971a17), ??????? ????? (1078a12-13, cf. Plato, Politicus 269e) = ???????? (Physica 265b8-11, cf. Plato, Leges 893c-d), intellect (De Anima 404b22).

(3) Aristotle's divine intellect preserves the Platonic identity of goodness and oneness.

1088a2-6

(1a) 1039a12.

1088a4-8

(1a) 1021a12-13.

1088a10-14

(1a) 1070b1-4.

1088a15-21

(1a) 992b1-13. 1083b23-36. 1085a19-23. 1087b16-17. 1090b32-1091a5.

1088a17-21

(1a) 1085a21.

1088a21-b4

(1a) 1093b18-21; 1070a31-b21.

(2) Owens 435-436: The treatise N examines the contraries proposed by the Academic philosophers "against the background of Being as expressed in the categories and as act and potency".

Ibidem, p. 438: "relative Beings can have the same principles as Entity only by analogy".

1088a21-25

(1a) 990b17-22.

(1b) Categoriae 5b14-25. Ethica Nicomachea 1096a21-22.

1088a23-24

(1a) 1069a19-24.

1088a24-26

(1b) Categoriae 5b16. 27. 6a10.

1088a29-35

(1a) 1002a28-34. 1026b21-24. 1033b5-8. 1044b21-26. 1060b17-19. 1069b9-14.

(1b) Physica 200b32-201a9.

1088a33-35

(1b) Physica 225b11-13.

(1c) Theaetetus 154c.

1088b2-4

(1a) 1087a33-36. b1-2. 1038b26. 1028a32-33. 1030a22. 30. 1069a20-21. 1088b4.

1088b4-8

(1a) 1033a5-13. 1049a18-24. 1070b5.

1088b4

(1a) 1028a12-15. 29-33. 1030a21-22. 29-30. 1045b27-29. 1069a20-21. 1071a34-35.

(1b) Ethica Nicomachea 1096a20-21.

1088b8-11

(1a) 1056b27-28.

1088b9

(1a) 1056b3-16.

(1d) Alexander, In Metaphysica, 56, 10-12 and 21-35: see note on 1081b17-26.

Sextus Empiricus, Adversus Mathematicos X, 260-262:

???? ??? ???? ?? ??????? ??????? ???? ??? ?? ??? ????? ????????? ??????? ??? ????? ????? ?? ?????????? ?????????? ??? ???????, ??? ?? ??????? ???????????????? ?????? ???? ????????, ??????? ?? ??? ?? ????? ??????? ???????? ???????? ??? ?? ?? ???????? ??????????. ??? ???? ? ???? ?????? ?? ????? ??????? ????????, ???' ??? ??????? ??? ??????? ??????? ?????? ??? ?????, ?? ?? ??????? ?????? ??? ????? ??? ?? ?? ?????????? (??? ??? ? ???? ??? ??? ???? ????, ??? ? ????? ?? ?? ????, ?????, ??? ? ????? ?? ??????? ?????????),

[261] ????? ???????? ? ????????? ????? ?????? ????? ??? ????? ??? ??????, ?? ???? ??????? ??????? ??? ????? ?? ???????? ??? ?????? ???' ???????? ??? ?????? ????????? ?????? ????????, ?????????????? ?' ????? ???' ????????? ????????? ??? ?????????? ???????? ????? ??? ?? ???????? ??? ????????? ??? ????????? ?????? ????? ??? ?????, ????? ?? ???? ??????? ????? ?????? ?????????, ????? ??? ??? ??? ??????? ??????????.

[262] ??? ??? ??? ????? ?????, ? ?? ????? ?????, ?? ???? ??????? ????? ?? ????????? ??????? ???????? ???????, ??? ? ???????? ????, ?? ???? ??????? ?? ????????? ?????? ???? ??????.

("Yet, indeed, one should not posit the plane figures either as elements of existing things, for each of these likewise is composed of prior things namely lines—and lines have numbers already pre-conceived, inasmuch as the compound of three lines is called a triangle and that of four a quadrangle. And since the simple line is not conceived apart from number but, as drawn from a point to a point, involves the number two, and all the numbers themselves fall under the One (for the two is a single two, and the three is one particular thing, a three, and the ten is one sum of number),

[261] Pythagoras, moved by these considerations, declared that the One is the principle of existing things, by participation in which each of the existing things is termed one; and this when conceived in its self-identity is conceived as One, but when, in its otherness, it is added to itself it creates the «Indefinite Dyad,» so-called because it is not itself any one of the numbered and definite dyads but they all are conceived as dyads through their participation in it, just as they try to prove in the case of the monad.

[262] There are, then, two principles of existing things, the Primary One, by participation in which all the numbered ones are conceived as ones, and also the Indefinite Dyad, by participation in which the definite dyads are dyads.")

(3) The two is the first number (Alexander 56, 10-11 and 22). The unit (?????) is not yet number, because it is not yet many (????) or few (??????).

1088b10-11

(1a) 1084a12-13.

1088b14-17

(1a) 1071b19-21.

(1b) Physica 207a30-32.

1088b28-35

= Xenocrates fr. 99 Isnardi Parente

1088b28-30

(2) Ross ii 474-475.

1088b35-1089a6

(1c) Sophista 237a. 256e.

(2) Cherniss (1945, p. 19): "The quotation here of a line of Parmenides' poem proves conclusively that Aristotle is referring to Plato's dialogue in which the Eleatic Stranger quotes the same line [Sophista 237a] and states the necessity of establishing against Parmenides the existence of non-being [241d]. This non-being, Plato explains with emphasis and care, is not the opposite of being, but simply 'otherness' [257b-259b]; and Aristotle is quite wrong when he insists, as he does, that it is absolute non-being, a notion which Plato expressly dismisses as meaningless [238c; 258e]."

1088b35-1089a2

(1b) Physica 192a6-7.

1089a2-6

(1a) 1030a21-27.

(1c) Sophista 237a. 258d. Theaetetus 180d.

1089a2-5

= 28 B 7 Diels/Kranz

1089a3

For ???? ?? ?? ("Being itself") cf.

(1a) 1051b29-30.

(1b) Physica 191a31-33.

1089a7-15

(1a) 1053a27-30.

1089a7-9

(1b) Physica 186a24-25.

1089a7

(1a) 992b19.

(1b) De Anima 410a13.

1089a15-31

(1c) Sophista 237a.

1089a20-26

(1a) 1078a17-21.

(1b) Analytica Priora 49b33-50a4. Analytica Posteriora 76b39-77a3.

1089a20-21

(1c) Sophista 237a.

1089a21-23

(2) Cherniss 98-101: "No such statement can be traced to Plato, who, on the contrary, speaks of the relation between the figures used by the geometer and his demonstration to exactly the same effect as does Aristotle himself (cf. Res publica 510d-e with Analytica Posteriora 77a1-3); the supposition that the analogy is cited from an «oral exposition» of Plato's (Zeller, Philosophie der Griechen, II, 1, p. 458 [n. 1 on p. 457]; Robin, loc. cit. [n. 4503]) is unlikely, inasmuch as it would require us to believe that, although he had set down in the Republic the correct explanation of the role of geometrical figures in demonstration, he could so far forget or disregard this refutation of a common sophism as to appropriate the mistaken premise and make it a corner-stone of his own philosophy. (The imperfect ??????? not only need not point to an oral exposition, as Zeller himself admits [Philosophie der Griechen, II, 1, pp. 453-4], but after ???????? … ?????? would be unlikely to do so, for we should expect ????? instead of the bare passive.) On the other hand, that Aristotle is here introducing the argument of «some other Platonist» (Apelt, Beiträge zur Geschichte der griechischen Philosophie, p. 252; Ross, Metaphysics, II, p. 476) is a conjecture in support of which no evidence, external or internal, can be produced. The charge of taking non-being in the sense of «the false» is directed [99] against Plato himself, and Aristotle's refutation treats this and the «necessary assumption of something false» as a single doctrine. The contention that geometry derives its demonstrations from false premises, however, is introduced in Analytica Posteriora 76b39-77a3 as that of certain people in the past (????? ????? ??????) who attacked geometrical procedure on this score; in Metaphysica 998a2-4 the argument that geometry uses false assumptions of this kind is explicitly attributed to Protagoras in his refutation of the geometers, and there Aristotle uses this argument against the Platonic distinction between the objects of geometry and those of astronomy. There his contention is not that the Platonists accept the validity of Protagoras' argument but that, in rejecting it and avoiding its consequences by positing separately existing objects of mathematics, they bind themselves in consistency also to posit a separately existing object of astronomy other than the phenomenal heaven (cf. 997b15-18), in failing to do which they unwittingly lay themselves open to Protagoras' objections. In Metaphysica 1078a17-21 he again refers to these objections when he claims that his own method of treating the objects of abstract science as separable in thought renders them invalid. Inasmuch, then, as Aristotle elsewhere attacks a Platonic theory by arguing that it leaves the way open for Protagoras' objection which, he implies, the Platonists themselves rejected, it is only reasonable to suppose that he is here using the same method and to interpret this sentence as meaning that, since Plato understands by non-being «the false» and derives the existing world from «the false» and being, «consequently by his statement that it is necessary to assume ?? ?? ?? he meant that it is necessary to assume something false just as geometers assume that the line which is not a foot long is a foot long.» It must not be forgotten that ?????? has the connotation «to mean» (cf. Metaphysica 1025a6-11: ??? ? ?? ?? ????? ????? ???????????? … ?? ????????? ?? ????????? ????? ["by 'to limp' meaning 'to imitate a limp'"]; Hippias Minor 374c); if ??? here introduces a conclusion made by Aristotle himself, the passage assumes a logical sequence otherwise lacking and the import of the analogy with geometry becomes clear. Aristotle has [100] already asserted that Plato assumed non-being as the «matter» of generation (1089a5-6). He then objects, first, that it is unnecessary to assume non-being to account for multiplicity (1089a7-15) and, second, that non-being has many senses so that the sense in which it is assumed must be determined (1089a15-19). Plato meant by it «the false» (1089a20-21); and now he draws the conclusion: consequently his meaning was ("it was really said") that one must assume «something false» just as geometers do (cf. Physica 209b11-12, 214a13 where ??? ??? ?????? … ????? … ?? ?? ?????? and ??? ???? ????? introduce Aristotle's own conclusions as to the implication of Platonic doctrines, not quotations of Plato's explicit statements [see also notes 184 and 291 infra]). In this way he tries to confute the Platonists by identifying their assumption of ?? ?? ?? with an argument against geometry which they themselves reject. His refutation is this identification itself, for he does not prove that «the false» cannot be an element in generation and destruction; he simply states that the non-being involved in them is non-being qua potency and rests his refutation of what he takes to be the Platonic doctrine upon the equivalence which he has established between it and the Protagorean representation of geometrical procedure.

