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Matter and Explanation. On Aristotle's Metaphysics Book H

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MATTER AND EXPLANATION. ON ARISTOTLE'S METAPHYSICS BOOK H

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INTRODUCTION

In this work I provide a detailed commentary on Aristotle's *Metaphysics* Book H. The main aim is to show the theoretical unity of H, which scholars usually read as a mere collection of appendices to the previous Book Z. In developing my commentary I take three key points on:

- 1) in H Aristotle provides us with a less deflationary account of the notion of matter than that of Book Z;
- 2) this mainly depends on the fact that H somewhat develops Z17's search for the cause by reason of which a certain matter is some definite thing;
- 3) in H Aristotle applies the explanatory pattern of Z17 through a dynamic understanding of the notion of matter and form regarded as potentiality and actuality;

I aim at showing how these three points allow us to give a unitary account of the six chapters which compose H.

In H1 Aristotle provides a dynamic understanding of matter's determinateness. Such understanding rules both chapters 2-3, where Aristotle deals with the relation between matter and composition, and chapters 4-5, where he deals with the role of matter in the processes of generation and corruption. In the final chapter of H6 such perspectives on matter's way of being are brought together in order to challenge the Platonic ontology. Roughly speaking, Aristotle's account of matter and form secures a unitary account of both things and definitions which the Platonic Doctrine of Forms fails to secure.

The main conclusion of my work is that H, far from being a collection of scattered remarks, plays a key role in Aristotle's *Metaphysics*.

PART I: H1. On the relation between Z and H

§1.1 The main aim of H1

At first glance, H1's text can be easily divided into two parts. In the first part (1042a1-24) Aristotle recalls the main issues of Book Z, while in the second part (1042a24-b8) he deals especially with the concept of matter. Preliminarily, it can be argued that these two main topics will be at the core of Book H as a whole. For, as we shall see in the following, the six chapters of H seem to accomplish Z's enquiry moving from the assumption of H1 1042a25-26 that "sensible substances all have matter".

The link between H and Z emerges clearly from the introductory lines of H1. At 1042a3-4 Aristotle says that:

"we must reckon up the results arising from what has been said, and *having computed*¹ the sum of them, put the finishing touch to our inquiry"².

This first statement qualifies the two main tasks of H: on the one hand, it must summarize some arguments, on the other hand, it must accomplish a certain enquiry. Granting the fact that in H1 1042a6-24 Aristotle makes a synthesis of the main issues dealt with in Z, it seems likely that the arguments to be summarized are those of Z and that H's enquiry must somewhat accomplish the enquiry that was started in Z³. However, two elements

1 In this work I follow both Ross's edition (1924) and translation (1928) of Aristotle's *Metaphysics*. Those places where my translation differs are in italics. Here I follow the suggestion in M. Burnyeat (2001) p. 66. He notes that "the participle συναγαγόντες (in Ross: "compute the sum") is aorist, indicating a time prior to the time of the main verbs συλλογίσασθαι and ἐπιθεῖναι. So I substitute Ross's translation *compute* with *having computed*. This choice, as will become clearer in the following, helps us to understand the summary of Z's arguments in H1 as a prelude to the completion, not the completion itself. In his unpublished Book *The Aim and the Argument of Aristotle's Metaphysics* also S. Menn seems to agree on this point, see Part Two Πε p.15.

2 Ἐκ δὴ τῶν εἰρημένων συλλογίσασθαι δεῖ καὶ συναγαγόντας τὸ κεφάλαιον τέλος ἐπιθεῖναι.

3 Here too I follow the suggestion in M. Burnyeat (2001), p. 66, according to

challenge this reading: (1) H1's following statement, at 1042a4-6, where Aristotle argues that “we have said that the causes, principles and elements of substances are the object of our search”⁴, would not describe clearly the theoretical path of Z; (2) the so-called summary of Z, present in H1, seems to be lacunous for several aspects or even inaccurate. These two puzzles have been raised in the *Notes on Books H and Θ of Aristotle's Metaphysics* by the group of scholars which I will refer to in this work with the conventional name of “Londinenses”⁵. For what concerns the reference to an enquiry carried out elsewhere on “the causes, the principles and elements of substances”, they argue that this reference is neither in Z1, as argued by Ross⁶, nor in E1 as argued by Apostle, since “that chapter seeks principles and causes of τῶν ὄντων as including non just substances but everything”. Thus, they ask whether the recall is to Γ1-2, concluding that Λ1-2 “fits better still, offering several parallels to what is come to in H1”. The same point is developed in Bostock's *Commentary on Metaphysics Z and H*⁷, though remaining unsolved. As a matter of fact, in Z1 Aristotle does not mention the sort of enquiry declared in 1042a4-6, but he says that we must investigate “what is substance”⁸. By contrast, in Γ2 1003b17-19, after explaining how it is possible to unify the different meanings of “being”, he claims that if the first meaning of being is substance “it will be of substances that the philosopher must grasp the principles and the causes”⁹. Similarly, in Λ1 he starts off in this way: “the subject of our

which is not the summary of Z's arguments of H1, but the whole H that constitutes the conclusion of Z's enquiry.

4 εἴρηται δὴ ὅτι τῶν οὐσιῶν ζητεῖται τὰ αἴτια καὶ αἱ ἀρχαὶ καὶ τὰ στοιχεῖα.

5 See Londinenses (1984) pp. 1-2.

6 W.D. Ross (1924) p. 226. Truth be told, Ross says that 1042a 4-6 *roughly* follows Z1.

7 D. Bostock (1994) p. 248.

8 See especially 1028b 2-7.

9 εἰ οὖν τοῦτ' ἐστὶν ἡ οὐσία, τῶν οὐσιῶν ἂν δεοί τὰς ἀρχὰς καὶ τὰς αἰτίας ἔχειν τὸν φιλόσοφον.

inquiry is substance; for the principles and the causes we are seeking are those of substances”¹⁰. However, the fact that these two passages fit better with H1 1042a4-6¹¹, is not fatal for the link between the beginning of Book H and the enquiry on substance developed in Z¹². Lines 1042a4-6 of H1 are puzzling only if we look for a literal reference to Z1, which, however, seems to be superfluous here. As a matter of fact, the summary of Z does not start in these lines, but in the following statement of 1042a6-7, where Aristotle recalls Z's issues beginning with the synthesis of Z2's argument. If H has the task of recalling Z, in order to accomplish its enquiry, a literal reference to Z1 at this point would be unnecessary. Z1, in fact, like H1, has a merely introductory character. By contrast, it seems more consistent that Aristotle a) frames within a different perspective the new enquiry of H and b) summarizes Z from the place where its enquiry becomes substantive. It is exactly what Aristotle seems to do in the *incipit* of H1: on the one hand he clarifies that H's investigation on substances aims at tracing their causes, principles and elements, on the other hand he begins the summary of Z moving from the first substantive analysis of that Book. Namely from that of Z2, where he looks at substances from an extensional viewpoint. This reading can limit the alleged threat of 1042a4-6 for the consistence between H1 and Z. Moreover, as will become clearer in the following, the hint to an explanatory research on substance, as testified by the reference to the notions of αἴτια and ἀρχαί, fits well not only with Z, but

10 1069a18-19: Περὶ τῆς οὐσίας ἢ θεωρίας τῶν γὰρ οὐσιῶν αἱ ἀρχαὶ καὶ τὰ αἴτια ζητοῦνται.

11 These texts coincide only partially, since neither in Γ2 nor in the *incipit* of Λ1 Aristotle mentions the notion of στοιχεῖον as he does in H1. From this point of view the closest passage is that of Λ1 1069a25-26 to which I will come back later. For the more general methodological importance of the search for the causes, the principles and the elements see, obviously, also the introductory paragraph in *Physics* A1 184a10-14.

12 In this way argue both the Londinenses (1984) p.1 and D. Bostock (1994), p.248, who speculates on the fact that Aristotle could have confused the beginning of Z1 with that of Γ1-2 or with the one of Λ1.

also with the whole enquiry of Aristotle's *Metaphysics*¹³.

§1.2 The summary of Z's arguments

The summary of Z's arguments begins, then, in H1 1042a6-7 with this claim:

“some substances are recognized by every one, but some have been advocated by particular schools”¹⁴.

As it is evident, this is a reference to the analysis of Z2. Here Aristotle had distinguished the naturalist philosophers – those who believe that substances are mainly the bodies¹⁵ - from the Academics – those who maintain that also the limits of such bodies¹⁶, the Forms and the mathematical objects are substances¹⁷. What follows in the text shows that Aristotle wants to recall roughly the extensional enquiry on the number and the kinds of substances of Z2:

“those generally recognized are the natural substances, i.e. fire, earth, water, air, &c the simple bodies; secondly, plants and their parts, and animals and the parts of animals; and finally the physical universe, and its parts¹⁸; while some particular schools say that Forms and the objects of mathematics are substances”¹⁹.

The first contrast²⁰ concerns on the one hand the agreed opinions

13 See §1.5 and §1.6

14 οὐσίαι δὲ αἱ μὲν ὁμολογούμεναι εἰσιν ὑπὸ πάντων, περὶ δὲ ἐνίων ἰδίᾳ τινὲς ἀπεφήναντο.

15 See Z2 1028b8-15.

16 See Z2 1028b16-18.

17 See Z2 1028b18-27.

18 W.D. Ross (1924) p. 227, reads the reference to τᾶλλα τὰ ἀπλᾶ σώματα at lines 8-9 as indicating the various species of each simple body (cf. *De Caelo* 268b 27 e *Meteor.* 339A28). Moreover, he translates “ὁ οὐρανὸς” with “the physical universe” bearing in mind the wider list of Z2 1028b12-13.

19 1042a7-12: ὁμολογούμεναι μὲν αἱ φυσικαί, οἷον πῦρ γῆ ὕδωρ ἀήρ καὶ τᾶλλα τὰ ἀπλᾶ σώματα, ἔπειτα τὰ φυτὰ καὶ τὰ μόρια αὐτῶν, καὶ τὰ ζῶα καὶ τὰ μόρια τῶν ζώων, καὶ τέλος ὁ οὐρανὸς καὶ τὰ μόρια τοῦ οὐρανοῦ· ἰδίᾳ δὲ τινες οὐσίας λέγουσιν εἶναι τὰ τ' εἶδη καὶ τὰ μαθηματικά.

20 See especially the construction μὲν-δέ at lines 7 and 11.

on what is substance (ὁμολογούμεναι²¹), on the other hand those held by Platonists (ιδίᾳ²²). From the analysis of these lines, the Lordinenses have questioned the consistence of H1's summary. In particular, they state that:

“1042a6-10 goes against Z16 on parts and elements (“agreed by all” might mean “agreed by all but the speaker” but 1042a24 resumes talk of agreed substances as if the list had no contained controversial items)”²³.

As a matter of fact at the very beginning of Z16 Aristotle shows that:

“evidently even of the things that are thought to be substances, most are only potencies, - both the parts of animals (for none of them exists separately; and when they *are* separated, then too they exist, all of them, merely as matter) and earth and fire and air; for none of them is a unity, but as it were a mere heap, till they are worked up and some unity is made out of them”²⁴.

However, since from its first lines, the summary of H1 does not appear to be as a collection of the main outcomes of Z. Myles Burnyeat, though originally belonging to the Lordinenses, rightly observes that:

“it is true that the summary is silent on the positive results of Z. But it is a pretty fair account of what was discussed, and in what order. As such it invites us to read it as a record of the journey, not of conclusions reached along the way”²⁵.

Moreover, at 1042a12-15 Aristotle draws a further contrast:

“Otherwise²⁶, it results from arguments that essence and

21 Lines 6, 7.

22 Lines 7, 11.

23 See Lordinenses (1984) p. 1. D. Bostock (1994), p. 248, has raised the same point.

24 1040b5-10.

25 M. Burnyeat (2001) p. 63. Along the same lines, S. Menn (unpublished work) *The Aim and the Argument of Aristotle's Metaphysics*, Part Two II.g 2: “As for the consideration about Z11 1037a21-b7 and H1 1042a4-24, it is misleading to call these texts “summaries” of Z; they are very quick restatements of the main agenda and the main conclusions, with no pretense at following the twists and turns of the argument; the more digressive and expansive a passage is, the less likely it is to be cited in such a “summary””.

26 Here I do not regard as necessary Christ's correction of ἄλλως at line 12 with ἄλλας. This is why my translation differs from that of Ross, who accepts the correction: “but there are arguments which lead to the

substratum are substances. Again, in another way the genus seems more substantial than the various species, and the universal than the particulars”²⁷.

Unlike the former extensional contrast between the agreed substances and those admitted by Platonists, here the contrast is intensional and concerns the four different meanings of substance distinguished at the beginning of Z3: essence, genus, universal and substratum²⁸. Hence, in this passage Aristotle seems to evoke the *search for criteria and candidates*, which he starts at the beginning of Z3, and that represents one of the main lines of research of Book Z²⁹. The four possible ways of understanding the notion of substance are significantly grouped under two classes. On the one hand, “moving from certain arguments” (συμβαίνει ἐκ τῶν λόγων), has been stated that the essence and the substratum are substances, while on the other hand (ἄλλως), it seems that the genus and the universal are

conclusion that there are other substances, the essence and the substratum”.

27 ἄλλως δὲ δὴ συμβαίνει ἐκ τῶν λόγων οὐσίας εἶναι τὸ τί ἦν εἶναι καὶ τὸ ὑποκείμενον· ἔτι ἄλλως τὸ γένος μᾶλλον τῶν εἰδῶν καὶ τὸ καθόλου τῶν καθ’ ἕκαστα.

28 Cf. 1028b33-36: Λέγεται δ’ ἡ οὐσία, εἰ μὴ πλεοναχῶς, ἀλλ’ ἐν τέτταρσί γε μάλιστα· καὶ γὰρ τὸ τί ἦν εἶναι καὶ τὸ καθόλου καὶ τὸ γένος οὐσία δοκεῖ εἶναι ἕκαστου, καὶ τέταρτον τούτων τὸ ὑποκείμενον.

29 In their commentary to *Metaphysics Z*, M.Frede- G.Patzig (1998) have developed the strongest reading of Z’s structure as ruled by the search for criteria and candidates. See especially II 34. In their view in Z3’s *incipit* Aristotle provides four possible answers to what οὐσία intensionally means. Z3 deals with οὐσία as ὑποκείμενον, chapters 4-12 ask whether οὐσία is τὸ τί ἦν εἶναι, while chapters 13-16 whether the criterion which meets οὐσία at the best is universal (or universal conceived as genus). M. Burnyeat (2001) p.9 regards the four items mentioned in Z3 as four logical specifications of substantial being. Three of these will show that substantial being is form, while genus will be discarded. According to both Frede-Patzig and Burnyeat, those chapters of Z that evidently do not fit with the search for criteria and candidates are to be taken as later insertions (Z 7-9, Z12) or as a fresh-start (Z17). S. Menn (2011) has strongly questioned both Burnyeat’s map and Frede-Patzig’s assumption that Z is ordered by the search for criteria and candidates. According to him, the whole Book Z does not aim at showing any positive metaphysical argument, but it just provides to us negative answers to the search for the principles of being. Here I do not want to discuss in details each reading of Z’s structure. However, I believe that although the search for criteria and candidates of Z3 is not sufficient for explaining all Z’s argument, it must be preserved as one, though not as the only one, of Z’s main tools of enquiry.

substances. The four candidates of Z3, then, are here distinguished in two separate groups. It is likely that Aristotle aims at setting apart the two meanings which he accepts as valid (essence and substratum) from the two meanings which he does not accept (genus and universal) and whose alleged substancehood grounds the Platonic doctrine of Forms. The following statement of H1 strengthens such a reading:

“and with the universal and the genus the Ideas are connected; it is in virtue of the same argument that they are thought to be substances”³⁰.

The recollection of Z's *search for candidates* of these lines, though quite rough, seems to be effective. Aristotle maintains the substancehood of substratum and essence in Z3 and in Z4-6, respectively; by contrast, in Z13-16 he challenges the Platonic doctrine of Forms showing how it is not possible to conceive genus and universal as substances. Aristotle deals with the Platonic doctrine of Forms in chapter 9 of *Metaphysics*' Book A and he focuses on the Platonic ontology in Books M and N more extensively. In Z13-16, following the intensional search for candidates established in Z3, he undermines the ground of the Platonic doctrine, for which the genus could be regarded as more substance than the species and the universal more substance than the particulars. Hence, lines 15-16 must be read as referred to the conceptual dependence between the doctrine of Forms and the assumption that genus and universal are substances³¹. For all these reasons, I disagree with Londinenses also for what concerns their reading of these lines³².

30 1042a15-16: τῷ δὲ καθόλου καὶ τῷ γένει καὶ αἱ ἰδέαι συνάπτουσιν (κατὰ τὸν αὐτὸν γὰρ λόγον οὐσίαι δοκοῦσιν εἶναι).

31 Both the verb συνάπτω and the expression κατὰ τὸν αὐτὸν λόγον at line 16 seem to reveal this conceptual dependence.

32 See Londinenses (1984) p. 1. First they argue that “it seems remarkably bland to set τί ἦν εἶναι and ὑποκείμενον side by side as cases of substance *which are established by argument / which are arrived at by consideration* of what people will say under dialectical pressure. It is going back to where we started out at the beginning of Z3, before the hard work of Z was done”. This judgment is due to two misleading

It can be useful to underline how in this further contrast too, one of the two items involved refers to a Platonic doctrine. Indeed, the dialectic with Platonism is one of the main themes of *Z* and it will come back onto the scene in *H*, especially in its last chapter *H6*.

Aristotle goes on claiming that:

“since the essence is substance, and the definition is a formula of the essence, for this reason we have discussed definition and essential predication”³³.

Here he recalls the enquiry undertaken in abstract or logical terms (λογικῶς) in *Z* 4-6, where he deals with substance conceived as τὸ τί ἦν εἶναι³⁴. In this case too, Aristotle reminds us the general theme of that section, without dwelling on its outcomes. The same occurs in the brief recollection of the enquiry on parts of definition and substance of *Z*10-11, which appears at lines 18-21:

assumptions. The first one seems to consist in understanding the expression “συμβαίνει ἐκ τῶν λόγων” as if it indicated a dialectical enquiry. But the fact that both in *Z*3 and in *Z*4-6 the substancehood of substratum and essence is stated also through dialectical arguments does not jeopardise that such substancehood is actually maintained. The second assumption, once more, consists in reading the summary of *Z*'s arguments as a collection of results. However, if Aristotle is here reminding us *Z*'s path, it appears to be consistent to recall roughly what exposed from *Z*3 to *Z*6. Moreover, the *Londinenses* urge that “still worse to conjoin these (τί ἦν εἶναι and ὑποκείμενον) with genus and universal. If the latter also are cases of substances established by arguments (ἄλλως) it is not by Aristotle's arguments in *Z*, nor even by his opponents arguments in *Z*. For these do not urge that genus is more substance than εἶδος, universal more than particular (1038b7 is the nearest parallel but not good enough)”. Leaving aside the fact that the search for candidates of *Z*3 guarantees the link between the two couples of concepts, here as well I find Burnyeat's comments very useful. See M. Burnyeat (2001) pp. 64-65. He notes how even if the comparative formulation of 1042a13-15 does not occur in the printed text of *Z* “readers should know that it is just the sort of view that Platonists espouse” (...) “The formulation is an economical way to remind us both that, and why, universal and genus were discussed”.

33 1042a17-18: ἐπεὶ δὲ τὸ τί ἦν εἶναι οὐσία, τούτου δὲ λόγος ὁ ὀρισμός, διὰ τοῦτο περὶ ὀρισμοῦ καὶ περὶ τοῦ καθ' αὐτὸ διώρισται.

34 See especially *Z*4 1029b11-14: Ἐπεὶ δ' ἐν ἀρχῇ διειλόμεθα πόσοις ὀρίζομεν τὴν οὐσίαν, καὶ τούτων ἓν τι δοκεῖ εἶναι τὸ τί ἦν εἶναι, θεωρητέον περὶ αὐτοῦ. καὶ πρῶτον εἰπώμεν ἓνια περὶ αὐτοῦ λογικῶς, ὅτι ἐστὶ τὸ τί ἦν εἶναι ἐκάστω ὃ λέγεται καθ' αὐτό.

“since the definition is a formula, and a formula has parts, we had to consider also with respect to the notion of “part”, what are parts of the substance and what are not, and whether the parts of the substance are also parts of the definition”³⁵.

As it is evident, this statement is quite close to the introductory lines of Z10:

“since a definition is a formula, and every formula has parts, and as the formula is to the thing, so is the part of the formula to the part of the thing, the question is already being asked whether the formula of the parts must be present in the formula of the whole or not”³⁶.

The summary ends at 1042a21-24 with a further reference to the Platonic doctrines, which goes back to what already said at lines 13-16:

“Further, too, neither the universal nor the genus is a substance; we must inquire later into the Ideas and the objects of mathematics; for some say these are substances as well as the sensible substances”³⁷.

Here I agree with Bostock, according to whom lines 21-22, where Aristotle rejects that genus and universal are substances, are: “the one place (of the summary) where a result is given. Evidently it is the result of Z13”³⁸. What follows (lines 22-24) is the promise that the enquiry on Forms and mathematical objects will be tackled with later. As we know, this will occur in *Metaphysics*' Books M and N.

Hence, the summary of Z, which Aristotle provides us with in H1 1042a6-24, has two main features: 1) it is a summary of the arguments rather than of the results of Z; 2) it is a summary built

35 ἐπεὶ δὲ ὁ ὀρισμὸς λόγος, ὁ δὲ λόγος μέρη ἔχει, ἀναγκαῖον καὶ περὶ μέρους ἦν ἰδεῖν, ποῖα τῆς οὐσίας μέρη καὶ ποῖα οὐ, καὶ εἰ ταῦτα καὶ τοῦ ὀρισμοῦ.

36 Cf. Z10 1034b20-24: Ἐπεὶ δὲ ὁ ὀρισμὸς λόγος ἐστὶ, πᾶς δὲ λόγος μέρη ἔχει, ὡς δὲ ὁ λόγος πρὸς τὸ πρᾶγμα, καὶ τὸ μέρος τοῦ λόγου πρὸς τὸ μέρος τοῦ πράγματος ὁμοίως ἔχει, ἀπορεῖται ἤδη πότερον δεῖ τὸν τῶν μερῶν λόγον ἐνυπάρχειν ἐν τῷ τοῦ ὅλου λόγῳ ἢ οὐ.

37 ἔτι τοίνυν οὔτε τὸ καθόλου οὐσία οὔτε τὸ γένος· περὶ δὲ τῶν ἰδεῶν καὶ τῶν μαθηματικῶν ὕστερον σκεπτέον· παρὰ γὰρ τὰς αἰσθητὰς οὐσίας ταύτας λέγουσιν τινες εἶναι.

38 D. Bostock (1994) p. 249.

up through conceptual contrasts, which stand on a dialectical background. Aristotle, in fact, presents both the extensional and the intensional questions on substance by contrasting a certain position (*generally agreed* in the former case and typically *Aristotelian* in the latter) with a different position held up by Platonists (the existence of Forms and mathematical objects and the idea that genus and universal are substances).

§1.3 The lacunous character of the summary

Thus far we have analysed only what of Z H1 actually resumes. We have now to focus on those arguments of Z which seem to be ignored in the summary and explain why this happens.

Scholars have usually regarded the lacunas of H1's summary as evidence of the fact that the redaction of Z which we have is not the original one³⁹. I will not explore this point further, since this would go beyond this work. However, granted that H somewhat completes the enquiry of Z, we must investigate on the lacunous character of H1's summary, to the extent that such aspect might have some influence on the shift from Z to H. The more evident absence in the summary is that of the section 7-9 of Z⁴⁰. Ross notes that “it is noteworthy that the summary makes no reference to Z7-9, which we have already seen reasons to regard as not belonging to the original plan of Z”⁴¹. Bostock enumerates a series of “important discussions” of Z, which would be missing in H1⁴². Burnyeat maintains that: “the absence from the summary of any record of Z7-9 or Z12 serves to confirm that those chapters were added later”⁴³. The strongest reading of the summary's lacunas is once again provided by the Londinenses. They argue that: “Nothing is said to recall the challenge to ὑποκείμενον as substance (...) Nothing recalls Z7-9. The hard work on essence has disappeared from memory. The conclusion of Z17 has gone for nought”⁴⁴. So their provocative conclusions on H1's summary are that (1) the summary is an editor's

39 See, paradigmatically, what is argued in M.Frede-G.Patzig (1988) pp. 38-43.

40 The Londinenses (1984) p.1-2, regard such an absence as a further evidence of the fact that what we have in H1 is “a summary of Z which is not the sort of summary that a careful reader of Z would expect”.

41 See W.D. Ross (1924) p. 227. However, he maintains later that “the doctrine of those chapters, is however, referred to below in I.30”.

42 See D. Bostock (1994) pp. 249-50.

43 See M. Burnyeat (2001) p.62.

44 See Londinenses (1984) p. 1.

connecting work or that (2) there was a proto-Z without e.g. the critique of ὑποκείμενον, which adhered more closely than our Z to the “keep all candidates but universal in play”.

According to this conventional reading, the chapters of Z that are absent in H1' summary would be the following: 3, 7-9, 12, 17. I will try to verify whether no reference to these sections is actually present. First of all, we can say that for each of the alleged absences a different explication must be provided.

Once granted that we are in presence of a summary of arguments rather than of results, it seems unlikely that in H1 Aristotle does not mention at all the enquiry on the notion of ὑποκείμενον developed in Z3. As above established, such a reference can be traced at 1042a12-13, where Aristotle says that: “it results from arguments that essence and substratum are substances”. Here Aristotle clearly recalls the starting point of the *search for candidates* on the notion of substance, by quoting two of them: essence and substratum. Now, it seems to me that the former item roughly refers to Z4-6's analysis, while the latter to that of Z3. Some scholars deny the presence of any reference to Z3, since they move from two misleading assumptions. The first assumption, as we have largely shown, is that H1's summary should recover the main outcomes of Z rather than its highlights. The second assumption concerns the idea that in Z3 Aristotle removes any sort of substancehood to the notion of substratum. Thus, it concerns the reading of what would be the main outcome of Z3.

In Z3 1029a7-10 Aristotle defines the substance conceived as substratum:

“it is that which is not predicated of a stratum, but of which all else is predicated. But we must not merely state the matter thus; for this is not enough. The statement itself is obscure, and

further, on this view, *matter* becomes substance⁴⁵.

Later on, he provides also a definition of ὕλη:

“by matter I mean that which in itself is neither a particular thing nor of a certain quantity nor assigned to any other of the categories by which being is determined”⁴⁶.

Finally, at 1029a26-30, he formulates what is thought to be the main conclusion of the chapter:

“if we adopt this point of view, then, it follows that matter is substance. But this is impossible; for both separability and “thisness” are thought to belong chiefly to substance. And so form and the compound of form and matter would be thought to be substance, *more* than matter”⁴⁷.

In the following I will come back more accurately on these passages of Z3. For the time being, I want to reject two common prejudices: a) that in Z3 Aristotle deprives the substratum of any sort of substancehood; b) that, as a consequence, he deprives matter too of any sort of substancehood.

I argue that in Z3 Aristotle provides neither “a challenge to ὑποκείμενον as subject” nor “an elimination of ὑποκείμενον/ὕλη”⁴⁸. By contrast, he maintains that the notion of substratum is not sufficient for describing substance from an intensional viewpoint. For, if we take care of it only, only matter seems to be substance. Rather, Aristotle believes that *beyond* being substratum of something, substancehood consists in two further features: being separate and being determinate. And these latter features seem to characterize form and the composite of matter and form *more* than matter⁴⁹.

45 νῦν μὲν οὖν τύπῳ εἴρηται τί ποτ' ἐστὶν ἡ οὐσία, ὅτι τὸ μὴ καθ' ὑποκείμενον ἀλλὰ καθ' οὗ τὰ ἄλλα· δεῖ δὲ μὴ μόνον οὕτως· οὐ γὰρ ἰκανόν· αὐτό τε γὰρ τοῦτο ἄδηλον, καὶ ἔτι ἡ ὕλη οὐσία γίγνεται.

46 Cf. Z3 1029a20-21: λέγω δ' ὕλην ἢ καθ' αὐτὴν μήτε τι μήτε ποσὸν μήτε ἄλλο μηδὲν λέγεται οἷς ὠρίσται τὸ ὄν.

47 ἐκ μὲν οὖν τούτων θεωροῦσι συμβαίνει οὐσίαν εἶναι τὴν ὕλην· ἀδύνατον δέ· καὶ γὰρ τὸ χωριστὸν καὶ τὸ τόδε τι ὑπάρχειν δοκεῖ μάλιστα τῇ οὐσίᾳ, διὸ τὸ εἶδος καὶ τὸ ἐξ ἀμφοῖν οὐσία δόξειεν ἂν εἶναι μᾶλλον τῆς ὕλης.

48 For such judgments see Londinenses (1984) pp. 1-2.

49 I definitely agree with the reading of Z3 1029a29-30 provided in M.L.Gill (1989) p.20 n.10: “The μᾶλλον at 1029a29-30 could be translated

Hence, there is no reason to believe that in H1's summary Aristotle does not mention at all the enquiry on the concept of ὑποκείμενον in Z3 or that, by mentioning it at 1042a13, he misleads its main outcome. This is because such an outcome does not consist in denying any sort of substancehood to substratum and matter. Rather, in Z3 Aristotle aims at outlining that being a substratum is non sufficient for a complete description of the notion of substance. Moreover, in H1 1042a26-31, Aristotle recalls the notion of substratum and the tripartition of substance in matter, form and composite in a way close to that of Z3. I will return on this point after completing the analysis of the alleged lacunas of H1's summary.

A further chapter of Z which seems to be overlooked in H1 is Z12. In that chapter Aristotle deals with the notion of definition and its unity⁵⁰. As Aristotle says, Z12 must be regarded as a sort of useful digression within the enquiry on substance carried out throughout the whole Z. At the beginning of the chapter, in fact, he argues that:

“Now let us treat first of definition, in so far as we have not treated of it in the *Analytics*; for the problem stated in them is useful for our inquiries concerning substance”⁵¹.

Roughly speaking, we can argue that the enquiry of Z12, which focuses on the unity of definitions gained by division, is useful (πρὸ ἔργου) for the research on substance insofar as it also shows the crucial role of form. Indeed Z12 demonstrates that the unity of definition depends on the relative unity of the object that is defined, and that such an object is the last differentia, which is

“rather”; the claim would then be that the form and the composite rather than matter are substances. But since the next sentence (1029a30-33) still mentions matter as one of the three substances, matter has presumably not been wholly rejected; so more is preferable”.

50 Cf. Z12 1037b11-12.

51 1037b 8-10: Νῦν δὲ λέγωμεν πρῶτον ἐφ’ ὅσον ἐν τοῖς ἀναλυτικοῖς περὶ ὀρισμοῦ μὴ εἴρηται· ἢ γὰρ ἐν ἐκείνῳ ἀπορία λεχθεῖσα πρὸ ἔργου τοῖς περὶ τῆς οὐσίας ἐστὶ λόγους.

form and substance⁵². Now, if Z12 is a sort of technical in-depth analysis within Z, it is likely that Aristotle does not feel the need of recalling its discussion in H1. Moreover, granted that the main theme of Z12 is definition, we must conclude that in H1 1042a18 Aristotle is roughly mentioning it (περὶ ὀρισμοῦ καὶ περὶ τοῦ καθ'αὐτὸ διώρισται)⁵³. In light of these considerations, I disagree both with Bostock and Burnyeat who think that no reference to Z12 is provided in H1⁵⁴. More generally, I believe that the alleged absence of explicit references to some chapters of Z from the summary of H1 is not sufficient for excluding them from a likewise hypothetical proto-Z.

The section of Z which is surely absent from H1 is the controversial one of the chapters 7-9. Scholars substantially agree in regarding these chapters as added to Book Z in a later stage of its composition by the very same Aristotle or even by a posterior editor⁵⁵. In Z 7-9 Aristotle carries out an analysis of the ways of becoming which, at first glance, breaks with the unity of the argumentative path of Z. A proper assessment of the question of whether or not Z 7-9 belongs to the original plan of Z would exceed the aims of this work. Regardless, H1 1042a6-24, where Aristotle resumes the main arguments of Z, do not mention either explicitly or implicitly those chapters of Z. However, as we shall see, the relation between the physical analysis of becoming which Aristotle makes in Z 7-9 and the enquiry of H represents one of the most important points for a unified reading of Book H as a whole.

In a similar way it is possible to construe the relation between

52 See 1038a 25-26: ἐὰν μὲν δὴ διαφορᾶς διαφορὰ γίγνεται, μία ἔσται ἡ τελευταία τὸ εἶδος καὶ ἡ οὐσία·

53 Cf. W.D. Ross (1924) p. 226.

54 See D. Bostock (1994) p. 250 e M. Burnyeat (2001) p. 62.

55 Lately, only S. Menn (2011) has provided substantive arguments to reject this *communis opinio*. See also S. Menn (unpublished work) *The Aim and the Argument of Aristotle's Metaphysics*, Part Two II.g 2.

Z's last chapter, that is Z17, and H1's summary. Although for different reasons, Z17, like Z 7-9, constitutes a sort of anomaly within Z's enquiry on οὐσία. About this chapter too, scholars seem to agree on one point: Z17 is a fresh start in Z's path⁵⁶. As a matter of fact, in its introductory lines Aristotle says that:

“Let us state what, i.e. what kind of thing, substance should be said to be, taking once more another starting-point; for perhaps from this we shall get a clear view also of that substance which exists apart from sensible substances. Since, then, substance is a principle and a cause, let us pursue it from this starting-point”⁵⁷.

The new starting-point of Z17 seems to consist in conceiving substance in its explanatory role, namely as principle and cause.

Scholars have usually remarked also the absence of Z17 from the summary of H1⁵⁸. In this case too, if we look at lines 1042a6-24 of H1 no reference to that discussion seems to be actually traceable.

Burnyeat has proposed a provocative suggestion on the relation between the last chapter of Z and H1. According to him, the reason why Z17 is absent from the summary is that “the summary is part of a textual unit that begins where Z17 begins”⁵⁹. In particular, since in Z17 Aristotle sets out the idea that substance is principle and cause and, as we have seen above, in H1 1042a4-6 he says that the object of our enquiry are the causes, principles and elements of substance, it is likely that the two chapters develop the same project. Thus, since Z17's main positive contribution is that form is cause of being, Burnyeat maintains that the whole Book H takes up and develops such an

56 To my knowledge, although for different reasons, all modern scholars share this position.

57 See Z17 1041a6-10: Τί δὲ χρῆ λέγειν καὶ ὁποῖόν τι τὴν οὐσίαν, πάλιν ἄλλην οἷον ἀρχὴν ποιησάμενοι λέγωμεν· ἴσως γὰρ ἐκ τούτων ἔσται δῆλον καὶ περὶ ἐκείνης τῆς οὐσίας ἥτις ἐστὶ κεχωρισμένη τῶν αἰσθητῶν οὐσιῶν. ἐπεὶ οὖν ἡ οὐσία ἀρχὴ καὶ αἰτία τις ἐστίν, ἐντεῦθεν μετιτέον.

58 See Londinenses (1984) p. 1, D. Bostock (1994) p. 250 and M. Burnyeat (2001) p. 63.

59 M. Burnyeat (2001) p. 67.

idea⁶⁰. Significantly, Burnyeat proceeds arguing that the whole H2 is devoted to the illustration of the idea of form as the cause of being and that this same theme recurs also in H3 and H6⁶¹.

Gill has endorsed Burnyeat's hypothesis⁶². She agrees with Burnyeat that H develops the enquiry on substances by following the new perspective of Z17⁶³. Gill provides some arguments for understanding the theoretical turn from Z17 to the second half of H1. In particular, she notes how in the last chapter of Z Aristotle's main proposal is that form, as principle and cause, explains why the matter is some composite object. This seems to be confirmed by what Aristotle argues in Z17 1041b7-9:

“Therefore what we seek is the cause, i.e. the form, by reason of which the matter is some definite thing; and this is the substance of the thing”⁶⁴.

As a matter of fact, in the second half of H1 - which represents the real beginning of Book H after the summary of Z's arguments - Aristotle starts the new enquiry focusing on the notion of matter.

To sum up, in the light of this analysis of the alleged lacunas of H1's summary, we can argue that: 1) some chapters of Z, which

60 See especially M. Burnyeat (2001) p.68.

61 S. Menn (2001) shares this point with Burnyeat, although he provides a different reading of Z17. At p. 131 he says that: “it is much better, instead of saying that the thesis of Z17 is that οὐσία is form, to say that the thesis is that the οὐσία of a thing is the cause of unity to its στοιχεῖα”. In the following, p. 133, Menn argues that “the business of H is to show how to give the λόγος τῆς οὐσίας of a given X”.

62 See M.L. Gill (1996) p. 213, where she quotes the unpublished version of Burnyeat's work.

63 Moreover, moving from this hypothesis, Gill, p.214 argues that “precisely the topics overlooked in the summary – subjecthood (Z3), the generation of composites (Z7-9), their constitution and definability (Z10-12) – will be the central focus of *Metaphysics* H. Aristotle will address these issues as though from scratch, starting from the perspective of Z17”. This suggestion is fascinating and finds some evidence throughout the whole H. However, I think that, except for what concerns section 7-9, the other chapters quoted by Gill are not overlooked in H1's summary.

64 ὥστε τὸ αἴτιον ζητεῖται τῆς ὕλης [τοῦτο δ' ἐστὶ τὸ εἶδος] ᾧ τί ἐστίν· τοῦτο δ' ἡ οὐσία. For a useful *status quaestionis* about the controversial phrase τοῦτο δ' ἐστὶ τὸ εἶδος, which occurs at 1041b8 and which is printed by Ross, see S. Menn (2001), p. 126 n.43.

are thought to be absent from the summary, seem actually to be roughly recalled in H1. This seems to be the case of Z3 and Z12; 2) some other chapters (Z 7-9), are actually absent from the summary, although they will have a great importance for H as a whole; 3) Z17 is not quoted in the summary since it somewhat represents the starting-point of H's enquiry.

So, we can conclude that H1's summary of Z's arguments is, both a selective and a strategic summary.

§1.4 The account of matter in H1

At H1 1042a24-26, once accomplished the summary of Z's arguments, Aristotle says:

“but now let us resume the discussion of the generally recognized substances. These are the sensible substances.⁶⁵ And sensible substances all have matter”⁶⁶.

The first sentence (lines 24-25), which invites us to “come back” (ἐπέλθωμεν) to the agreed substances and which declares such substances as the sensible ones, does not appear in the manuscripts E and J. As a matter of fact, it does not seem to be essential for understanding the train of thought that Aristotle develops here. The summary ends with the reference to those thinkers, Platonists, who admit Forms and mathematical objects beyond the sensible substances (lines 22-24). Then Aristotle argues that all sensible substances have matter (lines 25-26). While the former enquiry on the non-sensible substances is said to be postponed to a further context (*Metaphysics* MN), the latter on the sensible ones is at the core of H. The previous statement of lines 24-25, absent from E and J, appears, hence, to be redundant. Moreover, its reference to the ὁμολογούμεναι οὐσίαι could be puzzling here. Actually, in H1 Aristotle has already recalled “the agreed substances” by making reference to the physical substances of Z2's list⁶⁷. But neither in H1 nor in the remaining part of H he will deal with substances such as simple elements, plants, animals and so on⁶⁸. To sum up, there

65 Here my translation differs from Ross's one only for what concerns the punctuation. He does not put a full stop after the first αἰσθηταί of line 25. By contrast, for reasons of textual transmission which I explain in the following, doing this seems to me more cautious.

66 νῦν δὲ τῶν περὶ τῶν ὁμολογουμένων οὐσιῶν ἐπέλθωμεν. αὐταὶ δ' εἰσὶν αἱ αἰσθηταί. αἱ δ' αἰσθηταὶ οὐσίαι πᾶσαι ὕλην ἔχουσιν.

67 See 1042a7-11.

68 E.C. Halper (2005) p.155 identifies what this passage calls “sensible *ousiai*” with composites. Then, he reminds us that the “agreed substances” are those above-mentioned in 1042a7-11. However, it is not so obvious, as he seems to take, that the two references fit well each other

are good reasons for deleting lines 24-25⁶⁹. Yet, they could also be saved, once we look at Z3 1029a33-34 as their possible cross-reference. In that context, Aristotle inaugurates the research on form which will be at the core of Z saying that:

“some of the sensible substances are generally admitted to be substances, so that we must look first among these”⁷⁰.

Thus, we could suppose that in H Aristotle aims at refreshing the same enquiry of Z - the analysis of sensible substances - moving from a different perspective⁷¹.

For evaluating this hypothesis we must carefully look at H1 1042a25-26: “sensible substances all have matter”. I argue that it is exactly from this statement that the substantive analysis of H starts. Aristotle clearly maintains that sensible substances are all those substances which have matter. The construction ἔχειν ὕλην (“have matter”) and, more generally, the fact that something has or does not have matter, will prove to be as the very strong thread of the argumentative path of the whole Book. Later, I will show in details this point. For the time being, I just want to underline how at the very end of Book H, that is in the last statement of H6 1045b23, Aristotle ends the enquiry claiming that:

“all things which have no matter are without qualification essentially unities”⁷².

Thus, the structure “having or having not matter”, which appears at the very beginning and in the final line of H, closes circularly the whole Book.

In *Metaphysics Z* we have three references to the construction

and that Book H examines Z2's list of natural substances.

69 This is why it seems more cautious to put a full stop after the first αἰσθηταί of line 25.

70 ὁμολογοῦνται δ' οὐσίαι εἶναι τῶν αἰσθητῶν τινές, ὥστε ἐν ταύταις ζητητέον πρῶτον.

71 Similarly M. Burnyeat (2001) p. 63, argues that with “ἐπέλωμεν” at 1042a25 Aristotle “begins a new movement towards the ultimate goal of first philosophy”.

72 ὅσα δὲ μὴ ἔχει ὕλην, πάντα ἀπλῶς ὅπερ ἓν τι.

ἔχειν ὕλην, which, as we have seen, marks the beginning of the substantive enquiry of H. The first two references are in chapter 7, while the third one is in chapter 15⁷³.

At Z7 1032a20-22 Aristotle starts the physical analysis of the ways of becoming stating that:

“all things produced either by nature or by art have matter (ἔχει ὕλην), for each of them is capable both of being and of not being, and this capacity is the matter in each”.

Later, in Z7 1032b31-1033a5, Aristotle shows how:

“Obviously then some part of the result will preexist of necessity; for the matter is a part; for this is present in the process and it is this that becomes something. But is the matter an element even if in the formula? We certainly describes in both ways what brazen circles are; we describe both the matter by saying it is brass, and the form by saying that it is such and such a figure; and figure is the proximate genus in which it is placed. The brazen circle, then, has its matter in its formula (ἔχει ἐν τῷ λόγῳ τὴν ὕλην)”.

In the former passage Aristotle shows which ontological structure characterizes those things that are subject to becoming. He argues that their potentiality of being or not being depends on matter. In the latter passage he deals with the definitional side of the issue, claiming that what comes out from matter has matter in its formula.

Moreover, at Z11 1036b21-30, Aristotle clearly states that:

“to bring all things thus to Forms and to eliminate the matter is useless labour; for some things surely are a particular form in a particular matter, or particular things in a particular state. And the comparison which Socrates the younger used to make in the case of animal is not good; for it leads away from the truth, and makes one suppose that man can possibly exist without his parts, as the circle can without the bronze. But the case is not similar; for an animal is something perceptible, and it is not possible to define it without reference to movement—nor, therefore, without reference to the parts and to their being in a certain state⁷⁴”.

73 Before Z such a construction occurs once in α (see chapter 3 995a17) and once in E (see chapter 1 1026a2).

74 τὸ πάντα ἀνάγειν οὕτο καὶ ἀφαιρεῖν τὴν ὕλην περίεργον· ἕνια γὰρ ἴσως τόδ' ἐν τῷδ' ἐστιν ἢ ὡδι ταδι ἔχοντα. καὶ παραβολὴ ἢ ἐπὶ τοῦ

However, in several other places of Z Aristotle seems to put into discussion the role of ὕλη in the search for the meaning of what is substance.

In Z's third occurrence of the construction ἔχειν ὕλην, for instance, we are in the face of a less permissive view on the place of matter in definition, for Aristotle argues that:

“There is neither definition nor demonstration of sensible individual substances, because they have matter whose nature is such that they are capable both of being and of not being (ὅτι ἔχουσιν ὕλην ἧς ἡ φύσις τοιαύτη ὥστ’ ἐνδέχασθαι καὶ εἶναι καὶ μὴ)”⁷⁵.

In Z3, as above-mentioned, Aristotle rejects that the notion of ὑποκείμενον is a criterion sufficient for characterizing substancehood since this would make matter to be substance in a primary way. And Aristotle discards this hypothesis, for matter lacks thisness and separateness. In the abstract analysis of the notion of essence (τὸ τί ἦν εἶναι) in Z4-6, no reference to matter is present. In Z10, where Aristotle deals with the constituent parts of definition, matter seems to be a sort of unwelcome guest threatening the unity of definition guaranteed by the notion of form. At Z10 1036a8-9, for instance, Aristotle defines ὕλη as something “in itself unknowable” (ἄγνωστος καθ’αυτήν). Also in Z11, and despite the above quoted passage of 1036b21-30, Aristotle provides a deflationary account both of the role of matter in definition and of its ontological content. In fact, at 1037a25-28, he says that:

“the formula of the substance will not contain those parts that are parts as matter- which indeed are not parts of that substance at all, but of the substance which is the combined whole. And this latter in a way does not have a formula, though in another way it

ζῶου, ἦν εἰώθει λέγειν Σωκράτης ὁ νεώτερος, οὐ καλῶς ἔχει· ἀπάγει γὰρ ἀπὸ τοῦ ἀληθοῦς, καὶ ποιεῖ ὑπολαμβάνειν ὡς ἐνδεχόμενον εἶναι τὸν ἄνθρωπον ἄνευ τῶν μερῶν, ὡσπερ ἄνευ τοῦ χαλκοῦ τὸν κύκλον. τὸ δ’ οὐχ ὅμοιον· αἰσθητὸν γὰρ τι τὸ ζῶον, καὶ ἄνευ κινήσεως οὐκ ἔστιν ὀρίσασθαι, διὸ οὐδ’ ἄνευ τῶν μερῶν ἔχοντων πῶς.

75 See Z15 1039 27-30.

does; when taken together with its matter it does not have a formula, since matter is indeterminate (ἀόριστον), but it does have a formula in accordance with its primary substance”.

To sum up, in Book Z matter is regarded as something that lacks determinateness and that is in itself unknowable. However, both the physical doctrine of becoming and the existence of some living things, as for instance the animals, which have their material parts somewhat organized, are evidence of matter's substancehood. In other words, a metaphysical account which gives no room to the notion of matter can not be consistent with one of the most important Aristotelian doctrines, namely the doctrine of hylomorphism. I argue that in Book H Aristotle aims at making his hylomorphism consistent with the path developed so far in the *Metaphysics*⁷⁶. However, this entails a less deflationary reading of both the ontological status of matter, and of its role in definition, than those provided in Z.

As a matter of fact, the clearest account of what matter is, which is given in Book Z, is that of Z3. It is likely, then, that Aristotle begins his fresh account of matter in H by recalling that discussion. This seems to be confirmed by H1 1042a26-31:

“The substratum is substance, and this is in one sense the matter (and by matter I mean that which, not being a “this” actually, is potentially a “this”), and in another sense the formula or shape (that which being a “this” is *separate in formula*), and thirdly the complex of these two, which alone is generated and destroyed, and is *separate without qualification*⁷⁷; for of substances completely expressible in a formula some are separable and some are not”⁷⁸.

76 It is not casual the fact that in the final chapter of the Book, H6, Aristotle aims mainly at showing the power of hylomorphism over the other model of scientific explanation, and over the Platonic doctrine of Forms especially.

77 Here I differ from Ross, since he gives two different translations for the two references to χωριστόν at lines a29-a30. While in the former case he translates “τῷ λόγῳ χωριστόν ἐστὶν” with “can be separately formulated”, in the latter case he translates “χωριστόν ἀπλῶς” with “without qualification capable of separate existence”. More cautiously, I prefer to give a more literal translation of the two references to χωριστόν, which preserves the symmetrical structure of the passage.

78 ἔστι δ' οὐσία τὸ ὑποκείμενον, ἄλλως μὲν ἢ ὕλη (ὕλην δὲ λέγω ἢ μὴ

Here Aristotle does not recall, as some scholars think⁷⁹, the results of Z3 omitted in the previous summary. Instead, he addresses the ontological status of matter by revising the deflationary account of Z3. This entails, as we shall see, also a revision of the three criteria of substancehood that lead the discussion of Z3: being a *substratum*, being a *this* and being *separate*.

In Z3 Aristotle starts off the enquiry on the notion of substratum arguing that:

“In one sense matter is said to be of the nature of substratum, in another shape, and in a third, the compound of these. (By the matter I mean, for instance, the bronze, by the shape the pattern of its form, and by the compound of these the statue, the concrete whole). Therefore if the form is prior to the matter and more real, it will be prior also to the compound of both, for the same reason”⁸⁰.

As we have seen above, Z3 goes on claiming that if we think that substance mainly consists in being a substratum, then, matter will appear as primary substance. However, this outcome must be avoided since matter lacks those features of *thisness* and *separateness*, which are exhibited by form and composite especially (1029a26-30).

Before comparing Z3's account on matter with the one in H1, it is necessary to clarify two points. In Z3: 1) Aristotle deals with the notion of ὑποκείμενον within a categorial framework; 2) he understands the three criteria of substancehood as not mutually related.

These two elements are at work throughout the whole Z3 and especially in lines 1029a7-30, which represent the bulk of the chapter. Here I will provide my reading of these lines, by

τόδε τι οὔσα ἐνεργεία δυνάμει ἐστὶ τόδε τι), ἄλλως δ' ὁ λόγος καὶ ἡ μορφή, ὃ τόδε τι ὄν τῷ λόγῳ χωριστόν ἐστιν· τρίτον δὲ τὸ ἐκ τούτων, ὅου γένεσις μόνου καὶ φθορά ἐστὶ, καὶ χωριστόν ἀπλῶς· τῶν γὰρ κατὰ τὸν λόγον οὐσιῶν αἱ μὲν αἰ δ' οὔ.

79 Cf. M. Wedin (2000) p. 173.

80 1029a2-7.

focusing on three parts of the argument separately.

The first part consists in the already quoted statement of 1029a7-10:

“We have now outlined the nature of substance, showing that it is that which is not predicated of a stratum, but of which all else is predicated. But we must not merely state the matter thus; for this is not enough. The statement itself is obscure, and further, on this view, matter becomes substance”.

Here Aristotle approaches the notion of ὑποκείμενον, which is one of the candidates for οὐσία highlighted at the beginning of the chapter, following the perspective developed in the *Categories*⁸¹. This is consistent with one of the main tasks of Z as a whole, for Z deals with the question of being starting from the categorial assumption that substance is the primary meaning of τὸ ὄν⁸². Now, although in the *Categories* such a perspective clarifies how an individual thing is substance as ultimate substratum for all its possible determinations, in Z3 Aristotle tries to apply this model to the items of hylomorphism. What turns out is a sort of process of *predicative regression* that ends with matter. This appears to be evident in the second part of the argument at 1029a10-26:

“For if this is not substance, it baffles us to say what else is. When all else is stripped off evidently nothing but matter remains. For while the rest are affections, products and potencies of bodies, length, breadth, and depth are quantities and not substances (for a quantity is not a substance), but the substance is rather that to which these belongs primarily. But when length and breadth and depth are taken away we see nothing left unless there is something that is bounded by these; so that to those who consider the question thus matter alone must seem to be substance. By matter I mean that which in itself is neither a particular thing nor of a certain quantity nor assigned to any other of the categories by which is determined. For there is something of which each of these is predicated, whose being is different from that of each of the predicates (for the predicates

81 See *Categories* 5 2a11-14: Οὐσία δέ ἐστιν ἡ κυριώτατά τε καὶ πρῶτως καὶ λεγομένη, ἢ μήτε καθ' ὑποκειμένου τινὸς λέγεται μήτε ἐν ὑποκειμένῳ τινί ἐστιν οἷον ὁ τις ἄνθρωπος ἢ ὁ τις ἵππος.

82 Cf. Z1 1028a10-20

other than substance are predicated of substance, while substance is predicated of matter). Therefore the ultimate substratum is of itself neither a particular thing nor of a particular quantity nor otherwise positively characterized; nor yet is it the negations of these, for negations also will belong to it only by accident”.

This part of Z3 presents us the well-known process of *stripping-off* of substance. Aristotle proposes a sort of mental experiment that consists in deleting from substance all its possible determinations. At the end of this process what remains is matter. In my opinion, here Aristotle aims at showing which result turns out if we radicalise the understanding of substance as ὑποκείμενον within a categorial framework. What this process ends up identifying is a sort of bare matter, which cannot be accepted as primary οὐσία, since the main features of substance appear to be thisness and separateness. This leads Aristotle to conclude in 1029a26-30:

“If we adopt this point of view (ἐκ τούτων θεωροῦσι), then, it follows that matter is substance. But this is impossible; for both separability and “thisness” are thought to belong chiefly to substance. And so form and the compound of form and matter would be thought to be substance, *more* (μάλιστα) than matter”.

Now, as we have seen, in H Aristotle begins his substantive analysis moving from the assumption in 1042a25-26 that “sensibles substance all have matter”. Then, he revises the tripartition of substratum of Z3. The project can be sketchily described in this way: the starting-point of H is to come back to the enquiry on the agreed substances. These are the sensible ones, and all sensible substances have matter as distinctive ontological mark. But, since Z3's framework has provided a deflationary account of matter, Aristotle must provide us with a different one. This entails that also the three criteria of substancehood described in Z3 need to be revised. Aristotle succeeds in this by a dynamic understanding of the three criteria: instead of being considered as independent from each other, as

happened in Z3, they can be seen as mutually related⁸³. Understanding the three criteria of substancehood within a dynamic framework means to consider them through the conceptual polarity expressed by the notions of potentiality and actuality⁸⁴.

This is my reading of what Aristotle argues at lines 1042a26-31, which I report again at length:

“The substratum is substance, and this is in one sense the matter (and by matter I mean that which, not being a “this” actually, is potentially a “this”), and in another sense the formula or shape (that which being a “this” is separate in formula), and thirdly the complex of these two, which alone is generated and destroyed, and is separate without qualification; for of substances completely expressible in a formula some are separable and some are not”.

This passage recalls the tripartition of substratum in matter, form and composite already stated at Z3 1029a1-3. However, Aristotle reworks it through the concepts of *being potentially* and *being actually*, which will be the main focus of the next Book Θ. The key-notion is that of “being a τὸδε τι”, which in Z3, together with “being separate”, is said to belong to form and composite only. Here Aristotle shows how matter too can be regarded as something determinate, as a “this”. Matter too is something determinate, though not actually as form and composite, but only potentially.

Aristotle reads the relation between the three criteria of substancehood and the three items of hylomorphism according to a logic that I will call of “progressive saturation”. 1) All the

83 On this point I roughly agree with M.L. Gill (1989), p.18 n.8.

84 As remarked by W.D. Ross in his Introduction to Aristotle's *Metaphysics* (1924) p. cxxiv: “the expressions potentiality and actuality, almost entirely absent in Z, play a considerable part in H, as Aristotle passes from the static consideration of substance to the dynamic consideration of change”. See also M. Burnyeat (2001) p. 69: “Aristotle's reworking of the form-matter contrast, in terms of the more general notions of actuality and potentiality, continues all-throughout H and comes to a climax in H6”.

items involved - matter, form and composite - are substrata⁸⁵; 2) matter is not separate at all⁸⁶, but it is a *this potentially* though not actually, 3) form, being a *this actually*, is separate in formula⁸⁷; 4) composite is a *this actually* and is separate without qualification⁸⁸.

We can now sketch a comparison between Z3 and H1. In Z3 the relation among the three criteria of substancehood is neither

85 The majority of scholars finds some difficulties in understanding why Aristotle here defines form too as a substratum. D. Devereux (2003) p. 198 n.70 argues that “we face the same puzzle as in Z3: Aristotle first states that matter, form and composite, are underlying subjects, but then proceeds to argue that only one (in Z3) or two (in H 1-2) can be said to qualify as genuine underlying subjects”. Some scholars have proposed different readings: D.R. Cousin (1933) recalls Z13 1038b5-6 as possible reference, where, however, Aristotle seems to distinguish two meanings of “being a substratum”, which fit better with composite and matter respectively: as the animal which underlies its attributes or as the matter which underlies its actuality. Similarly in Θ7 1049a27-36. M. Frede (1985, 1987²), p.76, argues that in *Metaphysics* ZHΘ Aristotle restricts substances to natural objects: animate things are paradigms of objects and soul is form *par excellence*. Then, according to Frede, when Aristotle refers to the subjecthood of form, as he does in H1, he looks at the soul as the principle of organization of an object. This principle guarantees that the object leads the kind of life characteristic of that kind of object. “If we analyse an ordinary physical object into matter, form and properties, the only item in the case of animate objects that has to stay the same as long as we can talk about the same thing is, on this account, the form”. As is evident, Frede qualifies the notion of form as ὑποκείμενον as the function which ensures diachronic unity to a natural object. Similar positions are defended by C. Shields (1988). Both against Frede and Shields, H. Granger (1995), argues that “because Aristotle has analysed away the criterion of subjecthood into the ambiguity of “thisness” and “separability” and even into other senses, including at least “matter” as the subject of form, he has eviscerated his original powerful criterion of ultimate subjecthood, so that it no longer provides him with good service in his ontology”. I disagree with Granger since I do not accept as valid the main assumption which stand on the background of his argument. Namely, I do not read H1's tripartition as entailing that “subjecthood becomes resolved into “thisness” and “separability”. By contrast, I argue that Aristotle provides us with a complementary reading of such three criteria, where no resolution of one or more criteria into the other/s is given.

Indeed, although it is much clearer the sense why matter and composite are sorts of substrata, the fact that form too is said to be substratum is not so puzzling. To describe matter, form and composite as substrata is only the more economical way to frame hylomorphism within one of the fourth logical specifications of substantial beings established at the beginning of Z3. However, while in Z3 Aristotle deals with the notion of ὑποκείμενον in categorial terms, in H1 he approaches this very same notion looking at its physical role of underlying subject of physical changes. As we shall see in the following, this role entails a reference not only to the notions of matter and composite, but also to that of form. See my remarks on H1

mutual nor provides us with an ordered series of the three items that definehylomorphism. Aristotle simply argues that matter, form and composite are substrata and that thisness and separateness belong to form and composite only. By contrast, in H1, thanks to the dynamic understanding of the notion of τóδε τι, he supplies an ordered series of relations both among the criteria of substancehood and among matter, form and composite. To be *potentially* a *this* (δυνάμει ἐστὶ τóδε τι) provides matter with a sort of relative determinateness, which is excluded in the categorial approach of Z3; to be *actually* a *this* (τóδε τι ὄν) provides form with the possibility to be separated in the formula; composite only saturates at full the three criteria of substancehood, since it is said to be separate without qualification (χωριστὸν ἀπλῶς)⁸⁹. This text shows how the dynamic understanding of the τóδε τι – criterion for substancehood entails different outcomes for matter and form. Matter is said to be *potentially* a this. Form is said to be separable in the notion because it is *actually* a this. This means that the ontological thisness of a form – namely that form is always a form of a determinate sort – entails that form can be defined independently from the material object it belongs to⁹⁰.

1042b1-3.

86 In *On Generation and Corruption* Aristotle says explicitly that matter is not separate. Cf. II 1 329a8-13, 29-32.

87 W.D. Ross (1924) p.227 rightly reminds us *Metaphysics* Δ8 1018a24-26. See also *Physics* B1 193b4-5.

88 Cf. Z8 1033b16-19.

89 Truth be told, the text says only that composite is substratum and separate in existence. However it is clear that it is also a *this*. Cf. *Metaphysics* Z8 1033a31; Z13 1038b5-6.

90 J. Owens (1951, 1978³) p.380, argues that we should read the Greek term “λόγω” (“in notion”) at line 29, as endowed with an objective meaning and as equivalent to “separate in form”. Then, as he suggests, we should construe the Aristotelian reference to the separateness of form not as indicating its “separability by thought”, as traditionally regarded, but rather as “separate in intelligible content”. “The intelligibility of such a form is in no way dependent on its substrate, as on the contrary that of an accident is. This form is an intelligible content, in itself. The matter that makes its substrate adds no intelligibility to it whatsoever. The accidents that follow upon it are not required for its intelligibility. In itself it is a

The final statement of line 1042a31 that “for of substances completely expressible in a formula some are separable and some are not” is meant to distinguish en-mattered forms from immaterial ones, which are separate without qualification⁹¹.

As we have seen, the main result of H1 1042a26-31 consists in a dynamic rework of the criterion of thisness, which entails a complementary reading both of the three criteria of substancehood and of the three items of hylomorphism. Aristotle proceeds gradually. He must revise Z's deflationary account of matter, but in order to accomplish this task, he must first revise the account of the three criteria of substancehood. This point is gained through a dynamic understanding of them, which results from employing the conceptual polarity expressed by the notions of potentiality and actuality⁹².

In the final part of H1, at 1042a32-b8, Aristotle goes on showing the physical evidence for the substancehood of matter:

complete intelligible unity, and so separate in knowable content from all else that depends upon it in the sensible thing” (pp. 381-82). It is far from clear to me on which point Owens focuses here. First, his account seems to be circular: the form is separate in notion since it is separate in form and, hence, would seem that form is separate *qua* form. Second, although Owens attributes to the expression “τῷ λόγῳ χωριστόν” an objective meaning, he concludes that, in virtue of its intelligible content, form is separate in knowable content. Third, the way in which Owens builds the relation between matter, form and composite is misleading. In H1, in fact, Aristotle does not aim to explain the independence of form on matter and accidents for no reference to accidents is actually present in the text.

91 W.D. Ross (1924) p.227 identifies the separate forms with the νοῦς, recalling chapters 7 and 9 of *Metaphysics* Λ and *On the Soul* 413b24, 429b5, 430a22. D. Bostock (1994) p.251 argues that “the exceptional forms that are genuinely separable are presumably the unmoved mover(s) of the universe”. M.L. Gill (1989) p.35, signals Prime Mover as an instance of “this special groups of forms that can exist without matter”. Whatever are the beings which Aristotle is here referring to, we can read this reference simply as intended to complete from an abstract viewpoint the distinction made above. He will come back on this point in H3 1043b18-23. See §3.3

92 For a further reading of the relation between H1 and Z3 which is however very far from mine, see especially D. Devereux (2003). According to him, Z3 is a revised version of the parallel discussion in H1, which would be an earlier and incomplete version of the former. As it is clear, my argument goes the other way round. To my opinion, H1 is the revised version of the deflationary account of matter and substratum of Z3.

“But clearly matter also is substance; for in all the opposite changes that occur there is something which underlies the changes, e.g. in respect of place that which is now here and again elsewhere, and in respect of increase that which is now of one size and again less or greater, and in respect of alteration that which is now healthy and again diseased; and *similarly* in respect of substance there is something that is now being generated and again being destroyed, and now underlies the process as a “this” and again underlies it in respect of a privation of positive character. And in *this* change the others are involved. But in either one or two of the others this is not involved; for it is not necessary if a thing has matter for change of place that it should also have matter for generation and destruction. The difference between becoming in the full sense and becoming in a qualified sense has been stated in our physical works”⁹³.

First of all, we must ask ourselves why Aristotle, in the middle of his metaphysical account, makes a reference to further places of the *corpus* that are explicitly mentioned as concerning physical arguments⁹⁴.

I believe that once revised the notion of matter through the dynamic understanding of Z3's criteria of substancehood, Aristotle aims at showing the positive ontological status of matter by recalling its physical evidence. Indeed, every sort of change presupposes something which underlies it and this is matter. Thus, Aristotle can argue at line 1042a32, that “clearly matter also is substance”.

It is possible to show how also in this passage Aristotle provides a different account of the criteria of substancehood of Z3. While

93 ὅτι δ' ἐστὶν οὐσία καὶ ἡ ὕλη, δῆλον· ἐν πάσαις γὰρ ταῖς ἀντικειμέναις μεταβολαῖς ἐστὶ τι τὸ ὑποκείμενον ταῖς μεταβολαῖς, οἷον κατὰ τόπον τὸ νῦν μὲν ἐνταῦθα πάλιν δ' ἄλλοθι, καὶ κατ' αὐξήσιν ὃ νῦν μὲν τηλικόνδε πάλιν δ' ἔλαττον ἢ μείζον, καὶ κατ' ἀλλοίωσιν ὃ νῦν μὲν ὑγιὲς πάλιν δὲ κάμνον· ὁμοίως δὲ καὶ κατ' οὐσίαν ὃ νῦν μὲν ἐν γενέσει πάλιν δ' ἐν φθορᾷ, καὶ νῦν μὲν ὑποκείμενον ὡς τόδε τι πάλιν δ' ὑποκείμενον ὡς κατὰ στέρησιν. καὶ ἀκολουθοῦσι δὴ ταύτηι αἱ ἄλλαι μεταβολαί, τῶν δ' ἄλλων ἢ μιᾶ ἢ δυοῖν αὕτη οὐκ ἀκολουθεῖ· οὐ γὰρ ἀνάγκη, εἴ τι ὕλην ἔχει τοπικὴν, τοῦτο καὶ γεννητὴν καὶ φθαρτὴν ἔχειν. τίς μὲν οὖν διαφορὰ τοῦ ἀπλῶς γίγνεσθαι καὶ μὴ ἀπλῶς, ἐν τοῖς φυσικοῖς εἴρηται.

94 The majority of scholars follow Ross, who suggests that the last reference to a discussion already stated in the “physical works” (ἐν τοῖς φυσικοῖς εἴρηται) recalls what Aristotle argues in *Physics* 225a12-20 and in *On Generation and Corruption* 317a17-31.

in the previous lines of 1042a26-31 he reworks the notion of τὸδε τι especially, here he deals with the notion of ὑποκείμενον. While in Z3 Aristotle approaches the notion of substratum as ultimate subject of predication, in H1 he approaches it as subject of physical changes. This new perspective allows Aristotle to reach a different result than that of Z3. While in that chapter the process of predicative regression implied by the stripping-off experiment ended with bare matter, in H1 the substancehood of matter is affirmed by taking as a starting-point its being the underlying subject of all sorts of change.

Now, the description of matter as underlying subject in changes of place, quantity and quality is quite plain. Aristotle describes the change from one place to another, from one size to another and from one qualitative state to another in temporal terms. This appears clearly from the threefold repetition of the temporal clauses νῦν-πάλιν (“now”- “again”). Matter as underlying subject is the concrete individual substance (i.e. Socrates) which can be: a) now here and again elsewhere; b) now of one size and again less or greater; c) now healthy and again diseased. The temporal structure wherein Aristotle frames his description of the different changes shows clearly why the substancehood of matter is regarded as evident⁹⁵. Matter is substance since it is necessary that something underlies and persists during the change from one state (local, quantitative or qualitative) to another.

On the contrary, lines 1042b1-3, where Aristotle deals with the matter as involved in the processes of generation and destruction, are, at first glance, rather puzzling. The puzzle concerns the previous description of matter as *potentially* a this and its apparent clashing with the claim at 1042b2-3, where Aristotle seems to argue that matter is *actually* a this. This point

95 Cf. 1042a32.

has been stressed by Gill in her paper “Metaphysics H1-5 on Perceptible Substances” (1996), where she develops the account of H1 already provided in the monograph “Aristotle on Substance. The Paradox of Unity” (1989). Gill asks why Aristotle speaks of the subject in generation as a this, rather than as *potentially* a this. As it is evident, the puzzling point regards the relation between the former qualification of matter as being a substratum “δυνάμει τόδε τι” (line 1042a28) and the latter qualification of matter as being a substratum τόδε τι (1042b2-3). To report Gill's words: “without the crucial qualifier, he appears to be claiming that matter in generation is actually a this”⁹⁶. The same puzzle was raised by Gill also in her previous monograph:

“If the chapter is consistent, Aristotle must be making two kinds of claims when he first denies that matter is actually τόδε τι and later uses its actual thisness in a particular context as evidence for its claim to substantiality”⁹⁷.

In order to solve this puzzle, let us now proceed, then, to the textual analysis of lines 1042b1-3.

After describing the other types of changes, where the role of matter is played by a concrete individual which is subject to changes of place, quantity and quality, Aristotle argues that:

“analogously (ὁμοίως) in respect of substance (κατ'οὐσίαν) there is something that is now being generated (ὁ νῦν μὲν ἐν γενέσει) and again being destroyed (πάλιν δ' ἐν φθορᾷ), and now underlies the process as a “this” (καὶ νῦν μὲν ὑποκείμενον ὡς τόδε τι) and again underlies it in respect of a privation of positive character (πάλιν δ' ὑποκείμενον ὡς κατὰ στέρησιν)”.

Here Aristotle describes the substantial generation by using the same temporal structure that had previously framed the other types of change. This emerges from the usage of the temporal

⁹⁶ M.L. Gill (1996) p. 219.

⁹⁷ M.L. Gill (1989) p. 87. The same conclusion is stated in M.L. Gill (2008) p.403 n.25.

adverbs *νῦν-πάλιν*. The first claim of the passage is not problematic, for it is quite easy to identify what is “now being generated” with matter in its own right and what is “again being destroyed” with matter as the individual composite substance. By contrast, the second claim appears at first glance to be puzzling, for it seems to entail that the very same subject which is before said to be “now in generation”, namely matter in its own right, underlies the process as a *this*. However, this seems to be at odds with the previous qualification of matter as not actually, but only potentially a *this* (1042a27-28).

In his commentary, Ross offers a reading which escapes this difficulty. According to him, the clause *νῦν μὲν* at line 2 refers to the time when a substance is being destroyed and what underlies destruction is matter qualified by a positive form, i.e. a *τόδε τι*. By contrast, the clause *πάλιν δὲ* at line 3 refers to the time when a substance is being generated and what underlies generation is matter qualified by a privation⁹⁸. As seems to be implicit, in Ross's reading the contrast applies chiastically. Gill replies that this reading ignores the force of Aristotle's syntax, since, as in the previous four cases, also in the case of substantial generation Aristotle uses the “now-again” construction. Thus, Gill argues that the matter that is turned into something else has its own proper identity; it is *τόδε τι* in virtue of what it actually is, apart from what it becomes. Gill concludes her reading of H1 1042b1-

98 W.D. Ross (1924) p. 227. This reading is accepted by the *Londinenses* (1984) p. 2, “*νῦν-πάλιν* in 1042b 2-3 switch their previous role”. D. Bostock (1994), p. 252, tackles the puzzle, though not providing a solution to it: “one can only conclude that Aristotle's description is somewhat careless”. T.H. Irwin (1988) p. 572 n.11 Ch. 12, has proposed a further reading of these lines, moving from the distinction between proximate and remote matter. Scholar admits to be unsure whether 1042a32-b8 refers (a) to proximate matter, or (b) to remote matter: “If the *hupokeimenon hōs kata sterēsīn* of 1042b3 is the matter that precedes the existence of a natural organism, (b) is required – and that would be the normal use of *kata sterēsīn*. But (a) is tenable if this subject is the subject that comes into being and passes away; in that case *kata sterēsīn* will refer to the subject as a potential *this* as opposed to the actual *this* that is the form”.

3 saying that:

“When Aristotle says earlier that matter is not actually but merely potentially τὸδε τι, he focuses on matter that can be turned into a particular product and considers it in relation to that product (...) The passage at the end of H1 accords with the earlier text because the claim that matter is actually τὸδε τι does not concern the relation of matter to a higher complex: the matter is *potentially this*. Instead the claim concerns what the matter is in itself, and it is *actually this*”⁹⁹.

Both the reading of H1 1042b1-3 provided by Ross and the one defended by Gill have some strong points. Contra Gill it seems quite unlikely that Aristotle supplies in few lines two different, or to say better, two opposite accounts of matter's thisness (that would be only *potential* before and *actual* later). For this reason, the way by which Ross constructs the passage is more cautious, at least conceptually. Moreover, several passages in the corpus show clearly how matter in itself (to use Gill's formula) cannot be regarded as a τὸδε τι¹⁰⁰. If we refer to *De Anima* II1 412a6-11, for instance, it seems clear that the matter in itself cannot be regarded as a τὸδε τι:

“We are in the habit of recognizing, as one determinate kind of what is, substance, and that in several senses, (a) in the sense of matter or that which in itself is not “a this” (καθ’αὐτὸ οὐκ ἔστι τὸδε τι), and (b) in the sense of form or essence, which is that precisely in virtue of which a thing is called “a this”, and thirdly (c) in the sense of that which is compounded of both (a) and (b). Now matter is potentiality, form actuality”.

Furthermore, looking at the role of matter in generation, Gill's account seems to be contradicted by what is argued in *On Generation and Corruption* I3 317b23-25:

“For if a substantial thing comes-to-be, it is clear that there will be (not actually, but potentially) a substance, out of which its coming-to-be will proceed and into which the thing that is passing-away will necessarily change”.

Finally, that matter could be regarded as something in actuality is also at odds with the very beginning of the next chapter of H. In

99 M.L. Gill (1989) p. 89.

100 Within the *Metaphysics* cf. Z3 1029a20, Z13 1038b4-6, Θ7 1049a27-b3.

fact, Aristotle starts H2's analysis by stating clearly that matter is what exists potentially:

“Since the substance which exists as underlying and as matter is generally recognized, and this is that which exists potentially (αὕτη δ' ἔστιν ἡ δυνάμει), it remains for us to say what is the substance, in the sense of actuality, of sensible things”¹⁰¹.

Contra Ross, the syntax of lines 1042b1-3 would seem to support Gill's account. The repetition of the temporal clauses νῦν-πάλιν, in fact, goes against the chiasmos supposed by Ross. At least at first glance a) the subject that is “now in generation” appears to be the same subject which “now underlies the process as a this”; and b) the subject that is “again in destruction” appears to be the same subject which “again underlies it in respect of a privation of positive character”.

Here I will attempt to sketch out a different reading of H1 1042b1-3. To avoid both Gill's conclusion that matter in generation is actually a *this* and Ross's idea that Aristotle builds up the passage with a chiasmos, I suggest that the repetition of the temporal clauses νῦν-πάλιν at 1042b1-3 must not be read as expressing two relations of contemporaneity. In other words, I do not believe that the *now* which at b1 qualifies the time of the subject in generation and the *now* which at b2 qualifies the time of the subject as a *this*, both qualify the same time. While in the former case Aristotle refers to matter as the subject which becomes in generation, in the latter he refers to matter at the end of the process of generation and, thus, to the matter which, now having its own form, is a *this*. In the same way, the *again* which at b2 qualifies the time of the subject in destruction and the *again* which at b3 qualifies the time of the subject in respect of a privation of positive character, must be referred to two different periods of time. While the former refers to the matter which is in the process of destruction, the latter refers to the matter, which,

101 Cf. H2 1042b9-11.

having lost its own form, is a deprived subject. Hence, I argue that while in the first clause of 1042b1-2 Aristotle refers to the subjecthood of matter *during* the processes of generation and corruption, in the second clause of 1042b2-3 he refers to the *termini* of these processes, namely the matter as a subject informed and the matter as a subject deprived of form. This reading seems to be consistent if we bear in mind that Aristotle is here recalling his theory of becoming. And the principles of becoming, beyond matter, are form and privation¹⁰². To sum up, the reference to a subject which is τὸδε τι at 1042b2 is not at odds with the claim of 1042a27-28 that matter is τὸδε τι only potentially, since they do not refer to the same time of the generation's process. To put the question in other words, I argue that in the second clause of 1042b1-3 Aristotle aims at showing the peculiar subjectivity of form, which he has previously stressed in the tripartition of 1042a26-30. Such a subjectivity does not emerge the way it emerges in the cases of the accidental predication of a composite being. Rather, it must be understood in its physical relation with the opposite notion of privation. Form, in this sense, is subject as ending point of matter's generative or productive processes¹⁰³.

This reading allows us to retain Ross's account, which is conceptually more consistent than Gill's one, without postulating a chiasical structure between the two statements of 1042b1-3.

Aristotle goes on at lines 1042b3-6 in the following way:

“And in *this* change the others are involved. But in either one or two of the others this is not involved; for it is not necessary if a thing has matter for change of place that it should also have

102 As we shall see later, this reading of H1 1042b1-3 seems to be confirmed by what Aristotle argues in H5 1044b29-34. See §5

103 Some clarifications on this point can be grasped from Θ8 1050a15-16: “matter exists in a potential state, just because it may attain to its form; and when it exists *actually*, then it is in its form”. On the relation of contrariety between privation and form see Z7 1032b2-4 and Iota4 1055b11-13.

matter for generation and destruction”.

Here Aristotle deals with the relations of mutual implication that occur among the different sorts of change. As the *Londinenses* show correctly, the thesis here is not that substantial change is presupposed by the others, but that it entails the others, since any substance which comes to be is liable to the other three types of change¹⁰⁴. It is not easy to understand which one of the other two changes is not implied by substantial generation (τῶν δ' ἄλλων ἢ μιᾶ ἢ δυοῖν αὕτη οὐκ ἀκολουθεῖ). The text is clear only about what has matter for change of place. Namely about those things that do not need to have a matter for substantial generation¹⁰⁵.

The phrase ὕλη τοπική at 1042b6 is a *hapax legomenon*. However, as suggested by Ross¹⁰⁶, similar occurrences are in H4 1044ab 9 (ὕλη κατὰ τόπον κινητήν) and in Λ2 1069b26 (ὕλη ποθὲν ποί). In both contexts the reference is to those substances which are physical, but also eternal: these substances, like the stars and the heavenly bodies, have a matter susceptible to move only from one point to another.

It seems to me that this remark on what has only a matter for changes of place is somewhat parallel to the previous remark of 1042a31. In that context, after reminding the ways of being a substratum, Aristotle had pointed out that: “for of substances completely expressible in a formula some are separable and some are not”. As we have already noted, this probably hints at the distinction between en-mattered forms and immaterial ones. While the former are separate for the notion, despite they always occur in a composite of matter and form, the latter are, without qualification, separate in existence. Here too, at the end of the

104 Cf. *Londinenses* (1984) p. 3.

105 On the priority of local change over the other kinds of change see *Physics* Θ7 260a26-261a26.

106 W.D. Ross (1924) p. 227.

paragraph about the various kinds of being an underlying subject of changes, Aristotle hints at those substances which are not subject to generation and corruption. This allows us to suppose that even if H's main task is to accomplish Z's enquiry, Aristotle is, at the same time, looking already ahead. In order to identify better which further goal could be implied in H, we must conclude our analysis of H1 by recalling its main highlights.

§1.5 The search for the principles of substances and the emergence of hylomorphism

Thus far we have noticed how in H1 Aristotle starts an enquiry that has two main tasks: 1) to collect the arguments discussed in Book Z; 2) to provide a conclusion to the enquiry on substance. This is evident looking at the very beginning of chapter 1, where Aristotle argues that “we must reckon up the results arising from what has been said, and having computed the sum of them, put the finishing touch to our inquiry” (1042a3-4). In the following, Aristotle points out which particular perspective Book H will move from: “we have said that the causes, principles and elements of substances are the object of our search” (1042a5-6). This framework is not at odds with that of Book Z, which starts from a categorial approach on being. Rather, it is meant to complete, or at least to develop, the theoretical path of the central Books of *Metaphysics*.

Here I do not want to supply an accurate account of such a path. However, it is possible to sketch some points out. First, we can take as starting-point of our schema the above-mentioned claim of Γ2 1003b17-19, where Aristotle argues that “it will be of substances that the philosopher must grasp the principles and the causes”. This statement brings forward what Aristotle develops in the remaining part of *Metaphysics*. In Book E the question of being is addressed from a very general viewpoint. The beginning of E1 clarifies that the object of the enquiry are “the principles and the causes of the things that are, and obviously of them *qua* being”¹⁰⁷. Book Z establishes that the primary meaning of being is substance. Especially from Z3 to Z6 the enquiry on the notion of substance is framed within a categorial perspective, where the

107 Αἱ ἀρχαὶ καὶ τὰ αἴτια ζητεῖται τῶν ὄντων, δῆλον δὲ ὅτι ἢ ὄντα. A further similar claim occurs also at the end of Book E. Cf. 1028a3-4: σκεπτέον δὲ τοῦ ὄντος αὐτοῦ τὰ αἴτια καὶ τὰς ἀρχὰς ἢ ὄν.

notion of matter seems to have a marginal role. Then, with the beginning of the physical analysis of becoming in Z7, it occurs what I will call “the emergence of hylomorphism” in the central Books of *Metaphysics*. In my view, starting from this place of Z, Aristotle approaches the question of substance looking at their basic constituents: matter and form. It is this very same emergence of hylomorphism that allows him, after Z6, to come back to the question about the principles of substances. For, the analysis of the notion of οὐσία into matter and form, which shows the ontological primacy of form, culminates in Z17, with the account of form as principle and cause. It is only within this perspective that the emergence of hylomorphism can be in H definitely conceived as grounding the search for the principles of being.

H1 reveals both the aspects here outlined. On one hand it starts off stating that the main object of the research are the causes, the principles and the elements of substances. And this seems to be consistent with the argument of Z17. On the other hand the substantive beginning of H1, and hence of Book H as a whole, is at 1042a26-27. Here Aristotle comes back to the analysis of sensible substances arguing that: “sensible substances all have matter”. As we have already stated, this claim recalls the investigation of Z7, where the hylomorphic analysis of substance emerges.

To sum up, Book H takes hylomorphism as ruling the search for principles and causes of substances. As we shall see in the following, throughout the whole H Aristotle addresses several issues concerning matter and form. At the end of the Book, in H6, Aristotle provides us with a conclusive argument in order to show the power of hylomorphism over other models of scientific explanation, and especially over the Platonic doctrine of Participation.

Here I assume that the search for the principles of substances ruled by the emergence of hylomorphism culminates in *Metaphysics* Λ , where Aristotle demonstrates the existence of some eternal substances. H represents an intermediate stage of this theoretical path, which must provide some further clarifications to Z's enquiry. Book Θ constitutes a further stage, where Aristotle supplies an accurate account of the notion of potentiality ad actuality, which will be decisive for the outcomes of Λ too¹⁰⁸. Nevertheless, it is likely that in H Aristotle is already looking for some outcomes that will be reached in Λ .

As a matter of fact, the text of H1 presents some analogies with some parallel passages of Λ . As above-recalled, the threefold reference to the search for causes, principles and elements of substances finds its closest parallel in Λ 1 1069a25-26. It is quite interesting that in the very following lines of Λ Aristotle distinguishes two main opinions on the argument:

“The thinkers of the present days tend to rank universals as substances (for genera are universals, and these they tend to describe as principles and substances, owing to the abstract nature of their enquiry); but the old thinkers ranked particular things as substances, e.g. fire and earth, not what is common to both, body”¹⁰⁹.

This contrast seems to be parallel to that which opens the summary of Z in H1 1042a6-12. In both cases the search for principles, causes and elements of substances stands on a dialectical background formed by naturalist philosophers on the one hand and by Platonists on the other. Thus, the beginning of Λ seems to be quite close to the beginning of H.

Moreover, also the construction $\epsilon\chi\epsilon\iota\nu \upsilon\lambda\eta\nu$ and the relative contrast between things that “have matter” and things that “do not have matter” - which we have above established as

108 Obviously, I am here referring to definition of eternal substances as actualities. Cf. Λ 6 1071b 19-22.

109 Λ 1 1069a26-30.

grounding Book H's argument - appear in Book Λ. For instance, at Λ2 1069b24-26 Aristotle argues that:

“All things that change have matter, but different matter; and of eternal things those which are not generable but are movable in space have matter – not matter for generation, however, but from motion to one place to another”¹¹⁰.

Here we find two references already at work in H1. First, it is stated that all things that change *have matter*. Similarly, in H1 1042a25-26 it is taken, as starting-point of the new enquiry, that “sensible things all *have matter*”. As we know, this very same construction appears in Z7, where the hylomorphic analysis of substance firstly emerges. Moreover, in the quoted passage of Λ1, it appears a reference to the sort of change which characterizes those substances which do not have matter for substantial generation, but for local change only.

Thus, we can trace a sort of path that starts from Z7 and arrives at Λ via H. In Z7 it occurs what I have called “the emergence of hylomorphism” in the central Books of *Metaphysics*. The distinctive mark of such theoretical framework is that all sensible substances, which are changeable, have matter. This very same framework leads all Book H and culminates in Λ with the deduction of that substance which, having neither matter nor potentiality at all, is unmoved: i.e. the Prime Mover. However, some hints to those substances which have a different ontological status from that of sensible substances are already present in H. In H1 this is testified both by the reference to those forms which are separate in existence (1042a31) and by the reference to those things which have matter for changes of place only (1042b5-6).

We must conclude that, even if the main task of H is to accomplish Z's enquiry, the Book reveals from its very beginning

110 πάντα δ' ὕλην ἔχει ὅσα μεταβάλλει, ἀλλ' ἑτέραν· καὶ τῶν αἰδίων ὅσα μὴ γενητὰ κινητὰ δὲ φορᾶ, ἀλλ' οὐ γενητὴν ἀλλὰ ποθὲν ποί.

a sort of outlook towards Book Λ's outcomes.

Two further elements of H1 seem to confirm this hermeneutical hypothesis: 1) the tripartition of the notion of substratum in matter, form and composite; 2) the schema of the various sorts of change;

1) In Λ3 1070a9-13 we find a tripartition which somewhat recalls the one of H1 1042a 25-31:

“There are three kinds of substance – the matter, which is a “this” in appearance (for all things that are characterized by contact and not by organic unity are matter and substratum), the nature, which is a “this” or positive state towards which movement takes place; and again, thirdly, the particular substance which is composed of these two, e.g. Socrates or Callias”¹¹¹.

Now, it is true that, while in H1 (and also in Z3), Aristotle speaks of matter, form and composite as substrata, here he refers to them as sorts of substances. However, it is possible to state that the passage of Λ3 and that of H1 are closer than what appears at first glance. Their main difference concerns the abstract character of H1's tripartition against the more concrete character of that of Λ3. While in H1 Aristotle reworks into dynamic terms the notion of thisness in order to revise the account of Z3 on the criteria of substancehood, in Λ3 he takes the results of H1 on the structure of the three items of hylomorphism in order to provide some concrete identifications. Thus a) matter, which in H1 is said to be just potentially a *this* is identified in Λ3 with those pseudo-substances which are not natural organic unities; b) form, which in H1 is said to be actually a *this* is identified in Λ3 with the nature and the positive state towards which movement takes place; c) composite, which in H1 is said to be separate without qualification is easily identified in Λ3 with individual substances

¹¹¹ οὐσίαι δὲ τρεῖς, ἡ μὲν ὕλη τόδε τι οὖσα† τῷ φαίνεσθαι (ὅσα γὰρ ἀφ᾽ ἧ καὶ μὴ συμφύσει, ὕλη καὶ ὑποκείμενον), ἡ δὲ φύσις τόδε τι καὶ ἕξις τις εἰς ἣν ἔτι τρίτη ἢ ἐκ τούτων ἢ καθ' ἕκαστα, οἷον Σωκράτης ἢ Καλλίας.

such as Socrates and Callias. To sum up, although H1 deals with the notion of ὑποκείμενον and Λ3 with that of οὐσία, it is clear that the tripartition of matter, form and composite as the three sorts of possible substratum is functional to the tripartition of the very same items as sorts of substances. This point as well confirms the link between H1's enquiry and that of Book Λ.

2) Finally, it must be noticed how also the account on the various sorts of changes at H1 1042a32, which aims at showing the functional role of matter as underlying subject of changes, finds a close parallel in Book Λ.

At the beginning of Λ2 Aristotle maintains that:

“Sensible substance is changeable. Now if change proceeds from opposites or from intermediates, and not from all opposites (for the voice is not-white (,but it does not therefore change to white)), but from the contrary, there must be something underlying which changes into the contrary state; for the *contraries* do not change. Further, something persists, but the contrary does not persist; there is, then, some third thing besides the contraries, viz. the matter. Now since changes are of four kinds – either in respect of the “what” or of the quality or of the quantity or of the place, and change in respect of “thisness” is simple generation and destruction, and change in quantity is increase and diminution, and change in respect of an affection is alteration, and change of place is motion changes will be from given states into those contrary to them in these several respects. The matter, then, which changes must be capable of both states. And since that which “is” has two senses, we must say that everything changes from that which is potentially to that which is actually”¹¹².

This text of Book Λ can shed some substantial light on H1 1042a32-b8. First of all, we find a schema of the four types of changes very close to that provided in H1. Sensible substance is changeable and every change occurs between particular or opposite states. The item that persists besides the change is matter. As it is clear, the argument is the same of H1, though it appears to be more accurate.

¹¹² Cf. Λ2 1069b3-16.

Second, the text of $\Lambda 2$ seems to support our reading of the controversial lines of H1 1042b1-3. The claim at 1069b14-16 clarifies unequivocally that matter in generation changes from being potentially to being actually. Moreover, at 1069b10-11 is said that change in respect of “thisness” is simple generation and destruction. This confirms that the reference to what is “now subject as a $\tau\acute{o}\delta\epsilon\ \tau\iota$ ” in H1 1042b2-3 refers to the end of the process of generation, when a certain matter has acquired its own form.

As I have shown in this last paragraph, several pieces of *Metaphysics* Λ seem to be somewhat brought forward in the second half of H1. Now, if we come back to the very beginning of Book H, a new suggestion comes out. As we know, Aristotle starts arguing that:

“we must reckon up the results arising from what has been said, and having computed the sum of them, put the finishing touch to our inquiry. We have said that the causes, principles and elements of substances are the object of our search” (1042a3-6).

Moving from the analysis carried out in this chapter, it is clear that the arguments reckoned up in H1 are those of Book Z. This clearly appears from the summary of Z's main issues at 1042a6-24. Yet, we have also stated that: 1) the search of causes, principles and elements of substances declared at 1042a4-6 leads Book Λ as well; 2) the second half of H1 shows several parallels with the first three chapters of Λ .

Could all such elements entail that “the finishing touch” to Z's enquiry is somewhat linked with Λ ? Why does Aristotle start his substantive analysis in H1 with some arguments which will come back onto the scene in Λ ? Why does he provide in H2-6 an account very far from that of Λ ?

I will answer to such questions in the final part of this work. For the time being, we may say that H1 forces us to look not only at

the relation between Book H and Z, but also at the relation between H and Book Λ.

§1.6 Matter and explanation: Z17 and H

Thus far we have noticed how Aristotle starts H's enquiry moving from the physical evidence according to which “sensible substances all have matter”. Such claim recalls Z7-9 analysis of the ways of becoming and stresses the key-role of matter in physical changes. Moreover, we have brought forward how, unlike several passages of Z, in H Aristotle bestows to matter a less deflationary account for what concerns both its substancehood and its place in definitions.

Now I will focus on the other chapter of Z, which we have preliminary said to be decisive for the understanding of H's path, namely Z17. And this in order to show how H's main topic concerns the relation between *matter* and *explanation*.

At the beginning of Z17 Aristotle introduces the so-called fresh start into the search for the notion of οὐσία:

“We should say what, and what sort of thing, substance is, taking another starting-point (ἄλλην ἀρχὴν); for perhaps from this we shall get a clear view also of that substance which exists apart from sensible substances. Since, then, substance is a principle and a cause, let us attack it from this standpoint”¹¹³.

Here Aristotle states that we have now to look at the notion of substance in its explanatory role, namely as principle and cause (ἀρχὴ καὶ αἰτία). He points out how such an approach can be useful also in order to shed some light on that substance which exists as separate from sensible things (περὶ ἐκείνης τῆς οὐσίας ἥτις κεχωρισμένη). As we know, these two themes are present in H1, for in 1042a4-6 Aristotle frames H within the search for “the causes, principles and elements of substances” and for he mentions those substances which exist as separate in 1042a31. In §1.5 I have already sketched a first hypothesis on why the search

113 Z17 1041a6-10.

for principles is useful for the deduction of separate substances.

The following paragraph of Z17 shows how the fresh start into the search for the meaning of substance entails a correlative change of the starting-question. While in Z1, that is at the beginning of the categorial analysis of the notion of substance, the main question was “what is substance?”, in Z17 it is replaced by the question “why does one thing attach to some other?”¹¹⁴.

This new perspective into the research on substance is developed throughout the whole Z17. Aristotle points out that: to ask “why a thing is itself” is a meaningless inquiry, since the existence of the thing must already be evident. It is clear how in this context Aristotle recalls the epistemological paradigm of *Posterior Analytics* B¹¹⁵. The reference to the well-known example of the “thunder” confirms this fact:

“We are inquiring, then, why something is predicable of something (that it is predicable must be clear; for if not, the inquiry is an inquiry into nothing). E.g. why does it thunder? This is the same as “why is sound produced in the clouds?”. Thus the inquiry is about the predication of one thing to another. And why are these things, i.e. stones and bricks a house? Plainly we are seeking the cause”¹¹⁶.

Here we find a first sketch of what Aristotle will develop in H2-6.

For, as we shall see in the following, in these chapters he deals

114 See Z17 1041a10-11.1

115 The point is cleared up by S. Menn (unpublished Work) II ε p.2 : “*Posterior Analytics* II tries to explicate definition by starting with the classification of the four types of scientific question or investigation, and specifically with the thesis that the investigation τί ἐστὶ is to the investigation εἰ ἐστὶ as the investigation διότι is to the investigation ὅτι. Thus what X is is to that X is as why S is P is to that S is P; or, in short, what X is is the cause of the fact that X is. Aristotle now draws on this to propose that the right way to discover the οὐσία of X, i.e. the answer to τί ἐστὶ X, is to follow the procedure of the *Posterior Analytics* and investigate the cause”. D. Charles (1994) p.82, suggests that in “Z17, H, and parts of Θ, Aristotle is attempting to precisely what he had failed to do in the *Analytics* (...): apply his explanatory model to the case of composite substances”.

116 Z17 1041a23-28: τί ἄρα κατὰ τίνος ζητεῖ διὰ τί ὑπάρχει (ὅτι δ' ὑπάρχει, δεῖ δῆλον εἶναι· εἰ γὰρ μὴ οὕτως, οὐδὲν ζητεῖ), οἷον διὰ τί βροντᾶ; διὰ τί ψόφος γίγνεται ἐν τοῖς νέφεσιν; ἄλλο γὰρ οὕτω κατ' ἄλλου ἐστὶ τὸ ζητούμενον. καὶ διὰ τί ταδί, οἷον πλίνθοι καὶ λίθοι, οἰκία ἐστίν; φανερόν τοίνυν ὅτι ζητεῖ τὸ αἴτιον·

with the theme of *explanation*, namely with “the cause of something”, by displaying dual structures where one item is always referred to another one¹¹⁷.

Z17's analysis goes on showing which sort of cause we are searching for:

“This is the essence (to speak abstractly), which in some cases is the end, e.g. perhaps in the case of a house or a bed, and in some cases is the first mover; for this is also a cause. But while the efficient cause is sought in the case of genesis and destruction, the final cause is sought in the case of being also”¹¹⁸.

This remark on the various possibilities to understand the notion of cause can shed some substantial light both on the structure of Z and on the following arguments of H. First of all, the notion of αἴτιον is identified with that of τὸ τί ἦν εἶναι, which is in turn said to belong to a logical or an abstract way of speaking (ὡς εἰπεῖν λογικῶς). The reference is clearly to Z4-6, where Aristotle has dealt with the notion of essence in its logical-abstract meaning. As we have shown, this approach is then replaced in Z7 by the hylomorphic understanding of the ontological structure of sensible substances. Now it is said that the former logical tool of analysis – the abstract notion of τὸ τί ἦν εἶναι – must be respectively conceived as *efficient cause* within a research on the generation and corruption of a sensible thing and as *final cause* within a research on its being. Thus, we can conclude that what plays the role of essence for the abstract explication of the nature of something can be understood a) as efficient cause for the explanation of the generation and corruption of the same thing and b) as final cause for the explanation of its being¹¹⁹.