The statement, ??? ??? ?????? ?? ????????? is merely the Platonic ????????? ?? ?? ?? ????? recast according to Aristotle's interpretation of this non-being as ??????, although it is not impossible that Aristotle had in mind at this time such passages as Sophista 260d-261b, in which it is said that against the contention of the Sophist the existence of ?? ?????? must be established. Plato does not, however, here or elsewhere identify non-being and ??????. In the passage of the Sophista to which Aristotle refers and which is the introduction to the discussion of falsehood and reality it is said that the possibility of falsity depends upon the assumption of the existence of ?? ?? ??; but the next step in the dialogue rejects the notion that this required ?? ?? is absolute non-being (237b-239b), and, when this non-being has been shown to mean «otherness,» the warning against taking it as the contrary of being is repeated (258e). Nor is ?? ?? ?? even in this sense identified with «the false»; it is [101] simply one idea in which all the others communicate, and it is this «otherness» in communion with the ideas that makes possible in thought, statement, and appearance the interchange of «same» and »«other» which is the essence of ?? ??????; (263d-264b). «The false» is the mistaken combination or separation of really existing factors and comes to be only in the ????; it is itself no element in the constitution of the world.

But here again Aristotle, conceiving the Platonic form to be the unique real and Platonic matter to be its contrary, infers that this matter as «other» than the form is not only absolute non-being but also—since the real is identified with the true (the idiomatic force of ?? ?? is what causes Aristotle himself to recognize ?????? as one sense of ?? ?? ??)—the absolutely false. Evidence for this identification by Plato Aristotle does not pretend to have; but his inference that this must have been Plato's meaning is facilitated by his own classification of the senses of ?? ?? ??—1) the negation of being in each of the categories, 2) the false, 3) potentiality (cf. Metaphysica 1017a22-b9)—and by his explanation of it in the second sense as the separation of what is combined or the combination of what is separated (Metaphysica 1051a34-b6). This explanation of «the false» is close enough to that which Plato gives in the Sophista (263d) to enable Aristotle to conclude that he was trying to define ?? ?? ?? in the second of the three senses assigned to it by himself. This identification of Platonic matter with «the false» is significant chiefly because it is a clear demonstration of the method by which Aristotle from verbal classifications of his own can arrive at what he thinks must have been the meaning of Platonic doctrines; the particular interpretation given in this passage is not elsewhere used in his discussion of the Platonists."

1089a24-26

(1a) 1078a17-21.

(1b) Analytica Posteriora 76b39-77a3.

Heath (pp. 219-220): "It does not seem possible to take ???????? in the sense of the technical term in geometry for the (general) 'enunciation' of a proposition (like those of Euclid). It is not the 'enunciation' which would be wrong in the case supposed; it is the ??????? ("setting-out") which would be wrong, ??????? being the technical term for the second step in a Euclidean proposition, that in which the enunciation is put in a concrete form with reference to an illustrative diagram, e. g. 'Let ABC be the given triangle'. Moreover, the 'enunciation' does in fact 'appear in the syllogism', namely as the conclusion."

1089a26-31

(1a) 1017a22-b9. 1026a33-b2. 1051a34-b2.

(1b) Ethica Eudemia 1217b25-30.

(3) By "casus" (???????) there are meant the pronouns ????, ???????, ??????? cited in ll. 17-19 (Trendelenburg 1846, p. 29), which seem to be interpreted by Aristotle as derivations from one and the same radical (as ???????? and ?????????, ???????? and ????????, cf. Categoriae 6b33-36).

1089a28-31

(1a) 1009a30-36. 1026a32. 1051a34. 1062b24-33. 1069b19-20.

1089a31-b15

= Testimonia Platonica 29 Gaiser

1089a31-33

(1a) 1074a33-35.

1089a34-b2

(1d) Sextus Empiricus, Adversus Mathematicos X, 261-262: see note on 1088b9.

Ibidem, 276-277: see note on 1081a24-25.

(2) Trendelenburg (1826, p. 50): "magnum et parvum et indefinita illa dyas, etsi similia, tamen inter se distincta indicantur".

Ross ii 434: "In N. 1089a 35, though the expressions 'great and small' and 'indefinite dyad' are distinguished, there is nothing to show that they were not used by the same thinkers to designate the same thing."

(3) The presupposition is that the indefinite duality (???????? ????) is the primary multitude (?????? ??????).

1089b2-4

(1a) 1070b17. 26.

1089b4-8

(1a) 1081a5-12. 1089b14-20.

1089b11-15

(1a) 1085a9-12.

1089b11-14

(1a) 1085a9-14.

(1d) Sextus Empiricus, Adversus Mathematicos X 273: see note on 1042b31-35.

1089b15-16

(1a) 1034a7-8.

1089b23-24

1069a20-21. 1088a22-24.

1090a2-b5

= Speusippus fr. 43 Lang = 36 Tarán

1090a4-7

(1a) 988ab4-5.

1090a4-6

(1a) 987b18-25.

1090a16-b5

= Speusippus fr. 43 Lang = fr. 36 Tarán

1090a16-20

(1a) 992b9-13. 1031b18-22.

(1d) Alexander, In Metaphysica, 126, 15-17:

???? ??? ??? ?????? ???? ?? ??????? ?? ?? ??????????? ???? ??

?? ????????? ??? ????? ????????? ?? ?????, ????? ?? ??' ?? ?? ??????

?????????????? ??? ??????? ????????? ? ????? ? ????? ?????.

("Consequently, it is not possible in all cases to take the one [arrived at] by exposition and, making this a one-itself, to reduce all things to this, but only in the case of things of which what is predicated in common and said universally is either a genus or a species.")

1090a16-17

(1a) 1086a12.

1090a20-25

(1a) 987b27-28. 1080b16-21.

1090a25-30

(1a) 1080b11-16.

1090a32-35

(1a) 989b34. 990a12-18. 1075b28-30. 1091a13-20.

(1b) De Caelo 300a14-19.

1090b5-1091a29

= Testimonia Platonica 28b Gaiser

(1a) 1002a4-8. 1016b25-31. 1028b1518.

(1b) Categoriae 4b23-24. Topica 141b5-9. 19-22.

(1d) Alexander in Simplicius (In Physica, 454, 23-26): see note on 1016b24-31.

Sextus Empiricus, Adversus Mathematicos, X 259-260: see note on 1016b24-31.

(2) Ross lxiv-lxvii.

Krämer 2001, pp. 159-160: "the unwritten doctrine constructs as many mathematical numbers as geometrical and stereometric figures, beginning from the «monads» (individual unities) and minimal magnitudes (the «indivisible lines»), which in their turn, are constituted by the limitation of the great-and-small by unity. Also the elements of the corporeal world conceived stereometrically as regular polyhedrons (fire as a tetrahedron, water as an icosahedron, air as an octohedron, and earth as a cube), are reduced in a corresponding way, by means of the procedure of dimensional analysis, through surfaces and lines, to unitary-points (the indivisible lines), as for the final unities of extension in themselves; they represent a derivative unity, which contains an additional multiplicity. The sphere of rational soul, which occupies a mediating position between the intelligible and extension, seems to be correlated with the dimension of surface."

1090b5-13

= Speusippus fr. 44 Lang = fr. 50 Tarán

1090b5-7

= 58 B 24 Diels/Kranz

(1a) 1001b26-28. 1002b10. 1017b17-21. 1028b15-18.

1090b8-20

(1a) 1088a21-b4. 1088b14-28. 1089a7-1090a1. 1092a3-17. 1093b17-21.

1090b13-20

= Speusippus fr. 50 Lang = fr. 37 Tarán

(1a) 1075b34-1076a4.

(1d) Theophrastus, Metaphysica 4a13-17: see note on 1090b16-20.

1090b13-19

(1a) 1028b21-24.

(1d) Iamblichus, De Communi Mathematica Scientia 13, 12-15 Festa:

??????? ?? ???

??? ????? ?? ????? ????? ??? ?????? ???????, ??? ??

??????????? ????? ??? ??? ??????????? ??????

????????? ????????????.

("it is better to posit the soul in another genus of substance, while assuming that mathematical principles and the mathematical substance are non-motive.")

1090b13-16

(1a) 1075b37-1076a3. 1028b21-24.

1090b16-20

= Speusippus fr. 50 Lang

(1a) 1028b21-24. 1075b37-1076a3.

(1d) Theophrastus, Metaphysica 4a9-17:

???? ??, ??????

?????? ??? ??? ???? ???????? ???? ?????? ???? ??

??????? ??? ???? ??? ??????, ? ??????? ???'

????? ??????? ??????????? ??????????? ?? ??? ???

??? ????? ??????. ??????????? ?' ??? ????? ????

??????? ??? ?? ???????????? ?? ???, ???' ????

?? ??? ??????? ?? ?' ??????, ??? ????? ?? ?'

??? ??? ?????, ????? ??? ?? ????? ???

???????.

("Our starting-point is the question whether there is a connexion and as it were a mutual partnership between objects of reason and the things of nature, or there is none, but the two are, so to speak, separated, though they co-operate somehow to make up the whole of reality. It is, at all events, more reasonable to suppose that there is a connexion and that the universe is not a mere series of episodes, but some things are, so to speak, prior and others posterior—some, principles, and others, subordinate to them—as eternal things are prior to and principles of those that are perishable.")

1090b19

(1a) 1075b37. 1028b21. 27. 24.

(2) The presupposition is that Speusippus (like the Pythagoreans) tried to derive sensibles from supersensibles (Merlan 192-193).

1090b20-21

(2) The expression "the believers in the Ideas" makes us think, first of all, of Plato. Most interpreters, however, refer it exclusively to Xenocrates: Schwegler (ii 352), Robin (p. 296, n. 6), Ross (ii 481), Cherniss (p. 568), Reale (p. 1373). The reasons are:

1. In ll. 32-33, Plato is distinguished from the before-mentioned thinkers. (Schwegler, Robin, Ross)

2. The Platonic derivation of magnitudes was different, see 992a10-13, 1085a9-14. (Schwegler)

3. "We find here the same criticism as in other passages where the theory of Xenocrates is easily recognizable (cf. 1086a5-11; 1083b1-8)". (Robin)

4. "The phrase ?????? ?? ?????????? ??? ?????? ????? ????? ????? (l. 28 at once suggests Xenocrates (cf. M. 1080b28, 1086a10)". (Ross)

5. The doctrine mentioned in ll. 22-23 "is that which was found to be a characteristic of the theory or theories resumed in De Anima 404b18-24", and "is distinguished from the «orthodox» theory of ideas in 1036b13-15" (Cherniss).

The more natural understanding (that Plato is included) is defended by Burkert (p. 22, n. 54). His argument is that in 992b13-18, the question whether line, planes and solids are Ideas or a class of its own (1090b24-25) "is clearly put to Plato".

1090b21-32

= Xenocrates fr. 38 Heinze = fr. 117 Isnardi Parente

(1a) 1084a37-b2. 1085a9-14. 1075b37-1076a3. 1028b21-24. 1080b11-16. 992b13-18.

(1d) Sextus, Adversus Mathematicos X, 259-260: see note on 1016b24-31.

Ibidem, 278-280: see note on 1036b13-15.

Iamblichus, De Communi Mathematica Scientia 15, 6-17 Festa: see note on 1087b6 + 8.

1090b21-23

(1a) 1036b12-15. 992a10-13. 992b13-14. 1085a7-9.

(1b) De Anima 404b16-27 (= Gaiser 25A).

(2) Zeller II, 1, p. 949, n. 2: "Beside this derivation of spatial magnitude, is a second, according to which the line was reduced to the Long-and-Short, the superficies to the Broad-and-Narrow, the solid to the Deep-and-Shallow (or the High-and-Low ???? ??? ????????), as kinds of the Great-and-Small (Aristoteles Metaphysica i. 9, 992a10; and likewise according to Alexander ad locum in the treatise ???? ??????????. Metaphysica xiii. 9, 1085a7; xiv. 2, 1089b11. De Anima loc. cit.). But how these two explanations stand in detail, whether the Long-and-Short is meant to arise from the combination of the Great-and-Small with the dyad, the Broad-and-Narrow from its combination with the triad, the Deep-and-Shallow from its combination with the quadruple, and then out of these the line, superficies, and solid, or whether, inversely, the line was derived from the combination of the dyad with the Long-and-Short, the superficies from the combination of the triad with the Broad-and-Narrow, etc., cannot be determined either from Aristotle or from his interpreters."

Cherniss (pp. 569-570): "That the same doctrine is involved in Metaphysica 1090b20-32 and in De Anima 404b18-27 has long been recognized (cf., among others, Zeller, Platonische Studien, pp. 237-8 and Philosophie der Griechen, II, 1, p. 949, n. 2; Bonitz, Metaphysica, pp. 581-2; Rivaud, Problème du Devenir, n. 852; Heinze, Xenokrates, pp. 57-8; Rodier, Traité de I'Ame, II, p. 61; Hicks, De Anima, pp. 222-3 [on 404b19-20]; Stenzel, Zahl und Gestalt, pp. 8-9 and 94-98; Ross, Metaphysics, II, p. 481). Yet of those who recognized this fact some, assuming that the passage of the De Anima refers to Plato, took it for granted that the passage of the Metaphysica must also be a report of Plato's doctrine (so Zeller, Rivaud, Rodier, Stenzel, and apparently Hicks, who does not, however, clearly commit himself). Even those who have seen that the passage of the Metaphysica refers to [570] Xenocrates whose doctrine is here distinguished from that of Plato have, nevertheless, shrunk from drawing the necessary conclusion concerning the passage of the De Anima (Bonitz and Heinze, loc. cit.·, Ross, Metaphysics, I, pp. lxx f. and lxxvi, n. 2) and have thus involved themselves in an implicit contradiction. Robin alone seems to have sensed the logical consequence of the fact that Metaphysica 1090b20-32 refers to Xenocrates; and he tries to evade the consequence by denying the parallelism of that passage with De Anima 404b18-27 on the ground that the latter passage says nothing of the generation of magnitudes from the numbers, an argument so flimsy that it would not merit discussion even if it were not refuted by the fact that nothing is said of the generation of magnitudes in 1036b14 (?? ??? ??????????? ??? ?????) either, a passage which Robin himself asserts to have the same reference as 1090b20-32, i. e. Xenocrates (ldées et Nombres, n. 272, III [p. 296]) and which by itself would consequently prove that the De Anima passage refers to Xenocrates and not to Plato."

Merlan 122: "Also Xenocrates fr. 38 Heinze (Aristoteles Metaphysica N 3, 1090b21-24) sounds as if the term ??? would be Xenocrates' own. The way in which Isc [Iamblichus, De Communi Mathematica Scientia] introduces the term first (p. 15, 10-14 F) seems to suggest that it treats it as new. «Because the principle opposed to the One is able to supply discontinuity, we might designate it, portraying it adequately to the best of our ability, as being a completely moist and pliable ???». This could very well be the language of a writer anxious to justify a metaphor not yet generally known."

(3) In De Anima 404b16-27, Aristotle presents three variants of an Academic theory of cognition, which are also variants of an ontology; for they have in common the basic assumption that like is known by like (404b17-18; cf. Timaeus 37a-c). In the second variant (ll. 18-21) as in the third one (ll. 21-25), the series Idea of the one - length - breadth - depth corresponds to the series of the ideal numbers 1-4 in our passage. Illustrative for the assignment of intellect to unity in the third variant is Plato, Leges 898a3-b4.