117 See especially H2 1043a5-7, H3 1043b30-32, H6 1045a23-35.

118 Z17 1041a28-32: [τοῦτο δ' ἐστὶ τὸ τί ἦν εἶναι, ὡς εἰπεῖν λογικῶς] ὁ ἐπ' ἐνίων μὲν ἐστὶ τίνος ἕνεκα, οἷον ἴσως ἐπ' οἰκίας ἢ κλίνης, ἐπ' ἐνίων δὲ τί ἐκίνησε πρῶτον· αἴτιον γὰρ καὶ τοῦτο. ἀλλὰ τὸ μὲν τοιοῦτον αἴτιον ἐπὶ τοῦ γίγνεσθαι ζητεῖται καὶ φθείρεσθαι, θάτερον δὲ καὶ ἐπὶ τοῦ εἶναι.

119 Similar conclusions are reached in F.A. Lewis (2013) pp. 301-2.

Moreover, this very same paradigm seems to be at work in H. While H2-3 deal especially with the hylomorphic structure of things and definitions, H4-5 seem to extend the causal analysis to the processes of generation and corruption and to their relative ends. The two perspectives are finally summarized and grouped together in H6 within the criticism to the Platonic doctrine of Forms.

A further evidence of the theoretical link between Z17 and H emerges from the argument at Z17 1041a32-b9:

“The object of the enquiry is most easily overlooked where one term is not expressly predicated of another (e.g. when we inquire “what man is”), because we do not distinguish and do not say definitely that certain elements make up a certain whole. But we must articulate our meaning before we begin to inquire; if not, the inquiry is on the border-line between being a search for something and a search for nothing. Since we must have the existence of the thing as something given, clearly the question is why matter is some definite thing; e.g. why are these materials a house? Because that which was the essence of a house is present. And why is this individual thing, or this body having this form, a man? Therefore what we seek is the cause, [i.e. the form], by reason of which the matter is some definite thing; and this is the substance of the thing”¹²⁰.

Aristotle shows here how to understand the explanatory meaning of substance as principle and cause, which at the beginning of Z17 had been stated as fresh start for the enquiry on substance¹²¹. Substance as ἀρχή and αἰτία is the cause by reason of which *matter* is some definite thing. All throughout this work we shall see how such explanatory pattern rules the whole Book H.

For the time being, it is clear why Aristotle starts off H's

120 λαμβάνει δὲ μάλιστα τὸ ζητούμενον ἐν τοῖς μὴ κατ' ἀλλήλων λεγομένοις, οἷον ἄνθρωπος τί ἐστὶ ζητεῖται διὰ τὸ ἀπλῶς λέγεσθαι ἀλλὰ μὴ διορίζειν ὅτι τάδε τόδε. ἀλλὰ δεῖ διαρθρώσαντας ζητεῖν· εἰ δὲ μὴ, κοινὸν τοῦ μηθὲν ζητεῖν καὶ τοῦ ζητεῖν τι γίγνεται. ἐπεὶ δὲ δεῖ ἔχειν τε καὶ ὑπάρχειν τὸ εἶναι, δῆλον δὴ ὅτι τὴν ὕλην ζητεῖ διὰ τί <τί> ἐστίν· οἷον οἰκία ταδί διὰ τί; ὅτι ὑπάρχει ὃ ἦν οἰκία εἶναι. καὶ ἄνθρωπος τοδί, ἢ τὸ σῶμα τοῦτο τοδί ἔχον. ὥστε τὸ αἴτιον ζητεῖται τῆς ὕλης (τοῦτο δ' ἐστὶ τὸ εἶδος) ὧ τί ἐστίν· τοῦτο δ' ἡ οὐσία.

121 See 1041a6-10.

substantive analysis by recalling the physical evidence of the notion of matter. After Z17, in fact, matter is the key ontological item whose a) substancehood, b) inner articulation and organization, c) place into definition, must be explained. To sum up, H is firstly, even if not only, an in-depth analysis on the notion of ὕλη.

But how is this analysis developed in H? Those scholars who have rightly stressed the theoretical dependance of H on Z17, seem to have overlooked a key point. Z17's explanatory pattern is just an abstract model of research and it is probably meant to provide just some methodological suggestions. In other words, is it sufficient to read the relation between Z17 and H as mirroring that between a model and its application? Which are the contents and the aims of this application?

Some first suggestions can be found in the conclusive paragraph of Z17, where Aristotle argues that:

“As regards that which is compounded out of something so that the whole is one—not like a heap, however, but like a syllable,—the syllable is not its elements, *ba* is not the same as *b* and *a*, nor is flesh fire and earth; for when they are dissolved the wholes, i.e. the flesh and the syllable, no longer exist, but the elements of the syllable exist, and so do fire and earth. The syllable, then, is something—not only its elements (the vowel and the consonant) but also something else; and the flesh is not only fire and earth or the hot and the cold, but also something else. Since, then, that something must be either an element or composed of elements, if it is an element the same argument will again apply; for flesh will consist of this and fire and earth and something still further, so that the process will go on to infinity; while if it is a compound, clearly it will be a compound not of one but of many (or else it will itself be that one), so that again in this case we can use the same argument as in the case of flesh or of the syllable. But it would seem that this is something, and not an element, and that it is the cause which makes *this* thing flesh and *that* a syllable. And similarly in all other cases. And this is the substance of each thing; for this is the primary cause of its being; and since, while some things are not substances, as many as are substances are formed naturally and by nature, their substance would seem to be this nature, which is not an element but a principle. An *element* is

that into which a thing is divided and which is present in it as matter, e.g. *a* and *b* are the elements of the syllable”¹²².

I maintain that in this final paragraph of Z17 Aristotle compresses the guiding lines of Book H's research. Here, I just provide a dogmatic outline of them:

1) The abstract relation between matter and explanation must be, first and foremost, read in the light of that between the material constitution of something and its being one as a whole (1041b11-12);

2) This in order to challenge whichever sort of materialistic reductionism that ends with identifying the being of a composite thing with the mere juxtaposition or sum of its material elements (1041b12-16);

3) The being of a material composite, in fact, depends on a different sort of item (ἕτερον τι), whose nature is neither material nor, in turn, compounded out of material elements (1041b16-27);

4) Such an item, being not an element, is the substance of each thing (οὐσία ἐκάστου) and the primary cause of being (αἴτιον πρῶτον τοῦ εἶναι) (1041b27-28);

5) Primarily, the notion of substance thusly conceived amounts to the notion of nature (φύσις) as principle. On the contrary, the notion of element amounts, for each thing, to the concept of matter (1041b30-33).

I argue that these five points are the “skeleton” of H 2-6 argumentative path. 1) occurs first in H3, but it sustains especially the conclusive chapter of H6. 2) 3) and 4) sustain H2 and H3. 5) sustains the reason itself of H as a Book, for it shows how the appropriate framework of the search for the principles, causes and elements of substances is hylomorphism. The chapters of H that

122 1041b11-33.

appear to be not covered by this schema are H4-H5. However, as I have argued before, they also fit better with H's search, for they both develop the relation between matter and explanation with particular reference to the processes of generation and corruption. The issue about matter and composition, on the one hand, and that about matter and generation, on the other hand, are finally unified in H6, where Aristotle's main aim will be that of showing the explanatory power of hylomorphism over other alternative ontologies. Such power will concern the question of definitional and ontological unity secured by hylomorphism only.

Now, even if the conclusive argument of Z17 provides us with the “skeleton” of H's search, this is not sufficient for explaining the transition from Z to H.

Scholars have usually read the shift from Z to H by stressing the different role played in H by the notions of potentiality and actuality. In his Introduction to Aristotle's *Metaphysics*, Ross, for instance, remarks how:

“the expressions potentiality and actuality, almost entirely absent in Z, play a considerable part in H, as Aristotle passes from the static consideration of substance to the dynamic consideration of change”¹²³.

Now, although it is quite plain that the concepts of δύναμις and ἐνέργεια occur more in H than in Z, it is less obvious that Aristotle abandons the enquiry on substance for shifting towards the notion of change. As we have seen before, in fact, at the beginning of H1, Aristotle says that “the object of our enquiry are the causes, the principles and the elements of *substances* (1042a4-6)”. Moreover, after the summary of Z's arguments, it is claimed that: “we must resume the discussion of the generally recognized *substances* (1042a24-25)”. Thus, to understand the shift from Z to

123 W.D. Ross (1924) p. cxxiv. This view is radicalised in J. Yu (2003) p. 79, according to which “the major feature that sets book viii apart from book vii is that whereas book viii concerns potentiality and actuality, book vii does not”.

H as mirroring the shift from a static to a dynamic account risks to be reductive if not misleading.

The main goal of my work is to prove that the two main approaches to Book H must necessarily be related to each other. To put it simply, I believe that in H Aristotle applies Z17's abstract model through a dynamic understanding of hylomorphism. This means that the relation between matter and explanation is modelled on the relation between potentiality and actuality. To speak more abstractly, the materiality of something is in H explained in its tension towards determinateness.

The first evidence in favour of this hypothesis is the dynamic account of the thisness - criterion in H1 1042a24-26. As we have seen above, thanks to such an account Aristotle bestows to matter a sort of relative determinateness¹²⁴. In the following of my work, I aim at demonstrating how also in the remaining chapters of H, Aristotle *explains* several aspects concerning the status of *matter* within the same framework.

Sketchily: in H2 some different degrees of material composition are read in the light of the notion of form as actuality; in H3 the primacy of form as actuality on matter as potentiality serves for disambiguating the notion of form from the notion of composite. In H4 the relation between matter and generation (or production) is explained in term of functional *appropriateness*. In H5 the relation between matter and its contrary states, in both generation and corruption, is understood within a teleological framework. Such a framework is ruled by the opposite notions of privation (στέρησις) and positive state (ἔξις). Finally, in H6 Aristotle shows the supremacy of hylomorphism over the Platonic doctrine of Forms especially, by focusing on various puzzles concerning the uni-multiplicity theme. Hylomorphism conceived in terms of potentiality and actuality is preferable since it secures the

¹²⁴ See §1.4.

ontological unity of something and, with some reservations, of its definition too.

Before moving towards the analysis of H2, it must be remarked how the notions of potentiality and actuality in H are neither introduced nor somewhat prepared, but they are rather taken for granted. In the following, I will show how to understand it. For the time being, I want just to remark how H shares this aspect with Z, despite its larger use of the notions of potentiality and actuality. Furthermore, it will appear clear how some uses of the potentiality-actuality model in H presuppose some previous uses in Z.

PART II: H2-H3. Matter and Composition

§2.1 The main aim of H2

Aristotle begins chapter 2 of Book H arguing that:

“Since the substance which exists as underlying and as matter is generally recognized, and this is that which exists potentially, it remains for us to say what is the substance, in the sense of *actuality*, of sensible things”¹²⁵.

This claim confirms that H's main theme is a new analysis of sensible substances. Second, it shows how such analysis must somewhat concern the difference between what is substance just *potentially* and what is substance *actually*. As we already know, this very same distinction is applied in H1 to the notion of thisness for providing an ordered series of relations between matter, form and composite (1042a31). Moreover, by recalling its role in physical changes, Aristotle has explained in H1 why it is clear that matter too is substance (1042a32-b8)¹²⁶. Finally, since the main argument of H2 appears to regard mainly the notion of “actuality”, it could be tempting to read the opening sentence of H2 as summarizing the following schema:

1) after the end of the summary of Z's arguments in H1, Aristotle starts a brief analysis of the sensible substances that focuses on the dynamic aspect of their being (to be in potentiality or in actuality);

2) while the second half of H1 has the task of dealing with the substance which exists potentially (that is as substratum and matter)¹²⁷, H2 has the task of accomplishing the analysis, dealing

125 1042b9-11: Ἐπεὶ δ' ἡ μὲν ὡς ὑποκειμένη καὶ ὡς ὕλη οὐσία ὁμολογεῖται, αὕτη δ' ἐστὶν ἡ δυνάμει, λοιπὸν τὴν ὡς ἐνέργειαν οὐσίαν τῶν αἰσθητῶν εἰπεῖν τίς ἐστίν.

126 See §1.4

127 The parallel between the opening sentence of H2 and the second half of H1 is acknowledged by D. Bostock (1994) p. 260; E.C. Halper (2005) p.158; S. Menn (unpublished work) IIε p. 16. For a useful account of the possible different ways of reading the relation between the concepts of

with the sensible substance which exists in actuality;

3) these two pieces of H represent the bulk of the whole Book;

4) so we must regard the remaining chapters of H as corollaries to what already argued in H1 and H2.

Two elements, however, put into discussion this reconstruction of H1-2 project.

First, although in H1 Aristotle strengthens the substancehood of the notion of ὕλη by showing its peculiar kind of determinateness and by recalling its key-role as ὑποκείμενον in physical changes, he does not seem interested in providing an accurate account of the notion of matter conceived as potentiality. Rather, and as I have shown at length, the use of the qualifier δυνάμει, at 1042a28, seems to be of the *ad hoc* type. Moreover, it occurs once only in H1. Thus, it seems unlikely that the main aim of H1 (or of its second half only) is devoted to the analysis of matter as potentiality especially.

Second, although H2's main argument is explicitly said to concern “the actuality of sensible things”, Aristotle mentions the notion of ἐνέργεια only in 1043a6 for the second time. Namely, after (or, at most, “through”) the long criticism to the Atomistic ontology (1042b11-31). What is more, such a reference occurs within a definitional context.

These two challenging elements invite us to read more cautiously the opening sentence of H2. I argue that even if the notion of actuality is a key one for H, and for H2 especially, we are not in the face of an intensional analysis of this meaning (as the τίς ἐστίν clause at line 1042a12 would lead us to think). Rather, as I will show in the following, the meaning of “what sensible substances in actuality are” is known, or at least is taken

matter and potentiality see J. Moravcsik (1994) p. 237.

for granted (similarly to what happened in Book Z). At the end of my analysis of the text, it will appear clear how H2's enquiry on the notion of actuality concerns its functional and analogical aspect.

§2.2 The many meanings of being

At lines 1042b11-15 Aristotle introduces a long criticism to the Atomistic account of being:

“Democritus seems to think there are three kinds of difference between things; the underlying body, the matter, is one and the same, but they differ either in rhythm, i.e. shape, or in turning, i.e. position, or in inter-contact, i.e. order”¹²⁸.

Here Aristotle recalls what already sketched in *Metaphysics* A4 985b4-20. In that context he shows how Leucippus and Democritus say that the full and the empty are the elements and that such elements are the material causes of things (ἀττία δὲ τῶν ὄντων ταῦτα ὡς ὕλην¹²⁹). As in H2, in A4 too Aristotle points out the reductionist aspect of the ontological account provided by the Atomists. First of all, they pose only one underlying subject: such a subject is called τὴν ὑποκειμένην οὐσίαν in A4, while in H2 it is identified with the underlying body (τὸ ὑποκείμενον σῶμα), i.e. the matter (τὴν ὕλην), which is said to be one and the same (ἐν καὶ ταύτόν). Second, the atomistic account of being provides only three possible ways of differentiation of such subject. Both in A4 and in H2 these διαφοραί are said to be “rhythm” (ῥυθμός), “turning” (τροπή) and “inter-contact” (διαθιγή) and they are respectively explained by the more familiar notions of “shape” (σχῆμα), “position” (θέσις) and “order” (τάξις). In A4 Aristotle clarifies the meaning of these notions arguing that, for instance, A differs from N in shape, AN from NA in order, Θ from Η in position¹³⁰. At the end of that passage he explains which is the failure of the atomistic account of being:

128 Δημόκριτος μὲν οὖν τρεῖς διαφορὰς ἔοικεν οἰομένῳ εἶναι (τὸ μὲν γὰρ ὑποκείμενον σῶμα, τὴν ὕλην, ἐν καὶ ταύτόν, διαφέρειν δὲ ἢ ῥυθμῶ, ὃ ἐστὶ σχῆμα, ἢ τροπῆ, ὃ ἐστὶ θέσις, ἢ διαθιγῆ, ὃ ἐστὶ τάξις).

129 Cf. 985b9-10.

130 See 985b17-19. See also *On Generation and Corruption* II 314a23-24.

“the question of movement – whence or how it is to belong to things – these thinkers, like the others, lazily neglected”¹³¹.

By contrast, although H2's criticism moves from the very same premises of A4 - i.e. the idea that only one underlying subject exists and that it differs in shape, position and order only - here Aristotle aims at showing a different failure.

Roughly, it can be argued that the atomistic ontology fails to grasp the complexity of being. For, after presenting the Democritean doctrine of the *one substratum* and the *three differentiae*, Aristotle maintains, at 1042b15 that “evidently there are many differences” (φαίνονται δὲ πολλαὶ διαφοραὶ οὐσαι). It follows a long list of possible ways of differentiating an underlying subject:

“for instance, some things are characterized by the mode of composition of their matter, e.g. the things formed by blending, such as honey-water; and others by being bound together, e.g. a bundle; and others by being glued together, e.g. a book; and others by being nailed together, e.g. a casket; and others in more than one of these ways; and others by position, e.g. threshold and lintel (for these differ by being placed in a certain way); and others by time, e.g. dinner and breakfast; and others by place, e.g. the winds; and others by affections proper to sensible things; e.g. hardness and softness, density and rarity, dryness and wetness; and some things by some of these qualities, others by them all, and in general some by excess and some by defect”¹³².

Here Aristotle enumerates different sorts of objects, whose matter is subject to various kinds of differentiation. Such kinds are not reducible to the three differences postulated by Democritus. Hence, it seems that while the criticism of A4 was meant to show the failure of the Atomists's account to explain the

131 See 985b19-20.

132 1042b15-25: φαίνονται δὲ πολλαὶ διαφοραὶ οὐσαι, οἷον τὰ μὲν συνθέσει λέγεται τῆς ὕλης, ὡσπερ ὅσα κράσει καθάπερ μελίκρατον, τὰ δὲ δεσμῶ οἷον φάκελος, τὰ δὲ κόλλῃ οἷον βιβλίον, τὰ δὲ γόμφῳ οἷον κιβώτιον, τὰ δὲ πλείοσι τούτων, τὰ δὲ θέσει οἷον οὐδὸς καὶ ὑπέρθυρον (ταῦτα γὰρ τῷ κείσθαι πῶς διαφέρει), τὰ δὲ χρόνῳ οἷον δεῖπνον καὶ ἄριστον, τὰ δὲ τόπῳ οἷον τὰ πνεύματα· τὰ δὲ τοῖς τῶν αἰσθητῶν πάθεσιν οἷον σκληρότητι καὶ μαλακότητι, καὶ πυκνότητι καὶ ἀραιότητι, καὶ ξηρότητι καὶ ὑγρότητι, καὶ τὰ μὲν ἐνίοις τούτων τὰ δὲ πᾶσι τούτοις, καὶ ὅλως τὰ μὲν ὑπεροχῇ τὰ δὲ ἐλλείψει.

movement, the rebuttal of the same account in H2 is meant to show its failure to describe the variety of what exists. Namely, Democritus' reductionist ontology fails to explain not only whence or how movement belongs to things – as shown in A4 – but also to explain in how many ways matter can be arranged¹³³.

Hence, at first glance, it is easy to understand why the criticism to the Democritian account of being fits with Book H's general framework. For, Aristotle shows how the relation between matter and explanation can not be reduced to the relation between one underlying subject and three differences only.

The long list of *differentiae*, which Aristotle quotes at lines 15-25, is structured in this way. There are (a) things which differ for “the mode of composition of their matter” (συνθέσει τῆς ὑλῆς), as in the case of the honey-water which is formed “by blending” (κράσει)¹³⁴; (b) things formed “by being bound together” (δεσμῶ), such as a bundle (c); things formed “by being glued together” (κόλλῃ), such as a book; (d) things formed “by being nailed together” (γόμενῳ), such as a casket¹³⁵, (e) things formed “by more than one of these ways” (πλείοσι τούτων); (f) things which differ in their “position” (θέσει) such as threshold and

133 The two different failures, however, ultimately depend on the same wrong assumption. For, to reduce the complexity of matter's arrangement to only three differences prevents, for instance, to explain the meaning of some qualitative changes. On this point cf. *On Generation and Corruption* I8 326a3-14.

134 W.D. Ross (1924) p. 229, notes that “it is curious to find κράσις treated as a kind of σύνθεσις. Elsewhere the two are opposed as one might oppose chemical combination to mechanical composition (*De Gen et Corr.* 328a8, N 1092a24-26 and cf. 1042b29 with 1043a13). But cf. *De An.* 407b30 ἀρμονίαν κράσιν καὶ σύνθεσιν ἐναντίων εἶναι. σύνθεσις may in fact be used as the genus including κράσις, though usually it means a species opposed to it”.

135 (b), (c) and (d) are usually referred together in the *corpus*. For instance, both in *Metaphysics* and in *Physics*, Aristotle quotes those things which are formed by being “bound”, “glued”, or “nailed” together as examples of continuous objects endowed with a lesser degree of unity than that of natural wholes. Cf. *Metaphysics* Δ6 1015b36-1016a4, Iota1052a19-25 and *Physics* V3 227a15-17.

lintel¹³⁶; (g) things which differ in their “time” (χρόνω) such as dinner and breakfast; (h) things which differ in “place” (τόπω), such as the winds. Finally, in the last section of the list (1042b21-25), Aristotle mentions (i) those things which differ in the “affections proper to sensible things” (τὰ δὲ τοῖς τῶν αἰσθητῶν πάθεισιν), under which he groups differences in (i1) hardness and softness (σκληρότητι καὶ μαλακότητι), (i2) density and rarity (πυκνότητι καὶ ἀραιότητι), (i3) dryness and wetness (ξηρότητι καὶ ὑγρότητι). It is also pointed out that some things are characterized by some of these qualities, others by them all¹³⁷, and in general some by excess and some by defect (ὄλως τὰ μὲν ὑπεροχῇ τὰ δὲ ἐλλείψει)¹³⁸.

In their *Notes*, the Londinenses call the list “open-ended”¹³⁹, while Bostock argues that the examples provided by Aristotle “seem to be a rather miscellaneous lot”¹⁴⁰. Ross suggests that the mentioned differences belong to categories other than substance and he tries to order such differences according to the doctrine of *Categories*¹⁴¹.

As a matter of fact, the *differentiae* grouped under (a), (b), (c), (d) can be read as belonging to the category of ἔχειν. For, in *Metaphysics* Δ23 Aristotle distinguishes four main meanings of “to have” and the fourth of them is described in this way:

136 About the example of the “threshold” (οὐδός) Aristotle will come back to significantly in H2 1042b26 and 1043a7.

137 W.D. Ross (1924) p. 229, “All physical bodies are characterized, according to Aristotle, by dryness or wetness (which form one of the πρῶται ἐναντιότητες), and presumably also by density and rarity. Every ὠρισμένον σῶμα, e.g. every actual sensible body as distinguished from the pure elements, is characterized as well by hardness or softness (*Meteor* 382a8)”.

138 *Ibidem* p. 229, “this applies only to τὰ τοῖς τῶν αἰσθητῶν πάθεισιν (I.21)”.

139 Londinenses (1984) p. 4.

140 D. Bostock (1994) p. 254.

141 W.D. Ross (1924) p. 229, “the *differentiae* mentioned are in categories other than substances – in that of ἔχειν (σύνθεσις, δεσμός, κόλλη, γόμφος), of κείσθαι, of ποτέ, of πού, or of ποιόν (τὰ τῶν αἰσθητῶν πάθη)”.

“That which hinders a thing from moving or acting according to its own impulse is said to have it, as pillars have the incumbent weights, and as the poets make Atlas have the heavens, implying that otherwise they would collapse on the earth, as some of the natural philosophers also say. In this way that which holds things together is said to have the things it holds together (τὸ συνέχον λέγεται ἃ συνέχει ἔχειν), since they would otherwise separate, each according to its own impulse”¹⁴².

Now, the first four kinds of differences, which Aristotle mentions, appear as different ways of holding something together, namely of “having something” in the meaning distinguished in Δ23 1023a21-23. For (a) the ingredients of the honey-water are “blended” together, (b) a bundle of something is “bound” together, (c) the pages of a book are “glued” together and (d) the parts of a casket are “nailed together”.

In these first four cases, Aristotle shows the variety of ways in which some *different* material elements can be arranged.

In the cases mentioned under (f), (g) and (h), instead, Aristotle seems to argue that different arrangements of the *same* matter give rise to different composite objects. In the case of the threshold and of the lintel, for instance, the same material elements (bricks and stones¹⁴³) can be now placed in a certain way (τῶ κεῖσθαί πως) to produce a “threshold” and again placed in a different way to produce a “lintel”. In the case described under (g), it is likely that a meal eaten in the morning somewhat differs from the same meal eaten in the evening, individuating “breakfast” in the former case and “dinner” in the latter one. In the case (h) the same movement of air gives rise to different sorts of winds once it is differently located.

Except from the case of “winds”, Aristotle has so far quoted only examples of artificial composites. The main opposition between the first group of differences (a, b, c, d, e) and the second one (f),

¹⁴² *Metaphysics* Δ23 1023a17-25.

¹⁴³ See H2 1043a7-8.

(g) is clarified by a passage which occurs later in H4. At 1044a25-29, in fact, Aristotle argues that:

“When the matter is one, different things may be produced owing to difference in the moving cause, e.g. from wood may be made both a chest and a bed. But *some* different things must have their matter different, e.g. a saw could not be made of wood, nor is this in the power of the moving cause; for it could not make a saw of wool or of wood”¹⁴⁴.

The example of the wood through which both a chest and a bed can be produced is parallel to the difference between threshold and lintel especially. By contrast, it seems that neither the pages of a book can be “blended together” nor the ingredients of the honey-water can be, for instance, “nailed together”. Thus, cases (a), (b), (c) and (d) are parallel to the case of “saw”, which can not be made of wool, as it is described in H4.

It is evident, hence, that the list of artificial composites in H2 1042b11-25 is meant not only to challenge the reductionist account of being supported by Democritus, but also to show how the relation between matter and explanation always describes relations of dispositional appropriateness between different matters and different formal or efficient causes¹⁴⁵.

Finally, in section (i) Aristotle refers to those things which are differentiated by “sensible affections” (τὰ δὲ τοῖς τῶν αἰσθητῶν πάθεισιν), quoting the cases of three couples of oppositions: (i1) hardness and softness (σκληρότητι καὶ μαλακότητι), (i2) density and rarity (πυκνότητι καὶ ἀραιότητι), (i3) dryness and wetness (ξηρότητι καὶ ὑγρότητι).

This section differs both from the first one (cases (a), (b), (c), (d), (e)), to the extent that no example of composite objects is given, and from the second one (cases (f), (g), (h)), to the extent

144 For my remarks on these lines of H4 see §4

145 This appears to be consistent with the claim at Z17 1041a28-32. Cf. §1.6

that no comparison between different composite objects is given. Rather, Aristotle seems to hint to a different level of material composition. As a matter of fact, in *On Generation and Corruption* II2, both the couple (i1) “hardness and softness” and the couple (i3) “dryness and wetness” are said to be primary differences of sensible bodies (πρῶται διαφοραὶ). More precisely, they are grouped under the genus of the “contrarities correlative to contact” (ἐναντιώσεις κατὰ τὴν ἀφήν)¹⁴⁶. Later in the same text Aristotle clarifies in which sense the couple (i1) depends on the couple (i3), for he argues that:

“Further the soft derives from the wet. For soft is that which yields by retiring into itself, though it does change position, as the wet does—which explains why the wet is not soft, although the soft derives from the wet. The hard, on the other hand, derives from the dry; for hard is that which is solidified, and the solidified is dry”¹⁴⁷.

It is remarkable how the general contest where we find these references is that established at the beginning of *On Generation and Corruption* Book II:

“We have explained under what conditions combination, contact, and action and passion are attributable to the things which undergo natural change. Further, we have discussed unqualified coming-to-be and passing-away, and explained under what conditions they occur, in what subject, and owing to what cause. Similarly, we have also discussed alteration, and explained what altering is and how it differs from coming-to-be and passing-away. But we have still to investigate the so-called elements of bodies”¹⁴⁸.

I argue that by regarding the material primary contrarities as differences, Aristotle is in H2 dealing with the relation between matter and explanation at a lower stage of complexity. While the previous examples of differences show the variety of artificial composites that can be produced through the differentiation of some materials, through the reference to the “sensible affections”

146 See *On Generation and Corruption* II2 329b14-20.

147 330a8-12.

148 III 328b26-32.

Aristotle hints at the variety of ways into which the sensible bodies can be materially differentiated. These latter kinds of *differentiae* fit better than the previous ones with the criticism to Democritus' ontology. It must be recalled how H2's list of differences is meant to show the reductionist character of the atomistic account of being. In *On Generation and Corruption* I9, one of the objections that Aristotle raises against Democritus concerns the elimination of qualitative changes:

“And in general it is absurd that generation should occur in this manner *only*, viz. by the bodies being split. For this theory abolishes alteration; but we see the same body *liquid* at one time and *solid* at another, without losing its continuity. It has suffered this change not by division and composition, nor yet by ‘turning’ and ‘inter-contact’ (οὐδὲ τροπῆ καὶ διαθιγῆ) as Democritus asserts; for it has passed from the liquid to the solid state without any reordering or transposition in its nature (οὔτε γὰρ μεταταχθὲν οὔτε μετατεθὲν τὴν φύσιν πηπηγὸς ἐξ ὑγροῦ γέγονεν). Nor are there contained within it those hard (i.e. congealed) particles indivisible in their bulk; on the contrary, it is liquid—and again, solid and congealed—uniformly all through”¹⁴⁹.

This text presents some parallels with the one of H2. It is explained how a certain alteration, as for instance that from liquid to solid state, can not be explained by the Democritean battery of differences: “οὐδὲ τροπῆ καὶ διαθιγῆ”, “οὔτε μεταταχθὲν οὔτε μετατεθὲν”. As it is evident the two verbal forms apply chiasmatically to the previous datives “τροπῆ” and “διαθιγῆ”. The application is allowed by H2's conversion of “τροπῆ” and “διαθιγῆ” into the more familiar terms of θέσις and τάξις¹⁵⁰. Thus, I suggest that, through the list of *differentiae*, Aristotle does not aim only at showing the variety of being in its categorial aspect, but also, if not mostly, at developing the relation between matter and explanation at different degrees of complexity. On the one hand, some artificial composites, such as

¹⁴⁹ 327a14-22.

¹⁵⁰ See 1042b14-15.

“threshold” or “lintel” show in very rough terms how the atomistic reductionism fails to grasp the variety of matter's arrangement. On the other hand, some other differences, which belong to matter at a lower stage, show how the atomistic reductionism fails to grasp also the inner complexity of matter's composition.

Such a twofold level in Aristotle's list of differences is confirmed also if one focuses on the couple of differences (i2): “density and rarity (πυκνότητι καὶ ἀραιότητι)”. As Aristotle maintains in A9 992b1-7, within the series of arguments against the Academic doctrines:

“Further, one might suppose that the substance which according to them underlies as matter is too mathematical, and is a predicate and differentia of the substance, i.e. of the matter, rather than the matter itself; i.e. the great and the small are like the rare and the dense (τὸ μανὸν καὶ τὸ πυκνόν) which the natural philosophers speak of, calling these the primary differentiae of the substratum (πρώτας τοῦ ὑποκειμένου φάσκοντες εἶναι διαφορὰς ταύτας); for these are a kind of excess and defect”.

The title of “primary differences of the physical body” is here attributed to the notions of “rare and dense”, as it happened in *On Generation and Corruption* II2 to the couples “hard and soft” and “wet and dry”. This is a further evidence that in H2 Aristotle aims at underlying the complexity of matter's way of being at different degrees of its composition.

At 1042b25-31, Aristotle states the main conclusion of his criticism to Democritus' account of being:

“Clearly, then, the word “is” has just as many meanings; a thing is a threshold because it lies in such and such a position, and its being means its lying in that position, while being ice means having been solidified in such and such a way. And the being of some things will be defined by *all* these qualities, because some parts of them are mixed, others are blended, others are bound together, others are solidified, and others use the other differentiae; e.g. the hand or the foot requires such complex

definition”¹⁵¹.

Such a conclusion shows the first link between H2 and Z17's explanatory pattern, for all the mentioned differences explain why and how a certain matter is a definite thing.

Truth be told, in 1042b25-31 Aristotle does not refer clearly either to the notion of matter or to the materials which should compose each of the mentioned substances. Only later in the text, at 1043a7-12, he argues that:

“If we had to define a threshold, we should say “wood or stone in such and such a position”, and a house we should define as “bricks and timbers in such and such a position” (or a purpose may exist as well in some cases), and if we had to define ice we should say “water frozen or solidified in such and such a way”, and harmony is “such and such a blending of high and low”; and similarly in all other cases”.

Here it appears evident that the quoted *differentiae* must be understood as functions of specific sorts of matter. Thus, a certain position is function of wood and stone for their being the materials of a threshold, while a different position is function of bricks and timbers for their being the materials of a house. Similarly, to be frozen or solidified in a certain way is function of water for its being the matter of ice and to be blended in a certain way is function of high and low for their being matter of harmony.

By contrast, in 1042b25-31 any reference to the materials of the two quoted examples (i.e. wood for threshold and water for ice) can only be supposed. The undeniable difference between these two passages of H2 has been stressed by G.E.L. Owen in his influent paper “Aristotle on the Snares of Ontology”¹⁵².

According to Owen, H2 1042b25-31 represents one of the main

151 ὥστε δῆλον ὅτι καὶ τὸ ἔστι τοσαυταχῶς λέγεται· οὐδος γὰρ ἔστιν ὅτι οὕτως κείται, καὶ τὸ εἶναι τὸ οὕτως αὐτὸ κείσθαι σημαίνει, καὶ τὸ κρύσταλλον εἶναι τὸ οὕτως πεπυκνωθῆναι. ἐνίων δὲ τὸ εἶναι καὶ πᾶσι τούτοις ὀρισθήσεται, τῶν τὰ μὲν μεμίχθαι, τὰ δὲ κεκρᾶσθαι, τὰ δὲ δεδέσθαι, τὰ δὲ πεπυκνωθῆναι, τὰ δὲ ταῖς ἄλλαις διαφοραῖς κεχρησθῆναι, ὥσπερ χεῖρ ἢ πούς.

152 G.E.L. Owen (1965).

passages in the *corpus aristotelicum* where we can find traces of an analysis of the existential use of the verb “to be”. The phrase τὸ κρύσταλλον εἶναι (at 1042b27-28) should then be understood existentially¹⁵³. Hence, following Owen's reading:

“to say of a piece of ice/ that it still exists is to say that it is keeping its solidity, to say that it no longer exists is to say that it has lost this solidity, i.e. melted. The notion of solidity is introduced here to give the relevant sense of “exist” (1042b27-8). But a little later in the same chapter (1043a7-12) Aristotle uses this same solidity to give the sense of “ice”. His point now seems to be that the statement that X no longer has such solidity would be a paraphrase, or part-paraphrase, *not* of the statement “X no longer exists” (where X is our patch of ice), but “X is no longer ice” (where X might be the water in the pond)”¹⁵⁴.

Thus, on the one hand, in lines 1042b25-31 Aristotle would deal with solidity as that *differentia* which explains the existence of a specimen singular subjects such as an individual piece of ice. And this exists as far as it keeps its solidity¹⁵⁵. On the other hand, in 1043a7-12, Aristotle would deal with solidity as that *differentia* which gives us the sense of “being ice”. And “ice” exists as far as water is frozen or solidified.

Owen's account has surely some strong points, for, while Aristotle refers clearly to matter's arrangement in 1043a7-12, he

153 *ibidem* p. 77 n.10. Owen follows Ross's edition of the text, arguing that “there is no need in 1042b27-28 for Bonitz's *to krustallōi einai* (“what it is to be ice”, an emendation which is carried further by Jaeger's insertion in 1042b27)”. Owen is here referring to Jaeger's insertion of the dative “οὐδῶ” at line b27. S. Menn (2008) p. 27 agrees with Owen on this point, but he underlines that: “it remains unclear what the subjects of κείσθαι and πεπυκνωσθαι are, and whether ἔστιν and εἶναι are existential or predicative “a threshold exists” or “it is a threshold”, “for ice to exist” or “for it to be ice”. Owen favours the existential reading, which he says is supported by the passage a few lines below, “if indeed the οὐσία is a cause τοῦ εἶναι ἕκαστον, we must investigate in these cases what is the cause τοῦ εἶναι τούτων ἕκαστον (1043a2-4), and indeed he is probably right both that εἶναι in this latter passage is existential, and that it supports the existential reading in the earlier passage”.

154 G.E.L. Owen (1965) p. 80.

155 This would entail, as suggested by Owen, *ibidem*, p. 80, that Aristotle deals here with “existential statements which seem to apply only, if at all, to statements about individuals which have beginning and ends, or at least careers, in time”.

does not seem to do the same in 1042b25-31. On the whole, however, it seems to me more economical to maintain that in the previous passage the reference to those materials which compose objects like “threshold” and “ice” is at least implicit¹⁵⁶.

At any rate, the strong relation between H2 and Z17's explanatory pattern emerges clearly in the following paragraph (1042b31-1043a5), where Aristotle argues that the differences mentioned so far must be regarded as “the principles of being”.

156 Londinenses (1984) p. 4, suppose that “αὐτο” in line 27 could be an objection to the account offered by Owen to the effect that the passage is giving an explanation of existence claims for specimen singular subjects (a particular threshold). “It is an objection if, οὐδός being masculine, αὐτο introduces a different subject, viz. the ὕλη”. On this point see also F.A. Lewis (2013) p. 230 n.62.

§2.3 The *differentiae* as principles of being

“We must grasp, then, the kinds of *differentiae* (for these will be the principles of the being of things), e.g. the things characterized by the more and the less, or by the dense and the rare, and by other such qualities; for all these are forms of excess and defect. And anything that is characterized by shape or by smoothness and roughness is characterized by the straight and the curved. And for other things their being will mean their being mixed, and their not being will mean the opposite. It is clear, then, from these facts that, since its substance is the cause of each thing's being, we must seek in these *differentiae* what is the cause of the being of each of these things. Now none of these *differentiae* is substance, even when coupled with matter, yet it is what is analogous to substance in each case”¹⁵⁷.

In these lines we find two explicit references to Z17's final paragraph (1041b11-33). First, at lines 1042b32-33, Aristotle defines the *διαφοραί* as principles of being (*ἀρχαὶ ἔσονται τοῦ εἶναι*), then, at 1043a2-4, he states that “since its substance is the cause of each thing's being (*εἴπερ ἡ οὐσία αἰτία τοῦ εἶναι ἕκαστον*), we must seek in these *differentiae* what is the cause of the being of each of these things (*ἐν τούτοις ζητητέον τί τὸ αἴτιον τοῦ εἶναι τούτων ἕκαστον*)”¹⁵⁸. As we know, at the end of Z17, Aristotle had clarified how the *ἕτερον τι* - principle responsible for the unity of the material elements of each composite being was “the substance of each thing” (*οὐσία*

157 1042b31-1043a5: ληπτέα οὖν τὰ γένη τῶν διαφορῶν (αὐταὶ γὰρ ἀρχαὶ ἔσονται τοῦ εἶναι), οἷον τὰ τῶ μάλλον καὶ ἥττον ἢ πυκνῶ καὶ μακρῶ καὶ τοῖς ἄλλοις τοῖς τοιοῦτοις· πάντα γὰρ ταῦτα ὑπεροχὴ καὶ ἔλλειψις ἐστιν. εἰ δέ τι σχήματι ἢ λειότητι καὶ τραχύτητι, πάντα εὐθεῖ καὶ καμπύλῳ. τοῖς δὲ τὸ εἶναι τὸ μεμίχθαι ἐστίν, ἀντικειμένως δὲ τὸ μὴ εἶναι. φανερόν δὲ ἐκ τούτων ὅτι εἴπερ ἡ οὐσία αἰτία τοῦ εἶναι ἕκαστον, [ὅτι] ἐν τούτοις ζητητέον τί τὸ αἴτιον τοῦ εἶναι τούτων ἕκαστον. οὐσία μὲν οὖν οὐδὲν τούτων οὐδὲ συνδυαζόμενον, ὅμως δὲ τὸ ἀνάλογον ἐν ἕκαστῳ.

158 As it is correctly observed by the Londinenses (1984) p. 5: “these lines encapsulate the difficulties of the chapter which come to a head when one inquires into the reference of *ἐν τούτοις* (a3), *τούτων* (a3), *οὐδὲν τούτων* (a4)”. I agree with their proposal of reading these references in accordance with Ross' translation. Thus: *ἐν τούτοις* (a3) must be referred to the *differentiae*; *τούτων* (a3) to the things that are differentiated (i.e. threshold, ice etc.); *οὐδὲν τούτων* (a4) to the *differentiae* again.

ἐκάστου). For, “this is the primary cause of its being” (τοῦτο γὰρ αἴτιον πρῶτον τοῦ εἶναι)¹⁵⁹.

Thus, it is evident that H2's notion of “difference” is meant to extend the explanatory pattern of Z17, according to which we must seek “for the cause by reason of which a certain matter is some definite thing”.

Here I want to focus on what Aristotle maintains in Z17 1041b28-29, where he remarks how:

“since, while some things are not substances (ἐνία οὐκ οὐσία τῶν πραγμάτων), as many as are substances are formed naturally and by nature, their substance would seem to be this nature, which is not an element but a principle”.

I suggest that one of the aims of H2 is to apply the explanatory pattern of Z17 - whose account culminates with a strong identification between the notion of “principle” and that of form as “nature”¹⁶⁰ - to those things which are said to be ἐνία οὐκ

159 See Z17 1041b27-28.

160 S. Menn (unpublished work) Part Two. II pp. 5-6, denies the presence in Z17 of any strong identification between the notion of form and those of principle and cause. He argues that: “Although Aristotle is explicit enough about his thesis in Z17, there has been considerable confusion in the scholarly literature about its meaning, with most commentators thinking that the main conclusion of Z17 is that the οὐσία of a sensible thing is its form (as opposed to its matter or to something including its matter). Aristotle does, of course, believe that the οὐσία of a composite thing is its form, and he has said so, indeed taken it for granted, earlier in Z (e.g. Z7 1032b1-2, Z11 1037a5-7), but he does not seem to be saying that here: Z17 uses the word εἶδος only once, in a phrase (1041b8) which many editors delete as an interpolated gloss, and which, even if authentic, seems to be parenthetical; in this chapter Aristotle is either not saying at all the οὐσία is the form, or not saying it with any emphasis. Rather, the conclusion is a commentator's gloss on Aristotle's saying that the οὐσία is an ἀρχή which is neither a στοιχεῖον nor composed of στοιχεῖα (and that, at least in the case of the syllable, it is the cause of unity to the many στοιχεῖα): if we gloss “στοιχεῖον” as “material constituent,” we can translate this into saying that the οὐσία is neither a material constituent nor composed of material constituents, and therefore by process of exclusion must be the form”. Menn's reading has surely some strong points, since it is true that in Z17 explicit references to the notion of form lack. However, when at 1041b30-31, Aristotle pairs the notion of “nature” with that of principle he is actually referring to the concept of form. Ross (1924) p. 225, correctly reminds us of Δ4 1014b36, where Aristotle calls “nature” the substance of natural objects (ἡ φύσις ἢ τῶν φύσει ὄντων οὐσία). Later in the same chapter he opposes the concept of nature as matter to that of nature as form and

οὐσίαι τῶν πραγμάτων in the just-quoted passage of Z17. As Ross observes, none of the *differentiae* mentioned in H2 is substance:

“They indicate not the inmost nature of that to which they belong but a mode of arrangement or other characteristic which may be only temporary. Therefore the things characterized by them – (1) *artefacta*, (2) states of a substance (κρύσταλλον, and perhaps πνεῦμα, cf. Meteor. ii.4), (3) parts of living things – are not substances but only analogous to substance in that they contain elements answering to matter and form”¹⁶¹.

Thus, when at 1043a4-5 Aristotle argues that:

“none of these *differentiae* is substance, even when coupled with matter yet it is what is analogous to substance in each case”

we must infer that even if the things mentioned in H2 are not examples of proper substances we can analyse their ontological structure through the explanatory pattern described in Z17. Namely, every sort of difference can be read as explaining why a certain matter is some definite thing. Hence, the various differences of H2 play a role analogous to that played in Z17 by the nature as principle and cause in the case of proper substances.

The whole paragraph of 1042b-1043a5 reveals, however, also a classificatory task. This appears evident once one regards the formula which occurs at 1042b30: τὰ γένη τῶν διαφορῶν. Here Aristotle seems to suggest that we must classify the *differentiae* into kinds or genera. As a matter of fact, we must read the search for the genera of differences as just a methodological suggestion, for, Aristotle distinguishes only two possible kinds: (a) the genus of “excess and defect” (ὑπεροχὴ καὶ ἔλλειψις) and (b) the genus of “the straight and the curved” (εὐθεῖ καὶ καμπύλῳ). The first genus mentioned, which had been already distinguished at line 1042b25 with reference to the “affections proper to sensible things” (τὰ δὲ τοῖς τῶν

substance (1015a6-11). Thus, it is likely that at the end of Z17 Aristotle refers to the notion of form through the concept of nature.

¹⁶¹ W.D. Ross (1924) p. 229.

αἰσθητῶν πάθεσιν), groups together the differences characterized by the “more and the less” (μᾶλλον καὶ ἥττον) and “the dense and the rare” (πυκνῶ καὶ μανῶ). The second genus mentioned (“the straight and curved”) groups together the differences in “shape” (σχῆματι) and the differences in “smoothness and roughness” (λειότητι καὶ τραχύτητι)¹⁶².

Such classificatory attempt, even if partial, shows how H2's list of differences is neither preparatory nor functional to something else, but rather has its meaning in itself.

While in the first half of H2 (1042b9-1043a4) Aristotle deals with the relation between matter and explanation in its ontological content, in the second half of the chapter (1043a5-28) he deals with the same relation in its definitional content.

162 The description of such a genus clearly recalls that of one kind of “quality” in *Categories* 10a11-13: “A fourth kind of quality is shape and the external form of each thing, and in addition straightness and curvedness and anything like these”.

§2.4 H2's account of definition

Once maintained the analogy between the differences and what is substance at a higher degree, at 1043a5-7 Aristotle argues that:

“and as in substances that which is predicated of matter is the actuality itself, in all other definitions also it is what most resembles full actuality”¹⁶³.

Here we find the first explicit reference to the notion of ἐνέργεια, whose analysis had been said to be the main goal of the chapter at the beginning of H2¹⁶⁴.

It seems that Aristotle aims now at showing the definitional consequence, which results from the analogy between the *differentiae* and the concept of substance as principle and cause. Before in the chapter, it has been established that the various differences are analogous to substance inasmuch as they are the cause of the being for each of the things they differentiate. Now, Aristotle accomplishes the analogy by showing that in definitions too the differences play a role analogous to that played by “the actuality itself” (αὐτὴ ἡ ἐνέργεια). Evidently, the convertibility between the notion of substance as “principle and cause” and the notion of actuality is here taken for granted. Thus, following the reading of the Londinenses, the whole argument runs as follows:

“We won't dignify every differentia with the title of substance or actuality (the εἴπερ clause of a2 is not convertible), but since the differentia is αἴτιον τοῦ εἶναι, as is shown sufficiently clearly by the threshold type of example, and since the οὐσία we are seeking, viz. οὐσία ὡς ἐνέργεια, is αἰτία τοῦ εἶναι, we must look for οὐσία ὡς ἐνέργεια in the differentia which a definition displays as predicate of the matter”¹⁶⁵.

Finally, it emerges clearly the link between the starting claim of

163 καὶ ὡς ἐν ταῖς οὐσίαις τὸ τῆς ὕλης κατηγορούμενον αὐτὴ ἡ ἐνέργεια, καὶ ἐν τοῖς ἄλλοις ὀρισμοῖς μάλιστα.