1090b24-27

(1a) 992a10-b18. 1080a12-b36. 1085a7-14.

Happ 145-146: "The precise position of the ideal magnitudes within the structure of being is not only unclear to us, but seems to have been left undetermined by Plato on purpose."

1090b32-1091a5

(1a) 1001b21 ff. 1080b11-16.

(1d) Speusippus in Iamblichus, De Communi Mathematica Scientia 16, 18-17, 1: see note on 992a10-13.

(2) Happ 156: "Speusippus and Aristotle complain that Plato's two principles be so undifferentiated and homogeneous, that the independence of the different strata of being cannot be explained sufficiently by them."

1091a7-9

(1b) Ars Rhetorica 1415b22-25.

1091a10-12

(1a) 1084a2-7. 1082a11-15. 1083b32-36.

(1b) De Partibus Animalium 643a23.

1091a12-13

(1a) 1080b20-21. 1082a11-15.

(1b) De Sensu et Sensato 439a30-31.

1091a12-29

= Speusippus fr. 45 Lang = fr. 41 Tarán

1091a13-24

= 58 B 26 Diels/Kranz

1091a13-18

(1a) 1080b20-21. 1092a32-35.

(1b) Physica 203a1-7. 213b22-27. De Caelo 279b32-280a2. 290b12-29.

(2) Burkert 63: "Speusippus and Xenocrates gave the explanation that it is a mere form of presentation ??????????? ?????, an experiment in thought (???????). Only now the polemical point becomes apparent. Manifestly, Speusippus and Xenocrates passed off their Timaeus interpretation as Pythagorean doctrine, but Aristotle refutes them from the wording of a Pythagorean text."

1091a16-17

(1a) 1080b20.

1091a23-24

(1a) 1084a3-4.

(1d) Alexander, In Metaphysica, 57, 9-11 (= De Bono fr. 2 Ross [p. 115]):

?? ??? ??? ??? ???????????

?? ??? ??????? (??? ??? ?? ???). ???? ?? ??? ?? ??????? (??? ??? ??? ??

???????), ???? ?? ????? ?? ??? ??? ??? ???? ??. ?????? ??? ??? ??? ?????.

("For when applied to 1 it makes 2 (for twice 1 is 2), when applied to 2 it makes 4 (for twice 2 is 4), when applied to 3 it makes 6 (for twice 3 is 6), and so too in every other case.")

(2) As noticed by Bonitz (p. 584), there is contradiction with 1084a3-4.

1091a24-25

(1a) 1081a23-25.

1091a28-29

(1b) De Caelo 279b32-280a10.

(1d) This interpretation, which is shared by the modern philologists, was held by Xenocrates (Pseudo-Alexander, In Metaphysica, 819, 37-820, 4; Simplicius, In De Caelo, 303, 33-304, 6).

1091a29-b3

= Speusippus fr. 34f Lang = fr. 44 Tarán

(1a) 988a12-15. 1075a36-37.

(1b) Magna Moralia 1182a27-30. Ethica Eudemia 1218a20-21.

(1d) Theophrastus, Metaphysica 11a27-b23:

?????? ?? ??? ?? ??????????? ?????? ???

[11b] ?????????, ???????????? ?' ??????? ??????·

?????? ???? ??? ????????? ???? ???????? ???

???????? ?????? ??? ??? ????, ?? ? ??? ?? ???????

??? ?? ??????? ??? ???? ?? ?????? ??????? ???'

?????, ???? ??? ???? ?? ???? ?????? ??? ??? ???? (5)

?????, ???' ???? ?????????? ? ??? ????????? ???

??????? ? ??? ??? ????? ????????. ??? ??? ????

??? ????, ???? ?? ??? ??? ?????? ??????????,

???????? ????' ??? ?? ??????? ?????, ???' ?? ???, ??'

???? ?????????? ???? ?' ???' ?? ????????', ?? ??? (10)

??????????? ?????????? ??? ???? ?????? ??

???????? ?? ??? <??> ????????? ?????. ???????? ??

??? ?? ???? ??????? ????????????? ????? ??? ??

??????, ???? ?? ???? ??? ??? ??? ????????

?????????? ???? ??? ?? ??????? ???? ?? ????? ?????, (15)

???' ?? ???, ?????? ???? ?????????????? ????? ??

??? ?? ?? ???? ??????? ??? ?? ??????. ??????? ?' ??

??????? ????? ??? ?? ????? ??? ??? ????????

?? ???????, ??? ?' ?????, ?? ?? ??? ??? ???????

??????, ?? ??????????? ?? ??? ??? ?? ??? ???' (20)

?? ??????? ????? ?? ??????????. ???? ?? ???

???????? ???????? ??? ?????? ???? ??????????

?????????? ??? ??????.

("Plato and the Pythagoreans make the distance between the real and the things of nature a great one, but hold that all things wish to imitate the real; yet since they make a sort of opposition between the One and the indefinite dyad, on which essentially depends what is indefinite and disordered and, so to speak, all shapelessness, it is absolutely impossible that for them the nature of the whole should exist without the indefinite dyad; they say that it has an equal share in things with, or even predominates over, the other principle; whereby they make even the first principles contrary to one another. Hence those who ascribe causation to God hold that even God cannot guide everything to what is best; but that if He does so at all, it is only so far as is possible; and presumably He would not even choose to do so, if it is to result in the destruction of the whole of reality, since this consists of contraries and depends on contraries. Even among first things we evidently observe many events that happen at random, e. g. the facts that have been named, connected with the changes of the earth; for we see here neither the better nor that which is for the sake of an end, but such things seem to follow, if anything, some necessary law; and there are many things of this sort in the air too, and elsewhere. And it would seem that of sensible things the heavenly bodies possess order, at least, in the highest degree, and of other things the objects of mathematics (unless indeed these are even prior to the heavenly bodies in this respect); for in these if the ordered is not everything, still it is the greater part. Unless indeed one were to take the shapes to be such as those that Democritus ascribes to the atoms.")

1091a29-33

(1a) 1072b30-1073a3. 1075a11-13.

(2) Jaeger (1962, p. 190): "We Platonists, says Aristotle, put at the head of philosophy and at the beginning of the world the Good in itself (???? ?? ??????) or the Highest Good (?? ???????). Speusippus, on the other hand, supposes an evolution of the Good and Perfect, which forces its way into reality only at the end of a gradual process of becoming (???????????). [Speusippus, frgs. 34a ff. and 35e (Lang).] In this fundamental problem of Weltanschauung Aristotle feels himself the more genuine Platonist, because he puts at the beginning, not indeed Plato's Good in itself, but the ens perfectissimum, making it the principle and starting-point of all movement."

1091a32-33

(1a) 985a9-10. 996a28-29.

(1b) Ethica Eudemia 1217b2-3.

1091a33-36

(1a) 1072b30-34.

1091a35-36

(1d) Iamblichus, De Communi Mathematica Scientia, p. 16, 10-14 Festa:

?? ?? ?? ???? ????? ???? ?????? ????? ??????,

??? ?? ??? ??? ????? ??? ??? ?????? ??????? ??????

????????? ??? ????????? ??? ??? ?? ???? ???

?????? ?????? ??? ?? ????? ?????, ???????? ?? ???

?????????? ????????? ??????? ??? ????????? ???????.

("The One should be called neither beautiful nor good, because it is superior to the beautiful and the good; for nature proceeding from the primitive, first the beautiful appeared, second and in greater distance from the elements the good.")

(2) This procession "was not meant by Speusippus to be a temporal process" (Merlan, p. 119).

1091b3 and 12

(1a) 1041b31. 1092a6-7.

1091b4-6

= 1 B 9 Diels/Kranz

(1a) 1071b26-27.

(1d) Homer, Ilias 14, 258-511.

Hesiod, Theogonia 20 and 106-107.

Damascius, De Principiis 319, 9-10 Ruelle (=Diels/Kranz i 10, 27-28):

??? ?? ??? ??????

????????? [scilicet Orpheus] ??? ?????.

("Orpheus made the world begin with Night.")

1091b9-10

(1d) Diogenes Laertius I, 119 (=Diels/Kranz i 47, 3-4):

???? ??? ??? ?????? ???? ??? ??? ??????.

("Zeus and Time and Earth were from all eternity.")

Text corrected on the basis of Damascius, De Principiis 321, 2-3 Ruelle:

????????? ?? ? ?????? ????? ??? ????? ??? ??? ?????? ???

??????? ??? ????? ?????? ?????.

1091b10

(1d) The "Magi" are the adherents of Zarathustra (Diogenes Laertius I, 2: ??? ?????, ?? ????? ?????????? ??? ??????); they seem to have been mentioned in more detail in the first book of ???? ??????????:

??????????? ?' ?? ????? ???? ?????????? ??? ???????????? ????? ??? ?????????? ??? ??? ???' ?????? ????? ?????, ?????? ??????? ??? ????? ???????? ??? ?? ??? ????? ????? ???? ??? ?????????, ?? ?? ???? ??? ??????????. (Diogenes Laertius I, 8 = Aristotle, De Philosophia, fr. 6 Ross)

("Aristotle in the first book of his work On Philosophy says that the Magi are more ancient even than the Egyptians, and that according to them there are two first principles, a good spirit and an evil spirit, one called Zeus and Oromasdes, the other Hades and Areimanius.")

1091b12

(1a) 1075b1-4.

1091b13-15

= Testimonia Platonica 51 Gaiser

(1a) 988a14-17. 1075a35.

(1b) Analytica Posteriora 92a20-24. Ethica Eudemia 1218a20. 25.

(1c) Res publica 509b-c, 518 c-d, 526e; Philebus 20d. Leges 716c.

(1d) Syrianus, In Metaphysica 168, 35 (=Aristoteles, Politicus fr. 2 Ross):

?????? ??? ???????????? ?????? ??????? ?????.

("The good is the most accurate measure of all things.")

Aristoxenus, Harmonica Elementa, p. 122, 7-16 Macran:

??????? ??????????? ??? ???????? ???? ?????????

??? ?????????? ???? ???????? ??? ???? ??????? ????????

??????. ????????? ??? ??? ??????? ?????????????

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??? ?? ????????? ?? ????? ???? ????????? ??? ???????

??? ?????????? ??? ??????????? ??? ?? ????? ??? ???????

????? <??> ??, ???????? ????? ????????? ?? ???????? ???????

???' ?? ??? ?????????????? ??? ????????? ?? ??

????????????.

("This, as Aristotle always used to say, was the experience of most of those who heard Plato's lecture On the Good. Each of them attended on the assumption that he would gain one of the recognized human goods, such as wealth, health, strength— in general, some marvellous happiness. When Plato's discourses turned out to be about mathematics— numbers, geometry, astronomy— and, to crown all, about the thesis that the Good is the One, it seemed to them, I fancy, something quite paradoxical; and so some people despised the whole thing, while others criticized it.")

(2) Wilpert (p. 220) sees the "definite" (?????????) as the mediating concept: unity is good, insofar it is ordering and determining all things.

(3) Unity as principle is of Pythagorean origin; in the Platonic dialogues, it is the question of measure (Politicus 284b) which prepares the solution given in the unwritten doctrine. "The process of unification" (Erler 425) which begins with the subsumption of the individuals under one Idea leads to a supreme unity.

Another origin (left unnoticed to my knowledge) is the proof of immortality from simplicity (Plato, Phaedo 78c-81a) where the definition of the good as the undivisible in Analytica Posteriora 92a20-24 goes back to apparently.

1091b16-26

= Speusippus fr. 42g Lang = 45a Tarán

1091b16-19

(1d) Iamblichus, De Communi Mathematica Scientia, p. 16, 3 Festa: see note on 1092a1-5.

Ibidem, p. 18, 1-3 Festa:

?? ??

????????, ?? ?? ?? ???????, ?????? ??????? ???? ????

???? ?????.

("But the elements, of which numbers are composed, are not as yet beautiful nor good.")

(2) Merlan 109-110: "Iamblichus (De Communi Mathematica Scientia) calls the supreme principle not only cause of the beautiful in the mathematicals but also self-sufficient (p. 16, 3 Festa) and stresses that it is neither good nor beautiful itself (p. 18, 2-3 Festa). In other words, though neither good nor beautiful, the One or the supreme formal principle is self-sufficient. We immediately feel reminded of Aristotle's argument: the supreme principle can be called self-sufficient only if it is good — for what other [110] reason could the supreme principle be self-sufficient (Metaphysica N 4, 1091b16-19)? It seems that Aristotle here criticizes precisely the doctrine of Speusippus, who on the one hand asserted that the supreme principle is self-sufficient and on the other hand denied that it is good."

1091b18-20

(1a) 1072b10-11.

(1c) Timaeus 29e-30a.

1091b20-26

(1a) 1080b11-16. 1083a20-24.

(1b) Physica 192a16-19. 23. 209b11-17.

1091b22-26 + 30-35

= Speusippus fr. 45a Tarán

1091b26-35

= Testimonia Platonica 51 Gaiser

1091b30-35

= Speusippus fr. 45 Tarán

(1a) 1072b31. 1075a36-37.

1091b32-35

(1a) 1072b30-34.

(1b) Ethica Nicomachea 1096b5-7.

1091b34-35

(1a) 1075a36-37.

1091b35-1092a3

(1a) 1075a32-36.

1092a1-5

(1d) Iamblichus, De Communi Mathematica Scientia 16, 2-6 Festa:

?? ??? ?? ??? ??? ??? ???? ??? ????? ???????

???????? ??' ?????????? ?? ??? ?? ????? ????? ??

???? ???????? ?????? ?????, ??? ??? ?????? ?? ???

?????? ?? ????? ? ?? ??????? ???????? ???? ?????

??? ???????? ????????? ?????;

("For if someone would extol the idea of unity for the reason that it is self-sufficient and cause of beauty in the realm of numbers, would it not be absurd to say that the evil or the ugly is by nature receptive of them?")

Merlan 114: "The argument that what is receptive of something good (in any sense of the word) cannot be evil harks back to Plato's Symposion (203e) and Lysis (217b). In somewhat changed form it reappears in Aristotle when he insists that if the two supreme principles are opposed to each other as good and evil, this would mean that evil, when entering any combination with the good, must be desirous of its own destruction or even that evil is potentially good (Metaphysica N 4, 1092a1-5). Iamblichus [De Communi Mathematica Scientia 16, 2-6 Festa] obviously points to the fact that the assumption of a neutral hyletic principle is not open to this kind of objection."

1092a1

(1b) Physica 192a21-22. 209b11-17.

(1c) Timaeus 52a-b.

1092a9-17

= Speusippus fr. 34e Lang = 43 Tarán

(2) Owens 436: The immobile Entity that N seems to presuppose as established [see 1087a29] "is act and perfection and so not open to development"; cf. 1072b30-1073a5.

1092a11-17

= Speusippus fr. 43 Tarán

1092a11-15

(1a) 1072b30-1073a3. 1028b21-24.

1092a14-15

(1d) Iamblichus, De Communi Mathematica Scientia 15, 6-10 Festa: see note on 1087b6 + 8.

Proclus, In Platonis Parmenidem (interprete Guilelmo de Moerbeka) pp. 38, 25—41, 10 Klibansky-Labowsky (= Testimonia Platonica 50 Gaiser = Speusippus fr. 48 Tarán):

"Le unum [?? ??] enim melius ente [???????? ??? ?????, cf. Proclus, In Platonis Parmenidem, p. 1039, 28-29: ?? ?? ??? ?? ??????? ??????, ?? ??? ?? ???????? ??? ?????] putantes et a quo le ens [??' ?? ?? ??, cf. Proclus, In Platonis rem publicam, 979, 14: ?? ?? ??' ?? ?? ??????], et ab ea quae secundum principium habitudine [??? ???? ??? ????? ?????; for ???? ??? ????? cf. Proclus, Theologia Platonica II, p. 27, 8-9, the opposite of it is ???? ??? ????????] liberaverunt [???????, cf. Proclus, In Platonis Parmenidem, p. 1239, 33-34: ??? ?????? ??????????? ?? ??]. Existimantes autem quod, si quis le unum ipsum [???? ?? ??] seorsum et solum meditatum, sine aliis, secundum se ipsum [???' ????] ponat, nullum alterum elementum ipsi apponens, nihil utique fiet aliorum, interminabilem dualitatem [??? ???????? ?????] entium principium [????? ??? ?????] induxerunt [?????????]."

("Believing that the One is superior to being and that where being comes from, they excepted it even from the primitive condition [of the world]. Believing, however, that nothing of the other things would come to be, if one would posit the One itself to be in virtue of itself, by thinking it apart and alone, and if one does not add to it a second element, they introduced the indefinite duality as principle of being.")

(2) Krämer (2004, p. 25): "Aristotle's critical statement that Speusippus' One «is not even an existing thing» has been at once basically confirmed and specified by the reports recently gained in Iamblichus and Proclus."

1092a15-17

(1a) 1049b23-27.

1092a17-21

= Speusippus fr. 52 Lang = fr. 53 Tarán

(3) Bonitz (589) prefers to eject this passage as an intrusion, but his argument that it cannot be joined neither with what precedes nor with what follows ("neque enim cum superiore quaestione coniungi potest, neque ad proxime sequentem trahi") is insufficient: ll. 9-17 do not intersect with ll. 21 ff. either. So it is better to assume that Aristotle continues criticising Speusippus (Ravaisson 1838, p. 44; Brandis 1853, p. 18; Ross ii 489; undecided Zeller II/1, p. 1007, n. 3).