164 See 1042b9-11.

165 Londinenses (1984) pp. 7-8.

H2 – which announced an inquiry into the meaning of substance as the actuality of sensible things- and the long criticism to the Atomistic account of being led by the notion of *differentia*. Even if they are just analogous to the notion of substance as “principle and cause of being”, all the differences can be regarded as actualities of a certain matter. Hence, since moving from Z17 the main goal of the research is to seek “the cause by reason of which the matter is some definite thing”, we must now understand these differences within such pattern of analysis. This entails not only that each difference is what most resembles full actuality for each thing it differentiates, but also that we must display a dual definitional structure where the difference appears as the predicate of a certain matter.

As we already know from Z17 1040a32-33:

“The object of the enquiry is most easily overlooked where one term is not expressly predicated of another (ἐν τοῖς μὴ κατ’ ἀλλήλων λεγομένοις)”.

On the one hand, hence, it appears consistent that in H2 1043a5-7, once recalled the explanatory pattern of Z17, Aristotle says that as in substances that which is predicated of matter is the actuality itself, in all other definitions also it is what most resembles full actuality. In fact, a predicative relation entails the reference of one item to another. On the other hand, however, the reference to the notion of actuality as to the κατηγορούμενον of matter (1043a6) might appear puzzling once compared with what Aristotle argues in *Posterior Analytics* B3 90b33-38:

“Every demonstration proves something of something, i.e. that it is or is not; but in a definition one thing is not predicated of another (ἐν δὲ τῷ ὀρισμῷ οὐδὲν ἕτερον ἑτέρου κατηγορεῖται)—e.g. neither animal of two-footed nor this of animal, nor indeed figure of plane (for plane is not figure nor is figure plane)”.

In this context, Aristotle denies the possibility to understand in predicative terms the relation between the items that belong to a

definition. By contrast, our text of H2 clearly states that: a) in the definitions of substance the actuality is predicated of matter; b) in all other definitions also what most resembles full actuality (i.e. differences) is predicated of matter.

Both these lines of Book H and what argued later in H6¹⁶⁶, have been at the core of an important debate concerning the theme of hylomorphic predication. This theme concerns both the relation between matter and form in *definition* and the *ontological* relation between the two items involved¹⁶⁷.

For the time being, I want to confine myself to the analysis of H2 1043a5-7. The apparent contradiction between these lines and the passage of the *Posterior Analytics* can be overcome only by distinguishing two different meanings of the verb κατηγορεῖσθαι, which appears in both texts. I am here referring to the suggestion provided by Brunschwig, who speaks of a strict sense of the verb- the one of *Posterior Analytics* – and of a broader sense of it – the one of *Metaphysics* (as for instance that of H2)¹⁶⁸. In its strict sense the verb κατηγορεῖσθαι can not describe the relation which occurs between the parts of a definition. For each genus is divided by its differences and hence neither the differences can be predicated of it (i.e. “two footed of animal”) nor it can be predicated of them (i.e. “animal of two-footed”). However, in its broader sense, the verb κατηγορεῖσθαι can describe a different relation within a

166 See §6

167 The main puzzle concerning the hylomorphic predication has been cleared up by Jacques Brunschwig (1979) p. 138: "Lorsqu' Aristote déclare que la forme se prédique de la matière, faut-il prendre le mot de *prédication* au pied de la lettre, dans sa signification logique et linguistique, et par suite, chercher à se présenter concrètement dans quel type de *propositions* la forme pourrait être le prédicat de la matière? Ou bien, au contraire, peut-on faire abstraction de cette signification logique et linguistique du terme de prédication, et se contenter de voir dans la formule de la prédication hylémorphique une description indirecte, et pour ainsi dire métaphorique, de la relation *ontologique* qu'entretiennent la forme et la matière?".

168 *ibidem* p. 155.

definitional structure. Such a relation concerns the notion of difference as *determinant* and the notion of genus as *determinable*¹⁶⁹. This very same relation occurs in H2, where Aristotle refers to the differences as to the actualities of different matters. This means a) that each difference must be regarded as the determinant of a determinable and b) that we must look for a definitional structure able to mirror this ontological relation.

Both these aspects are at work in H2 1043a7-12:

“E.g. if we had to define a threshold, we should say ‘wood or stone in such and such a position’, and a house we should define as ‘bricks and timbers in such and such a position’ (or we may name that for the sake of which as well in some cases), and if we define ice we say ‘water frozen or solidified in such and such a way’, and harmony is ‘such and such a blending of high and low’; and similarly in all other cases”¹⁷⁰.

As pointed out by Brunschwig, these lines clarify the broader meaning of the verb κατηγορεῖσθαι:

«On peut, semble-t-il, admettre ici pour ce verbe une double signification, logico-linguistique et ontologique: sur le plan logique et linguistique, la différence *s'ajoute* au genre-matière, qui la précède nécessairement dans la formule définitionnelle, et qui reçoit d'elle une détermination qu'il n'avait pas; sur le plane ontologique, la différence *détermine* la matière, fait d'elle le *ceci* qu'elle n'était pas, sinon en puissance»¹⁷¹.

Now it seems clear why Aristotle displays a predicative relation in providing H2's account of definition. As we have already argued, the whole argument of H2 is mainly dependent on Z17's pattern of analysis. Such pattern can be defined as *explanatory*, for we must seek for “the cause by reason of which matter is some definite thing” (1041b7-9). In Z17 the “searched cause” is identified with the notion of substance as nature, which is

169 Aristotle will come back significantly on this point in H6. Cf. §6

170 οἶον εἰ οὐδὸν δεῖσι ὀρίσασθαι, ξύλον ἢ λίθον ὥδι κείμενον ἐροῦμεν, καὶ οἰκίαν πλίνθους καὶ ξύλα ὥδι κείμενα (ἢ ἔτι καὶ τὸ οὐ ἔνεκα ἐπ' ἐνίων ἔστιν), εἰ δὲ κρύσταλλον, ὕδωρ πεπηγὸς ἢ πεπυκνωμένον ὥδι· συμφωνία δὲ ὀξέος καὶ βαρέος μῖξις τοιαδί· τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων.

171 J. Brunschwig (1979) p. 154.

principle of being and unity for the material elements of a natural whole (1041b27-33). In H2 Aristotle applies the explanatory pattern of Z17 to every possible compound object (1042b11-1043a4). The relation between the *differentiae* as principles of being and their relative material elements is finally understood within a dynamic framework. This means to regard the *differentiae* and the material elements of a certain thing as, respectively, actualities and potentialities of that thing. The ontological relation between actuality and potentiality is a relation between a determinant and a determinable. In H2 1043a5-12 Aristotle displays a predicative definitional structure which mirrors such ontological relation.

Thus, if we have to define a “threshold” we must provide a dual structure where “wood and stones” are matter and “a certain position” is actuality. In the case of the definition of a “house” as well, we must say that “bricks and timbers” are matter and that “a certain position” is actuality. If we have to define “ice”, the “water” is matter and “its being solidified or frozen” is actuality. Finally, in the definition of “harmony” we must regard “high and low pitches” as matter and their “blending” as actuality.

As it is evident, H2's notion of matter as determinable of which a determinant is predicated does not amount to the notion of a bare matter to which the process of predicative regression culminated in Z3. While the former depends on the broader reading of the verb κατηγορεῖσθαι, the latter depends on its strict sense. Z3's mental experiment postulates a relation of transitivity between two different sorts of predication: 1) that between accidents and substance and 2) that between form and matter. By contrast, H2's broader concept of predication depends on H1's dynamic understanding of the notion of thisness, which bestows to matter a sort of relative determinateness. Thus, the relation between matter as subject and actuality as predicate must not be

conceived as if it mirrored the same logical relation between an individual substance as subject and its accidents as predicates. Rather, as Aristotle will clarify in Θ 7 1049a36-b3, matter's role is ontologically analogous to that played by accidents. This prevents us from reading the relation between the two sorts of predication as entailing a logical transitivity¹⁷².

The final paragraph of H2 summarizes the main outcomes of the new analysis of the sensible substances which Aristotle had announced at H1 1042a24-25.

“Obviously then the actuality or the formula is different when the matter is different; for in some cases it is the juxtaposition, in others the mixing, and in others some other of the attributes we have named. And so, in defining, those who define a house as stones, bricks, and timbers, are speaking of the potential house, for these are the matter; but those who define it as a covering for bodies and chattels, or add some other similar differentia, speak of the actuality; and those who combine both of these speak of the third kind of substance, which is composed of matter and form. For the formula that gives the differentiae seems to be an account of the form and the actuality, while that which gives the components is rather an account of the matter. And the same is true with regard to the definitions which Archytas used to accept; for they are accounts of the combined form and matter. E.g. what is still weather? Absence of motion in a large extent of air; air is the matter, and absence of motion is the actuality and substance. What is a calm? Smoothness of sea; the material substratum is the sea, and the actuality or form is smoothness. It is obvious then, from what has been said, what sensible substance is and how it exists one kind of it as matter, another as form or actuality; while the third kind is that which is composed of these two”¹⁷³.

172 This point is cleared by J. Brunschwig (1979) pp.146-152.

173 1043a12-28: φανερόν δὴ ἐκ τούτων ὅτι ἡ ἐνέργεια ἄλλη ἄλλης ὕλης καὶ ὁ λόγος· τῶν μὲν γὰρ ἡ σύνθεσις τῶν δ' ἡ μίξις τῶν δὲ ἄλλο τι τῶν εἰρημένων. διὸ τῶν ὀριζομένων οἱ μὲν λέγοντες τί ἐστὶν οἰκία, ὅτι λίθοι πλίνθοι ξύλα, τὴν δυνάμει οἰκίαν λέγουσιν, ὕλη γὰρ ταῦτα· οἱ δὲ ἀγγεῖον σκεπαστικὸν χρημάτων καὶ σωμάτων ἢ τι ἄλλο τοιοῦτον προτιθέντες, τὴν ἐνέργειαν λέγουσιν· οἱ δ' ἄμφω ταῦτα συντιθέντες τὴν τρίτην καὶ τὴν ἐκ τούτων οὐσίαν (ἔοικε γὰρ ὁ μὲν διὰ τῶν διαφορῶν λόγος τοῦ εἶδους καὶ τῆς ἐνεργείας εἶναι, ὁ δ' ἐκ τῶν ἐνυπαρχόντων τῆς ὕλης μᾶλλον)· ὁμοίως δὲ καὶ οἴους Ἀρχύτας ἀπεδέχετο ὄρους· τοῦ συνάμφω γὰρ εἶσιν. οἷον τί ἐστὶ νηνεμία; ἡρεμία ἐν πλήθει ἀέρος· ὕλη μὲν γὰρ ὁ ἀήρ, ἐνέργεια δὲ καὶ οὐσία ἡ ἡρεμία. τί ἐστὶ γαλήνη; ὁμαλότης θαλάττης· τὸ μὲν ὑποκείμενον ὡς ὕλην ἢ θάλαττα, ἡ δὲ ἐνέργεια καὶ ἡ μορφή ἡ ὁμαλότης. φανερόν δὴ ἐκ

First of all, and as main result of what has been said in H2 (φανερὸν δὴ ἐκ τούτων), Aristotle states that: “the actuality or the formula is different when the matter is different” (ἡ ἐνέργεια ἄλλη ἄλλης ὕλης καὶ ὁ λόγος).

This claim must be understood as just a general methodological conclusion of what argued throughout the whole chapter. Here Aristotle underlines how the enquiry on the causes of being has led us to acknowledge the existence of several possible ways by which a material substratum can be differentiated. In other words, we must not look at lines 1043a12-13 as if Aristotle aimed at establishing a biunivocal correspondence between one only sort of matter and one only sort of actuality. This, in fact, would give us a puzzling reading of the statement¹⁷⁴. By contrast, we must regard the claim that ἡ ἐνέργεια ἄλλη ἄλλης ὕλης καὶ ὁ λόγος as summarizing the general path of the chapter. As a matter of fact, Aristotle explains such statement by mentioning some different cases of ἐνέργεια only: in some cases it is the

τῶν εἰρημένων τις ἢ αἰσθητὴ οὐσία ἐστὶ καὶ πῶς· ἢ μὲν γὰρ ὡς ὕλην, ἢ δ' ὡς μορφήν καὶ ἐνέργεια, ἢ δὲ τρίτη ἢ ἐκ τούτων.

174 Cf. Londinenses (1984) p. 8: “Presumably we do not want to stop the same matter connecting with different differentiae, as e.g. a stone can become either a threshold or a lintel (1042b19). Likewise, a given type of actuality, such as σύνθεσις or μίξις (a13), will admit of different realizations (cf. a10-11: πεπυκνωμένον ὠδί, μίξις τοιαδί). ἄλλη ἄλλης at a12 is thus vague, but 1042b31-6 shows Aristotle interested in a systematic classification of differentiae under their most general γένη. See also D. Bostock (1994) pp. 258-59: “Now, no doubt, if the matter must be mentioned in the definition, then when the matter is different the formula (i.e. the whole definition) must also be different. But it evidently does not follow that the actuality (i.e. form) that is predicated of the matter must be different too. And one would suppose that in many cases it is not. For example, the definitions of a bronze circle and of a wooden circle presumably differ only in their matter, and not at all in their “actuality”; similarly the definitions of a statue and a snowman, of a limestone and sandstone, and many others. (The point is granted, in passing, at H4 44a29-32). It is possible that Aristotle has been misled here into supposing that what holds of his genuine substances will hold also of the kinds of things that he is using as examples here. For we observed at Z11, 36b21-32 n. that Aristotle does think that the form of a man determines the matter he is made of, and he would evidently extend this claim to all other animals and to all plants (cf. *Phys* II, 9). But even if the principle does apply to what he would count as genuine substances, it surely does not apply as widely as he here suggests”.

juxtaposition, in others the mixing, and in others some other of the attributes we have named (1043a12-14). To sum up, saying that “the actuality or the formula is different when the matter is different”, Aristotle aims just at underlining the link between matter as the key-notion of the whole H¹⁷⁵ and the search for the notion of substance as actuality which has led H2's argument.

In the following paragraph of the chapter (1043a14-19), Aristotle provide us with three possible criteria for defining something.

“And so, in defining, those who define a house as stones, bricks, and timbers, are speaking of the potential house, for these are the matter; but those who define it as a covering for bodies and chattels, or add some other similar differentia, speak of the actuality; and those who combine both of these speak of the third kind of substance, which is composed of matter and form”.

Such schema of definition mirrors the tripartition of the *substrata* already provided in H1 1042a26-31. As in that context, here too Aristotle mentions the notions of matter, form and composite within the dynamic framework ruled by the notions of potentiality and actuality. And, as in H1, in H2's account of definition too, the dynamic understanding of the notions of matter and form as, respectively, of what a substance is potentially and actually, is here decisive.

As it is evident, the main puzzle of lines 1042a26-31 concerns the inclusion of matter in definition. For, this fact seems to be at odds with some claims of Z10-11 especially, where Aristotle deals with the relation between definition and its parts.

The main premise of the whole argument of Z10-11 occurs at lines 1035a1-4, where it is argued that:

“If then matter is one thing, form another, the compound of these a third, and both the matter and the form and the compound are substance, even the matter is in a sense called part of a thing, while in a sense *it* is not, but only the elements of which the

175 As we have above argued, unlike Z, in H the fact that matter too is substance represents the starting-point of the whole enquiry.

formula of the form consists”¹⁷⁶.

All the following remarks in Z10-11's section aim at disambiguating the cases where matter must be mentioned in a formula from the cases where it must not be. Here I do not want to provide an accurate account of all such cases. For our task, we can confine ourselves to what Aristotle states at Z11 1037a25-29, where he reminds us the main outcomes of the whole inquiry onto the parts of definition.

“we have stated that in the formula of the substance the material parts will not be present for they are not even parts of the substance in that sense, but of the concrete substance; but of this there is in a sense a formula, and in a sense there is not; for there is no formula of it with its matter, for this is indefinite, but there is a formula of it with reference to its primary substance e.g. in the case of man the formula of the soul”¹⁷⁷.

At first glance this paragraph seems to be at odds with what we read in H2 1042a26-31. While in Z11 Aristotle says that “in the formula of the substance the material parts will not be present”, in H2 he argues that “those who define a house as stones, bricks, and timbers, are speaking of the potential house, for these are the matter” and that “those who combine both of these speak of the third kind of substance, which is composed of matter and form”. In Z11 it is said that of the composite substance “there is in a sense a formula, and in a sense there is not; for there is no formula of it with its matter, for this is indefinite, but there is a formula of it with reference to its primary substance”. By contrast in H2 “those who combine both of these (i.e. matter as potentiality and form as actuality) speak of the third kind of substance, which is composed of matter and form”.

As it is evident, H2's account of definition is much more

176 εἰ οὖν ἐστὶ τὸ μὲν ὕλη τὸ δὲ εἶδος τὸ δ' ἐκ τούτων, καὶ οὐσία ἢ τε ὕλη καὶ τὸ εἶδος καὶ τὸ ἐκ τούτων, ἐστὶ μὲν ὡς καὶ ἡ ὕλη μέρος τινὸς λέγεται, ἐστὶ δ' ὡς οὐ, ἀλλ' ἐξ ὧν ὁ τοῦ εἶδους λόγος.

177 οὐδὲ γὰρ ἐστὶν ἐκείνης μόρια τῆς οὐσίας ἀλλὰ τῆς συνόλου, ταύτης δὲ γ' ἐστὶ πῶς λόγος καὶ οὐκ ἐστὶν· μετὰ μὲν γὰρ τῆς ὕλης οὐκ ἐστὶν (ἀόριστον γάρ), κατὰ τὴν πρώτην δ' οὐσία ἐστὶν, οἷον ἀνθρώπου ὁ τῆς ψυχῆς λόγος.

inclusive than that of Z10-11 for what concerns the presence of matter in definition. This mainly depends on the different reading of matter's ontological status that the two passages entail. While in Z10-11 matter is said to be “indefinite” (ἀόριστον)¹⁷⁸, in H2 the materials of the thing that we have to define (i.e. the stones, bricks and timbers of a house) are said to be *potentially* that thing¹⁷⁹. While in the former case the notion of ὕλη is regarded “in itself”, in the latter it is read in its dynamic relation with the notion of form as actuality. Thus, if we aim to define a composite object, such for instance a house, we have to mention its materials (stones, bricks and timbers), since such materials are potentially the house. This means that they are not mentioned in themselves, but rather in their relation with the goal they add to reach: to cover bodies and chattels.

Here it appears clearly the link between H2's account of definition and H1's account of the ontological status of matter. As we have shown above, at H1 1042a26-31 Aristotle recalls the tripartition of substratum in matter, form and composite already stated at Z3 1029a1-3. The main difference between the two passages concerns the notion of thisness (“being a τόδε τι”). While in Z3 the notion of “being a τόδε τι” is said to belong to form and composite only, in H1 Aristotle shows how matter too can be regarded as something determinate, as a “this”. Matter too is something determinate, though not actually as form and composite, but only potentially. This provides us with a less deflationary account of the ontological status of matter than that of Z3. In H2 Aristotle moves from such fresh account of matter arguing that “since the substance which exists as substratum and

178 Aristotle recalls in Z11 1037a27 what already argued in Z10 1036a9, where he says that: “matter is unknowable in itself” (ἡ δ' ὕλη ἄγνωστος καθ' αὐτήν).

179 See 1043a14-16: διὸ τῶν ὀριζομένων οἱ μὲν λέγοντες τί ἐστὶν οἰκία, ὅτι λίθοι πλίνθοι ξύλα, τὴν δυνάμει οἰκίαν λέγουσιν, ὕλη γὰρ ταῦτα.

as matter is generally recognized, and this is that which exists potentially, it remains for us to say what is the substance, in the sense of *actuality*, of sensible things”. Now, it is true that H2 deals especially with the *formal* aspect of what exists: first by supplying the account of the many *differentiae*, then by regarding these as principles of being, finally by showing how such differences are analogous to the notion of ἐνέργεια. However, the analysis carried out throughout the whole H2 sheds some substantial light on the notion of matter too.

Roughly, we can divide H2's text into two parts. The first (1042b9-1043a5) is mainly devoted to ontological arguments, the second (1043a5-28) to definitional ones. In the former, as we have shown above, the enquiry depends on the explanatory pattern established in Z17. Hence, seeking for the many differences means to seek for the causes “by reason of which matter is some definite thing”. In the latter, Aristotle provides a dual definitional structure which mirrors the ontological relation between matter as the potential element of something and form as its actuality. But this entails a less deflationary account of matter's place in definition than that of Z10-11. To say better, this entails a much more *inclusive* account of definition, where the reference to the material elements of something is consistent. Such elements are, in fact, potentially what a certain thing is in actuality.

However, H2's inclusive reading of the role of matter in definition is not completely at odds with that of Z10-11. Indeed, the gap between the two accounts depends on the different ways the question of material composition, from both an ontological and definitional perspective, is approached.

The main evidence that H2's account is consistent with that of Z11 especially, emerges clearly once we recall, again, what

Aristotle argues in 1036b22-24:

“to bring all things thus to Forms and to eliminate the matter is useless labour; for some things surely are a particular form in a particular matter, or particular things in a particular state (ἐνία γὰρ ἴσως τόδ' ἐν τῷδ' ἐστὶν ἢ ὡδὶ ταδὶ ἔχοντα)”.

As it is evident in H2 the formula ὡδὶ ταδὶ ἔχοντα is first recalled as such, in order to indicate the various kinds of material arrangements (see the definitions at 1043a6-11) and, then, re-worked through the dynamical schema of definition, where the material elements are potentialities and the formal ones are actualities (see 1043a14-19). Thus, we can conclude that H2 gives room to matter in the definitions as we were expecting after Z11's claims. Namely, after the claims against the practice of eliminating any reference to matter in definitions.

Is it, then, likely that the main difference between the two contexts depends on the dynamic character of H2's account as opposed to the static one of Z10-11¹⁸⁰? Or is it sufficient to state that H2's account is explanatory, while Z10-11 analytic¹⁸¹?

As I have brought forward¹⁸², in order to state how H differs from, or completes Z, it is necessary to join the explanatory paradigm of Z17 with the understanding of matter and form as potentiality and actuality respectively.

I argue that, as in Z, also in H Aristotle takes for granted the doctrine according to which matter amounts to potentiality and form to actuality. Truth be told, in Book Z we find both an explicit claim about the predication between matter and actuality and some traces of the dynamic account of matter as potentiality.

In Z13 1038b5-6 Aristotle says that the notion of substratum (ὑποκείμενον):

180 I am here implicitly referring to Ross's overview of Book H.

181 With the term “analytic” I am here regarding Z10-11's enquiry as ruled by the *analysis* of things and definitions into matter and form as distinct parts.

182 Cf. §1.6

“underlies in two senses (διχῶς ὑπόκειται), either being a ‘this’—which is the way in which an animal underlies its attributes—, or as the matter underlies the complete reality (ὡς ἡ ὕλη τῇ ἐντελεχείᾳ)”.

This text can be easily read as standing on the background of H2 1043a5-6's claim about the definitional structure of sensible things.

Moreover, at the beginning of Z16 Aristotle provides a dynamic understanding of the material parts which make up the unity of a whole:

“Evidently even of the things that are thought to be substances, most are only potentialities, e.g. the parts of animals (for none of them exists separately; and when they *are* separated, then they too exist, all of them, merely as matter) and earth and fire and air; for none of them is one, but they are like a heap before it is fused by heat and some one thing is made out of the bits. One might suppose especially that the parts of living things and the corresponding parts of the soul are both, i.e. exist both actually and potentially, because they have sources of movement in something in their joints; for which reason some animals live when divided. Yet all the parts must exist only potentially (ἀλλ’ ὁμῶς δυνάμει πάντ’ ἔσται), when they are one and continuous by nature,—not by force or even by growing together, for such a phenomenon is an abnormality”.

As it is clear, hence, H2's understanding of matter as potentiality and form as actuality is present in the same Book Z.

I argue that Aristotle makes the decisive shift in Z17 where he frames the doctrine of hylomorphism within the search for the explanatory meaning of οὐσία. For it is thanks to the abstract paradigm of Z17 that the dynamic understanding of hylomorphism can be definitely taken on. At the same time, to understand matter as potentiality and form as actuality provides the content to the abstract model of Z17. Thus, the fact that in H, as in Z, the potentiality-actuality relation is not explained but taken for granted, is not puzzling. The main difference lies on the fact that this ontological relation has now (that is, after Z17) its appropriate epistemological paradigm.

I argue that once one reads H's argument as resulting from the mutual relation between Z17's abstract paradigm and the potentiality-actuality model it is possible to provide a unified reading of the whole Book H.

Thus far we have shown how in H1 Aristotle bestows to matter a sort of relative determinateness (δυνάμει τὸδε τι)¹⁸³ Now we can argue that since Z17 clearly states that “we must seek for the cause by reason of which a certain matter is some definite thing”, in H the notion of matter is seen *towards* its explanation, namely towards its being something. But matter's orientation towards determinateness can be taken on only within the dynamic understanding of it as potentially something else. Accordingly, Z17's notion of substance as “nature” shows its explanatory power in H2's account of actuality. First, Aristotle deals with the notion of actuality in its analogical and functional meaning, as it is shown clearly through the notion of differentia as principle of being (H2 1042b9-1043a5). Then, he deals with the notion of actuality in its definitional meaning.

I argue that both these meanings have some relation with the notion of actuality in its full sense, namely - to quote H2's text - in its being “the actuality itself” (αὐτῆ ἢ ἐνέργεια)¹⁸⁴.

I suggest that even if Aristotle does not provide any explicit reference to the notion of “soul”, the “actuality itself”, which is taken for granted in Book H, can be read as hinting at the principle of organization of the material parts of a biological complex.

An accurate account of the possible relation between H and the biological treatises would go beyond this work. However, it is possible to underline how some lines of H2 find some parallels in Aristotle's *On the Soul*.

183 See 1042a28 and my remarks in §1.4

184 1043a6.

First, the three possible ways of defining something, which Aristotle enumerates at lines 1043a14-19, follow the analogous tripartition of *On the Soul* A1 403a29-b6. Both passages share also the same example of “house”. Their only difference lies on the more accurate character of the text present in *On the Soul*:

“Hence a physicist would define an affection of soul differently from a dialectician; the latter would define e.g. anger as the appetite for returning pain for pain, or something like that, while the former would define it as a boiling of the blood or warm substance surrounding the heart. The one assigns the material conditions, the other the form or account; for what he states is the account of the fact, though for its actual existence there must be embodiment of it in a material such as is described by the other. Thus the essence of a house is assigned in such an account as ‘a shelter against destruction by wind, rain, and heat’; the physicist would describe it as ‘stones, bricks, and timbers’; but there is a third possible description which would say that it was that form in that material with that purpose or end”.

Aristotle identifies the polemical targets that remain tacit in H2. Thus who define the house by mentioning only its material elements are the physicist, those who mention only the formal ones are the dialecticians, while those who combine the two references give a complete description of the house.

A further parallel with *On the Soul*'s text emerges in the final lines of H2, where Aristotle says that:

“For the formula that gives the differentiae seems to be an account of the form and the actuality, while that which gives the components is rather an account of the matter. And the same is true with regard to the definitions which Archytas used to accept; for they are accounts of the combined form and matter. E.g. what is still weather? Absence of motion in a large extent of air; air is the matter, and absence of motion is the actuality and substance. What is a calm? Smoothness of sea; the material substratum is the sea, and the actuality or form is smoothness. It is obvious then, from what has been said, what sensible substance is and how it exists one kind of it as matter, another as form or actuality; while the third kind is that which is composed of these two”¹⁸⁵.

185 1043a19-28: (ἔοικε γὰρ ὁ μὲν διὰ τῶν διαφορῶν λόγος τοῦ εἴδους καὶ τῆς ἐνεργείας εἶναι, ὁ δ' ἐκ τῶν ἐνυπαρχόντων τῆς ὕλης μᾶλλον)· ὁμοίως δὲ καὶ οἶους Ἀρχύτας ἀπεδέχετο ὄρους· τοῦ

These final lines do not seem to add much to what said so far. First of all, Aristotle recalls the analogies between, on the one hand, the notion of διαφοραὶ and that of εἶδος / ἐνέργεια and, on the other hand, between the notion of elements (ἐκ τῶν ἐνυπαρχόντων) and that of matter (ὑλη). As we have shown at length such conceptual analogies lead the shift from Z17 to H2. Then, as example of a proper way to define a composite object, Aristotle mentions the sort of definitions accepted by Archytas, where both matter and form are mentioned¹⁸⁶.

It must be remarked, however, how in *On the Soul* A5 410b10-12 Aristotle gives the same parallel between matter and elements, while stressing the heterogeneity of their unifying principle:

“The problem might also be raised, What is that which unifies the elements? The elements correspond, it would appear, to the matter (ὑλη γὰρ ἔοικε τά γε στοιχεῖα); what unites them, whatever it is, is the supremely important factor”.

For the time being I want just to suggest that some relations between H and the Aristotelian account of the soul as principle of the body can not be denied. In the following, and in the analysis of H6 especially, I will provide some further remarks on this theme.

Aristotle completes H2’s enquiry by arguing that (a) matter, (b) form and (c) the composite are each in their own way substances. Moving from this claim in H3 he will aim at disambiguating the notion of form from the notion of composite.

συνάμφω γὰρ εἰσιν. οἷον τί ἐστι νηνεμία; ἡρεμία ἐν πλήθει ἀέρος· ὑλη μὲν γὰρ ὁ ἀήρ, ἐνέργεια δὲ καὶ οὐσία ἡ ἡρεμία. τί ἐστι γαλήνη; ὀμαλότης θαλάττης· τὸ μὲν ὑποκείμενον ὡς ὑλη ἡ θάλαττα, ἡ δὲ ἐνέργεια καὶ ἡ μορφή ἡ ὀμαλότης. φανερόν δὴ ἐκ τῶν εἰρημένων τίς ἡ αἰσθητὴ οὐσία ἐστὶ καὶ πῶς· ἡ μὲν γὰρ ὡς ὑλη, ἡ δ’ ὡς μορφή καὶ ἐνέργεια, ἡ δὲ τρίτη ἡ ἐκ τούτων.

186 For an accurate account of Archytas' theory of definition and of the examples mentioned by Aristotle in H2 (νηνεμία and γαλήνη) see C.A. Huffman (2005) pp. 489-505.

§3.1 H3: Composite and Form

At first glance it is not easy to understand either the argumentative order or the general aim of H3. As a matter of fact, the five parts into which the chapter is divided appear to be ill-connected¹⁸⁷.

In the first paragraph (1043a29b4) Aristotle deals with the semantic ambiguity of some names that can mean both the composite substance and the form. In the second paragraph (1043b4-14) he seems to shift towards a different issue about the cause of being of the material composites. The third paragraph (1043b14-23), where Aristotle recalls some arguments about the ungenerability and unperishability of forms, has been usually regarded as a digression¹⁸⁸. In the fourth paragraph (1043b23-32) Aristotle tackles with some puzzles concerning the structure of definition, while in the fifth (1043b32-1044a11) he deals with the cause of unity of numbers and definitions. Finally, the summarizing sentence at lines 1044a11-14 provides a synthesis of the chapter that seems rather partial¹⁸⁹.

Both in this and in the following paragraphs of my work I aim at proving how the five parts into which H3 can be divided supply one consistent argument despite their apparent rhapsodic character. In particular, they are all meant to compare, from both an ontological and definitional viewpoint, the structure of composite beings with the structure of forms as causes of being. Paradoxically, the only way for providing a unitary account of H3 is to give a deflationary reading of its main theme. This latter can be roughly said to consist in showing how the form and the composite of matter and form do not coincide each other.

187 See W.D. Ross (1924) p. 231. Cf. also D. Bostock (1994) p. 261.

188 See W.D. Ross (1924) p. 232; Londinenses (1984) p. 15; D. Bostock (1994) p. 264.

189 D. Bostock (1994) p. 271 suggests that “it is not the work of Aristotle himself, but was added by a somewhat careless editor”.

It can be outlined how the differentiation between the form and composite of matter and form concerns, respectively:

- 1) some issues about semantics (1043a29-b4);
- 2) some issues about ontological dependance (1043b4-14);
- 3) some issues about generability and corruptibility (1043b14-23);
- 4) some issues about definability (1043b23-32);
- 5) some issues about unity (1043b32-1044a14).

I argue that the disambiguation which Aristotle accomplishes in H3 mainly depends on the more general argumentative structure of ZH as a whole. Here I do not aim at providing an accurate account of such structure. However, it is remarkable how the “disambiguation issue” is one of the recurrent ones in ZH expository strategy. More precisely, the disambiguation is needed for once the substancehood of matter seems somewhat to threaten the ontological and definitional priority of the notion of form. While after Z3's deflationary account of matter, in Z4-6 Aristotle disambiguates the notion of substantial form from the accidental composites, after Z7-9 physical account of matter as necessary condition of becoming, in Z10-11, Aristotle disambiguates what parts belong to the composite and what parts to the form only. Similarly, after H2's dynamic account of matter as potentially a certain composite being, in H3 Aristotle aims at disambiguating the notion of form from the notion of composite in order to restate the primacy of the former on the latter.

In this paragraph I will deal with H3's first argument. Here Aristotle argues that:

“We must not forget that sometimes it is not clear whether a name means the composite substance, or the actuality or form, e.g. whether ‘house’ is a sign for the composite thing, ‘a covering consisting of bricks and stones laid thus and thus’, or for the actuality or form, ‘a covering’, and whether a line is twoness in length or twoness, and whether an animal is a soul in a body or a

soul. For soul is the substance or actuality of some body; but animal might be applied to both, not that both are definable by one formula but because they refer to the same thing. But this question, while important for another purpose, is of no importance for the inquiry into sensible substance; for the essence certainly attaches to the form and the actuality. For soul and to be soul are the same, but to be man and man are not the same, unless indeed the soul is to be called man; *and in that way they are the same and in another way not*¹⁹⁰.

The way by which Aristotle introduces his argument (“We must not forget that sometimes it is not clear whether...”) shows how he is here providing a corollary of disambiguation. It is likely that such a corollary follows directly the ending statement of H2 (1043a26-28)¹⁹¹, where Aristotle had stated the general conclusion of the whole chapter:

“It is obvious then, from what has been said, what sensible substance is and how it exists one kind of it as matter, another as form or actuality; while the third kind is that which is composed of these two”.

Now, at the beginning of H3, Aristotle points out how a name can mean both the composite substance and the actuality or form (σημαίνει τὸ ὄνομα τὴν σύνθετον οὐσίαν ἢ τὴν ἐνέργειαν καὶ τὴν μορφήν). Thus, one may suppose that even if the tripartition of sensible substances in matter, form and composite is proved after the end of H2, some ambiguities might still persist. In particular, the relation between semantics and

190 1043a29-b4: Δεῖ δὲ μὴ ἀγνοεῖν ὅτι ἐνίοτε λαυθάνει πότερον σημαίνει τὸ ὄνομα τὴν σύνθετον οὐσίαν ἢ τὴν ἐνέργειαν καὶ τὴν μορφήν, οἷον ἢ οἰκία πότερον σημείον τοῦ κοινοῦ ὅτι σκέπασμα ἐκ πλίνθον καὶ λίθον ὡδὶ κειμένων, ἢ τῆς ἐνεργείας καὶ τοῦ εἶδους ὅτι σκέπασμα, καὶ γραμμὴ πότερον δυάς ἐν μήκει ἢ [ὅτι] δυάς, καὶ ζῶον πότερον ψυχὴ ἐν σώματι ἢ ψυχὴ· αὕτη γὰρ οὐσία καὶ ἐνέργεια σώματός τινος. εἶη δ' ἂν καὶ ἐπ' ἀμφοτέροις τὸ ζῶον, οὐχ ὡς ἐνὶ λόγῳ λεγόμενον ἀλλ' ὡς πρὸς ἓν. ἀλλὰ ταῦτα πρὸς μὲν τι ἄλλο διαφέρει, πρὸς δὲ τὴν ζήτησιν τῆς οὐσίας τῆς αἰσθητῆς οὐδέν· τὸ γὰρ τί ἦν εἶναι τῶ εἶδει καὶ τῇ ἐνεργείᾳ ὑπάρχει. ψυχὴ μὲν γὰρ καὶ ψυχῆ εἶναι ταυτόν, ἀνθρώπῳ δὲ καὶ ἀνθρώπῳ οὐ ταυτόν, εἰ μὴ καὶ ἡ ψυχὴ ἀνθρώπος λεχθήσεται· οὕτω δὲ τινὶ μὲν τινὶ δ' οὔ.

Here I prefer Bostock's more literal translation of the final statement at line 1043b4 (οὕτω δὲ τινὶ μὲν τινὶ δ' οὔ) than Ross's one: “thus on one interpretation the thing is the same as its essence, and on another it is not”.

191 See S. Menn (unpublished work) IIe p.19.

ontology could be unclear, especially for what concerns those names that can refer both to the composite and to the form.

Aristotle mentions three cases: a) that of the name “house”, which can mean both the composite thing, namely ‘a covering consisting of bricks and stones laid thus and thus’, or the actuality or form, namely ‘a covering’; b) that of the name “line”, which can mean both “twoness in length” or “twoness”; c) that of the name “animal”, which can mean both “a soul in a body” or “a soul”. As the Londinenses remark:

“the verb σημαίνει at lines 29-30 does not indicate the reference, but the meaning “since the evidence adduced is alternative definitions - “A house is a shelter of bricks and stones thusly arranged” vs. “A house is a shelter”. “A line is two in length” vs “A line is two”¹⁹².

As a matter of fact, all the three examples recall those places of ZH where Aristotle deals with the definitional structure of something. In particular, they refer to Z11, whose starting-claim is:

“The question is naturally raised, what sort of parts belong to the form and what sort not to the form, but to the concrete thing”¹⁹³.

Roughly speaking, Z11's main aim is to demonstrate how it is not possible to abstract from whichever reference to the material aspect of something. As Aristotle clearly maintains at 1036b21-30:

“Now we have stated that the question of definitions contains some difficulty, and why this is so. Therefore to bring all things thus to Forms and to eliminate the matter is useless labour; for some things surely are a particular form in a particular matter, or particular things in a particular state. And the comparison which Socrates the younger used to make in the case of animal is not good; for it leads away from the truth, and makes one suppose that man can possibly exist without his parts, as the circle can without the bronze. But the case is not similar; for an animal is something perceptible, and it is not possible to define it without reference to movement—nor, therefore, without reference to the parts and to their being in a certain state”.

¹⁹² Londinenses (1984) p.11.

¹⁹³ 1036a26-28.

As we have already argued, such conclusion of Z11's research into the composite structure of definitions is the main basis for H's account of definition. Especially two points must be remarked for our present purposes:

1) Aristotle rejects the Platonic practice of defining anything by making no reference to the notion of matter;

2) By contrast, since some things are “a particular form in a particular matter” (τόδ' ἐν τῷδ' ἐστίν) or a “particular things in a particular state” (ὥδὲ ταδὲ ἔχοντα), we must display a definitional structure where the role of matter is acknowledged;

Now I argue that in H2 Aristotle has already developed these two points, by showing clearly how matter must be included in definitions. The theoretical path is quite easy to understand. In H1 Aristotle starts a fresh analysis of sensible substances by remarking that the distinctive ontological mark of such substances is their having matter (1042a24-26). This entails that all sensible substances are subject to change. In H2 the key-role of matter in the ontological structure of sensible substances is taken for granted. Thus, what is left to explain is “why a certain matter is some definite thing”. And, as we know, Aristotle identifies such explanatory principle with the notion of actuality. As a consequence, it must be displayed a definitional structure where one item refers to the material elements of something, which are just potentially the composite thing, and the other item refers to the formal elements as to their actuality. It could be useful, here, to recall what Aristotle states at H2 1043a14-19:

“In defining, those who define a house as stones, bricks, and timbers (λίθοι πλίνθοι ξύλα), are speaking of the potential house, for these are the matter; but those who define it as a covering for bodies and chattels (ἀγγεῖον σκεπαστικὸν χρημάτων καὶ σωμάτων), or add some other similar differentia, speak of the actuality; and those who combine both of these speak of the third kind of substance, which is composed of matter and form (οἱ δ' ἄμφω ταῦτα συντιθέντες τὴν

τρίτην καὶ τὴν ἐκ τούτων οὐσίαν)”.

Now, at the beginning of H3 Aristotle seems to collect what has been argued about the structure of definitions both in Z11 and in H2.

The parallel between H2 and H3's first paragraph is evident once we look at the first example Aristotle mentions: namely that of the “house”. The notion of house as ‘a covering consisting of bricks and stones laid thus and thus’ (σκέπασμα ἐκ πλίνθον καὶ λίθον ὥδι κειμένων), in fact, makes explicit what is just implicit about the nature of the house as composite object in H2. For, here Aristotle brings together the potential aspect of the house with its actual one and he provides the complete formula of “house” as composite of matter and form. Moreover, the case of the “house” is meant to exemplify the cases of those entities whose ontological structure is defined by Z11's formula “ὥδι ταδι ἔχοντα”, namely “particular things in a particular state”.

Also the other two examples mentioned in H3 (“line” and “animal”) occur in *Metaphysics* Z11. Dealing with the Platonic practice of abstracting from matter, Aristotle argues, at 1036b7-13, that:

“Since this is thought to be possible, but it is not clear *when* it is the case, some are in doubt even in the case of the circle and the triangle, thinking that it is not right to define these by lines and by continuous space, but that all these are to the circle or the triangle as flesh or bones are to man, and bronze or stone to the statue; and they bring all things to numbers, and they say the formula of line is that of two (γραμμῆς τὸν λόγον τὸν τῶν δύο εἶναι φασιν)”.

Later in the text of Z11 also the example that involves the notions of soul and animal occurs. At 1037a5-8, in fact it is said that:

“It is clear also that the soul is the primary substance and the body is matter, and man or animal is the compound of both taken universally; and Socrates or Coriscus, if even the soul of Socrates is Socrates, is taken in two ways (for some mean by such a term

the soul, and others mean the concrete thing)”.

Thus, since Aristotle clearly refers both to H2 and Z11, it is likely that H3's first paragraph develops the same theoretical path of those chapters. As we know, such a path entails a much more inclusive account of the role of matter in definition. However, in H3 Aristotle clearly restates that the role of unifying principle, both from an ontological and a semantic perspective, belongs to the notion of essence conceived as form and actuality:

“animal might be applied to both, not that both are definable by one formula but because they refer to the same thing. But this question, while important for another purpose, is of no importance for the inquiry into sensible substance; for the essence certainly attaches to the form and the actuality. For soul and to be soul are the same, but to be man and man are not the same, unless indeed the soul is to be called man; and in that case in one way they are the same and in another way not”¹⁹⁴.

This passage shows how the ambiguity between the meaning of something as form or as composite represents a case of *homonimia pros hen* (ὡς πρὸς ἓν). Thus, “animal”, for instance, can be applied both to “soul” and to “the soul in a body” not because both are definable by the same formula, but as they refer to the same thing.

Aristotle solves the puzzle at 1043b1-2¹⁹⁵, where, despite the concise character of his claim, he explains how:

- 1) the mentioned cases of ambiguity are such only for another purpose (ἀλλὰ ταῦτα πρὸς μὲν τι ἄλλο διαφέρει), but not for H's inquiry into sensible substance (πρὸς δὲ τὴν ζήτησιν τῆς οὐσίας τῆς αἰσθητῆς οὐδέν);
- 2) the notion of essence, which presumably plays a key-role in the former field of research, belongs to the notion of form as

194 1043a36-b4.

195 Here I disagree with D. Bostock (1994) p. 261, who argues that: “it is somewhat surprising, then, that here Aristotle does not commit himself, but says only that the word “animal” might have both meanings”. As it will appear clear in the following, I argue that Aristotle solves the puzzle by referring the notion of essence to that of actuality.

actuality within the latter field (τὸ γὰρ τί ἦν εἶναι τῷ εἶδει καὶ τῇ ἐνεργείᾳ ὑπάρχει ¹⁹⁶).

Now, we must ask ourselves which different field (πρὸς τι ἄλλο) Aristotle is here referring to, since it is perfectly clear that the analysis of the sensible substances is at the core of Book H as a whole¹⁹⁷. For, once understood such other domain of research, it will be possible to understand also which role is played by the notion of essence and by the notion of form as actuality, respectively.

I argue that Aristotle aims here at comparing the logical-abstract approach to the question of what is substance, which is developed at length in Z4-6, with the explanatory approach of Z17-H.

As we know, Aristotle begins the enquiry of Z4-6 on the notion of τὸ τί ἦν εἶναι arguing:

“Since at the start we distinguished the various marks by which we determine substance, and one of these was thought to be the essence, we must investigate this. And first let us say something about it in the abstract (λογικῶς)”¹⁹⁸.

In this context I will not provide a detailed analysis of the role played by the concept of τὸ τί ἦν εἶναι in Z4-6. Rather, I want to underline two aspects of that section of Book Z which can

196 This claim can be read as parallel to what Aristotle states in other similar contexts, where the notion of essence is said to be equivalent to other concepts that variously refer to the domain of the formal cause. In Z7 1032b1-2, for instance, within the physical analysis of the different ways of becoming, Aristotle argues that: “By form I mean the essence of each thing and its primary substance” (εἶδος δὲ λέγω τὸ τί ἦν εἶναι ἐκάστου καὶ τὴν πρώτην οὐσίαν). In Z10 the soul is said to be “the form and the essence of a body of a certain kind” (τὸ εἶδος καὶ τὸ τί ἦν εἶναι τῷ τοιῶδε σώματι). In the already recalled line of Z17 1041a28, the notion of substance as principle and cause is identified with the τὸ τί ἦν εἶναι as its corresponding abstract concept (τοῦτο δ’ ἐστὶ τὸ τί ἦν εἶναι ὡς εἰπεῖν λογικῶς). Thus, since in H2 Aristotle has dealt with the notion of form as actuality, it is perfectly clear why in H3 he says that the essence as abstract concept belongs to the form in its dynamical aspect, namely to the ἐνέργεια.

197 See H1 1042a24-26 and my remarks ad loc. §1.4

198 See Z4 1029b11-13.

shed some light on the train of thought of H3's first paragraph.

1) In Z4-6 no reference to the notion of matter is present, while, as we have shown so far, it appears to be the key one of H's enquiry¹⁹⁹;

2) in Z4-6 the notion of τὸ τί ἦν εἶναι has mainly what I call a “disambiguating” role.

Such a role depends on its being for each thing “what it is said to be in virtue of itself” (ὃ λέγεται καθ’ αὐτό ²⁰⁰). Sketchily, we can observe how, thanks to the right understanding of the meaning of this formula, the notion of essence helps us to disambiguate:

a) the case of the primary substances, which have a proper definition, from the case of the accidental composites, which can have just a secondary and derived kind of definition²⁰¹;

b) the case of the primary substances from the case of the properties, which are definable only “by addition”²⁰²;

c) the cases where a thing and its essence are the same (primary substances) from the cases where they are different (accidental composites)²⁰³.

It must be remarked how in Z4-6 Aristotle gains all these outcomes moving from a logical-abstract approach to the question of being. This means that the disambiguating role of the notion of τὸ τί ἦν εἶναι works as such only within a categorial framework. This entails also a categorial understanding of the notion of composition which has been overcome starting from the following chapter of Z, namely Z7.

199 Here I roughly follow the overall reading of Z4-6 provided by M. Burnyeat (2001). See especially p. 23: “These chapters will abstract from the principles appropriate to the subject-matter of first philosophy. Form and the correlative concept of matter will not reappear until Z7 and Z10. With one possible exception, the “logical” stage of this discussion extends from Z4.1029b13 to the end of Z6”.

200 Z4 1029b14.

201 See the whole argument of Z4 and lines 1030b4-7 especially.

202 See the whole argument of Z5.

203 See the whole argument of Z6.

From that place, in fact, it occurs what I have called “the emergence of hylomorphism” in the central Books of *Metaphysics*. Hence, while in Z4-6 the question about the composite character of something concerns the accidental composition of some substances with some properties belonging to categories other than that of substance (as for instance in the case of “white man”), from Z7 Aristotle deals with the hylomorphic composition of sensible substances (as for instance in the case of “animal” as “a soul in a body”). Now, while in Z4-6 the abstract concept of τὸ τί ἦν εἶναι helps us to distinguish what has a proper definition from what has not, in the explanatory paradigm of H such a disambiguating role: 1) belongs to the concept of actuality and 2) concerns the alleged semantic ambiguity between the reference to the form and that to the composite. This ambiguity is, however, only alleged. For, Aristotle has already explained in H2 that the cause by reason of which some material elements are a definite composite substance is the notion of form as actuality. Here he just points out the semantic consequence of such an ontological relation.