1092a24-29

(1b) De Generatione et Corruptione 328a6-7. 28-31.

1092a35-b3

= Speusippus fr. 48a Lang = 38 Tarán

1092b3-8

(1a) 1069b20-22.

1092b8-13

= 45 A 3 Diels/Kranz

(1d) Theophrastus, Metaphysica 6a19-22:

????? ??? ?????? ??? ??????????, ? ??? ???????

???' ??? ?????? ??????? ?????????? ?????

??????? ?????? ??? ?? ??? ??? ???????? ?

???????, ??? ?? ?????, ??? ?' ????? ????? ????????.

("for this is the part of a competent and sensible man, to do what Archytas once said Eurytus did as he arranged certain pebbles; he said (according to Archytas) that this is in fact the number of man, and this of horse, and this of something else.")

Pseudo-Alexander, In Metaphysica, 827, 9-19:

?????? ????? ????? ???? ???

???????? ? ?????????????????? ??????? […]. ????? ????

???????? ??????? ????????? ??????????, ??? ??? ???????? ??? ??

????????, ????? ?? ??????? ??? ???? ??????????? ??????? ???????????? ????

????????? ??? ?????? ??????? ??? ?????????? ???????? ??? ?????

????? ?????? ????? ??? ??? ??????? ?? ?? ??? ???????? ??????????,

??? ?? ?? ?? ??? ??????, ????? ?? ?? ??????, ??? ???????? ??? ???

?????????? ???????? ??? ??????? ????????? ???? ???????. ?? ???????

?????? ??? ????????. ????? ????? ?????? ??? ????? ??? ? ???????????

???????? ?? ??? ????????? ?????????? ???? ?????? ???? ???????, ?????

??? ? ?????? ???????? ?? ???????? ???????? ???????.

("Let us assume for the sake of argument that the definition of man is the number 250 […]. Assuming this, he [Eurytus] took 250 pebbles, the one of them leek-green, others black, and others red, in one word variously colored. Then he smeared over the sides with lime, and outlining man and plant, he fixed the pebbles part on the outline of the face, part on the outline of the hands, the one on these, the other on those, and thus he produced the outline of the imitated man, by pebbles equal in number to the units [of which the man is composed according to the Pythagorean theory]. Of these he said that they define man. Doing so, he said that, as the painted man is composed of the assumed 250 pebbles, the real man is defined from as many units.")

(3) From Pseudo-Alexander's comment it appears that Eurytus' aim was not to find out the numbers of things by arranging pebbles (what would have been ridiculous), but to illustrate his interpretation of Philolaus' (of whom he was an "auditor" [????????] according to Iamblichus, De Vita Pythagorica 148 = Diels/Kranz i 419, 22) doctrine that "everything that can be known has a number" (??? ????? ?? ??? ?? ???????????? ??????? ??????, Stobaeus i 21, 7b = Diels/Kranz i 408, 4-5): the figure of, e. g., man is composed of a certain number of figures which are limitated by a certain number of points. The latter number is the number of man.

1092b11-12

(2) Burnet 100-102: "The representation of numbers by lines was adopted to avoid the difficulties raised by the discovery of irrational quantities".

Thomas Heath (1921, I, p. 76): "A point or dot is used to represent; two dots placed apart represent, and at the same time define the straight line joining the two dots; three dots, representing, mark out the first rectilinear plane figure, a triangle; four dots, one of which is outside the plane containing the other three, represent and also define the first rectilineal solid figure. It seems clear that the oldest Pythagoreans were acquainted with the formation of triangular and square numbers by means of pebbles or dots."

The oldest known and most famous figured number is the tetractys, the number ten represented as the triangle of four:

•

• •

• • •

• • • •

(3) Designating numbers by letters was regarded as "conventional" (???? ??? ????????? ?????????, Nicomachus, Introductio Arithmetica, p. 83, 14-15 Hoche), whereas representing them as composed of units, being less abstract and more intuitive, seemed to be "natural" (??????, ibidem, l. 16).

1092b13-16

(1a) 991b16-21.

1092b16-18

(1a) 991b13-21.

1092b26-1093b21

= 58 B 27 Diels/Kranz

1092b27-28

(2) Heath (p. 222): "[Pseudo-]Alexander takes ????????? to mean 'even' in contrast to 'odd', ???????. But ?????????? in itself obviously means 'easily calculable' or 'easy to reckon with'. It naturally excludes the irrational, but otherwise is quite general; it need not be confined to numbers 'easily formed as products, by multiplication, e. g. squares, cubes, etc.', as Bonitz supposes. But in any case 'odd' is no proper correlative to it, and it seems more probable that ???????? here means 'excessive', 'disproportionate'."

1093a20

(1d) According to Archinus (Syrianus 191, 29-35, Pseudo-Alexander 834, 5-11), ? is composed of ? + ?, ? of ? + ?, ? of ? + ?.

1093a20-21

(2) The three main symphonies are:

1) the fourth (??????? Philolaos 44 B6 Diels/Kranz [???????? ?? ??????? ???? ??????? ??? ??' ?????? …], later named ??? ????????),

2) the fifth,

3) the octave.

1093b11-16

(1a) 986a22-26.

(1b) Ethica Nicomachea 1096b5-7. 1106b29-30.

1093b12-14

(1a) 1078a36-b5.

(1b) Ethica Eudemia 1245a1-3.

1093b14

(1d) Philo, De Opificio Mundi 47-49:

? ?' ???????

??????????? ????? ?? ?????? ?????? ???????, ?? ??????? ??? ??????????

??? ?? ????????? ??? ??????? ????? ????? ??? ?????? ? ??? ??????????

?????, ????? ??????, ?? ?????, ???????? ?? ???? ?? ??? ??????? ????

???????? ???? ?????????? ???????, ?????? ???????????, ???? ???? ???

???????? ??? ??????? ????, ???? ?? ?? ???????? ????????? ???

????????????.

(48.) ???????? ?' ? ?????? ??? ???? ?????? ??? ???? ????????

?????????, ??? ?? ??? ???????? ??? ??? ????? ??? ??? ????? ???

??????? ??? ??? ?????, ?? ?? ??????? ?? ??????????? ???????????? ??? ???

??? ???????? ? ????? ?????????, ??? ?? ??? ????? ????????, ?????????

?? ??? ??? ?????, ???????????? ?? ??? ??? ??? ?????? ??? ??????? ?

?????? ???? ???????????, ??? ??? ????????? ?? ?? ??????? ???? ????,

??? ?' ???????? ?? ?? ???? ???? ???, ??? ?? ????????? ?? ?? ???

???? ?? ? ??????? ???? ???, ??? ?? ???????????? ?? ?? ??????? ????

??.

(49.) ???? ?? ??? ??????? ???? ???????? ???????? ?? ???

???????? ????????????. ????? ??? ???? ??? ??? ??????? ????? ??????,

??? ??? ????? ??????? ???? ????????? ???????????? ???? ??? ???

?? ?? ???????? ?? ????????? ?? ????????? ???????, ???? ?? ?? ???

??????, ????? ????? ??? ???? ????, ????? ?? ??????? ?????????? ???????

?????? ?' ???? ????? ???????? ??????? ?? ????????????? ???????

?????????, ? ???????? ???? ??????? ????????? ?? ???? ??? ??? ???????

????? ???? ??? ??? ??????, ? ????????? ?????? ??????? ??????. ????

??? ???? ????? ?????????? ????? ??? ??????? ??????, ?? ?? ???

???????? ??? ?????? ?????? ?????? ??? ??????? ???? ????? ?????????

??????? ??? ????? ?????? ????????.

("And next the heaven was embellished in the perfect number four, and if any one were to pronounce this number the origin and source of the all-perfect decade he would not err. For what the decade is in actuality, that the number four, as it seems, is in potentiality, at all events if the numerals from the unit to Four are placed together in order, they will make ten, which is the limit of the number of immensity, around which the numbers wheel and turn as around a goal. (48) Moreover the number four also comprehends the principles of the harmonious concords in music, that in fours, and in fifths, and the diapason, and besides this the double diapason from which sounds the most perfect system of harmony is produced. For the ratio of the sounds in fourths is as four to three; and in fifths as three to two; and in the diapason that ratio is doubled: and in the double diapason it is increased fourfold, all which ratios the number four comprehends. At all events the first, or the epistritus, is the ratio of four to three; the second, or the hemiolius, is that of three to two: the twofold ratio is that of two to one, or four to two: and the fourfold ratio is that of four to one.