Hence, “animal” can *mean* both the form and the composite since both meanings are unified by the notion of soul as actuality. But this is possible only because the soul determines *ontologically* the being and the unity of flesh and bones as concrete living body.

Aristotle's goal in H3's first paragraph seems, then, to be the following. Since the main conclusions of H1-2 are: a) that sensible substances are matter, form and the composite and b) that, in defining, those we speak of matter refer to what the substance is potentially, those we speak of form refer to what the substance is actually, those who bring together the two meanings refer to what the substance is as composite, still, the unifying principle both for things and their definitions is the

notion of form as actuality.

Also the final statement at 1043b1-4 could remind us of Z4-6's section, for Aristotle argues that:

“soul and to be soul are the same (ταύτων), but to be man and man are not the same (οὐ ταύτων), unless indeed the soul is to be called man; and in that case in one way they are the same and in another way not”.

Here we can see a hint to the main theme of Z6²⁰⁴, which we have above said to consist in disambiguating the cases where a thing and its essence are the same from the cases where they are different. In that context it was easy for Aristotle to prove how in the cases of primary substances there is identity between the thing and its essence. Here, the same claim seems to be restated, since it is clear why the soul and to be soul (ψυχή μὲν γὰρ καὶ ψυχῆ εἶναι) are the same. But, on the contrary, to be man and man (ἄνθρωπος δὲ καὶ ἄνθρωπος) are not the same, since the essence of man (its soul) does not coincide with its being a composite of matter (fleshes and bones) and form (soul). The only way to conceive them as the same might depend on a aleatory use of semantics: εἰ μὴ καὶ ἡ ψυχή ἄνθρωπος λεχθήσεται²⁰⁵.

Once again it appears clear the key-role of matter for H's enquiry. While within the logical-abstract analysis of the concept of essence (Z4-6) some semantic ambiguities are actually puzzling, within the causal analysis of sensible substances of Z17-H they cease to be such thanks to the unifying role of form as actuality. While in Z4-6 Aristotle never refers to the notion of matter, in H he starts off from the assumption that all sensible substances have matter. This entails that, while within a categorial framework the lack of identity between a thing and its essence

204 See also W.D. Ross (1924) p.231 and E.C. Halper (2005) p. 168.

205 1043b3-4. See Londinenses (1984) pp. 11-12: “it might be thought to imply that the use of “man” to mean just “soul” is something of a rarity, or at least an addition (εἰ μὴ καὶ) to the more ordinary use of “man” to mean the composite”.

depends on the accidental composition (as for instance in the case of “white man”²⁰⁶), within a hylomorphic framework it depends on the material composition of a sensible substance (as for instance in the case of “animal” conceived as living being)²⁰⁷.

However, we have to ask ourselves why Aristotle introduces the difference between these two approaches in the way he does at the beginning of H3. As we have seen above, in fact, the examples of some names that can refer both to the form and the composite (house, line, animal) recall the enquiry of Z11 on what things are part of the form and what of the composite. On the contrary in Z4-6 no reference to such a question is present.

I argue that through the concept of form as actuality, described in H2, Aristotle does not want only to distinguish H's approach to the question of substance from the logical-abstract one of Z4-6. Rather, he aims at underlining also the difference between H's analysis and Z11's one. That chapter of Z, in fact, differs from Z4-6, since Aristotle deals with the question of composition in its hylomorphic aspect rather than in its categorial one, but it also differs from H2-3. As I have tried to show above, even if Aristotle alludes to the potentiality-actuality solution of the compositional puzzle in Z11²⁰⁸, only after Z17 - namely in Book H - he can apply his dynamic understanding of hylomorphism in its appropriate formal model. As I have remarked, Z17's explanatory approach to the question of being mainly consists in asking “why a certain matter is some definite thing”. For what concerns the compositional puzzle this means to understand the material elements of a composite being towards their determinateness, namely in their being potentially something else.

206 See Z6 1031b18-28.

207 See also Z11 1036a33-b7.

208 See Z11 1036b21-32.

Thus, it is likely that H3's dynamic understanding of the unifying formal principle as actuality definitely overcomes any possible ambiguity between what refers to “form” and what refers to “composite”.

§3.2 The substance as cause of the composite thing

In the present paragraph I will deal with the argument of H3 1043b4-14. Although Aristotle does not mention at all the notion of ἐνέργεια, as done in H2 and in H3 1043b2, also in these lines he focuses on the formal principle of something as cause of being. Moreover, as it occurs in the first paragraph of H3, also in the second one, the main theme is the relation between the substance as cause of being and the composite thing.

Aristotle argues that:

“If we consider we find that the syllable is not produced by the letters and *composition*²⁰⁹, nor is the house bricks and *composition*. And this is right; for the *composition* or mixing is not produced by those things of which it is the *composition* or mixing. And the same is true in the other cases, e.g. if the threshold is characterized by its position, the position is not produced by the threshold, but rather the latter is produced by the former. Nor is man animal and biped, but there must be something besides these, if these are matter,—something which is neither an element in the whole nor produced by an element, but is the substance, which people eliminate and state the matter. If then this is the cause of the thing’s being, and if the cause of its being is its substance, they cannot be stating the substance itself”²¹⁰.

The whole argument depends on what Aristotle has shown both in Z17 and H2 and it can be, in turn, divided into two subsections. While from line b4 until line b10 Aristotle deals with the relation between material composition and form, from line

209 Both here and in the subsequent lines I do not follow Ross's translation of σύνθεσις with the English “juxtaposition”. Rather, and in accordance both with the previous reference to the same term in H2 1042b16 and with the notes *ad loc.* of the same Ross, see W.D. Ross (1924) p. 231, I translate σύνθεσις with “composition”.

210 1043b4-14: οὐ φαίνεται δὴ ζητοῦσιν ἢ συλλαβὴ ἐκ τῶν στοιχείων οὔσα καὶ συνθέσεως, οὐδ' ἢ οἰκία πλίνθοι τε καὶ σύνθεσις. καὶ τοῦτο ὀρθῶς· οὐ γὰρ ἐστὶν ἢ σύνθεσις οὐδ' ἢ μίξις ἐκ τούτων ὧν ἐστὶ σύνθεσις ἢ μίξις. ὁμοίως δὲ οὐδὲ τῶν ἄλλων οὐθέν, οἷον εἰ ὁ οὐδὸς θέσει, οὐκ ἐκ τοῦ οὐδοῦ ἢ θέσις ἀλλὰ μᾶλλον οὗτος ἐξ ἐκείνης. οὐδὲ δὴ ὁ ἄνθρωπος ἐστὶ τὸ ζῶον καὶ δίπουν, ἀλλὰ τι δεῖ εἶναι ὃ παρὰ ταῦτά ἐστιν, εἰ ταυθ' ὕλη, οὔτε δὲ στοιχεῖον οὔτ' ἐκ στοιχείου, ἀλλ' ἢ οὐσία· ὃ ἐξαιροῦντες τὴν ὕλην λέγουσιν. εἰ οὖν τοῦτ' αἴτιον τοῦ εἶναι, καὶ οὐσία τοῦτο, αὐτὴν ἂν τὴν οὐσίαν οὐ λέγοιεν.

b10 to line b14, he applies the question of the material composition of something to the notion of form conceived as object of definition.

The link between the first sub-section and the explanatory paradigm of Z17-H2 emerges clearly from the examples that Aristotle mentions. While the example of the syllable (συλλαβή) occurs in the last paragraph of Z17²¹¹, the examples of the house (οἰκία) and of the threshold (οὐδός) occur in H2²¹². Moreover, Aristotle focuses on the relation between such composite substances and a series of *differentiae* already mentioned in H2: composition (σύνθεσις), mixing (μίξις), position (θέσις)²¹³.

At lines b4-8 it is said that:

“the syllable is not produced by the letters and composition (ἐκ τῶν στοιχείων καὶ συνθέσεως), nor is the house bricks and composition (πλίνθοι τε καὶ σύνθεσις)”. And this is right; for the composition or mixing is not produced by those things of which (ἐκ τούτων ἧν) it is the composition or mixing”.

It could be tempting to read these lines as a mere rephrasing of the final argument of Z17. In that context, Aristotle explains how a composite thing must not be understood as a mere heap (σωρός), but rather as a unity (ἕν). This entails that we must find, for each case, that principle which, being not material, is responsible for the unity of the material elements of each composite thing. As we know, such a principle is identified with the notion of substance as “ἄτιον τοῦ εἶναι”:

“As regards that which is compounded out of something so that the whole is one—not like a heap, however, but like a syllable,—the syllable is not its elements, *ba* is not the same as *b* and *a*, nor is flesh fire and earth; for when they are dissolved the wholes, i.e. the flesh and the syllable, no longer exist, but the elements of the syllable exist, and so do fire and earth. The syllable, then, is something—not only its elements (the vowel and the consonant) but also something else; and the flesh is not only fire and earth or

211 See 1041b11-33.

212 See, respectively, 1043a15-19 and 1042b26-27; 1043a7.

213 See, respectively, 1042b16; 1042b29; 1042b19.

the hot and the cold, but also something else. Since, then, that something must be either (a) an element (στοιχεῖον) or (b) composed of elements (ἐκ στοιχείων), if it is an element the same argument will again apply; for flesh will consist of this and fire and earth and something still further, so that the process will go on to infinity; while if it is a compound, clearly it will be a compound not of one but of many (or else it will itself be that one), so that again in this case we can use the same argument as in the case of flesh or of the syllable. But it would seem that this is something, and not an element, (τὶ τοῦτο καὶ οὐ στοιχεῖον) and that it is the cause which makes *this* thing flesh and *that* a syllable (καὶ αἴτιον γὰρ τοῦ εἶναι τοδὶ μὲν σάρκα τοδὶ δὲ συλλαβήν). And similarly in all other cases. And this is the substance of each thing; for this is the primary cause of its being; and since, while some things are not substances, as many as are substances are formed naturally and by nature, their substance would seem to be this nature, which is not an element but a principle. An *element* is that into which a thing is divided and which is present in it as matter, e.g. *a* and *b* are the elements of the syllable”²¹⁴.

As a matter of fact, there are some analogies between this argument of Z17 and lines 1043b4-8 of H3:

- 1) in both contexts it occurs the same example of the “syllable”;
- 2) in both contexts it is said that the cause of the syllable's being, which remains undetermined in Z17 and which is identified with the composition (σύνθεσις) in H3²¹⁵: a) is neither a further material element (στοιχεῖον) alongside the letters as material elements of the syllable; b) nor it is composed of more than one material element (ἐκ στοιχείων). In this sense, the clearest parallel between the two contexts concerns Z17 1041b19-20 and H3's rephrasing of the same claim at 1043b11-12.

It is clear that the final argument of Z17 is on the background of H3's second paragraph, insofar as in both places Aristotle deals with the concept of substance in its explanatory role. However,

²¹⁴ Z17 1041b11-33.

²¹⁵ As a matter of fact, in Z17 Aristotle does not specify the principle of being through which the letters as material elements are the syllable as composite. By contrast, in H3 he seems to think that such formal principle is that of σύνθεσις. On this point see also D. Bostock (1994) p. 262.

as in the first paragraph of H3, also in the second one, Aristotle seems to be mainly interested in disambiguating the relation between the formal principle and the notion of composite. While in the first argument such a disambiguation concerned a hypothetical semantic overlapping between these two notions, in the second argument it concerns the difference between the material nature of the composite substances and the immaterial nature of the form as principle of being. Although Aristotle has already underlined such a difference in the final argument of Z17, in H3 he does not merely rephrase the same analysis. By contrast, he deals with the difference between the form and the composite in the light of what he has argued in H2.

A first evidence of this is given by the lack of the same argumentative structure which was at the core of Z17. In that place, Aristotle proved how: a) to understand the principle of being of the composite things as a further material element alongside the others entailed a new puzzle about the unity between this “new” material principle and the material elements of the composite²¹⁶; b) to understand the principle of being as in itself composed of material elements led the puzzle back to its starting-point with the mere substitution of the items involved (for, the principle would have been the same nature of the syllable whose unity it should help us to understand²¹⁷).

Now, while the statement at H3 1043b4-6 (“the syllable is not produced by the letters *and* composition, nor is the house bricks *and* composition”) can be easily referred to the argument of Z17 1041b20-22, the statement at H3 1043b6-8 is quite different from the argument of Z17 1041b22-25. For, while this latter deals with the hypothesis that the formal principle is composed of *elements* (ἐκ στοιχείων), in H3 1043b6-8 Aristotle says that “the

²¹⁶ See Z17 1041b20-22.

²¹⁷ See Z17 1041b22-25.

composition or mixing is not *produced by those things of which it is the composition or mixing* (ἐκ τούτων ὧν ἐστὶ σύνθεσις ἢ μίξις)”. As it is evident, the main difference between the two passages lies on the fact that in H3 Aristotle identifies the alleged elements of which the formal principle would be composed with those elements that it actually unifies in the composite thing.

Thus, although some analogies with Z17's final paragraph subsist, in H3 Aristotle does not merely rephrase the same argument. On the contrary, I argue that he grounds the argument of H3 1043b4-8 on the more recent account of H2. Roughly speaking, the bulk of these lines is the following: the formal principle can not be understood as material simply because on this principle depends the being of the material elements as consistently arranged in a determinate composite substance.

Once granted this framework, it is possible to solve the several textual puzzles of H3's second paragraph.

First, it can be preserved the logical consecution between the two first arguments, which the clause γάρ at line 7 seems to entail:

“the syllable is not produced by the letters and composition, nor is the house bricks and composition”. And this is right; for (γάρ) the composition or mixing is not produced by those things of which it is the composition or mixing”.

In his commentary Ross argues that Aristotle's reasoning is here unconsecutive:

“The syllable does not consist of the letters + their composition. This is natural because the composition does not consist of the letters. The second sentence contains a suggestion which is quite different from that contained in the first, and γάρ is unjustifiable. Aristotle rejects both suggestions: the form is οὔτε δὲ στοιχεῖον οὔτ' ἐκ στοιχείου I.12”²¹⁸.

Now what Ross finds “unjustifiable”, through the use of γάρ at line b7, is the consecution between the first argument at lines b4-

218 W.D. Ross (1924) p. 231.

6 - where Aristotle rejects the understanding of the formal principle as if it were an *element* – and the second argument at lines b8 – where Aristotle rejects the understanding of the formal principle as if it were *composed of elements*. In other words: why does Aristotle seem to suggest, through the reference to γάρ, that we can not understand, for instance, the σύνθεσις as an element *since* the σύνθεσις is not composed of elements?

To put the question in this way, however, means to read the whole argument as merely rephrasing the schema of Z17, but, as we have shown above, the two passages are not exactly the same²¹⁹. On the contrary, H3's argument does not only reject a material understanding of the formal principle (like Z17), but it rejects such understanding in the light of H2.

This suggestion can preserve the consecution between the two arguments of 1043b4-6 and b6-8. For, what Aristotle argues, would seem to work in the following way: we have no reason to regard the syllable as determined by the letters + the composition or the house as determined by the bricks + the composition, since the composition, which in H2 has been said to be a *differentia*²²⁰ - namely a formal principle - is not composed of the material elements of the syllable or of the house. By contrast, the composition arranges those elements (letters or bricks) in consistent wholes (a syllable or a house).

Hence, pace Ross, the consecution between the two arguments is perfectly clear: we can not understand a composite substance as

219 D. Bostock (1994) p. 262, acknowledges the analogy between the two passages, but he just develops Ross's reading of the whole argument of H3 1043b4-10 as "unconsecutive": "In Z17 the claim that the combination is not itself an element was argued at 41b20-2, and then a different argument was given for the further point that the combination is not composed of elements (41b22-5). Here in H3 the further point is cited as if it were reason for the first point, which it evidently is not. Aristotle would appear to be forgetting the details of his earlier discussion".

220 See 1042b16.

produced by its material elements + its form, for (γάρ) the form is not produced by the juxtaposition of the material elements of the composite being. In other words, once we have shown in H2 that the *differentiae* are radically different, from an ontological viewpoint, from those material elements they arrange in a consistent composite whole, there is no reason to understand the formal principle of something as a material element alongside the others²²¹. To conclude, the whole argument is grounded on an ontological evidence. Such ontological evidence, however, helps us clarify better the abstract paradigm of Z17. For, it prevents us from establishing any sort of transitivity between material juxtapositions. To rephrase Aristotle's words, we can not understand the composite as matter + form since the form is not matter + matter.

Moving from this general reading of the whole passage, it is possible to solve also the other textual puzzles of lines 1043b4-10.

Such puzzles would concern:

- 1) the meaning of the preposition ἐκ, which occurs four times: lines 1043b5,7,9,10;
- 2) the extension of the relation described in 1043b4-8 to other cases: “ὁμοίως δὲ οὐδὲ τῶν ἄλλων οὐθέν” (b8);
- 3) the consistence between what argued until line 8 and the example concerning the “threshold” and the “position” mentioned at lines 9-10;

The Londinenses have shown the mutual relation between 1) and 2) and have tried to provide a consistent reading of the whole argument:

“(1) Does ἐκ have the same meaning throughout the passage, or

²²¹ Similar conclusions, even if reached through a different argument, are in T. Scaltsas (1994a) pp. 69-71.

does it first mean “consist of” (b5) and then “be adequately defined in terms of (b7)? This latter view enables the γάρ clause to give a reason for the one before it. Again at b9 Aristotle is presumably saying that either a threshold or a position “consists in” the other, but that reference to position is more important for understanding threshold than reference to a threshold is for understanding position. (2) Does ὁμοίως (b8) imply that all the cases that fail to do so for the same reason? If we are right under (1) we can presumably say yes, at any rate so far as the ensuing threshold example goes. τῶν ἄλλων refers to the cases mentioned at 1042b15 ff. (cf. 1043a7-12)”²²².

In order to evaluate carefully such reading, it can be useful to report again what Aristotle says in H3 1043b4-14:

“If we consider we find that the syllable is not produced by the letters and composition, nor is the house bricks and composition. And this is right; for the composition or mixing is not produced by those things of which it is the composition or mixing. And the same is true in the other cases, e.g. if the threshold is characterized by its position, the position is not produced by the threshold, but rather the latter is produced by the former”.

The key-suggestion of the Londinenses consists in differentiating the meaning of the first ἐκ (line b5), which would indicate, like in Z17, a sort of material composition (“consist of”), from the meaning of the following references to the same preposition (lines b7-9-10), which would indicate a sort of definitional dependance (“be adequately defined in terms of”). I argue that this suggestion can be accepted as valid²²³, but under certain conditions:

- a) *iff* the translation of ἐκ with “be adequately defined in terms of” presupposes the ontological background of H2, namely *iff* it presupposes that the each material composite depends *ontologically* on its proper *differentia*;
- b) *iff* such differentiation of meanings is meant as at working only from the references to ἐκ at lines 9,10 and not from line 7, where Aristotle is still dealing with the issue about the material

²²² Londinenses (1984) pp. 13-14.

²²³ Pace Ross, who argues that: “the use of ἐκ in two quite different senses is most improbable” See W.D. Ross (1924) p. 231.

composition of something (namely with its material “consisting of” something else)²²⁴.

c) *iff* the references to ὁμοίως and to “τῶν ἄλλων” at line b8 are both meant as extending the cases about the material composition of something to the more general relation between composite and form (and as this latter is described in H2).

All these three conditions (a,b,c) enables us to solve what we have above indicated with 3). Namely, the puzzle concerning the consistence of the example that Aristotle provides at line 9 with what he argues before. This puzzle has been raised by Bostock in his Commentary:

“Unfortunately, Aristotle does not say *quite* the right thing about this example. What he should have said is this. Just as a syllable is several letters in a certain combination (arrangement), so the threshold is (say) a stone slab in a certain position (arrangement). And just as the combination of the letters is not itself composed of those letters, so equally the position of the slab is not itself composed *of the slab*. What he said instead is that the position is not composed *of the threshold*. No doubt the slip is not important, but without it he could not have gone on “it would be better to say that the threshold is composed of it”²²⁵.

What Bostock seems to look for, here, is a mere rephrasing of H2's arguments. In particular, he clearly refers to 1043a7-12, where Aristotle has argued that:

“If we had to define a threshold, we should say ‘wood or stone in such and such a position’, and a house we should define as ‘bricks and timbers in such and such a position’ (or we may name that for the sake of which as well in some cases), and if we define ice we say ‘water frozen or solidified in such and such a way’, and harmony is ‘such and such a blending of high and

224 In this sense the Londinenses seem to force the text, by arguing that the translation of ἐκ at line b7 with “be adequately defined in terms of” should “enable the γάρ clause to give a reason for the one before it”. Still, it remains obscure why a more useful definitional reference (as that to “position” over “threshold”) can explain an ontological feature (the fact that the “syllable” does not “consist of” “the letters and composition”). Thus, it seems more cautious to think that a different meaning of ἐκ is at work only starting from b9. Symptomatically, the Londinenses do not quote the example at lines 7-8, which concerns the same things of line 4-6, but that concerning the relation between “threshold” and “position”, which occurs only at lines b9-10.

225 D. Bostock (1994) p. 263.

low'; and similarly in all other cases".

However, it is far from being evident the reason why Aristotle should restate such an argument in H3. After H2, in fact, it is obvious that "the threshold is a stone slab in a certain position (arrangement)". Moreover, what Bostock defines as a "slip" should, rather, be regarded as a "shift". For, after explaining in 1043b4-8 that we can not understand either the composite as matter + form, or the form as matter + matter, Aristotle shifts to the more general question about the relation between the composite (the threshold) and its formal principle (the position)²²⁶. While in the previous lines Aristotle recalls the ontological dependance of the composite on the form in order to deny whichever material understanding of this latter, in 1043b8-10 he just recalls the ontological hierarchy between the two items. It could be objected that in this way Aristotle simply restates the most general outcome of H2, namely the fact that the *differentia* as actuality is the principle by reason of which a certain matter is some definite thing. I argue that this is exactly the case. However, the statement according to which:

"if the threshold is characterized by its position, the position is not determined by the threshold, but rather the latter is determined by the former"

is neither a mere redundancy nor a wrong conclusion of the whole argument as Bostock supposes. By contrast, through it, Aristotle aims just at reminding us the general task of H3: namely, the disambiguation between the notion of composite and the notion of form (as he does in H3's first paragraph²²⁷). Once again, after the claim at 1043b4, we can argue that: "the form and the composite do not coincide".

In the following lines of 1043b10-14, Aristotle deals with the definitional outcome of what argued so far. The clearest evidence

²²⁶ As I have shown above, it is in this way that we must regard the statement at 1043b8: "ὁμοίως δὲ οὐδὲ τῶν ἄλλων οὐθέν".

²²⁷ See §3.1

of this is given by the references to the verb λέγω at lines b13,14.

“Nor is man animal and biped, but there must be something besides these, if these are matter,—something which is neither an element in the whole nor produced by an element, but is the substance, which people eliminate and state (λέγουσιν) the matter. If then this is the cause of the thing’s being, and if the cause of its being is its substance, they cannot be stating (οὐ λέγοιεν) the substance itself”²²⁸.

In his commentary, Ross has cleared up both the thematic and textual puzzles of these lines:

“To treat genus and differentia as if they existed side by side like material elements and required a third thing to unite them is un-Aristotelian. Cf. Z12 and H6, where Aristotle makes the unity of essence depend on the fact that genus has no existence apart from differentia. Dittenberger therefore would omit οὐδὲ...δίπουν as an interpolation due to a misunderstanding of ch.6, and treat ὁμοίως... ἐκείνης as parenthetical. He has, however, misunderstood what Aristotle says. “Man is not ζῶον + δίπουν but ζῶον δίπουν (Z 1037b12-14). To describe him as ζῶον + δίπουν is to treat these as the materials of which he consists, and *if* these are mere materials, *then* there must be something else which is neither an element nor composed of elements but the substance, this they omit and mention only the matter, if they describe them as ζῶον + δίπουν”²²⁹.

As Ross clearly shows, in these lines Aristotle applies the main outcomes of Z17-H2 to the definitional structure of a form such as, for instance, that of “man”. As in the cases of the composite substances (“syllable” and “house”), also in the case of the form “man”, we can not understand the relation between its genus (“animal”) and its differentia (“biped”) as a relation of material juxtaposition²³⁰. If this would be the case, we should seek for a further principle of explanation of its being (αἴτιον τοῦ εἶναι), which, after Z17 and H2, we know to be identical with the notion

228 οὐδὲ δὴ ὁ ἄνθρωπος ἐστὶ τὸ ζῶον καὶ δίπουν, ἀλλὰ τι δεῖ εἶναι ὃ παρὰ ταῦτά ἐστιν, εἰ ταυθ' ὕλη, οὔτε δὲ στοιχείον οὔτ' ἐκ στοιχείου, ἀλλ' ἡ οὐσία· ὃ ἐξαιροῦντες τὴν ὕλην λέγουσιν. εἰ οὖν τοῦτ' αἴτιον τοῦ εἶναι, καὶ οὐσία τοῦτο, αὐτὴν ἂν τὴν οὐσίαν οὐ λέγοιεν.

229 W.D. Ross (1924) p. 232.

230 Such a relation is here indicated by the conjunction καὶ (b10).

of οὐσία. But Aristotle denies both the premise and the consequence of such a possible account.

As we know from Z12, in the definitions arising out of divisions, as, for instance, in that of “man” as “biped animal”:

1) either the genus absolutely does not exist apart from its species (μη ἔστι παρὰ τὰ ὡς γένους εἶδη) or it exists as matter of them (ὡς ὕλη)²³¹;

2) the *last* differentia will be the substance of the thing and its definition (ἡ τελευταία διαφορὰ ἡ οὐσία τοῦ πράγματος ἔσται καὶ ὁ ὀρισμός)²³².

However, in H3 1043b10-11, Aristotle does not recall Z12's discussion about the definition of “man”. Here he just confines himself to indicate which conclusion one should accept (ἀλλά τι δεῖ εἶναι ὃ παρὰ ταῦτά ἐστιν), if the premise is accepted (εἰ ταυθ' ὕλη)²³³.

Thus, we can conclude that the whole passage has mainly a negative and a dialectical purpose. In order to understand which alternative account of the definition of a form Aristotle is here challenging, we must carefully analyse the meaning of the statement at lines 1043b12-13: ὁ ἐξαιροῦντες τὴν ὕλην λέγουσιν.

In his commentary Ross rejects Alexander's suggestion that ἐξαιροῦντες governs τὴν ὕλην (553.7), by asking:

“Which people name when they eliminate the matter.” What people? Alexander suggests the Platonists. But a reference to them is out of place. Aristotle is dealing in this chapter with the common tendency to describe a whole as a sum of parts or materials, omitting the principle of unity; cf. 1044a3,6. Lines 10-14 form a much more consecutive piece of reasoning if ἐξαιροῦντες be taken to govern ὃ²³⁴”.

231 Cf. Z12 1038a5-9.

232 Cf. Z12 1038a19-20.

233 In this sense, the statement at H3 1043b11-12 nearly recalls Aristotle's parallel way of reasoning at Z17 1041b19-23.

234 W.D. Ross (1924) p. 232.

Both the Londinenses and Bostock substantially agree with this reading of the text ²³⁵. In his unpublished work, Menn accepts Ross's account from a textual viewpoint, but he suggests that the general criticism is here against the Platonists.

“But why exactly are the Platonists supposed to be committed to the conclusion that the differentia, alone or with the genus, cannot be the οὐσία of X? Is it simply because they use the metaphorical term στοιχεῖον for the genus and the differentia? Presumably the reason is, rather, that the Platonists are committed to the differentiae and genera being each τόδε τι (like a series of separated points or units, as Aristotle will say in H3 1043b32-1044a11), so that each of them could exist without the others, and so that another explanation, beyond the essence of the genera and differentiae themselves, will be needed for why they are combined; and then, by the argument of Z17 and H2, that explanation will be the real οὐσία of the composite. Undoubtedly Aristotle could strengthen his argument with further considerations, arguing that no further cause could succeed in uniting the genera and differentiae, because (on the Platonist assumption) these are already actual οὐσία, and no οὐσία can be out of οὐσία present in it in actuality; or because, if the genera and differentiae are of themselves only potentially united to each other, no further cause can actually unite them, because there are no unactualized potentialities and no efficient causes within the realm of essentially unmoved things. However, Aristotle does not need these considerations here, and he seems to deliberately refrain in H3 from introducing considerations about actuality and potentiality--the notion of actuality will be mentioned once, in the last section of H3 (1044a7-9), but as a positive hint in the middle of a critical passage, to be developed in Aristotle's positive solution in H6. Here the concentration is on the difficulties that the Platonists get into on their own terms”²³⁶.

I agree with Menn in thinking that here Aristotle makes a polemical hint to the Platonic way of defining the form of “man”. Especially the statement ἀλλά τι δεῖ εἶναι ὃ παρὰ ταῦτά ἐστιν at line b11, which postulates the search for a further item in the explanation of the being and unity of man as animal + biped, can be read as an anticipation of the criticism to the Platonic doctrine of Participation which Aristotle will develop in

235 Londinenses (1984) pp. 14-15; D. Bostock (1994) p. 263.
236 S. Menn (unpublished work) p. IIε 23.

H6²³⁷. However, I disagree with Menn for what concerns the details of his reading. It is undoubted that, within the criticism against the Platonic account of universals (Z13-Z16), Aristotle denies that the genus and the differentia of a certain form can be both understood as separate and determinate items²³⁸. However, it is far from being clear why in H3 Aristotle should challenge the Platonic account of substances as composed out of other substances, which are in actuality, by referring to these latter (genus and differentia) through the concept of matter. As we have seen, in fact, in 1043a10-14, he challenges the account of those who suppose that animal and biped are matter (εἰ ταυθ' ὕλη) of man. Thus, we could ask ourselves why Aristotle should criticize the Platonic reading of genus and differentia as τὸδε τι through the notion of matter, which, as we know from H1, is only potentially determinate. Hence, pace Menn, it is more cautious to think that Aristotle aims here at challenging the Platonists only for their metaphorical use of the term στοιχεῖον for the genus and the differentia²³⁹.

Moreover, such a more deflationary reading of these lines, fit better with the general dependance of the whole H3's second paragraph on Z17's train of thought. For, also in 1043b10-14, the main opposition concerns a materialistic understanding of the notion of form as produced by elements juxtaposed the ones alongside the others from the Aristotelian understanding of it as cause and principle of being.

The natural conclusion of H3's second paragraph is at lines 1043b23-32, where Aristotle tackles with the Antistheneans' theory of definition²⁴⁰. Before moving towards such a discussion, in H3's third paragraph (1043b14-23), Aristotle makes a

237 Cf. §6

238 See especially Z13 1038b29-30, 1039a3-7; Z14 1039a24-33; Z16 1041a3-5.

239 See, for instance, Z151040a22-26.

240 See §3.4

digression about the ungenerable and unperishable status of forms and the generable and perishable status of the composites.

§3.3 A digression: Ungenerability of Forms and Generability of Composites

At lines 1043b14-23 it is argued that:

“(This, then, must either be eternal or it must be destructible without being ever in course of being destroyed, and must have come to be without ever being in course of coming to be. But it has been proved and explained elsewhere that no one makes or generates the form, but it is a ‘this’ that is made, i.e. the complex of form and matter that is generated. Whether the substances of destructible things can exist apart, is not yet at all clear; except that obviously this is impossible in some cases—in the case of things which cannot exist apart from the individual instances, e.g. house or utensil. Perhaps neither these things themselves, nor any of the other things which are not formed by nature, are substances at all; for one might say that the nature in natural objects is the only substance to be found in destructible things)”²⁴¹.

Scholars agree on regarding these lines of H3 as parenthetical.

The main evidence in favour of this is given by the reference to ὥστε (“therefore”) at 1043b23, which opens the following paragraph of H3 by referring back to the discussion led in 1043b4-14 (H3's second paragraph) ²⁴².

Bostock has provided the most deflationary account of H3's third paragraph by arguing that: “it surely cannot have been written for the context in which we now find it²⁴³”. However, two points at least ask for a non-deflationary reading of the digression.

First, in H3's final statement (lines 1044a11-14), it occurs a rough summary of the chapter, which seems to recall the

241 ἀνάγκη δὴ ταύτην ἢ αἰδίων εἶναι ἢ φθαρτὴν ἄνευ τοῦ φθείρεσθαι καὶ γεγενῆσθαι ἄνευ τοῦ γίγνεσθαι. δέδεικται δὲ καὶ δεδήλωται ἐν ἄλλοις ὅτι τὸ εἶδος οὐθεὶς ποιεῖ οὐδὲ γεννᾷ, ἀλλὰ ποιεῖται τόδε, γίγνεται δὲ τὸ ἐκ τούτων. εἰ δ' εἰσὶ τῶν φθαρτῶν αἱ οὐσίαι χωρισταί, οὐδέν πω δῆλον· πλὴν ὅτι γ' ἐνίων οὐκ ἐνδέχεται δῆλον, ὅσα μὴ οἷόν τε παρὰ τὰ τινὰ εἶναι, οἷον οἰκίαν ἢ σκεῦος. ἴσως μὲν οὖν οὐδ' οὐσίαι εἰσὶν οὐτ' αὐτὰ ταῦτα οὔτε τι τῶν ἄλλων ὅσα μὴ φύσει συνέστηκεν· τὴν γὰρ φύσιν μόνην ἂν τις θεῖη τὴν ἐν τοῖς φθαρτοῖς οὐσίαν.

242 See W.D. Ross (1924) p. 232; Londinenses (1984) p. 15; D. Bostock (1994) p. 266; M. Burnyeat (2001) p. 70 n. 144;

243 D. Bostock (1994) p. 266.

digression at lines 1043b14-23²⁴⁴. For, it is argued that:

“Let this then suffice for an account of the generation and destruction of so-called substances—in what sense it is possible and in what sense impossible—and of the reduction of things to number”²⁴⁵.

Second, as remarked by Halper, the introductory clause of the digression - ἀνάγκη δὴ - “suggests that an inference follows”²⁴⁶.

And this entails that the digression has some relation with what Aristotle has argued in the second paragraph of H3 (1043b4-14).

As we know, at the end of that paragraph, Aristotle shows how those who regard a definition as a mere juxtaposition of material elements end with omitting the “cause of being”, namely the substance. Now, at the beginning of the digression, Aristotle says that:

“This, then, must either (ἀνάγκη δὴ ταύτην ἢ) be eternal or it must be destructible without being ever in course of being destroyed, and must have come to be without ever being in course of coming to be”²⁴⁷.

The pronoun “ταύτην” refers here to the feminine accusative “αὐτήν τὴν οὐσίαν”, present in the previous statement.

“If then this is the cause of the thing’s being, and if the cause of its being is its substance, they cannot be stating the substance itself (εἰ οὖν τοῦτ’ αἴτιον τοῦ εἶναι, καὶ οὐσία τοῦτο, αὐτὴν ἂν τὴν οὐσίαν οὐ λέγοιεν)”²⁴⁸.

It is likely that, after stressing the need for a formal principle, namely for the notion of substance as cause of being (which is omitted within a materialistic understanding of definitions),

244 This point is stressed by both M. Burnyeat (2001) p. 70 n.144 and S. Menn (unpublished work) IIe p. 23.

245 *περὶ μὲν οὖν γενέσεως καὶ φθορᾶς τῶν λεγομένων οὐσιῶν, πῶς τ’ ἐνδέχεται καὶ πῶς ἀδύνατον, καὶ περὶ τῆς εἰς τὸν ἀριθμὸν ἀναγωγῆς, ἔστω μέχρι τούτων διωρισμένον.*

In accordance with his deflationary reading of the digression, D. Bostock (1994), p. 271, suspects that these lines too are not the work of Aristotle himself, but were added “by a somewhat careless editor”. As we shall see in the following, Bostock’s both suggestions must be rejected.

246 See E.C. Halper (2005) p. 169.

247 1043b14-16.

248 1043b13-14.

Aristotle makes a digression about the nature of such a principle²⁴⁹.

Before analyzing into details the meaning of the digression, it can be useful to provide an outline of the whole argument:

- (1) Aristotle poses an alternative: (1a) either the substance, that is the form, is eternal (ἢ ἀίδιον εἶναι) or (1b) it is destructible without being ever in course of being destroyed (ἢ φθαρτὴν ἄνευ τοῦ φθείρεσθαι) and generable without ever being in course of being generated (γεγονέναι ἄνευ τοῦ γίγνεσθαι)²⁵⁰;
- (2) Aristotle develops (1b) by arguing that: “it has been proved and explained elsewhere (ἐν ἄλλοις) that no one makes or generates the form (τὸ εἶδος οὐθεὶς ποιεῖ οὐδὲ γεννᾷ), but it is

249 Here I strongly disagree with Bostock's reading. Cf. D. Bostock (1994) p. 264: “With the paragraph placed as it is, the “this” looks back to the final occurrence of “substance” in the previous paragraph. But that is incongruous, for the “substance” mentioned there is a non-existent substance – a form that one *would* have to posit if one held, absurdly, that man is composed of the two elements animality and two-footedness in just the way that the syllable BA is composed of the two elements B and A. But it is not this, wholly chimerical, substance that the present paragraph is concerned with. It has something serious to say about perfectly genuine Aristotelian forms. So one cannot believe that the paragraph was composed for its present context”. Leaving aside the fact that Bostock seems here to misunderstand the same nature of the composition of the syllable, which is far from being the mere composition of the two elements BA, but is rather a *certain* composition of B and A (Cf. Z17 1041b12-13; H3 1043b4-6), there is no reason to believe that the textual accordance between “this” and “substance” is incongruous. The need for a substance conceived as “ἀίτιον τοῦ εἶναι” is, in fact, independent from the right understanding of the definition of “man” as “biped animal”. As we have seen above, in fact, Aristotle's train of thought at lines 1043b10-14 is the following: if one assumes that, in the definition of man, the relation between the genus (“animal”) and the differentia (“biped”) is that of a material juxtaposition, where “man” would be “animal + biped”, then, the substance itself would be omitted and it would be necessary to seek for a further principle of being (ἀίτιον τοῦ εἶναι). The fact that for Aristotle such a principle is the same notion of “biped” does not entail that at lines 1043b13-14 Aristotle is concerned with “a wholly chimerical substance”. By contrast, arguing that the omitted cause is “the cause of the thing's being”, Aristotle restates the explanatory role of the formal principle as it is treated starting from Z17. Hence, the accordance between “this” and “substance” at line 1043b14 is perfectly congruous. Since both in H2 and in H3 Aristotle has dealt with the notion of substance as “cause of being”, it is legitimate to ask whether such a principle is or is not generable. Such a question is, then, at the core of the digression of H3's third paragraph.

250 1043b14-16.

a ‘this’ that is made, i.e. the complex of form and matter that is generated (ἀλλὰ ποιεῖται τόδε, γίγνεται δὲ τὸ ἐκ τούτων)²⁵¹;

(3) Aristotle makes some remarks useful to develop (1a) by arguing that: “whether the substances of destructible things can exist apart (εἰ δ’ εἰσὶ τῶν φθαρτῶν αἱ οὐσίαι χωρισταί), is not yet at all clear (οὐδέν πω δῆλον); except that obviously this is impossible in some cases—in the case of things which cannot exist apart from the individual instances, e.g. house or utensil”²⁵².

(4) Aristotle provides a corollary of (3) clarifying that: “neither these things themselves (namely the forms of the artifacts), nor any of the other things which are not formed by nature, are substances at all; for one might say that the nature in natural objects is the only substance to be found in destructible things”²⁵³.

Points (2) and (3) roughly recall some arguments of Z8²⁵⁴, while point (4) recalls Z17. As we shall see in the following, point (1) brings forward some conclusion of Λ.

Lines 1043b16-18 (2) are a synthesis of the more accurate account of Z8 1033b5-19, where Aristotle argues that:

“Obviously then the form also, or whatever we ought to call the shape of the sensible thing, is not produced, nor does production relate to it,—i.e. the essence is not produced; for this is that which is made to be in something else by art or by nature or by some capacity. But that there is a *bronze sphere*, this we make. For we make it out of bronze and the sphere; we bring the form into this particular matter, and the result is a bronze sphere. But if the essence of sphere in general is produced, something must be produced out of something. For the product will always have to be divisible, and one part must be this and another that, I mean the one must be matter and the other form. If then a sphere is the figure whose circumference is at all points equidistant from the

251 1043b16-18. For a parallel way of reasoning see Z151039b22-27.

252 1043b18-21. See also A9 991b4-7.

253 1043b21-23.

254 Aristotle reminds us the analysis of Z8 quite explicitly, by referring to what has been “proved and explained elsewhere” (δέδεικται δὲ καὶ δεδήλωται ἐν ἄλλοις). See 1043b16.

centre, part of this will be the medium in which the thing made will be, and part will be in that medium, and the whole will be the thing produced, which corresponds to the bronze sphere. It is obvious then from what has been said that the thing, in the sense of form or substance, is not produced, but the concrete thing which gets its name from this is produced, and that in everything which comes to be matter is present, and one part of the thing is matter and the other form”.

Generally speaking, it can be argued that such a recollection is meant to develop the general task of H3. As in the first two paragraphs, in fact, also in this third one Aristotle sharply distinguishes the notion of form from the notion of composite. In this case, the distinction regards the generable and perishable status of the composites and the ungenerable and unperishable status of the forms²⁵⁵.

Lines 1043b19-21 (3), where Aristotle defines as impossible the separation of the artificial Forms from their individual instances (παρὰ τὰ τινὰ εἶναι), recall the rhetorical question asked at Z8 1033b19-21:

“Is there then a sphere apart from the individual spheres (παρὰ τὰσδε) or a house apart from the bricks (παρὰ τὰς πλίνθους)?”.

Here the distinction concerns the separate existence of the composites, which has already been shown in H1²⁵⁶, and the

255 Among the scholars, only S. Menn tries to read the digression as well placed in the overall framework of H3. Especially, he suggests to refer the digression to the argument which is at the core of H3' following paragraph (1043b23-32), namely the question about the definability of the composites. See S. Menn (unpublished work) PartII ε p.24: “One reason might be the analogy between definability and generability: as only composites can be defined, so only composites can come-to-be, and composites are resolved (into the parts of their λόγος, or into the ὑποκείμενον and predicate of coming-to-be) into simples which cannot themselves either be defined or come-to-be”. However, if the digression about the generability of the composites is occasioned by the question about their definability, it is unclear why Aristotle deals first with the corollary argument and then with the main one. For this reason, it seems to me more cautious to think that the digression about the generability of the composites and the ungenerability of the forms is well placed in H3 because it too fleshes out the main argument of the whole chapter: the disambiguation of the notion of form as principle of being from the notion of the composite of matter and form.

256 See 1042a29-31 and my remarks ad loc. §1.4

inseparable character of at least the forms of artifacts from their concrete instantiations.

Lines 1043b21-23 (4), where Aristotle provides a deflationary reading of the substancehood of artificial forms, nearly recall Z17 1041b28-30:

“some things are not substances, as many as are substances are formed naturally and by nature (ἐνία οὐκ οὐσίαι τῶν πραγμάτων, ἀλλ’ ὅσαι οὐσίαι, κατὰ φύσιν καὶ φύσει συνεστήκασι ²⁵⁷)”.

Now, we can legitimately ask ourselves why Aristotle refers here to some arguments of Z8 and Z17. I argue that they are meant not only to provide some further remarks on the ontological difference between composites and forms, but they are also meant to remind us one of the general tasks towards which H's search as a whole is oriented. Namely, the deduction of separate substances. As we have shown so far, H's approach to the question of substance mainly develops the explanatory pattern of Z17, where Aristotle explains how we must seek for the notion of οὐσία in its being the “reason why a certain matter is some definite thing”. Yet, Aristotle adds that such a “fresh start” into the analysis of what is substance can shed some light also on that substance which is separate from the sensible ones²⁵⁸. As we have seen, in H Aristotle seems always to keep in mind such a broader perspective of the research²⁵⁹. In H1, for instance, he states that: “of substances in the sense of formulae some are separable and some are not”²⁶⁰. Those substances which in H1 are said to be such “κατὰ τὸν λόγον” are clearly the Aristotelian forms. In

257 Here the parallel between the two passages is straightforward, since in H3 1043b22 Aristotle refers to those substances which are not “φύσει συνέστηκεν”.

258 See Z17 1041a6-10: “We should say what, and what sort of thing, substance is, taking another starting-point; for perhaps from this we shall get a clear view also of that substance which exists apart from sensible substances (κεχωρισμένη τῶν αἰσθητῶν οὐσιῶν). Since, then, substance is a principle and a cause, let us attack it from this standpoint”.

259 See Part I §1.5 of this work.

260 1042a31.

H3's digression Aristotle goes on clarifying that the forms of the artefacts can not exist apart from their concrete instantiations. The way of being for such forms is explained in (1b)²⁶¹, for it is clear that the form of a house or of an utensil is neither in the process of generation nor in the process of corruption. On the contrary, what can be in both such processes is the composite house or the composite utensil²⁶². Here Aristotle's reasoning seems to entail that one sort of separation (the way of being separate “without qualification”²⁶³) depends on being, for something, subject to generation and corruption. This is why I have above argued that in H3's digression Aristotle develops the option (1b) in (2), where he recalls Z8's doctrine concerning the ungenerability and unperishability of forms. By contrast, Aristotle does not seem to develop, at least explicitly, the option (1a), according to which one alternative way of being, for the substance as form, is that of being eternal (ἀίδιον). However, both (3) and (4) seem to entail that the way of being separate for the forms can not depend, as in the case of the composites, on their being subject to generation and corruption. Thus, beyond the criterion of conceptual separability (τῷ λογῶ χωριστόν) stated in H1, substance as form can be separated because of its being eternal. For Aristotle the species of living things are clearly eternal, but what is at the core in H3 is, most of all, the way of being eternal *and* separated of that substance which will be deduced in *Metaphysics* Λ, namely the unmoved mover. Here I want just to quote the main conclusion of Λ7's demonstration, where Aristotle maintains that:

“It is clear then from what has been said that there is a substance which is eternal and unmovable and separate from sensible things (ἀίδιος καὶ ἀκίνητος καὶ κεχωρισμένη τῶν αἰσθητῶν)”²⁶⁴.

261 See 1043b15-16.

262 See also H1 1042a30.

263 See the formula χωριστόν ἀπλῶς at H1 1042a30-31

264 Λ7 1073a3-5. It must be remarked how the formula κεχωρισμένη τῶν

Here we can find a further trace of the already mentioned path which Aristotle seems to develop from Z to Λ via H²⁶⁵. Obviously, the digression as a whole has also a dialectical feature, since it alludes polemically to the Platonic account of Forms as separate paradigms. But Aristotle will flesh out this point only in H6²⁶⁶.

To sum up we can state that the digression at lines 1043b14-23 is well placed within H3's analysis for it too aims at disambiguating the notion of form from the notion of composite. In this case the distinction concerns the ungenerability and corruptibility of the former from the generability and corruptibility of the latter. Moreover, the digression fits well also with the more general search of Book H, since it develops the question about the existence of some separate forms.

αἰσθητῶν is the same of Z17 1041a8-9, where Aristotle inaugurates its explanatory approach to the question of substance and where it explains how such an approach can be helpful for verifying the existence of separate substances. See also E1 1026a16-18.

265 See Part I §1.5

266 See §6

§3.4 Definability and undefinability

After the digression at lines 1043b14-23, in H3's fourth paragraph (1043b23-32) Aristotle comes back to the issue concerning the structure of definitions.

“Therefore the difficulty which was raised by the school of Antisthenes and other such uneducated people has a certain appropriateness. They stated that the ‘what’ cannot be defined (for the definition so called is a long formula); but of what *sort* a thing, e.g. silver, is, they thought it possible to explain, not saying what it is but that it is like tin. Therefore one kind of substance can be defined and formulated, i.e. the composite kind, whether it the object of sense or of reason; but the primary parts *from which this derives* ²⁶⁷ cannot be defined, since a definitory formula predicates something of something, and one part of the definition must play the part of matter and the other that of form”²⁶⁸.

Here Aristotle draws the main conclusions of his criticism to the materialistic account of beings and definitions²⁶⁹.

The paragraph begins with a reference to the Socratic school of Antisthenes. Although Aristotle defines such thinkers as “uneducated” (ἀπαίδευτοι), he acknowledges “a certain appropriateness” (τινὰ καίρον) to one of the difficulties raised by them. The content of such an aporia is espoused at 1043b26-28:

“They stated that the ‘what’ cannot be defined (for the definition so called is a long formula); but of what *sort* a thing, e.g. silver, is, they thought it possible to explain, not saying what it is but

267 Here my translation of ἐξ ὧν δ’αὐτῆ πρώτων (1043b30) radically differs from that of Ross. While he translates the formula with “but the primary parts of which this consists”, I argue that Aristotle is here dealing with the undefinability of the material parts *from which* a composite thing derives. The issue concerns, then, material derivation rather than material composition as I will try to prove in the following.

268 ὥστε ἡ ἀπορία ἦν οἱ Ἀντισθένηιοι καὶ οἱ οὕτως ἀπαίδευτοι ἠπόρουσαν ἔχει τινὰ καίρον, ὅτι οὐκ ἔστι τὸ τί ἔστιν ὀρίσασθαι (τὸν γὰρ ὅρον λόγον εἶναι μακρόν), ἀλλὰ ποῖον μὲν τί ἔστιν ἐνδέχεται καὶ διδάξαι, ὡςπερ ἄργυρον, τί μὲν ἔστιν οὐ, ὅτι δ’ οἶον καττίτερος· ὥστ’ οὐσίας ἔστι μὲν ἧς ἐνδέχεται εἶναι ὅρον καὶ λόγον, οἶον τῆς συνθέτου, ἐάν τε αἰσθητὴ ἐάν τε νοητὴ ἢ· ἐξ ὧν δ’αὐτῆ πρώτων, οὐκέτι, εἴπερ τὸ κατὰ τινὸς σημαίνει ὁ λόγος ὁ ὀριστικός καὶ δεῖ τὸ μὲν ὡςπερ ὕλην εἶναι τὸ δὲ ὡς μορφὴν.

269 See §3.2

that it is like tin”.

In his work dedicated to the philosophy of Antisthenes, Aldo Brancacci has provided a reading of these lines as consistently developing the more general H3's train of thought²⁷⁰. Brancacci rightly observes how in this chapter Aristotle focuses on the status of the formal principle and on its role in definition. Thus, also the reference to the undefinability of the τὸ τί ἔστιν must be read within such a framework. According to Brancacci, Aristotle quotes the aporia raised by the Antisthenians in order to challenge the Platonic understanding of Forms as separate and eternal. This entails that one should read the opening clause “ὥστε” at line 1043b23 as developing the content of the previous digression at lines 1043b14-23:

“Lo ὥστε iniziale, che regge il successivo ἔχει τινὰ καίρον, indica con chiarezza tale rinvio, volendo significare che, se si ha dell' οὐσία la concezione che ne hanno i Platonici – i quali, come si è visto, pongono il principio formale come elemento unico, eterno e separato – allora non è priva di fondamento l'obiezione formulata da Antistene e dai suoi seguaci (...) L'aporia ricordata da Aristotele – la quale ci restituisce il risvolto propriamente logico della polemica di Antistene – ha lo scopo di mostrare come l'entificato τί ἔστι platonico trascini con sé l'indefinibilità, e quindi l'irrazionalità, di se medesimo. L'espressione τὸν γὰρ ὄρον λόγον εἶναι μακρόν è, in tal senso, preziosa, in quanto rivela, a un tempo, la motivazione logica dell'argomentazione e l'implicazione ontologica che ne era alla base: vale a dire che, se l'essenza è un simplex, essa non potrà in ogni caso essere espressa da un discorso definitorio, il quale, essendo costituito da una pluralità di nomi, è per sua natura un enunciato complesso che non potrà mai corrispondere all'unità del τί ἔστι. Il contesto spiega perfettamente, come si è visto, la ragione dell'approvazione di Aristotele: ma che ai suoi occhi potesse ben avere τινὰ καίρον l'aporia antistenenica è confermato dal capitolo 15 del libro Z della *Metafisica*, ove compare una nuova formulazione dell'argomento volto a escludere la definibilità dell'idea platonica in base alla considerazione della struttura propria del discorso definitorio: “ma neppure è possibile definire alcuna idea, posto che l'idea, come alcuni sostengono, è una realtà individuale e separata e che, viceversa, è necessario che la

270 See A. Brancacci (1990) pp. 227-240.

definizione consti di nomi; ora, colui che definisce non produrrà un nome (risulterebbe infatti in conoscibile), bensì termini correnti comuni a tutte le cose: ma allora questi necessariamente si applicheranno anche ad altro”²⁷¹.

However, unlike Z15, H3's digression does not seem to relate the eternal, individual and separate character of Platonic Forms to the question about their undefinability. By contrast, as I have shown above²⁷², it aims at providing a further disambiguation of the notions of form and composite, by showing the ungenerable and unperishable character of the former and the generable and perishable character of the latter. Thus, pace Brancacci, it appears more cautious to read the opening clause “ὥστε” at line 1043b23 as developing the content of what immediately precedes the digression of 1043b14-23.

On this point I roughly agree with Ross:

“Aristotle has said (ll.10-14) that if the genus and differentia are treated as the matter of the thing defined, the definition must miss the essence of the thing defined. “Thus”, he continues, “there is a certain timeliness in the Antisthenean doctrine that definition is impossible, that any definition must miss the essence of its object” (...) The view of the Antistheneans seems to be that which is referred to in Pl. *Theaet.* 201E-202C, viz. that simple entities cannot be defined but only named, and that complex entities can only be defined to the extent of naming their elements, i.e. by a definition which contains indefinables. Definition is an ὀνομάτων συμπλοκή. It explains its subject only by reference to elements themselves ἄλογα καὶ ἄγνωστα, and is thus but a λόγος μακρός, a diffuse and evasive answer to a question. Hence simple entities (of which silver is taken as an example) cannot be defined at all, but only described as like certain other simple entities”²⁷³.

Ross rightly links the Antistheneans' aporia to H3's second paragraph, where Aristotle explains at length which puzzles come out if one understands the composition of both things and definitions as a mere juxtaposition of material elements. As we know, in both cases what such accounts fail to grasp is the notion

271 *ibidem* pp. 233-35.

272 See §3.3

273 W.D. Ross (1924) pp. 232-33.

of substance as cause²⁷⁴. And, as Aristotle has shown both in Z17 and in H2-3, it is thanks to such a notion that we can:

a) provide an explanation of why a certain matter is some definite thing;

b) include the notion of matter within the definitional structure.

For these reasons, I argue that also H3's fourth paragraph, despite its apparent contrary evidence, must be read keeping in mind H's main focus on the relation between matter and explanation.

If we support whichever materialistic understanding of the composition, we confine ourselves to the mere enumeration of the material elements which belong to a certain thing. Within such a perspective, the *aporia* raised by the school of Antisthenes has a certain appropriateness, since the definition, missing the reference to the notion of form as its decisive one, ends up with coinciding with a long formula. Thus, the opening clause “ὥστε” at line 1043b23 is meant to show which paradoxical conclusion one should accept once granted an account of composition that does not contemplate the reference to the notion of form as principle. Such a conclusion would be that of denying the same possibility of defining the *what* of a composite thing. By contrast, we might only establish some relations of similarity between material constituents, as in the mentioned case of the silver of which it is possible to say that it is *like* the tin²⁷⁵. Through the reference to these materials²⁷⁶ Aristotle shows not only which deflationary account of definition would result in absence of the notion of substance as principle, but he shows also which positive account results once such a principle is

274 See §3.2

275 In *Metaphysics* Iota3 1054b10-13 Aristotle defines “silver” and “tin” as ὅμοια, since they share the quality of being white: “Other things are called like (ὅμοια) if the qualities they have in common are more numerous than those in which they differ—either the qualities in general or the prominent qualities, e.g. tin is like silver, *qua* white, and gold is like fire, *qua* yellow and red”.

276 Silver is defined as “matter” in *Physics* B3 194b23-26 and in the parallel passage of *Metaphysics* Δ2 1013a24.

acknowledged. Thus, in the following lines of 1043b28-32, he maintains that:

“Therefore one kind of substance can be defined and formulated, i.e. the composite kind, whether it be the object of sense or of reason; but the primary parts from which this derives cannot be defined, since a definitory formula predicates something of something, and one part of the definition must play the part of matter and the other that of form”.

As in the case of line 1043b23, here too it is decisive to understand which sort of consecution Aristotle alludes to through the introductory clause ὥστε. At first glance, it could be tempting to think that since the definability of essence has been previously put into discussion (οὐκ ἔστι τὸ τί ἔστιν ὀρίσασθαι²⁷⁷), Aristotle admits definition only of those things which reveal a complex structure. Namely, of those things which predicate something of something.

Such a reading, which some scholars support²⁷⁸, is, however, at odds with some remarks that Aristotle provides in *Metaphysics* Z. Truth be told, in some places of Z Aristotle maintains that only of non-composite things there is essence and definition. Paradigmatically, in Z4 1030a6-11 it is argued that:

“There is an essence only of those things whose formula is a definition. But we have a definition not where we have a word and a formula identical in meaning (for in that case all formulae would be definitions; for there will be some name for formula whatever, so that even the *Iliad* would be a definition), but where there is a formula of something primary; and primary things are those which do not involve one thing’s being said of another”²⁷⁹.

The easiest way to solve this puzzle is to support a developmental reading of Aristotle’s account of definition. Scholars’ readings can be here roughly divided into two camps. On the one hand, some scholars support a *weak* view of such an alleged development: since we are within the explanatory pattern

277 See 1043b25.

278 Cf. Londinenses (1984) p. 20;

279 See also Z11 1037a33-b7.

inaugurated in Z17 those things, such as forms, that were first said to be definable because of their simplicity, must be now read as complex. Namely, as divisible into matter (genus) and form (differentia)²⁸⁰. On the other hand, some other scholars support a *strong* view of the same alleged development. Namely, Aristotle would abandon his previous theories, by conferring now definability to the composites of matter and form only²⁸¹.

A further evidence which would seem to put into question the definability of forms as simple things is the reference to $\pi\rho\acute{\omega}\tau\omega\nu$ at line 1043b30. At first glance, in fact, Aristotle would appear to oppose the definability of composite to the undefinability of its primary constituents, namely “matter” and “form”.

I strongly disagree on the traditional reading of lines 1043b23-32, whose main features I have so far tried to sketch out. I argue that Aristotle is not here concerned with a comparison between definability of complex things, on the one hand, and undefinability of simple things on the others. On the contrary, the whole passage must be read under H's main focus on the notion of matter.

In order to provide an alternative reading, I take three decisive points on:

- 1) the undefinability stated at 1043b25 must be referred to the $\tau\acute{\iota}\ \epsilon\sigma\tau\iota\nu$ of the material composites;
- 2) such an alleged indefinability must be read as just the mere result of a wrong search for the notion of form as principle of being;
- 3) the primary things Aristotle denies definability to, are not matter and form as parts *of which* a composite consists of, but rather the material elements *from which* a composite thing

280 This reading is supported, more or less explicitly, by: W.D. Ross (1924) p. 233; Londinenses (1984) p. 20.

281 See D. Bostock (1994) p. 267; E.C. Halper (2005) p. 170; S. Menn (unpublished work) IIe p. 20.

primarily derives.

The main evidence for 1) is given by the examples that Aristotle mentions: “silver” and “tin”. These things are not forms, but material elements. The analysis of H2 as already explained how such things are definable both in itself (for their inner level of material complexity can be presumably analysed into *elements* and *differentiae*, as it happens for things such as “ice”) and in their dynamic relation with a determinate actuality (for they might be regarded as the matter of some composite artefacts such, for instance, a “silvery ring”). Thus, to confine our analysis of materials such as “silver” and “tin” to the mere institution of a relation of similarity would be just the result of a wrong search for the notion of form as actuality. And, then, 2) is proved.

Finally, even if it is possible to read the formula ἐξ ὧν πρώτων as referring to the primary parts *of which* a certain thing consists²⁸², it can also be read as referring to the primary things *from which* a certain composite derives.

The clearest evidence of this occurs at the beginning of the next chapter of H, that is H4:

“Regarding material substance we must not forget that even if all things have the same primary constituent or constituents (ἐκ τοῦ αὐτοῦ πάντα πρώτου ἢ τῶν αὐτῶν ὡς πρώτων), and if the same matter serves as starting-point for their generation, yet there is a matter proper to each”²⁸³.

As we shall see in the following, H4 is mainly concerned with the distinction between the remote matter of something, from which it can ultimately derives, and the proper matter (οἰκεία ὕλη) of which it is made of. While this latter kind of matter will appear as dynamically oriented towards its proper goal, the former is just the originative stuff from which the process of generation takes its start. While the proper matter has to be consistently mentioned in the account of a composite being, the

²⁸² See, for instance, B3 998a22-23; Δ1 1013a4.
²⁸³ 1044a15-18.

remote matter has no place in the definitional structure.

Hence, I argue that in H3's fourth paragraph Aristotle aims at opposing the undefinability of matter as starting point of every generation to the definability of matter regarded as consistently arranged in a composite being. Thus, lines 1043b23-32 are not at odds with Z's account of definition. On the contrary, they perfectly come out from the progressive inclusion of the notion of matter into definition, which has in H its climax. Moreover, these lines are meant to introduce the main argument of the next chapter of H (H4): namely, the distinction between material derivation and material composition.

Finally, the statement at 1043b30-32, according to which:

“a definitory formula predicates something of something, and one part of the definition must play the part of matter and the other that of form” (εἴπερ τὶ κατὰ τινὸς σημαίνει ὁ λόγος ὁ ὀριστικὸς καὶ δεῖ τὸ μὲν ὡσπερ ὕλην εἶναι τὸ δὲ ὡς μορφήν)

simply restates what we already know from H2 1043a5-7 and it brings forward what Aristotle will develop in H6. Namely, the definitional structure of composite things must mirror the dual ontological relation between matter and form. Such a structure, however, does not belong to the notion of matter as regarded in its being the primary stuff from which a certain composite thing derives.

In the next Part of my work I will prove how both H4 and H5, far from being useless appendices, are indeed those places where Aristotle accounts for matter's way of being moving from a different viewpoint. The new enquiry within which Aristotle frames the relation between matter and explanation is that concerning the processes of generation and corruption.

What we have shown so far seems to be consistent with the “skeleton” of Book H as it is reconstructible from Z17's text Here I recall the remarks above sketched out ²⁸⁴.

284 Cf. §1.6

- 1) The abstract relation between matter and explanation must be, first and foremost, read in the light of that between the material constitution of something and its being one as a whole (Z17 1041b11-12);
- 2) This in order to challenge whichever sort of materialistic reductionism that ends up with identifying the being of a composite thing with the mere juxtaposition or sum of its material elements (Z17 1041b12-16);
- 3) The being of a material composite, in fact, depends on a different sort of item (ἕτερον τι), whose nature is neither material nor, in turn, compounded out of material elements (Z17 1041b16-27);
- 4) Such an item, being not an element, is the substance of each thing (οὐσία ἐκάστου) and the primary cause of being (αἴτιον πρῶτον τοῦ εἶναι) (Z17 1041b27-28);
- 5) Primarily, the notion of substance thusly conceived amounts to the notion of nature (φύσις) as principle. On the contrary, the notion of element amounts, for each thing, to the concept of matter (Z17 1041b30-33).

All these five points seem to be at work in the account of H2-3, where Aristotle focuses on the relation between matter and composition.

In H4-5 Aristotle deals with the relation between matter and explanation by focusing on the processes of generation and corruption where matter is involved. This framework is, however, not at odds with the previous one concerning matter and composition. Rather, the two approaches on the substancehood of matter must be read as complementary. While in H2-3 Aristotle tackles with the notion of matter by looking at the principle which actualizes its potentiality into the composite being, in H4-5 Aristotle looks at the compositional status of

matter by looking at its generative story. As we shall see in the following, both frameworks share the same starting point, as it is stated at the beginning of the substantive analysis of H1: “matter is potentially a *this*” (1042a27-28). This fact confirms the main hypothesis of my work: H depends on Z17's abstract model, but such a model is consistently applied through the dynamic understanding of matter and form as potentiality and actuality respectively.

For all these reasons I am now going to break with the natural order of Book H's text by postponing the analysis of H3's fifth paragraph (1043b32-11) to the last part of my work, where I will deal with H6's argument. This choice seems to be acceptable not only because I aim at proving how H4-5 develop the suggestions of H3's fourth paragraph, but also for a further reason. Once one looks at the introductory claim of H6, in fact, it is clear how H3's fifth paragraph is not only the conclusion of H3 but also the theoretical background of H6:

“To return to the difficulty which has been stated with respect to definitions and numbers, what is the cause of the unity of each of them?”²⁸⁵.

Here Aristotle refers explicitly to the theme dealt with in the last paragraph of H3 concerning “the unity of definitions and numbers”.

285 H6 1045a7-8.

PART III: H4-5. Matter, Generation and Corruption

In the following two chapters of my work I will clarify how Aristotle describes the relation between matter and explanation in H4-5, where he deals with the notion of ὕλη by focusing on its role in generation (H4) and corruption (H5). The main difference between H4-5 and H2-3 can be read as follows: while in H2-3 Aristotle deals with the role of matter into composite beings by looking at its dynamic relation with the notion of form as actuality, in H4-5 he deals with the role of matter into composite beings as outcome of a complex generative story.

However, both approaches share the key claim of H1 concerning the ontological status of matter as “potentially determinate” (1042a28-29). While in H2-3 Aristotle deals with the question of determinateness by remarking the decisive role of form as actuality of certain material elements, in H4-5 he deals with the same question by focusing on the inner structure of matter. Thus H4-5 can be preliminary read as providing an in-depth analysis of the conditions of determinateness internal to the notion of matter. While in H4 these conditions are said to be conditions of “appropriateness” or “proximity”, in H5 they are drawn through the physical relation between “possession” and “privation” of form.

Moreover, as we shall see in the following, H 4-5 present several analogies with what Aristotle has stated in the second half of H1 (1042a24-b8)²⁸⁶.

²⁸⁶ I share this reading with M.L. Gill (1996) pp. 222-23.

§4. H4: Matter, Generation and Causes

H4 begins with an argument that concerns the processes of material derivation.

“Regarding material substance we must not forget that even if all things have the same primary constituent or constituents, and if the same matter serves as starting-point for their generation, yet there is a matter proper to each, e.g. the sweet or the fat of phlegm, and the bitter, or something else, of bile; though perhaps these have the same constituent. And there come to be several matters for the same thing, when the one matter is matter for the other, e.g. phlegm comes from the fat and from the sweet, if the fat comes from the sweet; and it comes from bile by analysis of the bile into its ultimate matter. For one thing comes from another in two senses, either because it will be found at a later stage of development, or because it is produced if the other is analysed into its original constituents”²⁸⁷.

The opening claim of H4 is almost identical to the opening one of H3. While at the beginning of the previous chapter Aristotle had claimed that: “we must not forget that...” (Δεῖ δὲ μὴ ἀγνοεῖν ὅτι)²⁸⁸, in H4 he starts off saying that: “regarding material substance we must not forget that...” (περὶ δὲ τῆς ὑλικῆς οὐσίας δεῖ μὴ λανθάνειν ὅτι)²⁸⁹. In both chapters, hence, Aristotle aims mainly at providing some clarifications. While in H3 he develops an accurate disambiguation between the notions of form and composite, in H4 he aims at providing some disambiguations concerning the inner structure and articulation of the “material substance”²⁹⁰.

287 1044a15-25: Περὶ δὲ τῆς ὑλικῆς οὐσίας δεῖ μὴ λανθάνειν ὅτι εἰ καὶ ἐκ τοῦ αὐτοῦ πάντα πρῶτου ἢ τῶν αὐτῶν ὡς πρῶτων καὶ ἡ αὐτὴ ὕλη ὡς ἀρχὴ τοῖς γιγνομένοις, ὅμως ἔστι τις οἰκεία ἐκάστου, οἷον φλέγματος [ἔστι πρῶτη ὕλη] τὰ γλυκέα ἢ λιπαρά, χολῆς δὲ τὰ πικρὰ ἢ ἄλλ’ ἅττα· ἴσως δὲ ταῦτα ἐκ τοῦ αὐτοῦ γίνονται δὲ πλείους ὕλαι τοῦ αὐτοῦ ὅταν θατέρου ἢ ἑτέρα ἢ, οἷον φλέγμα ἐκ λιπαροῦ καὶ γλυκέος εἰ τὸ λιπαρὸν ἐκ τοῦ γλυκέος, ἐκ δὲ χολῆς τῶ ἀναλύεσθαι εἰς τὴν πρῶτην ὕλην τὴν χολῆν. διχῶς γὰρ τὸδ’ ἐκ τοῦδε, ἢ ὅτι πρὸ ὁδοῦ ἔσται ἢ ὅτι ἀναλυθέντος εἰς τὴν ἀρχήν.

288 H31043a29.

289 1044a15.

290 The formula οὐσία ὑλική occurs also in Θ7 1049a36.

In this first section of H4 Aristotle makes a clear distinction between what we could call the remote matter of something and what our text defines as “proper matter” (οἰκεία ὕλη).

Such distinction is achieved through the analysis of the levels of material complexity of an object. Thus, even if it is possible to individuate one or more elements which play the role of starting-point for the generation (ὡς ἀρχὴ τοῖς γιγνομένοις) of all things, there is one matter which is proper (οἰκεία) to each thing²⁹¹.

The first puzzle of this section occurs at line 1044a16, where Aristotle refers to one or more first elements from which the generation starts (ἐκ τοῦ αὐτοῦ πάντα πρώτου ἢ τῶν αὐτῶν ὡς πρώτων).

Such first element (or elements) is immediately after identified with the notion of ὕλη (a17). According to Ross, Aristotle aims here at showing the difference between the generation of all things from prime matter (ἐκ τοῦ αὐτοῦ πρώτου) and the generation of all things from the four elements (ἐκ τῶν αὐτῶν ὡς πρώτων)²⁹². One more cautious reading is provided by the Londinenses who focus on both to the dubitative meaning of the passage (as testified by the εἰ at line 1044a15) and to its orientation towards the concept of “proper matter”:

“Aristotle is saying: suppose everything derives in the end from some one originative “first” stuff, e.g. water, or from several such, e.g. earth air fire and water, still the important thing for explanation (cf. 32 ff.) is the οἰκεία ὕλη ἐκάστου. He does not commit himself to either version of the ultimate derivation story, since his concern is to insist that you should not answer the question τί ἐστὶ χολή in Presocratic style by “Like everything else, it's earth, water, etc., but should give the specific or proximate matter” (cf. 1044b2-3)”²⁹³.

291 In §3.4 I have shown how Aristotle brings forward such distinction in H3 1043b28-32.

292 W.D.Ross (1924) p. 235.

293 Londinenses (1984) p. 32.

Similarly, Bostock argues that:

“he mentions the point only to set it aside. His concern here is to stress the different point that there are many specific kinds of matter, and different kinds of thing will have different specific kinds of matter “appropriate to them”²⁹⁴.

Aristotle starts his inquiry into the concept of οἰκεία ὕλη by mentioning the cases of two things which belong to the biological realm: the phlegm (φλέγμα) and the bile (χολή)²⁹⁵. While sweet and fat elements are the proper matter of phlegm, bitter and similar elements are the proper matter of bile. All these elements, even if they serve as proper matter for different things, can ultimately derive from one element. Aristotle leaves clearly open the possibility to reduce all things to one ultimate matter at lines 1044a19-20, where he says that: “perhaps these have the same constituent” (ἴσως δὲ ταῦτα ἐκ τοῦ αὐτοῦ)²⁹⁶.

As it is evident, the whole argument does not concern the distinction in itself between phlegm and bile, but rather the degrees of material complexity which belong to each substance²⁹⁷. In other words, Aristotle aims here at showing how it is possible to individuate: on the one hand, one or more common material elements from which different things derive and, on the other hand, one material element which is proper to some substances only. The proper matter of an object is, in fact, decisive for an accurate explanation of that object.

In the following lines (1044a20-23) Aristotle fleshes out the idea

294 D. Bostock (1994) p. 272.

295 For the opposition between phlegm and bile, cf. *Tim.* 82a; *Rep.* 564b. The doctrine is the same in the Hippocratics. Phlegm and bile belong to the class of the wet homeomerus (See *Hist. Anim.* I 1 487a1). Further references are in *Hist. Anim.* III 2, 511 b1-10 *De Part.* 677b18. *De Gen. Anim.* (725a 15 e sgg.) *De Part.* (677a e sgg.).

296 As it is clear, the reference to the adverb ἴσως, confirms the mere hypothetical character of such reductionist possibility.

297 As it is correctly shown by D. Bostock (1994) p. 272: “it may be noted that his examples, phlegm and bile, are themselves specific kinds of matter, so the proximate matter of each is the next less specific kind of matter that they can be said to be “from””.

that each object has a complex material structure. He deals with the case of phlegm through a vertical description of its material derivation:

“And there come to be several matters for the same thing, when the one matter is matter for the other, e.g. phlegm comes from the fat and from the sweet, if the fat comes from the sweet; and it comes from bile by analysis of the bile into its ultimate matter”.

In a strict sense, we must argue that phlegm derives from the fat and from the sweet if the fat comes from the sweet. However, in a broader sense, we can regard phlegm as deriving from bile, namely from that material object which has proper elements opposite to those proper to phlegm (i.e. bitter elements)²⁹⁸. Such a possibility comes out when we regard the phlegm as analysed (τω ἀναλύησθαι) into that first element (εἰς τὴν πρώτην ὕλην²⁹⁹) shared by the bile too. Aristotle clarifies this point in the following lines (1044a23-25), where he distinguishes two different sorts of derivation:

“For one thing comes from another in two senses (διχῶς γὰρ τόδ’ ἐκ τοῦδε), either because it will be found at a later stage of development (πρὸ ὁδοῦ), or because it is produced if the other is analysed (ἀναλυθέντος) into its original constituents³⁰⁰”.

These lines are meant to show how the material complexity of an object depends on the complexity of the processes of derivation in which it is involved. According to Bostock, Aristotle describes here the difference between material *derivation* and material *composition*. This means that even if phlegm can somewhat “be made from” bile, it is however not “made of” bile³⁰¹. This

298 The relation of contrariety between sweet and bitter elements is described in *On Generation and Corruption* II2 329b12; *On the soul* II 10 422b12; *On sense* 442a17-23.

299 As it is cleared up by the Londinenses (1984) p. 32: “the sense of πρώτην ὕλην in 23 is determined by 16, as is ἴσως δὲ ταῦτα ἐκ τοῦ αὐτοῦ”.

300 Ross's translation “analysed into its original constituents” gives here the sense of the Greek ἀναλυθέντος εἰς τὴν ἀρχήν. For a valid alternative translation see D. Bostock (1994) p. 37: “resolved into its principle”.

301 Cf. D. Bostock (1994), pp. 272-73. Similarly, M.L. Gill (1996) p. 223 speaks of *preexisting* and *constituent* matter.

suggestion is surely correct, but it must be developed.

In *Metaphysics* Δ24 Aristotle distinguishes the different meanings of the expression “to come from something” (τὸ ἔκ τινος). At the beginning of that chapter, two sorts of material derivation are mentioned: the former can be defined as “remote” while the latter can be defined as “proximate”. At 1023a26-29 Aristotle argues that:

“to come from something as from matter, and this in two senses, either in respect of the highest genus (κατὰ τὸ πρῶτον γένος) or in respect of the lowest species (τὸ ὑστάτον εἶδος), e.g. in a sense all things that can be melted come from water, but in a sense the statue comes from bronze”.

Such distinction is not new in Book Δ since it merely recalls what Aristotle has already said in Δ4 1015a7-10, where he distinguishes two different meanings of first matter (πρώτη ὕλη):

“either first, counting from the thing, or first in general, e.g. in the case of works in bronze, bronze is first with reference to them, but in general perhaps water is first, if all things that can be melted are water”.

The examples are, then, the same both in Δ4 and in Δ24. They describe in technical terms (as testified by the formulae “κατὰ τὸ πρῶτον γένος” and “τὸ ὑστάτον εἶδος” in Δ24) what Aristotle argues in H4 through the expressions ἀναλυθέντος and πρὸ ὁδοῦ. While the former describes the process which leads a certain matter back to its first material genus, the latter exemplifies the level of proximity (a) between fat elements and phlegm; and, analogously, (b) between the bronze as lowest species of the statue. In fact, even if according to different levels of material complexity, it is possible to state that the fat is for the phlegm what the bronze is for the statue. Similarly, it seems possible to equate: (c) the water as the first genus into which all liquids are resolved with (d) the material element into which bile

is resolved and from which phlegm can derive. Moreover, this latter example brings forward an argument which will occur in H5, where Aristotle will deal with the relations between matter and its contrary states. In H5 Aristotle mentions two examples of contrary states: 1) the corpse and the animal; 2) the vinegar and the wine. I will provide a detailed account of such cases in the following³⁰². For the time being, it can be useful to quote what Aristotle states in the final lines of H5:

“And *all* things which change thus into one another must be reduced to their matter, e.g. if from a corpse is produced an animal, the corpse is first reduced to its matter (εἰς τὴν ὕλην πρῶτον), and only then becomes an animal; and vinegar is first reduced to water, and only then becomes wine”³⁰³.

This passage confirms what we read in H4: phlegm can in a sense derive from bile *iff* bile is first resolved into its remote matter.

To sum up, we must distinguish: 1) a kind of material derivation which refers to the remote element from which different or opposite material composites can come out and 2) a kind of proximate derivation which describes accurately the material constitution of an object ³⁰⁴.

In the second section of H4 (1044a25-32) Aristotle extends the enquiry into the “material substance”, by focusing on the interaction between matter and moving cause.

“When the matter is one, different things may be produced owing to difference in the moving cause, e.g. from wood may be made

302 See §5.

303 H5 1045a4-6.

304 cursorily, we can note how, in delineating the inner structure of the material composites, Aristotle is inclined to overlap a) conditions of dispositional appropriateness and b) conditions of temporal proximity. In fact, the very same matter which is defined as proper (οἰκεία) in H4 is called proximate (ἐσχάτη) in other contexts. See *Metaphysics* Z10 1035b30, H6 1045b18. Such theoretical overlapping concerns also the notion of potentiality. Especially in *Metaphysics* Θ Aristotle describes the concept of δύναμις both as the dispositional complex proper of a certain actuality (Θ6-8) and as the material complex which immediately precedes it in terms of temporal realization (Θ7).

both a chest and a bed. But *some* different things must have their matter different, e.g. a saw could not be made of wool, nor is this in the power of the moving cause; for it could not make a saw of wool or of wood. But if, as a matter of fact, the same thing can be made of different material, clearly the art, i.e. the moving principle, is the same; for if both the matter and the moving principle were different, the product would be too³⁰⁵.

Aristotle presents us three possible ways of interaction:

(1) we can have *identity* of matters and *difference* in the final products. Such difference is due to the application of different moving causes to the same matter. Thus, from wood may be made both a chest and a bed³⁰⁶.

(2) we can have *difference* both in matters and in the final products, independently from the operating of the moving cause, for a saw can not be made of wool or wood³⁰⁷.

3) we can have *difference* of matters and *identity* of final products due to the action of the same moving cause.

The whole paragraph has been usually read as aiming to provide some exceptions to the argument of the first paragraph (1044a15-25), according to which there is a different matter appropriate to each different thing³⁰⁸. In fact, in some cases, as we have seen, the reference to the οἰκεία ὕλη is not sufficient for explaining a certain product. Such reading is surely correct, but it must be fleshed out.

305 ἐνδέχεται δὲ μιᾶς τῆς ὕλης οὐσης ἕτερα γίγνεσθαι διὰ τὴν κινουῦσαν αἰτίαν, οἷον ἐκ ξύλου καὶ κιβωτὸς καὶ κλίνη. ἐνίων δ' ἕτερα ἢ ὕλη ἐξ ἀνάγκης ἐτέρων ὄντων, οἷον πρίων οὐκ ἂν γένοιτο ἐκ ξύλου, οὐδ' ἐπὶ τῇ κινούσῃ αἰτίᾳ τοῦτο· οὐ γὰρ ποιήσει πρίονα ἐξ ἐρίου ἢ ξύλου. εἰ δ' ἄρα τὸ αὐτὸ ἐνδέχεται ἐξ ἄλλης ὕλης ποιῆσαι, δῆλον ὅτι ἡ τέχνη καὶ ἡ ἀρχὴ ἢ ὡς κινούσα ἢ αὐτῆ· εἰ γὰρ καὶ ἡ ὕλη ἕτερα καὶ τὸ κινουῦν, καὶ τὸ γεγονός.

306 Both the *Londinenses* (1984) pp. 32-3 and D. Bostock (1994) p. 273 argue that Aristotle identifies here the moving cause with the form, because the same skill, carpentry, can produce both wooden boxes and wooden beds.

307 D. Bostock (1994) p. 273, notes that the example of “saw” is one of Aristotle’s favourite to illustrate the idea that in some cases the nature of the finished product dictates the kind of matter that it must have. For, saw must be made of metal. See *Physics* II 9, 200a10-13.

308 Cf. *Londinenses* (1984) p. 33; D. Bostock (1994) p. 273; E.C. Halper (2005) p. 174.

I argue that also H4's inquiry fits well with the general framework that we have attributed to Book H at the beginning of this work, for H4 too focuses on the relation between matter and explanation. As we have shown at length, such framework emerges at Z17 and is developed all throughout H.

Now, in Z17 Aristotle maintains that, in order to explain “why a certain matter is some definite thing”, we must not confine ourselves to the analysis of sensible substances into matter and form (as, for instance, it seems to occur in H2-3). Rather, we have to deal also with the relation between matter and moving or final causes. This for the sake of explaining, for instance, a) under which conditions a certain thing is generated and b) towards which end its generation is oriented³⁰⁹. I argue that such aims shed some light on H4's train of thought.

In the first paragraph (1044a15-25) Aristotle tackles with the theme of matter and generation moving from a perspective exclusively focused on the inner material structure of something. As we have seen above, this entails the distinction between remote and proper matter and, as a consequence, between material derivation and material composition. In the second paragraph (1044a25-32), Aristotle approaches the relation between matter and generation by mentioning some examples of artificial substances. Such examples are quoted in order to show how the production of something depends not only on its proper matter but also: (a) on the moving cause involved (as in the case of the production of a bed or a chest) and (b) on the goal pursued (as in the case of the saw which can not be made out of wool or wood).

The third paragraph of H4 (1044a32-b3) is a further evidence of the extension of H's explanatory pattern:

309 See Z17 1041a27-32.

“When one inquires what is the cause, one should, as causes are spoken of in several senses, state all the possible causes. E.g. what is the material cause of man? The menstrual fluid. What is the moving cause? The *semen*. The formal cause? His essence. The final cause? His end. But perhaps the latter two are the same. —We must state the *proximate* causes. What is the material cause? Not fire or earth, but the matter peculiar to the thing”³¹⁰.

As it is evident, here Aristotle tackles with the relation between matter and explanation within the search for the four causes (material, formal, moving and final). To illustrate his argument, Aristotle quotes the example of human generation. The material cause of the coming to be of a human being is the menstrual fluid (τὰ καταμήνια), the moving cause is the semen (τὸ σπέρμα)³¹¹, while formal and final causes are said to coincide each other. Meanwhile, he applies the principle above stated (namely, that we must search for the proper matter of each thing) to the other kinds of cause too. Thus, in each case, after stating all possible causes (τὰ ἐνδεχομένα αἰτία) we must state the proximate ones (τὰ ἐγγύτατα)³¹².

Also the final paragraph of H4 (1044b3-20) fits well with Book H's general framework, for, as we shall see, Aristotle deals with the relation between matter and explanation.

“Regarding *generable* natural substances, *if* the causes are really these and of this number and we have to learn the causes, we must inquire thus, if we are to inquire rightly. But in the case of natural but *eternal* substances another account must be given. For perhaps some have no matter, or not matter of this sort but only such as can be moved in respect of place. Nor does matter

310 ὅταν δὴ τις ζητῇ τὸ αἶτιον, ἐπεὶ πλεοναχῶς τὰ αἶτια λέγεται, πάσας δεῖ λέγειν τὰς ἐνδεχομένας αἰτίας. οἷον ἀνθρώπου τίς αἰτία ὡς ὕλη; ἄρα τὰ καταμήνια; τί δ' ὡς κινουῦν; ἄρα τὸ σπέρμα; τί δ' ὡς τὸ εἶδος; τὸ τί ἦν εἶναι. τί δ' ὡς οὐ ἔνεκα; τὸ τέλος. ἴσως δὲ ταῦτα ἄμφω τὸ αὐτό. δεῖ δὲ τὰ ἐγγύτατα αἶτια λέγειν. <οἷον> τίς ἡ ὕλη; μὴ πῦρ ἢ γῆν ἀλλὰ τὴν ἴδιον.

311 See *Generation of Animals* 728a25-729a34.

312 Cf. D. Bostock (1994) p. 274, observes how “however, the point is not at once illustrated with other kinds of cause, for the discussion gets side-tracked to a different point”. As a matter of fact, Aristotle refers again to the case of material cause saying that we must not individuate it in the basic elements (as for instance fire or earth) but rather we must search for the matter proper (ἴδιον) to each thing (1044b2-3).

belong to those things which exist by nature but are not substances; their substratum is the *substance*. E.g. what is the cause of an eclipse? What is its matter? There is none; the *moon* is that which suffers eclipse. What is the moving cause which extinguishes the light? The earth. The final cause perhaps does not exist. The formal principle is the definitory formula, but this is obscure if it does not include the cause. E.g. what is eclipse? Deprivation of light. But if we add ‘by interposition of the earth’, this is the formula which includes the cause. In the case of sleep it is not clear what it is that proximately has this affection. Surely the animal, it will be said. Yes, but the animal in virtue of what, i.e. what is the proximate subject? The heart or some other part. Next, by what is it produced? Next, what is the affection—that of the proximate subject, not of the whole animal? Shall we say that it is immobility of such and such a kind? Yes, but to what process in the proximate subject is this due?”³¹³.

Aristotle opposes here the account of the generable natural substances, as for instance that of human being provided in the previous lines (1044a32-b3), and the account of natural eternal substances. While in the former case we always have a matter for generation, in the latter there is either (a) no matter (οὐκ ἔχει ὕλην), or (b) a matter which can be moved only in respect of place (μόνον κατὰ τόπον κινητήν).

Such distinction is evidence of the dependance of H4 on H1's second half, for, despite in the negative form, the reference to those substances which have no matter (οὐκ ἔχει ὕλην³¹⁴) recalls the beginning of H1's substantive analysis. In that context (1042a24-26) Aristotle had established the main issue of Book

313 περὶ μὲν οὖν τὰς φυσικὰς οὐσίας καὶ γενητὰς ἀνάγκη οὕτω μετιέναι ὀρθῶς, εἴπερ ἄρα αἰτία τε ταῦτα καὶ τοσαῦτα καὶ δεῖ τὰ αἰτία γνωρίζειν· ἐπὶ δὲ τῶν φυσικῶν μὲν αἰδίον δὲ οὐσιῶν ἄλλος λόγος. ἴσως γὰρ ἓνια οὐκ ἔχει ὕλην, ἢ οὐ τοιαύτην ἀλλὰ μόνον κατὰ τόπον κινητήν. οὐδ' ὅσα δὴ φύσει μὲν, μὴ οὐσίαι δὲ, οὐκ ἔστι τούτοις ὕλη, ἀλλὰ τὸ ὑποκείμενον ἢ οὐσία. οἷον τί αἰτίον ἐκλείψεως, τίς ὕλην; οὐ γὰρ ἔστιν, ἀλλ' ἡ σελήνη τὸ πάσχον. τί δ' αἰτίον ὡς κινήσαν καὶ φθεῖραν τὸ φῶς; ἢ γῆ. τὸ δ' οὐ ἔνεκα ἴσως οὐκ ἔστιν. τὸ δ' ὡς εἶδος ὁ λόγος, ἀλλὰ ἄδηλος ἐὰν μὴ μετὰ τῆς αἰτίας ἢ ὁ λόγος. οἷον τί ἐκλείψις; στέρησις φωτός. Ἐὰν δὲ προστεθῆ τὸ ὑπὸ γῆς ἐν μέσῳ γιγνομένης, ὁ σὺν τῷ αἰτίῳ λόγος οὕτος. ὕπνου δ' ἄδηλον τί τὸ πρῶτον πάσχον. ἀλλ' ὅτι τὸ ζῶον; ναί, ἀλλὰ τοῦτο κατὰ τί, καὶ τί πρῶτον; καρδία ἢ ἄλλο τι. εἴτα ὑπὸ τίνος; εἴτα τί τὸ πάθος, τὸ ἐκείνου καὶ μὴ τοῦ ὅλου; ὅτι ἀκίνησία τοιαδί; ναί, ἀλλ' αὕτη τῷ τί πάσχειν τὸ πρῶτον;

314 1044b7.

H's enquiry:

“But now let us resume the discussion of the generally recognized substances. These are the sensible substances. And sensible substances all have matter (ὕλην ἔχουσιν)”.

In my reading of these introductory lines, I have preliminary stated that the construction ἔχειν ὕλην (“have matter”) and, more generally, the fact for something to have matter or to have not, plays a key role for the argumentative path of the whole Book³¹⁵.

A clear evidence of this occurs here in H4 1044b3-8. In fact, the opposition between natural generable substances and eternal substances concerns the presence (ἔχειν) or lack of matter (οὐκ ἔχει ὕλην) in their respective ontological structures. To say more precisely, eternal substances do not have a matter for generation. However, they can have a matter for change of place. Also the reference of 1044b7-8 to such kinds of substances (ἔνια κατὰ τόπον κινητήν) recalls H1's text. As we know, in H1 1042a32-b3 Aristotle regards the substancehood of matter as an evident fact by showing its role of underlying subject in every physical changes. Then, he deals with the relations of mutual implication that occur among the different sorts of change. Particularly, it is pointed out how substantial generation entails the other sorts of change, since any substance which comes to be is liable to the other three types of change³¹⁶. However, as Aristotle argues at 1042b5-6:

“it is not necessary if a thing has matter for change of place (ὕλην ἔχειν τοπικήν) that it should also have matter for generation and destruction”.

Thus, it seems consistent that in H4, where Aristotle deals with the relation between matter and generation, he recalls the case of those substances which have a matter for change of place only³¹⁷.

315 Cf. §1.4

316 Cf. H1 1042b3-5.

317 The substances which have a matter for change of place only are the

In fact, such substances ask for a different sort of explanation³¹⁸.

Aristotle concludes H4's in-depth analysis on the material substance (περὶ δὲ τῆς ὑλικῆς οὐσίας) by providing some further examples of things that do not have a proper matter. First of all, he mentions the case of those things “which exist by nature, but are not substances (ὅσα δὴ φύσει μὲν, μὴ οὐσίαι δὲ)”. In such cases, what plays the role of material substratum is the substance itself (οὐκ ἔστι τούτοις ὕλη, ἀλλὰ τὸ ὑποκείμενον ἢ οὐσία). A clear example of such sort of natural thing is that of the eclipse:

“What is the cause of an eclipse? What is its matter? There is none; the *moon* is that which suffers eclipse. What is the moving cause which extinguishes the light? The earth. The final cause perhaps does not exist. The formal principle is the definitory formula, but this is obscure if it does not include the cause. E.g. what is eclipse? Deprivation of light. But if we add ‘by interposition of the earth’, this is the formula which includes the cause”.

The example of the eclipse occurs significantly both in *Metaphysics* Z17³¹⁹ and in *Posterior Analytics* II2³²⁰. As we already know, the explanatory pattern which Z17 inaugurates, within the search for the meaning of οὐσία, depends on the epistemological paradigm of *Posterior Analytics'* Book II³²¹. Now, in *Posterior Analytics* II2 90a15-18 Aristotle refers to the case of the eclipse in order to exemplify the principle according to which: “what it is and why it is are the same (τὸ αὐτό ἐστὶ τὸ τί ἐστὶ καὶ διὰ τί ἔστιν)”.

celestial spheres and the stars. Cf. Ross (1924) p. 235.

318 D. Bostock (1994) p. 274: “the heavenly bodies are substances that exist by nature and are eternal. Since they are eternal, there is of course no matter from which they are made (and no efficient cause of their generation). But Aristotle supposes that there is a matter of which they are made, and that this is necessary to explain their capacity to be now in one place and now in another”.

319 See 1041a16.

320 See 90a15, 93a23.

321 Cf. §1.6

“What is an eclipse? Privation of light from the moon by the earth’s screening. Why is there an eclipse? or Why is the moon eclipsed? Because the light leaves it when the earth screens it”.

As it is evident the sort of explanation here provided represents the background of H4's description of lunar eclipse. This confirms once again how Book H's theoretical framework mainly depends on Z17 and, as a consequence, on *Posterior Analytics'* search for the middle as the same of the notion of cause³²². Thus, by mentioning the natural phenomenon of eclipse in H4, Aristotle aims at showing how the search “for the cause by reason of which matter is some definite thing” can be carried out also in those cases where a proper matter is absent. This means that even if eclipse lacks a οἰκεία ὕλη we can look at the substance which suffers such modification, that is the moon, as to the matter for the eclipse's occurring³²³.

The example of the eclipse too is meant to show the need to find all four causes for an accurate scientific explanation. And this is consistent with the previous claim of 1044a32-34 according to which:

“when one inquires what is the cause, one should, as causes are spoken of in several senses, state all the possible causes”.

However, in the case of the eclipse, it is not easy to fill out the

322 See especially 2 90a6-7, where Aristotle clearly states that: τὸ μὲν γὰρ αἴτιον τὸ μέσον.

323 W.D. Ross (1924) explains the claim of 1044b9 - οὐκ ἔστι τούτοις ὕλη, ἀλλὰ τὸ ὑποκείμενον ἢ οὐσία - by recalling Z13 1038b5, where Aristotle argues that what underlies an accident, as matter underlies substance, is not matter but substance. D. Bostock (1994) pp. 274-75 rightly points out how: “Aristotle's general doctrine is that for any change there is always an “underlying thing” which is first in one state and then in another (*Phys* I, 7). Using the term “matter” in a broad sense, this underlying and persisting thing can always be called the matter of the change. But here Aristotle resists the broader usage, and says that when the underlying thing is itself a substance, then it should not be called “matter”. Such a change, then, has no material cause, properly speaking, but only an analogue to what in other cases is the material cause”. It is easy to understand why Aristotle resists the broader usage of the notion of matter in H4. For, as we have seen, the main aim of the chapter consists in providing some remarks on the material substance (περὶ δὲ τῆς ὑλικῆς οὐσίας) regarded in its strict sense.

standard schema of the four causes. In fact, not only eclipse lacks a proper matter, but it probably lacks a final cause as well, and its formal cause is obscure unless the efficient cause is stated. Thus, as Aristotle argues: the right answer to the question “What is an eclipse?”, it is not just “deprivation of light”, but “deprivation of light by interposition of the earth” (1044b13-15)³²⁴.

Ross provides a clear account of such anomalous schema of explanation, especially for what concerns the lack of the final cause:

“This is a serious admission, in view of Aristotle's identification in 1.1 of the formal with the final cause. His teleology is in fact not complete. There is not always a final cause. But where there is, it is the formal cause as well. In the absence of a final cause, the thing is defined by reference to its efficient cause, as in 11.14,15. Eclipse is for Aristotle an example of ταύτόματον. The sun's motion is no doubt ἐνεκά του and so is that of the moon, but the two acting together may produce a result which is not ἐνεκά του”³²⁵.

At the end of H4 Aristotle mentions a further example of natural event - the sleep – whose causal analysis makes some problems:

“In the case of sleep it is not clear what it is that proximately has this affection. Surely the animal, it will be said. Yes, but the animal in virtue of what, i.e. what is the proximate subject? The heart or some other part. Next, by what is it produced? Next, what is the affection—that of the proximate subject, not of the whole animal? Shall we say that it is immobility of such and such a kind? Yes, but to what process in the proximate subject is this due?”