XVI. (49) There is also another power of the number four which is a most wonderful one to speak of and to contemplate. For it was this number that first displayed the nature of the solid cube, the numbers before four being assigned only to incorporeal things. For it is according to the unit that that thing is reckoned which is spoken of in geometry as a point: and a line is spoken of according to the number two, because it is arranged by nature from a point; and a line is length without breadth. But when breadth is added to it, it becomes a superficies, which is arranged according to the number three. And a superficies, when compared with the nature of a solid cube, wants one thing, namely depth, and when this one thing is added to the three, it becomes four. On which account it has happened that this number is a thing of great importance, inasmuch as from an incorporeal substance perceptible only by intellect, it has led us on to a comprehension of a body divisible in a threefold manner, and which by its own nature is first perceived by the external senses.")

(3) The "particular number" (??????? ???????) is of course 4, as an example for "of certain numbers" (????? ???????). Note the emphasized front position of ??? ("together"): the "power" of the number 4 lies in the regular "coincidence" (cf. l. 17) with the seasons, which reminds the simultaneity of cause and effect (Physica 201a23).

Therefore, it is not only "doubtful" (Ross ii 499; following Bonitz, he nevertheless translates "potencies", what is corrected by Barnes into "powers"), but impossible that ???????? means "powers in the mathematical sense". What this word can mean in a Pythagorean context is illustrated by the Philo passage (49, 1) cited above. Because the Pythagoreans attempted to explain the universe from their observations in the field of music, the sense given by Liddell/Scott under "II. 2. e." "in Music, function, value" suggests itself.

Secondly, it is at least desirable that the sense of ??????? is the same as in the phrase ?????? ???? ??? ??????? which follows directly afterwards; it is interpreted as "meaning" ("Bedeutung") by both Bonitz and Ross. The same interpretation was given for Metaphysica 992b15 ("significance" Ross, amended by Barnes into "meaning") and De Caelo 271b14 ("Bedeutung" Prantl). It suits also to the ???????? in 1093b14.

The non-technical sense of "power" thus emerges to have been interpreted hitherto passably by "meaning", "function, value" being however more exact.

1093b17-21

(1a) 1088a21-b4. 1088b14-28. 1089a7-1090a1. 1090b8-20. 1092a3-17.

1093b18-21

(1a) 1088a21-b4. 1070a31-b21.

Survey

Searching for unity of purpose in the Metaphysics, we find a clue in the set form "principles, elements and causes", by which the purpose of the inquiry is characterized four times (E, 1025b5; H, 1042a4-6; ?, 1069a26; M2, 1086a21-22). What is the exact meaning of this formula?

It is evidently not an enumeration of different objects, but of different aspects of the same object. This, and the fact that the order of enumeration is arbitrary, demands that all three concepts are coextensive, not only "principles" and "causes" (cf. ?, 1013a16-17). The formula must, therefore, date from a period where the distinction between "principle" and "element" (which we meet in Z, 1041b31, ?, 1070b22-24 and N, 1091b3. 12. 1092a6-7) was not yet established. It is the period of the Academic doctrine of principles. In Metaphysica N (where the said distinction is in force), Aristotle tells us that the Academicians called their principles "elements" (1087b12-18). (This does not mean that the expression "principle" was unknown to them, see Physica A, 188b28-30.) In ? (1069a25-26), the characterization is extended to the "ancients" (?? ??????? in l. 25 = ?? ????? in l. 28-29), which are contradistinguished to the "moderns" (?? ???). The difference between the "moderns" (= the Academicians) and the "ancients" is elucidated in a passage of Physica A (189b8-16), a book at the beginning of which (184a11-14) our formula is used. The former passage runs as follows:

"All, however, agree in this, that they differentiate their One by means of the contraries, such as density and rarity and more and less, which may of course be generalized, as has already been said, into excess and defect. Indeed this doctrine too (that the One and excess and defect are the principles of things) would appear to be of old standing, though in different forms; for the ancients made the two the active and the one the passive principle, whereas some of the more recent maintain the reverse."

We learn that in ? the contrastive juxtaposition of the ancients with the moderns is not meant to exclude the latter from the search for "principles, elements and causes". It is rather implied that, because they posited the universals to be entities (1069a26-27), they posited also abstract principles like "the One and excess and defect".

In Physica A, a representative of the "ancients" is Empedocles (189a24-26): ????? and ?????? are considered to be the contraries which "make" the differences, the "third thing" being an undifferentiated matter. This comes as a surprise for the reader of Metaphysica A, where these two principles are mentioned as deficient precursor of the Aristotelian causa finalis (984b32-985a10), while in De Partibus Animalium (640b7-8), Empedocles is looked upon as pioneer in the discovery of the causa efficiens. I can see no other explanation for this discrepancy than that in Physica A the external causes (efficiens and finalis) are not only unmentioned, but unknown to the author. This is all easier because we are already acquainted with such a case: Metaphysica ?. We have to postulate a stage in Aristotle's development where "principle" or "cause" was equivalent to internal cause or "element". To this stage belongs the formula we were just analyzing.

In vol. ii (pp. 190-191), we found some absurdities in the disposition of book ?, which we could not explain. Now, they are cast in a new light. Now, we can realize that it is the different stages of Aristotle's doctrine of principles which follow abruptly one after the other.

1. In 1069b32-34, a result is formulated as definitive (note the emphasized front position ???? … ?????), which agrees exactly with Physica A. Anaxagoras' "intellect" is treated as formal cause, like Empedocles' ????? in Physica A.

2. Immediately after that, the causa efficiens is introduced, whereby we come to four principles (1070b26 and 32). To be added is further "the first of all things as moving all things" (cf. vol. i, p. 281). This prime mover is conceived as causa efficiens in the demonstration of his existence (1071b3-1072a26). Here, and again in 1073a3-12 (where it is referred to a text not contained in Metaphysica ?), we are on the ground of Physica ? (cf. von Arnim 1931, p. 67).

3. Unexpectedly, we are informed (1072a26-b4; cf. K, 1059a37) that it is qua final cause that the prime mover does his job. Now - and only now - the standard four causes doctrine of Physica B enters into force. It involves the aporia whether "the science we are looking for" must be supposed to deal with the final cause (cf. K, 1059a34-38), the solution of which is indicated in 1072b1-3.

These three stages are preceded by Metaphysica ?, where the "third thing" (??????), the "substrate" (???????????), is not yet discovered.

The same incongruence of project and execution appears in the other treatment of "sensible entity", Metaphysica H 2. What responds to Physica A, and should be the only object of an inquiry into the "elements of sensible entity" (cf. the announcement 1042a4-6), is mentioned inter alia: 1042b21-25. As the "affections" of number are the object of arithmetic (cf. 1004b10-13), the "affections" of sensible things should be the object of the projected treatment. In H 2, however, the artefacts are included, the entity of which is mainly determined by their final cause (1043a9, 1044a36, b12).

With Metaphysica ? and Physica A we have, in contrast, two treatises congruent to the program of an inquiry into "causes, elements and principles". But after the introduction of the "substrate", this program excludes any metaphysic, i. e. any theory of an entity "separate" from matter. There is, indeed, evidence for a "materialistic" phase in Aristotle's development.

Hans von Arnim (1931, p. 15) uncovered a passage in De Caelo where "the sphere of aether itself is the god": 279a30-b3. "As the subject to ???????? ??????? ????????, only the aether heavens, the moved mover, can be understood. He is the ?????? ??? ????????? ????? being spoken of." This interpretation was approved by Ross (Aristotle's Physics, p. 97) and Guthrie (Aristotle On the Heavens, p. xxi). It is rather a confirmation that Cherniss, who contests it, sees himself necessitated to connect 279b1-3 with 279a17-18 (p. 588).

Expressly denied is the existence of metaphysical objects in De Anima 432a3-4:

"Since it seems that there is nothing outside and separate in existence from sensible spatial magnitudes."

According to Themistius (In De Anima, 115, 35-116, 1), by ?? ????? Aristotle dissociates himself from this view:

??? ?? ????? ????? ?????? ????? ???? ?? ?????? ?? ???????

????????????, ??????? ????????? ?? ????? ???? ???????? ?? ???? ?????? ????

?????????.

Themistius is followed by Hicks (p. 545) and Polansky (p. 497).

Philoponus (In De Anima, 568, 15-18) too resorts to the ?? ?????; Aristotle be rejecting the misconception that the mathematical objects be "separate":

?? ???

?????; ?????? ??? ???? ?????? ????? ???? ?? ??????, ????????? ????

????, ?? ????? ???? ??? ????????, ???? ?? ???????? (???????? ??? ?????

???????, ?? ??? ????).

Thomas Aquinas (Sentencia De Anima, liber 3, lectio 13 numerus 5) substitutes "nothing" by "intelligibilia nostri intellectus".

Pace (p. 411) resorts to 431b17-19: "De rebus autem metaphysicis, id est re ipsa a materia abjunctis, Aristoteles non loquitur, quoniam in particula ultima capitis praecedentis rejecerat harum considerationem in alium locum."

The only explanation which is linguistically possible is the first-mentioned one, which was adopted by modern interpreters. ?? ????? can mean "as it seems, but it is not so", see Physica 253a11, Magna Moralia 1185a15, Ars Rhetorica 1366a37. But an opinion rejected by the author cannot serve to him as a reason for his own opinion (????). For ?? ????? in connection with ???? cf. Plato, Charmides 155a1.

If "there is nothing outside and separate in existence from sensible spatial magnitudes", even the gods need sensation (????????). This is what the indirect tradition - in contradiction to Metaphysica ? - tells us about the Aristotelian gods.

Cicero (De Natura Deorum 2. 15. 42 = De Philosophia fr. 21 Ross):

quare cum in aethere astra gignantur, consentaneum est in iis sensum inesse et intelligentiam.

Olympiodorus (In Phaedonem, p. 22, 1-10 Finckh = De Philosophia fr. 24 Ross):

??? ? ???

??????? ???????? ?? ??????? ???? ????? ??? ????? ?????,

??????? ??? ???????????? ????? ??? ??? ?????????

??????? ???? ??? ???? ?? ?? ????? ?????????????, ?? ???

??? ???? ?? ?????, ?? ?? ????? ????????? ???? ?? ?????

????????????. ??? ? ??????? ?? ???????? ??????? ????? „??????,

?? ????' ?????? ??? ????' ?????????", ?? ?? ???? ?????

??? ????? ????? ???????? ??? ??? ????? ??????? ??

????????? ?? ?? ???????? ?????? ??????????? ???? ?? ?? ???????

??? ??????????? ????? ?????? ?? ????????????.

("Proclus would have heavenly bodies possess only sight and hearing, as Aristotle also would; of the senses they have only these, which are those that contribute to well-being, not those that contribute to being, as the other senses do. The poet testifies to this, saying: 'Sun, who seest all things and hearest all things' [Homer, Ilias 3. 277, Odyssea 12. 323] — which implies that the heavenly bodies have only sight and hearing. Aristotle adds that these senses, most of all, have knowledge by way of activity rather than of passivity, and are fitter for the unchanging heavenly bodies.")

For the distinction between "for the sake of being" and "for the sake of well-being" cf. De Anima 435b20-21.

Another document from this stage of development is De Anima 403b15-16:

"insofar they (the non-separable affections of matter, see ll. 10 and 14) are separate, (it may be) to the Primary Philosopher (to study them)".

The following commentators simply ignore the fact that from l. 14 is to be supplied ??? ?? ?? ????????, and drop the ?.

Themistius (In De Anima, 8, 29-31):

?????? ?? ??????? ????? ??????? ? ???? ?? ????? ???? ??????????????? ?? ????????? ??????????? ??? ???? ??? ?? ???? ??? ?? ?????????, ????? ? ?????? ?????????.

Likewise Johannes Philoponus (In De Anima, 63, 4-14), who cites two opposite interpretations which both ignore the qua, the one asserting that ?? ??????? ???? ??? ???? (l. 5) be meant, the other, that Aristotle ????? ????? ??? ?????? ??? ?????, ???? ???? ?? ???????? ?????????? ??? ???? (ll. 12-13).

Hicks (p. 207) lists passages according to which the primary philosophy considers "separate" objects.

Ross (1961, p. 170): "The metaphysician studies things entirely separable from matter (God and the other movers of the celestial spheres), and treats them as separate from matter."

The only who became aware that the text does not say what the commentator wanted to read was Pace. He remarks (p. 108): "Ait ?, qua: malim ??."

To the unbiased reader, the whole text (403a29-b16) says that the forms of the material things are the object of the primary philosophy, which is identical with dialectic. The status of these forms is the same as that of the Ideas in Physica 193b31-194a1.

So it must be regarded as a fact that, in one and the same book, materials from different stages of development can be utilized. This entails the inconsistent application of the "we"-style in Metaphysica A and B. The change from ?? ???????? to ??????? is particularly harsh in B, 997b1-3.

Looking into the contradiction between ?2 (1051b1-2) and E (1027b31) concerning the status of truth and falsity, we have already pointed to the Categoriae, on which we will expand now.

The centerpiece, to which the writing owes its name, 1b25-2a4, is best read as a description of the "sitting Socrates" (Metaphysica ?, 1004b2-3; cf. Düring, p. 60). Thereby being connected with the discussion of the sophistic, they get close to Plato's Sophista. Being an inquiry into the ???? ???????? ????????? ???????? (1b25; cf. 1a16-19), they resume the theme of Plato's Sophista 259e and Theaetetus 202b.

In Metaphysica N (1089a20-21), Aristotle interprets the ?? and ?? ?? not only as truth and falsity, but also as elements equivalent to the One and the indefinite dyad (cf. 1088b35-1089a2; 1088b28-29). In the Categoriae, this is tied up with the steady question whether, within the respective category, there be contrariety (?? ????????) and degree (?? ?????? ??? ?????) (cf. Merlan 1934). Either question is aimed at the same: for the supreme contrariety is ??????? ??? ???????? (992b6-7; 1042b24-25. 34-35), the highest and the lowest degree (Physica 189b10-11. Historia Animalium 486b16-17. De Partibus Animalium 644a17. 19; De Generatione Animalium 737b5-7), which is called ???????? ??? ?????? in the Categoriae (in concordance with Topica 113a6-8. 123b27-29, Ethica Nicomachea 1104a11-16. 1109a4-5, Magna Moralia 1185b13-15. 1186a28-33. b4-32. 1191b1-3. 1200a33-34. 1204b10-13, Ethica Eudemia 1249b19-20).

Thus, the Categoriae pursue a twofold object. Firstly, to establish criteria for deciding of which concepts equation is possible (e. g. why the equation Socrates = sitting Socrates is false). Secondly, to obtain a survey where at all contraries are to be found. These are the categories ???? ?? (5b14-25; 6b15-17), ????? (10b12-25), ?????? ??? ??????? (11b1-8). (In what way ????? and ????? are relativa becomes clear from Ethica Nicomachea 1139a16-17: "The excellence of a thing is relative to its proper function.") To these categories also belongs the "where" (De Longitudine et Brevitate Vitae 465b29-32) the treatment of which is missing. Aristotle stresses that even circular motion takes place between contraries (De Caelo 277a23-26).

How do the two questions about contrariety and degree relate to each other? ?????? and ????? fall within ??????? and ???????? (Topica 115a32-33, Physica 189b8-11, De Generatione Animalium 737b5-7), these in turn are contraries. But contrary is also the intermediate to the two extremes (Categoriae 14a1-4). This contrariety is the one between the ????????? and the ???????? (Ethica Nicomachea 1173a15-17). It is this doctrine which underlies the view of the ????? in Categoriae 10b32-11a2, that it is possible to be more or less unjust or ill, but not more or less just or healthy.

If we read the Categoriae with the guiding question how the Academic doctrine of principles may have emerged from the origin alleged by Aristotle (Metaphysica N, 1088b35-1089a6), we get an exhaustive and sufficient answer: by distinguishing the meanings of "being" and "non-being". Taken in their full extension, the concepts being and non-being are opposites (???????????); within these there fall the ??????? (11b17-19; Metaphysica ?, 1069b3-5). Another kind of opposition is ????????? ??? ????????, and only here truth and falsity take place (13a37-b3).

On the other hand, according to Alexander (56, 14) there was a distinction between per se beings and opposites (obviously corresponding to the distinction between per se and relative in Metaphysica A, 990b20-21). This is not a contradiction. We have to distinguish between the "beings" like man or horse, (according to the Academic doctrine in Sextus, Adversus Mathematicos X 263, ?? ???' ????? ??? ???' ????? ?????????? ??????????) and ?? and ?? ?? as principles of these "beings" (Metaphysica ?, 1004b28).

A concept of truth limited to the ???? ????????? ???????? (2a4-10) also underlies the original argumentation of Metaphysica E 4 (Jaeger 1912, p. 23; cf. our vol. 2, pp. 90-91). It must become problematic from the moment that the immaterial prime mover came into play and was identified as intellect, whose object could not be but immaterial, and therefore uncompounded. Why should the supreme cognition of all things be excluded from being true? Therefore the concept of truth must be extended, and this extended concept we have before us with ? 10, together with the pre-announcement in the interpolated passage 1027b23-29. Now the earlier concept is limited to the realm of nature, as well as the doctrine of contrary principles, while in the realm of the unmoved only the positive half of the Pythagorean-Academic ????????? remains (Metaphysica ?, 1072b30-31).

Let us finally combine this content analysis with the result of the pre

ceding volume. With Jaeger, we observed (p. 231) "two contradictory tendencies". Now we recognize in this ambivalence two conflicting stages of development. At the same time, however, it is clear that these stages are not distributed cleanly on different books, but that, in some books, materials from different stages were merged into each other. The genesis of the strange book called "Metaphysics" will not be reconstructed. In the main, we will have to content ourselves with examining what is compatible and what is not.

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