As in the case of eclipse, also in the case of sleep Aristotle deals with a problem of unclarity³²⁶. However, while in the former case

324 Scholars have raised some doubts about Aristotle's recommendation to build into the definition of eclipse a specification of the efficient cause. Londinenses (1984) p. 34, ask why Aristotle considers unclear (ἄδηλος) the definition of eclipse as “deprivation of light” (στέρησις φωτός): “that it was not sufficiently illuminating for explanatory purposes seemed more likely than that it is simply incomplete”. D. Bostock (1994) p. 275, argues that : “the original definition was perfectly “clear”. What he has in mind, one presumes, is that the expanded definition will give a more informative answer to the question: “What is an eclipse?”.

325 W.D. Ross (1924) p. 235.

326 See the reference to ἄδηλον at line 1044b16 which recalls the previous

and despite the anomalous character of the phenomenon, Aristotle sketches out a causal analysis, in the latter he just makes some hypotheses. Thus, even if it is clear that it is the animal who experiences the sleep, it is unclear which proximate subject (τί πρῶτον) in particular – namely which proper matter – suffers such affection. Aristotle only supposes it could be the heart³²⁷. Moreover, even if sleep can be defined as an immobility of a certain kind³²⁸, it is unclear which efficient cause produces it³²⁹.

We can now sum up the main outcomes of H4's enquiry. At first glance, Aristotle introduces this chapter as if it were a mere corollary concerning the “material substance” (Περὶ δὲ τῆς ὑλικῆς οὐσίας δεῖ μὴ λανθάνειν ὅτι). However, H4's whole argument seems to develop what Aristotle argues in the second half of H1, where he focuses on the physical substancehood of matter. As a matter of fact, in H4 Aristotle deals with the relation between matter and generation in several ways:

- 1) First, he shows the difference between the material derivation of something and its material constitution. This task is accomplished through the distinction between the remote and proper matter of something (1044a15-25);
- 2) Then, Aristotle broadens the perspective on the generation of things, by focusing on the different sorts of interaction which can occur between material and moving cause (1044a25-32);

to ἄδηλος at line b13. For this reason I disagree with D. Bostock (1994) p. 275, who believes that “the final paragraph is introduced abruptly, without any clear connection to what has preceded”.

327 For such identification W.D. Ross (1924) p. 235 recalls *De Somno* 456a4, but reminds us that in P.A. 653A10 Aristotle connects sleep especially with the brain.

328 The formula ἀκίνησις τοιαδί recalls the analogous ones of H2. See especially the definitions of threshold, house, ice and harmony at 1043a7-12.

329 Londinenses (1984) p. 35, rightly underline the analogy between the case of sleep and the previous of eclipse by noting that “the efficient cause has to be sought as well, presumably to be incorporated into the formal”.

3) In the third paragraph, he extends the analysis to the search for the four causes, since only within this epistemological framework it is possible to achieve an accurate explanation of the generable natural substances (1044a32-1044b3);

4) Finally, Aristotle quotes the examples of those things that do not have a proper matter for generation, by showing how also in such cases it is possible to sketch out a causal analysis of their occurring (1044b3-20).

§5. H5: Matter, Contraries and Corruption

H5 has been usually regarded as a further corollary within the structure of Book H. Scholars have stressed the lack of a strong unity among its arguments³³⁰. However, it is possible to state that also in this chapter of H Aristotle aims at providing some remarks on the material substance of sensible things³³¹. Thus, also H5 fits well with the general framework of the whole Book, which we have at length described as concerning the relation between matter and explanation.

The chapter consists of three brief paragraphs: in the first (1044b21-29) Aristotle deals with the generation of contraries; in the second (1044b29-34) he discusses a puzzle concerning the relation between matter and its contrary states; in the third (1044b34-1045a6) he tackles with a further puzzle concerning the role of matter in the processes of corruption.

Aristotle starts H5 saying that:

“Since some things are and are not, without coming to be and ceasing to be, e.g. points, if they can be said to be, and in general forms (for it is not white that comes to be, but the wood comes to be white, if everything that comes to be comes from something and comes to be something), not all contraries can come from one another, but it is in different senses that a white man comes from a black man, and white comes from black. Nor has everything matter, but only those things which come to be and change into one another. Those things which, without ever being

330 Thus, for instance, the Londinenses (1984) p. 38 define the chapter in this way: “A bitty and unsatisfactory chapter containing no new material of any great interest. The first half could be said to continue H4's discussion of *ύλική ούσία* or to connect with H3 via the discussion of things which are and are not without genesis”. Similarly, D. Bostock (1994) p.276 argues that: “the first paragraph of this brief chapter claims that only things which change have matter. It is very loosely connected to the rest of the chapter by the fact that opposites are given as an example of things that do not change, and the next paragraph professes to introduce a problem about the relation of matter to opposites. But in fact this problem has no special connection with opposites, for it concerns the relation between matter and potentiality”.

331 See M.L. Gill (1996) p. 225 and M. Burnyeat (2001) p. 71.

in course of changing, are or are not, have no matter”³³².

As it is immediately clear, this paragraph follows the train of thought of the previous chapter of the Book: H4. In fact, its main issue concerns a) the processes of derivation of certain things (1044b21-26) and b) the presence or lack of matter as decisive feature for describing such processes (b27-29).

First of all, Aristotle makes a parallel between the case of those things which are and are not without coming to be and ceasing to be (ἔνια ἄνευ γενέσεως καὶ φθορᾶς ἔστι καὶ οὐκ ἔστιν) and the case of some contraries (τάναντία). As examples of things belonging to the first group he mentions points (αἰ στιγμαί) and forms in general (ὅλως τὰ εἶδη). While in the case of points, Aristotle stresses the mere hypothetical character of their existence³³³, in the case of forms he briefly recalls the doctrine of Z8 1033a24-b8, where it is clearly stated that only the composite of matter and form is subject to the processes of generation and corruption³³⁴. As a matter of fact, such argument recalls also what

332 Ἐπεὶ δ' ἔνια ἄνευ γενέσεως καὶ φθορᾶς ἔστι καὶ οὐκ ἔστιν, οἷον αἰ στιγμαί, εἴπερ εἰσί, καὶ ὅλως τὰ εἶδη (οὐ γὰρ τὸ λευκὸν γίγνεται ἀλλὰ τὸ ξύλον λευκόν, εἰ ἕκ τινος καὶ τὶ πᾶν τὸ γιγνόμενον γίγνεται), οὐ πάντα ἄν τάναντία γίγνοιτο ἐξ ἀλλήλων, ἀλλ' ἑτέρως λευκὸς ἄνθρωπος ἐκ μέλανος ἀνθρώπου καὶ λευκὸν ἐκ μέλανος· οὐδὲ παντὸς ὕλη ἔστιν ἀλλ' ὅσων γένεσις ἔστι καὶ μεταβολὴ εἰς ἀλλήλα· ὅσα δ' ἄνευ τοῦ μεταβάλλειν ἔστιν ἢ μή, οὐκ ἔστι τούτων ὕλη.

333 See the clause (εἴπερ εἰσί) at 1044b6. As we know, while the Pythagoreans and the Platonists believed that points were substances, according to Aristotle they are mere limits of a line. W.D. Ross (1924) p. 236 recalls *Metaphysics* B 1002a32 and *N.E.* 1174b12, where it is explicitly said that points do not have processes of generation and corruption.

334 As it is well-known, the whole argument of Z8 is led by the prescription that no infinite regress can occur: “Since anything which is produced is produced by something (and this I call the starting-point of the production), and from something (and let this be taken to be not the privation but the matter; for the meanings we attach to these have already been distinguished), and since something is produced (and this is either a sphere or a circle or whatever else it may chance to be), just as we do not make the substratum—the bronze, so we do not make the sphere, except incidentally, because the bronze sphere is a sphere and we make the former. For to make a ‘this’ is to make a ‘this’ out of the general substratum. I mean that to make the bronze round is not to make the round or the sphere, but something else, i.e. to produce this form in something else. For if we make the form, we must make it out of

Aristotle argues in the same Book H, at H3 1043b14-18:

“This (substance), then, must either be eternal or it must be destructible without being ever in course of being destroyed, and must have come to be without ever being in course of coming to be. But it has been proved and explained elsewhere that no one makes or generates the form, but it is a ‘this’ that is made, i.e. the complex of form and matter that is generated”³³⁵.

The only difference between the two passages concerns the hypothesis, formulated in H3 and absent in H5, that forms could be eternal (ἀίδιον). Such an absence depends on the specific task of H5's first argument, namely the generation of contraries. As a matter of fact, the hypothesis about the eternity of some forms does not seem to add anything more to the parallel which Aristotle builds up here. Rather, such parallel simply concerns the ungenerability of points and forms and the different ways of being or of being not generated of some contraries.

The example of form, which Aristotle provides at 1044b23, does not belong to the realm of substantial forms, but rather to that of qualities, for it is said that “it is not white that comes to be, but the wood comes to be white (οὐ γὰρ τὸ λευκὸν γίγνεται ἀλλὰ τὸ ξύλον λευκόν)”. This is consistent with what Aristotle maintains at Z9 1034b7-16, where he shows that not only substantial forms, but also the other primary things (namely those items which are subsumed under the other categories) are not subject to generation:

“But not only regarding substance does our argument prove that its form does not come to be, but the argument applies to all the primary classes alike (περὶ πάντων ὁμοίως τῶν πρώτων

something else; for this was assumed. E.g. we make a bronze sphere; and that in the sense that out of this, which is bronze, we make this other, which is a sphere. If, then, we make the sphere itself, clearly we must make it in the same way, and the processes of making will regress to infinity. Obviously then the form also, or whatever we ought to call the shape of the sensible thing, is not produced, nor does production relate to it,—i.e. the essence is not produced; for this is that which is made to be in something else by art or by nature or by some capacity”. See also Z15 1039b20-27 and Λ3 1069b35-1070a4.

335 Cf. §3.3

κοινὸς ὁ λόγος), i.e. quantity, quality, and the other categories. For as the bronze sphere comes to be, but not the sphere nor the bronze, and so too in the case of bronze itself, if it comes to be, (for the matter and the form must always exist before), so is it as regards both ‘what’ and quality and quantity and the other categories likewise; for the quality does not come to be, but the wood of that quality, and the quantity does not come to be, but the wood or the animal of that size”.

It could be remarked how the example of the wood (ξύλον), which occurs at Z9 1034b15, is developed at H5 1044b23, where Aristotle argues that “it is not white that comes to be, but the wood comes to be white (οὐ γὰρ τὸ λευκὸν γίγνεται ἀλλὰ τὸ ξύλον λευκόν)”. This claim is supported by the general rule according to which: “everything that comes to be comes from something and comes to be something (ἕκ τινος καὶ τὶ πᾶν τὸ γιγνόμενον γίγνεται)”. Such claim as well recalls the context of Z7-9. Particularly, it reminds us the beginning of Z8, where it is said that:

“Since anything which is produced is produced by something (ὑπὸ τινός) (and this I call the starting-point of the production), and from something (ἕκ τινος) (and let this be taken to be not the privation but the matter; for the meanings we attach to these have already been distinguished), and since something is produced (τὶ γίγνεται) (and this is either a sphere or a circle or whatever else it may chance to be), just as we do not make the substratum—the bronze, so we do not make the sphere, except incidentally, because the bronze sphere is a sphere and we make the former”.

All these parallels between H5 and Z7-9 are far from being surprising, for in H4-5 Aristotle mainly deals with the role of matter in generation. As we have above stated, the background of H4-5 in-depth analysis of the notion of matter is the second half of H1 (1042a32-b8), where Aristotle provides to us a less deflationary account of the concept of ὕλη than that of Book Z³³⁶. In turn, the second half of H1 starts from the assumption that “sensible substances all have matter” (αἱ δ’ αἰσθητὰ οὐσίαι πᾶσαι ὕλην ἔχουσιν), which recalls the beginning of Z7’s

336 See §1.4

physical analysis of the ways of becoming. In that place Aristotle maintained that:

“all things produced either by nature or by art have matter (ἔχει ὕλην), for each of them is capable both of being and of not being, and this capacity is the matter in each” (1032a20-22).

Thus we can postulate a way that moves from Z7-9 and reaches H4-5 via H1. In fact, in all these chapters Aristotle tackles with the relation between matter and generation. Now, in the first paragraph of H5 such relation is focused on a particular sort of generation: that of contraries. Thus, at 1044b23-26, it is stated that:

“not all contraries can come from one another (οὐ πάντα ἄν τᾶναντία γίγνοιτο ἐξ ἀλλήλων), but it is in different senses that a white man comes from a black man, and white comes from black”.

We can ask ourselves why in this place of H Aristotle feels the need of dealing with the generation of contraries. It is likely that insofar as the contraries are organized in couples, they lead us to treat them as subject to a mutual (ἐξ ἀλλήλων) generation. Here we attend to a conceptual shift, since Aristotle appears to substitute the theme of generation with the theme of mutual generation³³⁷.

This consideration aside, Aristotle points out how we can attribute mutual generation only to those contraries that qualify differently a common material *substratum*, as for instance in the case of the mutual generation from white to black man. By contrast, the contrary qualities white and black can not mutually derive one from another.

I argue that, although H5's first paragraph especially deals with

337 Here I am just gathering a precious suggestion provided by F. Baghdassarian (forthcoming 2014) in her talk «*Métaphysique, H, 5: la génération des contraires et la matière*». The talk has been held at l'ENS de Lyon the 11thFebruary 2013. Truth be told, I owe to Fabienne Baghdassarian not only this suggestion, but also the general framework of H5 that she had cleverly supplied in that occasion.

the generation of contraries, its main aim actually consists, and once again, in showing the key role played by the notion of matter in generation. H5's following lines (1044b27-29) are evidence of this fact, since Aristotle says that:

“Nor has everything matter, but only those things which come to be and change into one another. Those things which, without ever being in course of changing, are or are not, have no matter”.

Here we find the opposition between “having or having not matter”, which we have at length shown as one of the recurrent ones in Book H. The opposition aims here at clearly distinguishing those things, which having γένεσις and μεταβολή, have matter³³⁸, from those things, as for instance the points and the forms described before, which having no μεταβολή, do not have matter³³⁹. In this sense, hence, we can argue, that the first paragraph of H5 (1044b21-29), where Aristotle tackles with the generation of contraries, is meant to accomplish H4's final list of things which have not a matter for generation³⁴⁰. Meanwhile, the key role of matter as underlying subject of physical changes is restated.

A further evidence that H5's first paragraph aims at underlining, once more, the centrality of the notion of matter for the whole enquiry of H is represented by what immediately follows in the chapter. For, Aristotle will deal first with the relation between matter and its contrary states and then with the role of matter in the processes of corruption. Thus, to sum up, we can argue that the discussion about the generation of contraries, which Aristotle leads in H5 1044b 21-29, serves as a sort of introduction for the two further arguments of the chapter. Unlike the first, in fact, the other two brief paragraphs of H5 mention immediately the notion

338 For similar claims see also Z8 1033b18-19 and Λ2 1069b3-9.

339 Here Aristotle refers to a strict use of the notion of ὕλη, regarding it as just the matter for generation and keeping out, for instance, the ὕλη τοπικήν mentioned at H1 1042b6 and at H4 1044b7-8.

340 Cf. §4

of ὕλη in the same formulation of their arguments. Such arguments concern two puzzles (ἀπορίαι) about matter³⁴¹.

At H5 1044b29-34 Aristotle asks:

“There is difficulty in the question how the matter of each thing is related to its contrary states. E.g. if the body is potentially healthy, and disease is contrary to health, is it potentially both? And is water potentially wine and vinegar? We answer that it is the matter of one in virtue of its positive state and its form, and of the other in virtue of the privation of its positive state and the corruption of it contrary to its nature”³⁴².

While in H5's first paragraph Aristotle aimed at showing the key role of matter as underlying subject for the changes between contraries, in this second paragraph he approaches the same relation within a dynamical framework. In fact, the puzzle concerns the way by which a certain matter is potentially both its contrary states³⁴³.

As a matter of fact, Aristotle quotes two examples which are not perfectly equivalent. While in the case of the body, which has the potentiality to be both healthy and ill, he refers to a qualitative change³⁴⁴, in the case of the water, which has the potentiality to be both wine and vinegar, he refers to a substantial change. Nevertheless, the puzzle concerns here the functional role of matter as underlying subject, independently from its being subject of different sorts of change. Such generic subjecthood can surely receive contrary states, as Aristotle clearly maintains

341 It must be remarked how from H5 1044b29 until the end of H6 Aristotle builds up his argument through the formulation of puzzles (ἀπορίαι). See H5 1044b29, b34; H6 1045a7, a25, 1045b8. This is a further evidence of the textual unity of H as a whole.

342 ἔχει δ' ἀπορίαν πῶς πρὸς τὰναντία ἡ ὕλη ἢ ἐκάστου ἔχει. οἶον εἰ τὸ σῶμα δυνάμει ὑγιεινόν, ἐναντίον δὲ νόσος ὑγεία, ἄρα ἄμφω δυνάμει; καὶ τὸ ὕδωρ δυνάμει οἶνος καὶ ὄξος; ἢ τοῦ μὲν καθ' ἕξιν καὶ κατὰ τὸ εἶδος ὕλη, τοῦ δὲ κατὰ στέρησιν καὶ φθορὰν τὴν παρὰ φύσιν;

343 On the principle according to which two contraries can belong just potentially, but not actually to the same thing see Γ5 1009a36.

344 This same example occurs in H1 1042a36-b1 as illustrating the case of qualitative changes. Such cross-reference as well confirms how H5's account strictly depends on that of H1. See also *On Generation and Corruption* I4 319b12-13.

in Iota 4 1055a29-30:

“And the things in the same receptive material which differ most are contrary; for the matter is the same for contraries (ἡ γὰρ ὕλη ἡ αὐτὴ τοῖς ἐναντίοις)”³⁴⁵.

Thus, we can easily regard the questions of 1044b30-32 as rhetorical, since it is clear that a) the body can become both healthy and sick; and b) the water can become both wine and vinegar³⁴⁶.

However, Aristotle seems here interested in differentiating from an evaluative viewpoint the contrary possibilities that a certain matter has to be actualized³⁴⁷. His argument, in fact, entails that health and wine are the positive (καθ' ἕξιν καὶ κατὰ τὸ εἶδος) actualizations of the potentiality of body and water, respectively, while disease and vinegar are their negative (κατὰ στέρησιν καὶ φθορὰν τὴν παρὰ φύσιν) correlatives (1044b32-34).

Now, some passages in the *Metaphysics* justify the idea that the contraries can be ordered by the notions of possession (ἕξιν) and privation (στέρησιν)³⁴⁸. Thus, it seems consistent that, in H5, when he deals with the relation between matter and its possible contrary ways of being actualized, Aristotle makes such remarks.

Nevertheless, while it is quite easy to understand in which sense health represents the positive state of the body³⁴⁹ and, correlatively, disease its negative one, the examples about water appear, at first glance, rather puzzling. Why does Aristotle think that wine is the positive state of water, while vinegar is its

345 For similar claims see also Λ2 1069b14-15 and Λ5 1071a10-11.

346 Similarly, D. Bostock (1994) p. 277, argues that: “It is not clear why Aristotle should here hesitate to say that the same matter, the body, is potentially both healthy and sick, and that the same matter, some liquid, is potentially both wine and vinegar. But apparently he overcomes this hesitation, accepting that the same matter is potentially both, while nevertheless wishing to mark a distinction in a different way”.

347 Far from being strange, this evaluative viewpoint on matter seems to be at work also in *On Generation and Corruption* I3 318b318b12-18.

348 See Δ10 1018a31-35, Iota 4 1055a33.

349 See Δ20 1022b12-14.

negative one?³⁵⁰.

Moreover, while it is clear why the privation of a healthy state for a body entails its disease, it is far from being clear why the privation of wine, regarded as the positive state of water, entails the occurring of vinegar. Evidently, several other liquids can be made out of water.

This puzzle can be solved keeping in mind the main difference between the two examples mentioned. While in the case of the body, the two contrary states – health and disease – refer directly to their common material substratum, in the case of the water, the state of privation represented by the vinegar occurs only if the water is first turned into its positive state: that is wine. In other words, the process which Aristotle is here describing entails two different steps: first the water must be actualized into the form of wine and then, being deprived of such form, it can be regarded as matter of vinegar.

Such reading of the puzzle seems to support the account of H1 1042b1-3 that I have provided in Part I of this work³⁵¹. In that context, dealing with the role of matter in substantial generation, Aristotle had argued that:

“in respect of substance there is something that is now being generated and again being destroyed, and now underlies the process as a ‘this’ and again underlies it as the privation of positive character”³⁵².

As I have shown above, the repetition of the structure νῦν-πάλιν at lines 1042b1-2 and b2-3 entails two temporal relations, which refer to different times in the generation of a substance. Both

350 For instance, D. Bostock (1994) pp. 277-78, provides a deflationary reading of this passage suggesting that: “evidently Aristotle is allowing himself to be influenced by the fact that he values wine more highly than he values vinegar, but it was a mistake on his part to suppose that this evaluation is some way justified by the “nature” of the items concerned”.

351 Cf. §1.4

352 ὁμοίως δὲ καὶ κατ’ οὐσίαν ὁ νῦν μὲν ἐν γενέσει πάλιν δ’ ἐν φθορᾷ, καὶ νῦν μὲν ὑποκείμενον ὡς τόδε τι πάλιν δ’ ὑποκείμενον ὡς κατὰ στέρησιν

against Ross's and Gill's readings³⁵³, I have argued that that the *now* which at b1 qualifies the time of the subject in generation and the *now* which at b2 qualifies the time of the subject as a *this*, each qualify a different time. While in the former case Aristotle refers to matter as the subject which becomes in generation, in the latter he refers to matter at the end of the process of generation and, thus, to the matter which, now having its own form, is a *this*. In the same way, the *again* which at b2 qualifies the time of the subject in destruction and the *again* which at b3 qualifies the time of the subject in respect of a privation of positive character, refer to two different periods of time. While the former refers to the matter which is in the process of destruction, the latter refers to the matter, which, having lost its own form, is a deprived subject. Hence, I argue that while in the first clause of 1042b1-2 Aristotle makes reference to the subjecthood of matter *during* the processes of generation and corruption, in the second clause of 1042b2-3 he makes reference to the *termini* of these processes, that is the matter as a subject informed and the matter as a subject deprived of form.

Now, when at H5 1044b31-34 Aristotle deals with the potentiality of water of being both wine and vinegar, he seems to exemplify this very same claims of H1. To say better, we can regard water as what:

- 1) being now *during* the process of generation, is just potentially something else;
- 2) being at the *end* of the process of generation, is something determinate according to its positive state, i.e. wine;
- 3) being again in the process of destruction is potentially something else;

353 For my critical remarks on both readings cf. §1.4

4) being finally deprived of its positive state, is matter of vinegar.

Obviously, Gill has provided a reading of this puzzle very far from mine, which strictly depends on her account of H1 1042b1-3. She interprets H5 1044b31-34 as follows:

“Aristotle's question should remind us of the passage we talked earlier from H1 (1042b1-3), but his point may be different in the two texts. In H1 he said that the item in generation is a subject as a this (*tode ti*), and the item in destruction is a subject deprived (*kata steresin*). The passages agree on the second item in the contrast, the subject in destruction. But Aristotle may be thinking two separate claims about the first item. Whereas H1 was talking about the *preexisting* matter, which is the subject in substantial generation, H5 could be talking about the *constituent* matter of the generated product. But whether H5 is talking about the preexisting or constituent matter, Aristotle's claim is that the matter is potential in virtue of the form of wine. This does nothing to soften the claim in H1: Even if water is potentially wine in virtue of the form of wine, it is also actually water”³⁵⁴.

As it is evident, in order to make consistent her account of the two passages, Gill needs to postulate two different references for the matter mentioned in H5. By contrast, thanks to my reading of H1 1042b1-3, it is likely that Aristotle here refers to one only sort of matter - the water - which has in itself both the potentiality of being wine and vinegar, but according to different principles. While it becomes wine according to its positive state and at the end of the process of generation, it becomes vinegar, according to the privation of such positive character. Hence, what H5's puzzle adds to H1's account, is just the description of substantial generation as teleologically oriented towards the positive state of matter. Anyway, the parallel between the two texts constitutes a further evidence of the theoretical dependance of H4-5 account on the second half of H1.

In the final section of H5 (1044b34-1045a6) Aristotle deals with a further puzzle (ἀπορία) concerning the processes of material derivation:

354 M.L. Gill (1996) p. 225.

“It is also hard to say why wine is not said to be the matter of vinegar nor potentially vinegar (though vinegar is produced from it), and why the living man is not said to be potentially dead. In fact they are not, but the corruptions in question are accidental, and it is the matter of the animal that is itself in virtue of its corruption the potency and matter of a corpse, and it is water that is the matter of vinegar. For the one comes from the other as night from day. And *all* things which change thus into one another must be reduced to their matter, e.g. if from a corpse is produced an animal, the corpse is first reduced to its matter, and only then becomes an animal; and vinegar is first reduced to water, and only then becomes wine”³⁵⁵.

Actually, the puzzle seems to concern two different processes. On the one hand, in lines 1044b34-1045a2 Aristotle asks why neither the wine is matter of the vinegar nor the animal is potentially the corpse. On the other hand, in lines 1045a3-6 he describes under which conditions an animal can be produced from a corpse and wine from vinegar. The claim at 1045a2-3, where Aristotle mentions the case of the occurring of night from day is meant to link the two arguments.

In the first argument, Aristotle distinguishes two concepts that nearly recall H4's distinction between material derivation and material composition³⁵⁶. He maintains that even if something derives from something else (γίγνεται ἐξ), this does not entail that the item from which the derivation starts is the matter and the potency (ύλη καὶ δύναμις) of the final product. Thus, although vinegar derives from wine and the corpse derives from the animal, neither wine is matter of vinegar nor the animal is matter of the corpse. Rather, both derivations are said to be “accidental corruptions” (κατὰ συμβεβηκὸς αἰ φθοραί). For, the potentiality of being a corpse does not belong to the living

355 ἀπορία δέ τις ἔστι καὶ διὰ τί ὁ οἶνος οὐχ ὕλη τοῦ ὄξους οὐδὲ δύναμις ὄξους (καίτοι γίγνεται ἐξ αὐτοῦ ὄξους) καὶ ὁ ζῶν δύναμις νεκρός. ἢ οὐ, ἀλλὰ κατὰ συμβεβηκὸς αἰ φθοραί, ἢ δὲ τοῦ ζῶντος ὕλη αὐτῆ κατὰ φθορὰν νεκροῦ δύναμις καὶ ὕλη, καὶ τὸ ὕδωρ ὄξους γίγνεται γὰρ ἐκ τούτων ὡσπερ ἐξ ἡμέρας νύξ. καὶ ὅσα δὴ οὕτω μεταβάλλει εἰς ἄλληλα, εἰς τὴν ὕλην δεῖ ἐπανελθεῖν, οἶον εἰ ἐκ νεκροῦ ζῶντος, εἰς τὴν ὕλην πρῶτον, εἴθ' οὕτω ζῶντος καὶ τὸ ὄξους εἰς ὕδωρ, εἴθ' οὕτως οἶνος.

356 Cf. §4

thing in itself, but rather to the matter of the animal “in virtue of its corruption” (ἡ ὕλη αὐτὴ κατὰ φθορὰν). In the same way, the potentiality of being vinegar does not belong to the wine in itself, but rather to the water “in virtue of its corruption”.

As it is evident, the formula “ἡ ὕλη αὐτὴ κατὰ φθορὰν” at 1045a1 reminds us to the analogous formula of 1044b33-34 “κατὰ στέρησιν καὶ φθορὰν τὴν παρὰ φύσιν”. Through such formula Aristotle had previously explained why matter was not only the potentiality of its positive state, but also of its privative one. Here he seems to restate the same principle by providing two complementary viewpoints on the production of a privative state:

- a) it comes from its positive state just accidentally;
- b) it comes actually from the corruption of its material substratum³⁵⁷.

In order to flesh out the puzzle, Aristotle makes a further parallel. For, he argues that both the derivation of the corpse from the animal and that of vinegar from wine are the same as the occurring of the day from night (γίγνεται γὰρ ἐκ τούτων ὥσπερ ἐξ ἡμέρας νύξ). All such processes are, indeed, said to be examples of reciprocal changes (ὅσα μεταβάλλει εἰς ἄλληλα).

Now, the sorts of corruption so far described in the chapter are not reciprocal, but rather irreversible, for this seems to be evident both in the production of vinegar from wine and in the derivation of the corpse from the animal. By contrast, the occurring of the day from night is not an irreversible process, since it entails the

357 As W.D. Ross (1924) pp. 236-37 outlines: “the chapter indicates three ways in which A may change into B: (1) καθ’ ἕξιν καὶ κατὰ τὸ εἶδος, as water into wine, (2) κατὰ στέρησιν καὶ φθορὰν τὴν παρὰ φύσιν, as water into vinegar, (3) κατὰ συμβεβηκός, as wine into vinegar”. However, as we have seen, (2) and (3) can be regarded as describing the same process from different viewpoints.

reciprocal occurring of the night from day.

The reason why Aristotle quotes here the example of such mutual change can be found out, once again, in the general framework of H4-5. Namely, within the in-depth analysis of the role of matter in generation and corruption that these chapters supply. As in the cases above-mentioned, in fact, also in the case of the occurring of the night from day there is a matter that underlies this change. A clear evidence of this occurs in Λ4 1070b21, where Aristotle explains that the matter of day and night is the air³⁵⁸. This entails that even if day and night come the one from the other, the air is the underlying matter which allows their reciprocal occurring.

Moreover, Aristotle refers to the mutual change of day and night in order to introduce the last sort of possible derivation. Namely, the generation of the animal from the corpse and that of the wine from vinegar. As it is clear, such sort of generation concerns the derivation of a positive state from its privative one. Aristotle denies the possibility that the animal can derive directly from the corpse and, accordingly, that wine can derive directly from vinegar. Rather, the corpse must first be reduced into its matter³⁵⁹, in order to become then an animal and vinegar must first be reduced into water, in order to become then wine. As I have argued above, this argument elucidates the distinction between the two main sorts of material derivation described at H4 1044a23-25³⁶⁰. In that place Aristotle had stated that:

“one thing comes from another in two senses, either because it will be found at a later stage of development, or because it is produced if the other is analysed into its original constituents”.

Both the examples of H5's last paragraph clarify the second sort

358 φῶς σκότος ἀήρ. ἐκ δὲ τούτων ἡμέρα καὶ νύξ. This same example occurs also in Δ24 1023b5-6, where, however, Aristotle does not mention the role played by the air.

359 Aristotle does not specify in the text which particular material element he is here referring to.

360 Cf. §4

of derivation. The parallel with H4's distinction is revealed by the reference to the formula “εἰς τὴν ὕλην ἐπανελθεῖν” at 1045a4, which nearly recalls the analogous formulae of H4: ἀναλύεσθαι εἰς τὴν πρώτην ὕλην (1044a22-23) and ἀναλυθέντος εἰς τὴν ἀρχήν (1044a24-25). As we already know, such formulae were meant to describe the process of derivation of the phlegm from bile. In H4 Aristotle explained how it were possible to regard the phlegm as deriving from bile as long as the bile was first resolved into the original material element shared by phlegm too³⁶¹. In H5 Aristotle applies the same model of explication to the derivation of a positive state of matter from its privative one.

We can now sum up the main results that turn out from the analysis of H4-5.

These chapters mainly depend on the positive account of matter that Aristotle provides us with in the second half of H1 (1042a24-b8). In that context he had dealt with the substancehood of matter, by showing its key role of underlying subject in every physical change. Such perspective is developed in H4-5, where Aristotle supplies several remarks both on the inner material structure of something and on the role played by matter in the processes of generation and corruption. While H4 tackles with the relation between matter and causes, H5 tackles with the relation between matter and contrary states. Both researches fit well with H's general framework, since they both deal with the relation between matter and explanation.

After analysing H4-5, it must be remarked that the question about how to understand matter's way of being does not occur as such only in Z17. In this sense H4-5, far from being miscellaneous chapters fit perfectly with the text of A3 983b6-11, where Aristotle presents the ontology of naturalist philosophers

361 Cf. §4

as follows:

“Of the first philosophers, most thought the principles which were of the nature of matter were the only principles of all things; that of which all things that are consist (ἐξ οὗ), and from which they first come to be (ἐξ οὗ γίγνεται πρώτου), and into which they are finally resolved (εἰς ὃ φθείρεται τελευταῖον) (the substance remaining, but changing in its modifications), this they say is the element and the principle of things”.

Here it is clearly stated how the materialistic approach to the question of being acknowledges to the notion of matter three decisive features: its being a) that of which all things consist; b) that from which they firstly derive; c) that into which they are finally resolved.

Now I argue that in H4-5 Aristotle provides an in-depth analysis of the οὐσία ὑλική in order to show his own account of these three features: a) derivation; b) composition; c) final resolution. While H4 is mainly concerned with a) and b), H5) approaches also c).

However, as I have tried to show above, Aristotle deals with these three points within H's more general framework. Such a framework entails that *matter* is *explained* through the dynamic understanding of hylomorphism. In H4, through the concept of οἰκεία ὕλη, Aristotle aims at establishing the conditions of dispositional appropriateness that a certain matter must reveal for composing a determinate object. In H5, instead, he deals with the potential determinateness of matter through the polarity expressed by the notions of possess (ἔξις) and privation (στέρησις) of form. As it results clear, such a polarity gives a teleological content to the notion of determinateness.

Finally, it is noteworthy that the in-depth analysis of the “material substance”, which Aristotle develops in H4-5, begins with a clear reference to the primary matter(s) of derivation (ἐκ

τοῦ αὐτοῦ πάντα πρώτου ἢ τῶν αὐτῶν ὡς πρώτων)³⁶²
and ends with the same matter as subject of final resolution (εἰς
τὴν ὕλην πρώτον). Now, neither the primary matter from
which a generation starts nor the primary matter into which a
corruption ends can be mentioned in the definition of a
composite being. By contrast, only the “proper matter” can be
consistently mentioned. This evidence provides me with the
possibility of making a final provocative question.

Is it so unlikely that in H3 1043b30, the formula ἐξ ὧν δ’ αὕτη
πρώτων refers to the undefinability of the matter from which
the generation of a composite starts³⁶³?

362 H4 1044a16.

363 I have made this suggestion in §3.4

CONCLUSION

§H6: Matter and Unity

In the opening claim of H6 Aristotle recalls explicitly the main argument of H3's last paragraph (1043b32-1044a11):

“To return to the difficulty which has been stated with respect to definitions and numbers, what is the cause of the unity of each of them?”³⁶⁴.

Now in the ending paragraph of H3 Aristotle provides an account that somewhat concerns the unity of numbers and definitions. Here I do not aim at supplying an accurate analysis of that paragraph. Rather, I will select its main outcomes in order to establish to what extent they can shed some substantial light on H6's train of thought.

For this reason I am now reporting the whole text of H3 1043b32-1044a14:

“It is also obvious that, if all substances are in a sense numbers, they are so in this sense and not, as some say as *composed*³⁶⁵ of units. For definition is a sort of number; for it is divisible, and into indivisible parts (for definitory formulae are not infinite), and number also is of this nature. And as, when one of the parts of which a number consists has been taken from or added to the number, it is no longer the same number, but a different one, even if it is the very smallest part that has been taken away or added, so the definition and the essence will no longer remain when anything has been taken away or added. And the number must have something in virtue of which it is one thing, while our opponents cannot say if it is one (for either it is not one but a sort of heap, or if it is, we ought to say what it is that makes one out of many); and the definition is one, but similarly they cannot say what makes *it* one. And this is natural; for the same reason is applicable, and substance is one in the sense which we have

364 H6 1045a7-8: Περὶ δὲ τῆς ἀπορίας τῆς εἰρημένης περὶ τε τοὺς ὀρισμούς καὶ περὶ τοὺς ἀριθμούς, τί αἴτιον τοῦ ἓν εἶναι;

365 Here my translation of οὐχ ὥς τινες λέγουσι μονάδων (1043b33) differs from that of Ross: “numbers of units”. As it will appear clear in the following, this formula must be, in fact, referred to the parallel one in Z13 1039a12: ὁ ἀριθμὸς σύνθεσις μονάδων, which the same Ross translates with “synthesis of units”.

explained, and not, as some say, by being a sort of unit or point; each is a complete reality and a definite nature. And as number does not admit of the more and the less, neither does substance, in the sense of form, but if any substance does, it is only the substance which involves matter”³⁶⁶.

The whole argument of these lines mainly depends on the institution of some analogies among the notions of substance, number and definition. As a matter of fact, Aristotle does not seem to provide here any new answer to the questions he roughly sketches out. Rather, he seems to recall some outcomes elsewhere reached, and concerning the problem(s) of unity especially. I preliminary argue that this same reading can be applied to the text of H6.

Some scholars have approached the final paragraph of H3 as somewhat related to the enquiry on the substancehood of mathematical objects, which Aristotle develops in *Metaphysics* M³⁶⁷. This should entail the presence of some technical uses of the concept of ἀριθμός that, however, do not seem to be at work in the text³⁶⁸. By contrast, some other scholars rightly observe

366 φανερόν δὲ καὶ διότι, εἴπερ εἰσὶ πῶς ἀριθμοὶ αἱ οὐσίαι, οὕτως εἰσὶ καὶ οὐχ ὡς τινες λέγουσι μονάδων· ὁ τε γὰρ ὁρισμὸς ἀριθμὸς τις· διαιρετός τε γὰρ καὶ εἰς ἀδιαίρετα (οὐ γὰρ ἄπειροι οἱ λόγοι), καὶ ὁ ἀριθμὸς), καὶ ὁ ἀριθμὸς δὲ τοιοῦτον. καὶ ὡςπερ οὐδ’ ἀπ’ ἀριθμοῦ ἀφαιρεθέντος τινὸς ἢ προστεθέντος ἐξ ὧν ὁ ἀριθμὸς ἐστίν, οὐκέτι ὁ αὐτὸς ἀριθμὸς ἐστίν ἀλλ’ ἕτερος, κἂν τοῦλάχιστον ἀφαιρεθῇ ἢ προστεθῇ, οὕτως οὐδὲ ὁ ὁρισμὸς τὸ τί ἦν εἶναι οὐκέτι ἔσται ἀφαιρεθέντος τινὸς ἢ προστεθέντος. καὶ τὸν ἀριθμὸν δεῖ εἶναι τι ᾧ εἰς, ὃ νῦν οὐκ ἔχουσι λέγειν τίτιν εἶς, εἶς (ἢ γὰρ οὐκ ἔστιν ἀλλ’ οἶον σωρός, ἢ εἴπερ ἐστὶ, λεκτέον τί τὸ ποιοῦν ἐν ἐκ πολλῶν)· καὶ ὁ ὁρισμὸς εἶς, ὁμοίως δὲ οὐδὲ τοῦτον ἔχουσι λέγειν. καὶ τοῦτο εἰκότως συμβαίνει· τοῦ αὐτοῦ γὰρ λόγου, καὶ ἡ οὐσία ἐν οὕτως, ἀλλ’ οὐχ ὡς λέγουσιν τινες οἶον μονάς τις οὔσα ἢ στιγμή, ἀλλ’ ἐντελέχεια καὶ φύσις τις ἐκάστη. καὶ ὡςπερ οὐδὲ ὁ ἀριθμὸς ἔχει τὸ μᾶλλον καὶ ἧττον, οὐδ’ ἢ κατὰ τὸ εἶδος οὐσία, ἀλλ’ εἴπερ, ἢ μετὰ τῆς ὕλης.

367 W.D. Ross (1924) p.233; Londinenses (1984) p. 21.

368 In this sense the final summarizing lines of H3 1044a11-14 can be misleading: “Let this then suffice for an account of the generation and destruction of so-called substances—in what sense it is possible and in what sense impossible—and of the reduction of things to number”. For they seem refer to an alleged reduction of substances to numbers (εἰς τὸν ἀριθμὸν ἀναγωγῆ), of which there is no trace in the text. Moreover, the fact that they refer also to the generation and corruption of substances as if it were the other main argument of H3 allows us to treat these lines as spurious. See also §3.4

how the notion of number is in this context meant to show, analogically, the composite way of being of things and of definitions³⁶⁹. All the references to “numbers” must then be read: 1) as developing the main focus of H2-3 (namely, that on the material composition of something) and 2) as bringing forward H6's account of unity.

For these reasons I argue that the fifth paragraph of H3 must be read as depending on the claim which precedes it in the text. Namely, on what it is said at lines 1043b28-32:

“Therefore one kind of substance can be defined and formulated, i.e. the composite kind, whether it the object of sense or of reason; but the primary parts from which this derives cannot be defined, since a definitory formula predicates something of something, and one part of the definition must play the part of matter and the other that of form”.

I have already provided my reading of these lines in §3.4. Here I come back on them in order to show how they rule the final paragraph of H3 and H6's account of definition as well.

Aristotle shows how the definitional structure of a composite thing, whether its matter is sensible or intelligible³⁷⁰, mirrors its

369 D. Bostock (1994) p. 267; E.C Halper (2005) p. 170.

370 According to W.D. Ross (1924) p. 233 the reference to the intelligible (νοητῆ) matter of the composite (1043b30) should be read as expressing H6's account of the genus of a form regarded as its matter. However, although it is quite plain that for Aristotle the genus can be regarded as the matter of a definition, in those places where such an idea is expressed he does not make reference to the concept of “intelligible matter”. See, for instance, *Metaphysics* Δ29 1024b8-9, Z12 1038a6, Iota8 1058a1. On the contrary, where Aristotle refers to the notion of “intelligible matter”, in opposition to the notion of “sensible matter”, he always points out that this is the matter proper of the mathematical objects. See Z10 1036a9-12, but also the same lines of H6 1045b33-35, where as example of ὕλη νοητῆ Aristotle quotes the case of “figure” in the definition of circle as “plain figure”(σχημα ἐπίπεδον). Thus, I believe that the reference to the composite which is “object of reason”, at line 1043b30, must be read as recalling the parallel formulation at Z10 1036a2-8, where it is said that: “when we come to the concrete thing, e.g. *this* circle, i.e. one of the individual circles, whether sensible or intelligible (I mean by intelligible circles the mathematical, and by sensible circles those of bronze and of wood), of these there is no definition but they are known by the aid of thought or perception; and when they go out of our actual consciousness it is not clear whether they exist or not; but they are always stated and recognized by means of the universal formula”. It is likely, hence, that in

ontological composition, namely its being a composite of matter and form. Now, both in the ending paragraph of H3 and in the whole text of H6 Aristotle aims at stating under which conditions both the ontological and definitional structure of a composite being can be read as a unity.

Thus, the claim at H3 1043b32-34, where Aristotle regards as obvious (φανερὸν) that if all substances are in a sense numbers (πῶς³⁷¹ ἀριθμοὶ), they are so in this sense (οὕτως) and not, as “composed of units” (οὐχ ὡς μονάδων), must be read as follows.

Substances are in a sense numbers, since they too share the feature to be composed of parts: matter and form. However, the hylomorphic composition must not be conceived as if it were a sum of separate units. Aristotle is here taking for granted two points. First he recalls the main result of what has been shown in Z13 1039a3-14:

“that a substance cannot consist of substances present in it actually (for things that are thus actually two are never actually one, though if they are *potentially* two, they can be one, e.g. the double line consists of two halves—potentially; for the *actualization* of the halves divides them from one another; therefore if the substance is one, it will not consist of substances present in it); and according to the argument which Democritus states rightly; he says one thing cannot come from two nor two from one; for he identifies his indivisible magnitudes with substances. It is clear therefore that the same will hold good of number, if number is a synthesis of units, as is said by some; for two is either not one, or there is no unit present in it actually”.

This text shows clearly how it is not possible for a substance to be composed of two or more substances in actuality. For, in this way, the substance would not be one. This means, that unlike the

H3 Aristotle aims at showing how it is possible to give the λόγος οριστικὸς of objects such as mathematical circles once they are regarded in their universal aspect. Similar conclusions can be gained through the analysis of H6 1045b33-35.

371 The reference to πῶς is evidence of the fact that Aristotle is not here concerned with a technical use of the notion of “number”, but just with an analogical one (“number as composed of units”).

Platonic Forms, which are separate things of which one only thing should come out (as, for instance, in the above mentioned case of “man” as composed of both “Animal” and “Biped” regarded as separate Forms³⁷²), matter and form are not distinct items (or units) within the ontological structure of a substance. Here Aristotle takes for granted, evidently, the idea, shown at length in H2, that matter and form can be understood in their dynamic relation, namely as potentiality and actuality, respectively. I argue that the main aim of H6 is to prove how the doctrine of hylomorphism, unlike the Platonic doctrine of Forms, does not threaten the unitary structure of both things and definitions. To put the same question differently, Aristotle aims at showing how its notion of composition is compatible with the “unity requirement” of its epistemology. With the formula “unity requirement” I refer to those places where Aristotle maintains that the definitional structure must be unitary³⁷³.

However, since the composition of matter and form is something real (namely, it is the fundamental physical relation in the sublunar realm) the unity requirement must be consistent with the double reference to matter and form as different items. I argue that this point is on the background of the analogy stated in H3 1043b34-36 between the divisibility of both definitions and numbers:

“For definition is a sort of number; for it is divisible, and into indivisible parts (for definitory formulae are not infinite), and number also is of this nature”.

Here Aristotle underlines how, although we must seek for the unity of definitions (which we know to be composed of matter and form), still, a definition is divisible into its own parts: matter and form. The analogy with the number, hence, is here meant to show how the unity requirement must somewhat coexist with the

³⁷² See H3 1043b10.

³⁷³ See, for instance, Z4 1030a6-11; Z12 1037b24-27; H6 1045a12-13.

complex structure which both numbers and definitions reveal.

The third analogy, which Aristotle makes in lines 1043b36-1044a2, concerns the loss of identity of both numbers and definitions once some parts are subtracted or added:

“when one of the parts of which a number consists has been taken from or added to the number, it is no longer the same number, but a different one, even if it is the very smallest part that has been taken away or added, so the definition and the essence will no longer remain when anything has been taken away or added”.

Here the reference to those parts which are ἀφαιρεθέντος ἢ προστεθέντος remind us of chapter 27 of *Metaphysics* Δ, where Aristotle presents us the meaning of the notion of κολοβόν (“to be mutilated”):

“It is not any chance quantitative thing that can be said to be mutilated; it must be both divisible and a whole (μεριστόν καὶ ὅλον). For two is not mutilated if one of the two ones is taken away (ἀφαιρουμένου) (for the part removed by mutilation is never equal to the remainder), nor in general is any number thus mutilated; for it is also necessary that the substance remain; if a cup is mutilated, it must still be a cup; but the number is no longer the same. Further, even if things consist of unlike parts, not even these things can all be said to be mutilated, for in a sense a number has unlike parts, e.g. two and three”³⁷⁴.

This passage clarifies that a certain number does not remain the same if one of its units is subtracted, or (as it seems possible to infer) if a further unity is added to it. Accordingly, not even definition, which is made out of parts, remains the same if one of its items is subtracted, or if a further item is added.

Finally, in H3 1044a2-11 Aristotle moves to the question about the “cause of unity” of those things (such as, for instance, numbers and definitions) which are composed of parts:

“And the number must have something in virtue of which it is one thing, while our opponents cannot say if it is one (for either it is not one but a sort of heap (σωρός), or if it is, we ought to say what it is that makes one out of many (ἐν ἐκ πολλῶν); and the definition is one, but similarly they cannot say what makes *it*

374 Δ27 1024a11-18.

one. And this is natural; for the same reason is applicable, and substance is one in the sense which we have explained, and not, as some say, by being a sort of unit or point (μονάς τις οὔσα ἢ στιγμή); each is a complete reality and a definite nature (ἐντελέχεια καὶ φύσις τις ἐκάστη). And as number does not admit of the more and the less, neither does substance, in the sense of form, but if any substance does, it is only the substance which involves matter”.

As I shall try to prove in the following, in these lines of H3 Aristotle compresses the main arguments that he develops in H6.

1) he argues that his opponents (veritably the Platonists, whose theories will be challenged in H6) are not able to explain how the number and the definition are one as a whole, rather than as a mere heap of distinct entities (1044a4);

2) the main explanatory problem concerns, hence, the solution of the uni-multiplicity puzzle (1044a5);

3) the reason why the Platonists can not provide a unitary account of definition depends on the fact that they can not provide a unitary account of substance (1044a7);

4) this means that the compositional puzzle about definition can be solved only if the ontological puzzle concerning the composition of matter and form is previously solved (namely, the unity of definition is parasitic on the unity of the object it defines);

5) while the Platonic understanding of Forms as separate ends up with regarding them as sorts of units or points (1044a8), the Aristotelian notion of substance as form is one insofar as it is “an actuality and a definite nature” (1044a9).

All these points are on the background of H6 and, especially, they rule H6's argument from 1045a7 to 1045a29.

Let us move then to the analysis of this argument.

The first paragraph of H6 (1045a7-14) has mainly an introductory role:

“To return to the difficulty which has been stated with respect to definitions and numbers, what is the cause of the unity of each of

them? In the case of all things which have several parts and in which the whole is not, as it were, a mere heap, but the totality is something besides the parts, there is a cause of unity; for as regards bodies³⁷⁵ contact is the cause in some cases, and in others viscosity or some other such quality. And a definition is a formula which is one not by being connected together, like the *Iliad*, but by dealing with one object³⁷⁶.

After recalling explicitly the argument at the core of H3's fifth paragraph (the search for the unity of definitions and numbers), Aristotle states which focus H6's search will firstly have. It consists in providing a final account of the uni-multiplicity puzzle, for what concerns both things and definitions. Both things and definitions, in fact, have parts (μέρη ἔχουσιν).

The main premise of this argument is the same of Z17 1041b11-33, where Aristotle has asked how to understand the unity of a composite being as providing a whole rather than a heap³⁷⁷. As I have shown at length, Z17's search for “the cause by reason of which a certain matter is some definite thing” represents the theoretical background of Book H as a whole. Thus, we can conclude that, being H6 the final chapter of H, it provides us with “the finishing touch” of ZH³⁷⁸ within the theoretical framework defined from Z17.

As we know, this framework roughly consists in fleshing out the relation between matter and explanation. While in H2-3 Aristotle deals with such a relation by showing how matter can be consistently arranged in a composite being, in H4-5 he deals with the relation between matter and explanation by showing the role

375 Here I prefer a more literal translation of ἐν τοῖς σώμασι (1045a11) from the one given by Ross: “material things”. For, it is likely that Aristotle is here recalling the enquiry of H2 on the differences of a physical body.

376 Περί δὲ τῆς ἀπορίας τῆς εἰρημένης περὶ τε τοὺς ὀρισμοὺς καὶ περὶ τοὺς ἀριθμοὺς, τί αἴτιον τοῦ ἕν εἶναι; πάντων γὰρ ὅσα πλείω μέρη ἔχει καὶ μὴ ἔστιν οἶον σωρὸς τὸ πᾶν ἀλλ' ἔστι τι τὸ ὅλον παρὰ τὰ μόρια, ἔστι τι αἴτιον, ἐπεὶ καὶ ἐν τοῖς σώμασι τοῖς μὲν ἀφῆ αἰτία τοῦ ἕν εἶναι τοῖς δὲ γλισχρότης ἢ τι πάθος ἕτερον τοιοῦτον. ὁ δ' ὀρισμὸς λόγος ἐστὶν εἰς οὐ συνδέσμων καθάπερ ἡ Ἰλιάς ἀλλὰ τῶ ἑνὸς εἶναι.

377 Cf. Z17 1041b11-12 with H6 1045a8-10.

378 See H1 1042a1-2. §1.1

of matter in the processes of generation and corruption. Finally, in H6 Aristotle seeks for those conditions under which the fact for something of “having matter” (accordingly with the starting claim of H's analysis³⁷⁹) does not threaten either the unity of its being or the unity of its definition.

After recalling the main theme of H3's final paragraph (1045a7-8), and after reminding us that the unity we are seeking for is that stated at the end of Z17, namely the unity as whole (1045a8-10), in H6 1045a10-12, Aristotle says that:

“as regards bodies contact is the cause in some cases, and in others viscosity or some other such quality”.

Far from being trivial, this claim clearly refers to H2's enquiry on the various kinds of differences that determine the being in actuality of a physical body³⁸⁰. The main evidence of this is given by the two mentioned types of differences: “contact” (ἄφῆ) and “viscosity” (γλισχρότης). Both cases refer to the group of differences which in H2 1042b21 Aristotle has headed with the title of “sensible affections”. In my analysis of that section of the text I have shown how these differences recall the enquiry on physical bodies of *On Generation and Corruption*. In particular, the couples of differences “hardness and softness” and “dryness and wetness”, which are mentioned in H2 1042b22-23, are said to be “contraries correlative to contact” (ἐναντιώσεις κατὰ τὴν ἀφῆν) in *On Generation and Corruption* II2³⁸¹. In H6 Aristotle quotes implicitly the same differences by referring to their common genus: “contact”. Moreover, the example of “viscosity”, which is not mentioned in H2, occurs in the same passage of *On Generation and Corruption* as further case of primary difference relative to “contact”³⁸². In H6 such cases are quoted in order to restate that we have to seek for the cause of

379 See H1 1042a24-25. §1.4

380 See §2.2

381 See 329b14-20.

382 See II2 329b20

unity at every degree of material composition. This confirms, once again, the textual and theoretical unity of Book H as a whole. Moreover, the fact that in the opening lines of H6 (1045a7-12) Aristotle first recalls H3, then Z17, and finally H2, shows immediately one of the main features of the whole chapter. The conclusive position of H6, in fact, does not depend on its being a *resolving* chapter, as scholars traditionally think³⁸³, but rather on its being a *summarizing* one³⁸⁴. In other words, I aim at showing how H6 concludes ZH not because it provides some new or decisive theories, but rather because it collects the main outcomes of the path developed all throughout the two Books.

In this sense my reading of the chapter can be regarded as deflationary. However, I attach a great importance to H6's text, since its "summarizing" character reveals a precise orientation. I argue that Aristotle's main goal in H6 is to show the explanatory power of hylomorphism, and of the doctrine of categories as well, over the Platonic doctrine of Forms³⁸⁵. While from 1045a12 to 1045a35 Aristotle shows the power of hylomorphism over the Platonic understanding of Forms as separate items, from 1045a36 to 1045b7 he shows the power of the doctrine of categories over the Platonic separation of the most universal predicates: "one" and "being". In both cases the reason why the Aristotelian explanatory models are more powerful is gained through the key distinction which goes through the whole Book H: the fact for something of having or having not matter³⁸⁶. The doctrine of hylomorphism shows its power over the Platonic account of Forms as separate insofar as it secures the unity of those things which "have matter" in their structure. The doctrine of categories, instead, shows its power over the Platonic account of

383 See, paradigmatically, R.Rorty (1973).

384 On this point I roughly agree with M.J. Loux (1995).

385 On this methodological approach I agree with V. Harte (1996).

386 See §1.4

Being and One as separate Forms insofar as it secures the unity and being of those things which have not matter in their structure. In this sense H6 seems to be the perfect conclusion of ZH, for it brings together the two main approaches to the question of substance: the categorial one (Z1-6) and the hylomorphic one (Z7-H6). At the end of ZH Aristotle makes a rough synthesis of the reasons why his own explanatory models win where the Platonic doctrine of Forms fails.

Once one takes on this general dialectical framework of H6, several unexpected conclusions come out. In particular, I aim at showing how the traditional reading of H6 as of that place where Aristotle somewhat relates the definitional unity of composite to the definitional unity of form must be substantially revised³⁸⁷.

The first reference to the issue about the unity of definition occurs at 1045a12-14, where Aristotle says that:

“And a definition is a formula which is one not by being connected together (οὐ συνδέσμῳ), like the *Iliad*, but by dealing with one object”.

Also in these lines Aristotle actually recalls some outcomes reached elsewhere. Through the example concerning the unity of *Iliad*, in fact, he reminds us the main conclusion of Z4's enquiry on those things which primarily have definition and essence³⁸⁸:

“this is evident, that definition and essence in the primary and simple (πρώτος καὶ ἀπλῶς) sense belong to substances. Still they belong to other things as well in a similar way, but not

387 As it will appear clear in the following, the two questions can be paired only for their common reference to the uni-multiplicity problem. The traditional reading is due to W.D. Ross (1924) p. 238: “the problem of H6 is that of the genus or ὕλη νοητή with differentia. Aristotle illustrates it by the more familiar notion of the unity of form with ὕλη αἰσθητή in e.g. a bronze ball, and then in 1.33 returns to the case of genus and differentia as sensible matter to form and may therefore be called intelligible matter”. Ross's analogical reading of H6 has been successful for many decades and scholars have generally accepted it. See, especially J. Owens (1951) p. 343; P. Aubenque (1962) p. 229; A.R. Lacey (1965) p. 63. Lately, even if through different ways of understanding it, Ross's idea that the unity of the definition of form is the main issue of H6 has been supported by V. Harte (1996); M.L. Gill (2010); E. Keeling (2012).

388 For a very helpful analysis of Z4 see, especially, M. Peramatzis (2010).

primarily (οὐ πρῶτος). For if we suppose this it does not follow that there is a definition of every word which means the same as any formula; it must mean the same as a particular kind of formula; and this condition is satisfied if it is a formula of something which is one (τοῦτο δὲ εἶναι ἑνὸς ἤ), not by continuity like the *Iliad* or the things that are one by being bound together (μὴ τῷ συνεχεῖ ὥσπερ ἡ Ἰλιάς ἢ ὅσα συνδέσμων), but in one of the main senses of ‘one’ (ἀλλ’ εἶναι ὁσαχῶς λέγεται τὸ εἶναι), which answer to the senses of ‘is’ (τὸ δ’ εἶναι λέγεται ὥσπερ τὸ εἶναι); now ‘that which is’ in one sense denotes an individual, in another a quantity, in another a quality. And so there can be a formula or definition of white man, but not in the sense in which (ἄλλο δὲ τρόπον) there is a definition either of white or of a substance”.

I argue that this text of Z4 can shed substantial light on the overall project of H6:

- 1) in H6 1045a12-14 Aristotle recalls Z4's conclusion in order to restate which is the main criterion for accepting as valid a definition: the unity of definition is parasitic on the unity of its *definiens*. Thus, as Aristotle says in H6, definition must refer to a unitary object (τῷ ἑνὸς εἶναι);
- 2) this criterion is primarily and simply (πρῶτος καὶ ἀπλῶς) satisfied by the unity of those items which fall under the different categories. Aristotle will develop this point in H6 1045a36-b7;
- 3) Both in Z4 and in H6 Aristotle quotes the example of *Iliad* as wrong type of definition. Z4 allows us to fill the gap which comes out from H6's overhasty reference. The kind of “connection” (συνδέσμων) which Aristotle alludes to in H6, for showing the weak unity of the definition *Iliad*, in Z4 is said to be just semantic: *Iliad* is a mere stipulated name that signifies the same as the epos of the *Iliad*;
- 4) Thus we must look for a stronger definitional unity that depends on the ontological unity of its *definiens*;
- 5) In the final lines of Z4 (1030b12-13) Aristotle sharply distinguishes the definitional unity of the primary entities which fall under each category from the definitional unity of accidental

composites (as “white man”), which, evidently, is neither primary (πρώτος) nor simple (ἀπλῶς).

I argue that in H6 Aristotle compares the ontological and definitional unity of the categorial objects with the ontological and definitional unity of a different sort of composite objects: the hylomorphic ones. Thus if in H6 any comparison between different kinds of unity occurs, it does not concern the unity of form and the unity of composite, but rather the unity secured by the doctrine of categories with the one secured by the doctrine of hylomorphism.

I argue that such a comparison represents the “internal” side of H6's enquiry. Namely, it concerns the inner consistence of the Aristotelian account. The “external” side, instead, concerns, as I have brought forward, the dialectic with Platonism.

Such a dialectic starts at lines 1045a14-20, where Aristotle poses some rhetorical questions:

“What then is it that makes man one; why is he one and not many, e.g. animal—biped, especially if there are, as some say, an ideal animal and an ideal biped? Why are not those Ideas the ideal man, so that men would exist by participation not in man, nor in one Idea, but in two, animal and biped? And in general man would be not one but more than one thing, animal and biped”³⁸⁹.

First of all Aristotle asks: what is the cause that makes “man” one, if, as the Platonists take on, there are an ideal animal and an ideal biped? (1045a14-17). As it is evident, these lines exemplify the principle above recalled that the unity of definition is parasitic to the unity of the definiens. The Platonic understanding of the genus “animal” and of the differentia “biped” as separate Forms threatens the unity of the form “man”.

Aristotle has dealt with this puzzle at length in Z12. As a matter

389 τί οὖν ἐστὶν ὃ ποιεῖ ἐν τὸν ἄνθρωπον, καὶ διὰ τί ἐν ἄλλ’ οὐ πολλά, οἷον τό τε ζῶον καὶ τὸ δίπουν, ἄλλως τε δὴ καὶ εἰ ἔστιν, ὥσπερ φασὶ τινες, αὐτό τι ζῶον καὶ αὐτὸ δίπουν; διὰ τί γὰρ οὐκ ἐκεῖνα αὐτὰ ὁ ἄνθρωπος ἐστὶ, καὶ ἔσονται κατὰ μέθεξιν οἱ ἄνθρωποι οὐκ ἀνθρώπου οὐδ’ ἑνός ἀλλὰ δυοῖν, ζώου καὶ δίποδος, καὶ ὅλως δὴ οὐκ ἂν εἴη ὁ ἄνθρωπος ἐν ἄλλὰ πλείω, ζῶον καὶ δίπουν;

of fact, an analogous formulation of the aporia occurs at the beginning of Z12:

“wherein consists the unity of that, the formula of which we call a definition, as for instance in the case of man, two-footed animal; for let this be the formula of man. Why, then, is this one, and not many, viz. animal *and* two-footed?”³⁹⁰

Later in the same chapter, Aristotle states, once again, the principle according to which the unity of definition depends on the unity of its *definiens*:

“But surely all the attributes in the definition *must* be one; for the definition is a single formula and a formula of substance, so that it must be a formula of some one thing; for substance means a ‘one’ and a ‘this’, as we maintain”.

Now, I argue that the uni-multiplicity puzzle which concerns the definition of a form such as “man” is already and, definitely, resolved in Z12. For this reason, I disagree with those scholars who read H6 as developing, or revising, that account³⁹¹.

In Z12 1038a19 Aristotle clearly maintains that:

“the *last* differentia will be the substance of the thing and its definition (ἡ τελευταία διαφορὰ ἡ οὐσία τοῦ πράγματος ἔσται καὶ ὁ ὀρισμός)”

The definitional unity of the “form” man, hence, is secured by the *differentia* which occurs at the end of the process of division³⁹²: “biped”.

In Z12, furthermore, Aristotle explains how to understand the mutual relation between the genus and the differentia which compose the definition of a form, arguing that:

“If then the genus absolutely does not exist apart from the species which it as genus includes, or if it exists but exists as

390 See Z12 1037b11-14.

391 See n.388. On this point I agree with E.C. Halper (1984) p.146, who argues that “these two chapters address different problems and solve them differently”. For a careful analysis of analogies and differences between the two chapters see also H. Steinfath (1996).

392 It must not be forgotten that for Aristotle the definition of the form “man” as composed of the genus “animal” and the differentia “biped” belongs to those kinds of definition “arising out of division” (τῶν κατὰ τὰς διαιρέσεις ὀρισμῶν). See Z12 1037b28-29.

matter (for the voice is genus and matter, but its differentiae make the species, i.e. the letters, out of it), clearly the definition is the formula which comprises the differentiae”³⁹³.

Here Aristotle seems to allude to his own understanding of the concepts of genus and differentia. The alleged problem of their mutual unity in the definition of form does not seem to need for any special solution, but rather for a mere clarification. Whether we understand the genus “animal” as not existing apart from its species, or we understand it as if it were the matter out of which some forms are made, genus and differentia do not threaten the unity of the definition of a form. Their relation is that between a determinant (the differentia) and a determinable (the genus as matter). Hence, I argue that if Aristotle actually supports any analogy between the definitional structure of a form and the hylomorphic structure of a composite being, he makes this in the above-mentioned passage of Z12. Namely, where he deals with the notion of genus as mirroring the determinability proper of the notion of matter³⁹⁴.

I argue that the analogy between the notions of genus and matter is not at work in H6. Rather, the uni-multiplicity puzzle which comes out in the definition of “man” as “biped animal” is such only for the Platonists, who understand the genus “animal” and the differentia “biped” as two separate Forms.

But, since the unity of definition is parasitic on the unity of its definiens, Aristotle's main aim in H6 is to show that the Platonists can not provide a unitary account of definition since they can not explain the cause of unity and being of each thing.

Once we take on this point, it is clear how Aristotle builds up the series of rhetorical questions in H6.

First, he starts asking how it is possible that animal and biped as distinct items give rise to a unitary definition, that of form “man”

393 Z12 1038a5-9.

394 For other places where Aristotle says that genus can be regarded as matter see *Metaphysics* Δ29 1024b8-9 and Iota8 1058a1.

(1045a14-17). Then, he shows how the Doctrine of Participation, which should solve this puzzle by securing the ontological unity of the definiens, fails, for it can not explain from an ontological viewpoint why “man” participates of one idea (“man”) rather than of two (“animal” and “biped”):

“Why are not those Ideas the ideal man, so that men would exist by participation not in man, nor in one Idea, but in two, animal and biped?”³⁹⁵.

The reference to the plural ἄνθρωποι at line 1045a18 aims at showing how the Platonic doctrine of Forms fails to explain also the generation of the particular composite substances³⁹⁶. This is why Aristotle will make reference to his own concept of “moving cause” in the following of H6. The last rhetorical question at lines 1045a19-20 is meant to generalize the rebuttal of the Platonic Doctrine of Forms, by showing how such an account can not solve the uni-multiplicity problem, from either a definitional or ontological viewpoint:

“And in general man would be not one but more than one thing, animal and biped?”

The key point of my reading consists in regarding all these questions as rhetorical, or, to put the same thing in a different way, as not waiting for a solution. They are meant to summarize the more extended criticism to the Platonic separation of Forms of Z12-15.

This entails a deflationary reading of what immediately follows in H6:

“Clearly, then, if people proceed thus in their usual manner of definition and speech, they cannot explain and solve the difficulty. But if, as we say, one element is matter and another is form, and one is potentially and the other actually, the question will no longer be thought a difficulty. For this difficulty is the same as would arise if ‘round bronze’ were the definition of cloak; for this name would be a sign of the definitory formula, so

³⁹⁵ 1045a17-19.

³⁹⁶ See E.C. Halper (2005) p. 181.

that the question is, what is the cause of the unity of round and bronze? The difficulty disappears, because the one is matter, the other form”³⁹⁷.

Here Aristotle aims mainly at contrasting two different ontological models: the Platonic doctrine of Forms and Participation on the one hand, and his own hylomorphism, on the other hand. When at line 1045a22 he says that the Platonists, “can not explain and solve the difficulty” (οὐκ ἐνδέχεται ἀποδοῦναι καὶ λῦσαι τὴν ἀπορίαν), he is not referring to a single aporia, but rather, following the reference to ὅλως at line 1045a19, to the general puzzle concerning uni-multiplicity. As a consequence, when at 1045a23-25, he argues that:

“But if, as we say, one element is matter and another is form, and one is potentially and the other actually, the question will no longer be thought a difficulty”

he is just presenting as clear as possible his hylomorphic model as it has been taken on all throughout Book H. Namely, in its dynamic meaning. In other words, when Aristotle says that hylomorphism solves the “aporia” he is arguing that the analysis of sensible substances into matter and form is not threatened by those uni-multiplicity puzzles which, on the contrary, jeopardize the power of the Platonic account of being. Far from applying the notions of matter as potentiality and form as actuality to the items which occur in the definition of “man” as “biped animal”, Aristotle is just concluding the theoretical path of ZH. His conclusion simply restates that the hylomorphic model does not fail to explain the unity of beings. To say it brutally, Aristotle shows the power of his immanentism over the Platonic

397 φανερόν δὴ ὅτι οὕτω μὲν μετιοῦσιν ὡς εἰώθασιν ὀρίζεσθαι καὶ λέγειν, οὐκ ἐνδέχεται ἀποδοῦναι καὶ λῦσαι τὴν ἀπορίαν· εἰ δ' ἐστίν, ὡσπερ λέγομεν, τὸ μὲν ὕλη τὸ δὲ μορφή, καὶ τὸ μὲν δυνάμει τὸ δὲ ἐνεργείᾳ, οὐκέτι ἀπορία δόξειεν ἂν εἶναι τὸ ζητούμενον. ἔστι γὰρ αὕτη ἡ ἀπορία ἢ αὕτη κἂν εἰ ὁ ὅρος εἴη ἱματίου στρογγύλος καλκός· εἴη γὰρ ἂν σημεῖον τοῦνομα τοῦτο τοῦ λόγου, ὥστε τὸ ζητούμενόν ἐστι τί αἴτιον τοῦ ἐν εἶναι τὸ στρογγύλον καὶ τὸν χαλκόν. οὐκέτι δὴ ἀπορία φαίνεται, ὅτι τὸ μὲν ὕλη τὸ δὲ μορφή.

transcendence. Insofar as matter and form are not two distinct items as the Platonic forms are, the uni-multiplicity aporia ceases to be such.

Hence, I argue that in H6 Aristotle does not apply the potentiality-actuality model, which explains the being of composite things, to the items of the definition of form. As a consequence, there is no reason to seek for a strong correspondence between the example of the form “man”, as composed of the genus “animal” and the differentia “biped,” and the example of the composite “round bronze” which Aristotle quotes at 1045a25-29:

“For this difficulty is the same as would arise if ‘round bronze’ were the definition of cloak; for this name would be a sign of the definitory formula, so that the question is, what is the cause of the unity of round and bronze? The difficulty disappears, because the one is matter, the other form”.

The main point is here to understand which relation of identity Aristotle is alluding to through the formula αὐτῆ ἢ ἀπορία ἢ αὐτῆ (1045a25). First, I believe that we must read the reference to “this aporia” (ἢ ἀπορία ἢ αὐτῆ) in the same way we have read the previous references at lines 22 and 25. Namely, as picking up the uni-multiplicity puzzle. Thus, the relation of identity (αὐτῆ), which is developed by means of the following example of “round bronze”, is meant to extend the uni-multiplicity puzzle to the composite beings. As it is clear from the beginning of H6, the unity of definition does not depend on the unity of the name which expresses it, but rather on the unity of the object defined.

This reading explains why Aristotle presents us the case of the composite “round bronze” as if it were the definition of “cloak”.

The word ἰμάτιον occurs, significantly, in Z4. That is, in the same context where the *Iliad* example as case of wrong definition occurs.

In Z4 1029b27-28 Aristotle assumes that “cloak” is the name which signifies the accidental composite “white man”:

“But since there are compounds of substance with the other categories (for there is a substrate for each category, e.g. for quality, quantity, time, place, and motion), we must inquire whether there is a formula of the essence of each of them, i.e. whether to these compounds also there belongs an essence, e.g. to white man. Let the compound be denoted by ‘cloak’”³⁹⁸.

The fact that Aristotle applies in H6 the name “cloak” to the hylomorphic composite “round bronze” confirms the hypothesis that in the final chapter of H he aims at comparing the unity of those items which fall under each category with the unity of the composites of matter and form.

This fact is a further evidence that Aristotle does not aim at explaining the unity of form through the unity of composite, or vice versa. Rather he is aiming at showing how also in the case of the material composites - the analysis of whose structure has been at the core of Book H – the unity of definition is parasitic on the ontological unity of the object defined. However, as in the case of the name *Iliad*, the name “cloak”, which is evidently conventional, is not sufficient for giving a unitary account of the composite “round bronze”.

Thus, accordingly with H's focus on the relation between matter and explanation, we must seek for that cause by reason of which the potentiality of the matter “bronze” is actualized into the composite being “round bronze”. Aristotle accomplishes this task in H6 1044a30-33, where he provides the only argument which can be read as “new”:

“What then is the cause of this—the reason why that which was potentially is actually,—what except, in the case of things which are generated, the agent? For there is no other reason why the potential sphere becomes actually a sphere, but this was the essence of either”³⁹⁹.

³⁹⁸ Z4 22-28.

³⁹⁹ τί οὖν τούτου αἴτιον, τοῦ τὸ δυνάμει ὄν ἐνεργείᾳ εἶναι, παρὰ τὸ ποιῆσαν, ἐν ὅσοις ἔστι γένεσις; οὐθὲν γὰρ ἔστιν αἴτιον ἕτερον τοῦ τὴν δυνάμει σφαῖραν ἐνεργείᾳ εἶναι σφαῖραν, ἀλλὰ τοῦτ' ἦν τὸ τί

In these lines Aristotle seems to maintain two contradictory claims. On the one hand, it argues that the unity of matter and form depends on the moving cause (τὸ ποιῆσαν), which is identified with the cause by reason of which the potentiality of bronze passes into the actuality of the bronze sphere. On the other hand, he argues that there is no cause by reason of which the potential sphere becomes actually a sphere apart from the essence which both share (τὸ τί ἦν εἶναι ἑκατέρω).

I argue that these two claims are not contradictory, for Aristotle aims at stating two different points⁴⁰⁰. While in the first statement (1045a30-31), accordingly with his own theory of becoming, he reminds us that in things subject to generation we must seek for the moving cause from which generation starts⁴⁰¹, in the second statement he aims at underlining how the dynamic relation

ἦν εἶναι ἑκατέρω.

400 In these lines it seems to emerge the puzzle concerning the so-called *explanatory* or *non explanatory* approach to the unity of composite beings. See D. Charles (1994), p.77, who, without supporting it, describes the non-explanatory approach as follows: “the unity of the particular composite substance is not itself explained by invoking a relation between matter and form, for that relation itself adverts to the unity of the particular composite substance (...) the matter and the form of a particular composite substance are only correctly describable as the matter and the form of that composite substance, and cannot exist save as the matter or the form of that composite substance”.

Later in the same paper (p. 79), Charles defines the explanatory approach as follows: “the explanatory approach, by contrast, is one in which at least one of the pair matter/form (or potentiality/ actuality) is taken to be independent of and prior to, the notion of a composite unified substance. Thus, for example, the type of matter or form (or both) of a human being is to be specified independently of their being the matter or form of the composite human being, and their principle of combination be stated without reference to their being elements in a unified composite substance.

The contrast between explanatory or non-explanatory approach to the question of being goes beyond H6's text. An accurate account of it would entail the references to several texts of the *corpus aristotelicum*. For a very helpful *status quaestionis* see G.Galluzzo-M.Mariani (2006) pp. 89-134.

401 See, paradigmatically, Z8 1033a24-27: “Since anything which is produced is produced by something (and this I call the starting-point of the production), and from something (and let this be taken to be not the privation but the matter; for the meanings we attach to these have already been distinguished), and since something is produced (and this is either a sphere or a circle or whatever else it may chance to be)”.

between potentiality and actuality is ruled by the same goal. On this point I find very helpful the remarks provided by David Charles:

“the essence in question is the actuality or shape, and this fixes both its own nature (what is to be that actuality) and that of matter which exists for the sake of that actuality. The matter, or potentiality, is what it is because it is the matter for this form or actuality”⁴⁰².

As I have brought forward, these lines can be regarded as the only ones in H6 where some new suggestions on the question of sensible substances come out. Aristotle seems to distinguish two different levels in the analysis of the passage from potentiality to actuality. On the one hand, the relation between potentiality and actuality is teleologically oriented by the notion of form as actuality. On the other hand, if the conditions of dispositional appropriateness of matter subsist, nothing lacks, for the passage from potentiality to actuality, apart from the action of the moving cause. I argue that these two points represent the real novelty of H6's text, for they bring forward, even if in rough terms, Θ7-8 analyses of the temporal and teleological conditions under which the passage from potentiality to actuality is possible.

Anyway, both these points, which will be refreshed in the final paragraph of H6 (1045b16-23), show why hylomorphism provides us with a unitary account of being. On the one hand, unlike the Platonic doctrine of Forms as separate entities, matter and form as potentiality and actuality secure the unity of a composite being insofar as, sharing the same essence, they are one thing. On the other hand, unlike the Doctrine of Participation, the moving cause explains the generation of composite beings without postulating the references to two distinct separate items. Thus, for what concerns both composition and generation, hylomorphism can provide that

402 See D. Charles (1994) p. 88.

unitary account which is condition for the unity of definitions.

The next argument of H6 concerns the comparison between the doctrine of categories on the one hand, and the Platonic understanding of the most universal predicates - “being” and “one”- as separate entities of which sensible things are said to participate.

This issue is introduced by the statement at lines 1045a33-35:

“Of matter some is the object of reason, some of sense, and part of the formula is always matter and part is actuality, e.g. the circle is a figure which is plane”⁴⁰³.

As it is evident these lines roughly recall what already said in H3 1043b28-32 and Z10 1036a9-12. For the third time in ZH, it is stated that “of matter some is intelligible (νοητή) and some sensible (αἰσθητή)”. Some scholars think that Aristotle is here spelling out the alleged main solution of the whole chapter, namely the understanding of the genus which occurs in the definition of a form as “matter”⁴⁰⁴. By contrast, I argue that Aristotle is just reminding us the main conclusion of H3 1043b 28-29, where he has shown how for the definitions of both mathematical and physical objects we have to mention their matter. The main evidence in favour of this reading is given by the geometrical example which is quoted in 1045b35: circle as “plane figure”. If Aristotle aims here at applying the notion of matter to that of genus, instead of restating the composite structure of the mathematical object, why does he not refer to the example of “man” as “biped animal”?

Furthermore, I argue that H6's distinction between sensible and intelligible matter is meant to introduce the following argument of the chapter. While in 1045a12-34 Aristotle aims at showing the explanatory power of hylomorphism over the Platonic

403 ἔστι δὲ τῆς ὕλης ἢ μὲν νοητὴ ἢ δ' αἰσθητή, καὶ αἰεὶ τοῦ λόγου τὸ μὲν ὕλη τὸ δὲ ἐνέργεια ἔστιν, οἷον ὁ κύκλος σχῆμα ἐπίπεδον

404 See, paradigmatically, Ross (1924) p. 238. For my critical remarks on this reading cf. n. 370.

understanding of Forms as separate, in 1045a36-b7 he aims at showing the explanatory power of the doctrine of categories over the Platonic separation of the most universal predicates: “one” and “being”. While in the former case Aristotle deals with the unity and being of those things which “have matter”, in the latter he deals with the unity and being of those things which “have not matter”⁴⁰⁵. Hence, I argue that Aristotle recalls the distinction between sensible and intelligible matter in H6 1045a33-35 in order to contrast the complex structure of those things which have matter, with the simple structure of those things which, as it is said in 1045a36, do not have either an intelligible or a sensible matter:

“But of the things which have no matter, either for reason or for sense, each is by its nature essentially a kind of unity, as it is essentially a kind of being—a ‘this’, a quality, or a quantity. And so neither ‘existent’ nor ‘one’ is present in definitions, and an essence is by its very nature a kind of unity as it is a kind of being. This is why none of these has any reason outside itself for being one, nor for being a kind of being; for each is by its nature a kind of being and a kind of unity, not as being in the genus ‘being’ or ‘one’ nor in the sense that being and unity can exist apart from particulars. Owing to the difficulty about unity some speak of participation, and raise the question, what is the cause of participation and what is it to participate”⁴⁰⁶.

I argue that with the formula ὅσα δὲ μὴ ἔχει ὕλην μήτε νοητὴν μήτε αἰσθητὴν Aristotle does not refer to the categories in itself but to the items which fall under each category (substance, quality, quantity and so on)⁴⁰⁷. The main evidence of this is given

405 Pace V. Harte (1996) pp. 289-90, who reads 1045a36b9 as the solution to the puzzle about the definitional unity of form raised in 1045a14-15 ff.

406 1045a36-b9: ὅσα δὲ μὴ ἔχει ὕλην μήτε νοητὴν μήτε αἰσθητὴν, εὐθύς ὅπερ ἓν τί [εἶναι] ἐστὶν ἕκαστον, ὡς περ καὶ ὅπερ ὄν τι, τὸ τόδε, τὸ ποιόν, τὸ ποσόν- διὸ καὶ οὐκ ἔνεστιν ἐν τοῖς ὀρισμοῖς οὔτε τὸ ὄν οὔτε τὸ ἓν-, καὶ τὸ τί ἦν εἶναι εὐθύς ἓν τί ἐστὶν ὡς περ καὶ ὄν τι- διὸ καὶ οὐκ ἔστιν ἕτερον τι αἴτιον τοῦ ἓν εἶναι οὐθενὶ τούτων οὐδὲ τοῦ ὄν τι εἶναι· εὐθύς γὰρ ἕκαστόν ἐστιν ὄν τι καὶ ἓν τι, οὐχ ὡς ἐν γένει τῶ ὄντι καὶ τῶ ἐνί, οὐδ’ ὡς χωριστῶν ὄντων παρὰ τὰ καθ’ ἕκαστα. διὰ ταύτην δὲ τὴν ἀπορίαν οἱ μὲν μέθεξις λέγουσι, καὶ αἴτιον τί τῆς μεθέξεως καὶ τί τὸ μετέχειν ἀποροῦσιν·

407 On this point I disagree with Ross (1924) p. 238, who identifies “those things which have no matter” with the categories in itself, namely regarded as *summa genera*.

by the dialectical framework of this paragraph. Aristotle is here challenging the Platonic understanding of the predicates “one” and “being” as separate genera of which particulars things (τὰ καθ’ ἕκαστα) should participate. As a matter of fact, also in this case Aristotle recalls some outcomes already reached. In particular, the challenge against the Platonic account of “one” and “being” as separate genera has been at the core of Z16.

In 1040b16-27, it is clearly stated how “one” and “being” are just the most universal predicates:

“Since the term ‘unity’ is used like the term ‘being’, and the substance of that which is one is one, and things whose substance is numerically one are numerically one, evidently neither unity nor being can be the substance of things, just as being an element or a principle cannot be the substance, but we seek *what* the principle is, that we may refer the thing to something more intelligible. Now of these things being and unity are more substantial than principle or element or cause, but not even the former are substance, since in general nothing that is common is substance; for substance does not belong to anything but to itself and to that which has it, of which it is the substance. Further, that which is one cannot be in many things at the same time, but that which is common is present in many things at the same time; so that clearly no universal exists apart from the individuals (παρὰ τὰ καθ’ ἕκαστα χωρίς)”.

In H6, however, Aristotle does not deal with the concepts of “one” and “being” in order to restate their status of universal predicates. Rather, he contrasts the account of unity and being given by the Platonists with his doctrine of categories.

As we have already shown, in Z4-6, where Aristotle tackles with the notion of substantial being within a categorial framework, he never mentions the notion of matter. Rather, he deals with the notion of essence in its logical-abstract meaning.

Thus, not only the explicit references to the categories of “substance”, “quality” and “quantity” at lines 1045b1-2, but also the reference to those things “which have neither intelligible nor sensible matter” allows us to distinguish sharply the aim of this

paragraph from the aim of the previous one. To put it simply, the challenge against the Platonic separation of the predicates “one” and “being” is not developed through the hylomorphic approach to the notion of substance, but through that different approach which regards substance by abstracting from matter. Such an approach is the categorial one and entails a different understanding of the unity and being of things. In H6 1045a30-33 Aristotle has accounted for the ontological and definitional unity of composite things by showing how matter and form - once dynamically understood as potentiality and actuality- are somewhat one because they share the same goal.

In H6 1045a36-b9, instead, he accounts for the ontological and definitional unity of beings apart from their hylomorphic composition and apart from their being generated. This is the reason why Aristotle claims that the categorial unity of things is of the εὐθύς type⁴⁰⁸. Such an adverb, which Ross translates with the formula “by its nature”, can also be translated with “immediately”. I argue that while the hylomorphic unity of the composites is somewhat subject to a process of mediation, namely to the action of the moving cause (which is responsible for the passage from the potential to the actual way of being of the composite) the categorial unity (and being) of things is immediate. The clearest evidence of this is given in Γ2 1004a4-5, where Aristotle says that “being falls immediately into genera” (ὑπάρχει γὰρ εὐθύς γένη ἔχον τὸ ὄν). Thus I argue that through the statement at line 1045a36-b1:

ὅσα δὲ μὴ ἔχει ὕλην μήτε νοητὴν μήτε αἰσθητήν, εὐθύς ὅπερ ἓν τί [εἴναί] ἐστὶν ἕκαστον, ὥσπερ καὶ ὅπερ ὄν τι, τὸ τόδε, τὸ ποῖόν, τὸ ποσόν

Aristotle refers to the immediate unity of those things (substances, qualities, quantities) which fall under each category. In H6 Aristotle deals with the immediate unity secured by the

408 See 1045a36,b3,b5.

categorical approach in order to challenge the Platonic doctrine of “one” and “being” as separate genera. Such a doctrine postulates, in fact, a mediate relation between particular things and their unity and being. Such mediate relation is obviously identified with the Platonic doctrine of Participation. However, as Aristotle states in H6 1045b9-16, both this doctrine and its cognates fail to be effective:

“Owing to the difficulty about unity some speak of participation, and raise the question, what is the cause of participation and what is it to participate question, what is the cause of participation and what is it to participate; and others speak of communion, as Lycophron says knowledge is a communion of knowing with the soul; and others say life is a composition or connexion of soul with body. Yet the same account applies to all cases; for being healthy will be either a communion or a connexion or a composition of soul and health, and the fact that the bronze is a triangle will be a composition of bronze and triangle, and the fact that a thing is white will be a composition of surface and whiteness”⁴⁰⁹.

The main reason why all such attempts fail is shown in the last paragraph of Book H (1045b17-23), where Aristotle recalls the main outcomes of H6's enquiry:

“The reason is that people look for a unifying formula, and a difference, between potentiality and actuality. But, as has been said, the proximate matter and the form are one and the same thing, the one potentially, the other actually. Therefore to ask the cause of their being one is like asking the cause of unity in general; for each thing is a unity, and the potential and the actual are somehow one. Therefore there is no other cause here unless there is something which caused the movement from potentiality into actuality. And all things which have *no* matter are *without qualification* essentially unities”⁴¹⁰.

409 διὰ ταύτην δὲ τὴν ἀπορίαν οἱ μὲν μέθεξιν λέγουσι, καὶ αἴτιον τί τῆς μεθέξεως καὶ τί τὸ μετέχειν ἀποροῦσιν· οἱ δὲ συνουσίαν [ψυχῆς], ὡς περ Λυκόφρων φησὶν εἶναι τὴν ἐπιστήμην τοῦ ἐπίστασθαι καὶ ψυχῆς· οἱ δὲ σύνθεσιν ἢ σύνδεσμον ψυχῆς σώματι τὸ ζῆν. καίτοι ὁ αὐτὸς λόγος ἐπὶ πάντων· καὶ γὰρ τὸ ὑγιαίνειν ἔσται ἢ συνουσία ἢ σύνδεσμος ἢ σύνθεσις ψυχῆς καὶ ὑγείας, καὶ τὸ τὸν χαλκὸν εἶναι τρίγωνον σύνθεσις χαλκοῦ καὶ τριγώνου, καὶ τὸ λευκὸν εἶναι σύνθεσις ἐπιφανείας καὶ λευκότητος.

410 αἴτιον δ' ὅτι δυνάμεως καὶ ἐντελεχείας ζητοῦσι λόγον ἐνοποιὸν καὶ διαφοράν. ἔστι δ', ὡς περ εἴρηται, ἡ ἐσχάτη ὕλη καὶ ἡ μορφή ταῦτό καὶ ἔν, δυνάμει, τὸ δὲ ἐνεργείᾳ, ὥστε ὅμοιον τὸ ζητεῖν τοῦ ἐνὸς τί αἴτιον καὶ τοῦ ἐν εἶναι· ἐν γὰρ τι ἕκαστον, καὶ τὸ δυνάμει καὶ τὸ ἐνεργείᾳ ἐν πῶς ἐστιν, ὥστε αἴτιον οὐθὲν ἄλλο πλὴν εἶ τι

Accordingly with my reading of H6, I argue that this summarizing lines present us two distinct arguments. Their distinction depends on the fact that Aristotle has dealt with the main issue of the chapter – the relation between matter and unity – moving from two different approaches. On the one hand, Aristotle has contrasted the unitary account provided by his hylomorphism with the Platonic understanding of forms as separate entities. Unlike the Platonic account, the dynamic understanding of matter and form secures the ontological and definitional unity of those things which “have matter” (ύλην ἔχουσιν) in their structure. On the other hand, Aristotle has contrasted the unitary account of his doctrine of categories with the Platonic understanding of the predicates “one” and “being” as separate genera. In this latter case Aristotle has dealt with those things which “have not matter” (ὅσα δὲ μὴ ἔχει ύλην).

These two approaches to the question of unity are recalled in H6 1045b17-23.

The first approach (A) is recalled in lines 1045b17-20, the second (B) is quickly recalled in the last line of the Book (1045b23).

(A) Aristotle argues that, unlike the theories which seek for an external cause of the unity, the potentiality-actuality model shows how matter and form are one and the same thing (ταύτὸ καὶ ἓν). The only difference between this claim and the parallel reasoning of H6 1045a31-33 is that now Aristotle defines matter as “proximate matter” (ἡ ἐσχάτη ύλη)⁴¹¹. It is likely that the notion of “proximate matter” coincides with the notion of “proper matter” (οἰκεία ύλη), whose search has been previously

ὡς κινήσαν ἐκ δυνάμεως εἰς ἐνέργειαν. ὅσα δὲ μὴ ἔχει ύλην, πάντα ἀπλῶς ὅπερ ἓν τι.
411 1045a18.

at the core of H4⁴¹². Aristotle seems here to refresh his previous claim about the essence as common to the potential and actual sphere (τὸ τί ἦν εἶναι ἐκατέρω). While he has first shown how the notion of form as actuality dictates the relation between potentiality and actuality, he now underlines how the conditions of dispositional appropriateness of a certain matter (its being proximate or proper) allow us to regard matter and form as the same thing. Thus, there is no reason to seek for a “unifying logos”. The reference to the formula λόγον ἐνοποιὸν at line 1045b17 is a further evidence of one of the main features of H's enquiry. I am here referring to the fact that all throughout H Aristotle seems to understand the relation between potentiality and actuality as if the biological relation between soul and body were taken for granted⁴¹³. For, the very same formula λόγον ἐνοποιὸν occurs in *On the Soul* 410b10-12:

“The problem might also be raised, What is that which unifies the elements (ἀπορήσειε δ' ἂν τις καὶ τί ποτ' ἐστὶ τὸ ἐνοποιῶν αὐτά)? The elements correspond, it would appear, to the matter; what unites them, whatever it is, is the supremely important factor. But it is impossible that there should be something superior to, and dominant over, the soul (and *a fortiori* over thought); it is reasonable to hold that thought is by nature most primordial and dominant, while their statement is that it is the elements which are first of all that is”.

However, even if Aristotle claims that to ask the cause of unity of proximate matter and form is like asking the cause of unity in general, in the end he qualifies their unity as of the πῶς type: the potential and the actual are *somehow* one (τὸ δυνάμει καὶ τὸ ἐνεργείᾳ ἓν πῶς ἐστὶν)⁴¹⁴.

At first glance, such a claim seems to deflate the power of the previous statement at 1045b18-19 according to which “proximate matter and form are one and the same thing”.

412 See H4 1044a17. For my remarks on this notion cf. §4

413 §1.6

414 1045b20-21.

It is clear that through the qualifier πῶς Aristotle aims at distinguishing the unity of the hylomorphic composite from the unity of those things which have not matter (B). In the ending line of 1045b23, in fact, he argues that: ὅσα δὲ μὴ ἔχει ὕλην, πάντα ἀπλῶς ὅπερ ἓν τι.

Which are those things which, having not matter, have a simple (ἀπλῶς) kind of unity?

The easiest way to regard this reference consists in recalling the distinction between the hylomorphic and the categorial approach to the question of being. However, before contrasting the πῶς unity of those things which have matter with the ἀπλῶς unity of those things which have no matter, Aristotle argues that:

“Therefore there is no other cause here unless there is something which caused the movement (ὡς κινῆσαν) from potentiality into actuality”.

Now if we take on that the πῶς unity belongs to things in reason of their having matter, we might conclude that:

- 1) even if the goal which the notion of actuality dictates on the notion of potentiality allows us to regard proximate matter and form as “one and the same thing”, yet, the passage from potentiality to actuality needs of a moving cause;
- 2) thus, the unity of matter and form can not be regarded as simple, namely as immediate;
- 3) this entails that those things which have no matter do not need a moving cause; being, then, simple and immediate unities.

Now the description that I have provided in 3) fits with H6's description of those items which fall under each category (1045a36-b7). For, the categorial approach to the question of substance abstracts from the notion of matter.

In this sense H6' final reference to those things which, having no matter, are absolutely one (ἀπλῶς ὅπερ ἓν τι), seems to provide the “final touch” to ZH that we are expecting for from

the beginning of H1⁴¹⁵. Since all throughout ZH Aristotle has dealt with the notion of substance both from a categorial (Z1-6) and a hylomorphic viewpoint (Z7-H6), he puts the finishing touch to the whole enquiry by distinguishing which different sorts of unity the two approaches provide.

However, as I have shown in §1.5 the hylomorphic approach to the question of substance is oriented towards the deduction of those substances which exist as separate. For instance, in the opening lines of Z17, which are on the background of H's enquiry, Aristotle says that:

“We should say what, and what sort of thing, substance is, taking another starting-point; for perhaps from this we shall get a clear view also of that substance which exists apart from sensible substances (περὶ ἐκείνης ἥτις κεχωρισμένη)”.

Now in Λ6 1071b12-22 Aristotle describes which features such substance should exhibit:

“But if there is something which is capable of moving things or acting on them, but is not actually doing so, there will not be movement; for that which has a capacity need not exercise it. Nothing, then, is gained even if we suppose eternal substances, as the believers in the Forms do, unless there is to be in them some principle which can cause movement; and even this is not enough, nor is another substance besides the Forms enough; for if it does not *act*, there will be no movement. Further, even if it acts, this will not be enough, if its substance is potentiality; for there will not be *eternal* movement; for that which is potentially may possibly not be. There must, then, be such a principle, whose very substance is actuality. Further, then, these substances must be without matter (ἄνευ ὕλης); for they must be eternal, at least if anything else is eternal. Therefore they must be actuality”.

Is it likely that, through H6's final reference to those things which have no matter, Aristotle is somewhat alluding to that substance which does not need a moving cause, but which is, rather, the prime mover?

415 See 1042a3-6.

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Résumé substantiel

Le titre de ma thèse est “Matter and Explanation. On Aristotle's *Metaphysics* Book H”. Le but de cette recherche est de montrer la profonde unité argumentative du livre H (livre VIII), considéré habituellement comme un ensemble d'appendices au livre Z, qui le précède.

Dans mon travail, conformément à la tendance dominante dans la littérature spécialisée des dernières années, je pars de l'indication donnée par M. Burnyeat dans “A Map of *Metaphysics* Z” (2001). D'après Burnyeat, H achèverait l'analyse de Z en développant le nouveau point de départ dans l'étude sur la substance établi dans le chapitre Z17. Dans ce texte, on considère la substance comme « principe et cause » et, par conséquent, on recherche « la cause pour laquelle la matière est quelque chose ». Cette indication a été utilisée jusqu'à présent pour voir en H l'endroit où ce principe serait appliqué. H aurait ainsi un rôle didactique, explicitant le principe méthodologique établi en Z17.

Dans mon travail, je vise à montrer que l'attitude d'Aristote à propos de la notion de substance ne se borne pas, dans le livre H, à une simple synthèse exposant des résultats préalablement acquis. J'estime, au contraire, qu'il procède à une révision profonde du statut de substantialité qui est celui de la matière, c'est-à-dire du sujet ontologique, dont il s'agit alors d'expliquer l'organisation. Cette révision concerne les critères de référence, utilisés dans Z, qui avaient différemment contribué à imposer une lecture déflationniste de la notion de $\psi\lambda\eta$.

Dans ce cadre un rôle décisif est joué par deux affirmations qu'ouvrent l'enquête du livre H après le résumé des principaux

arguments traités dans Z (H1 1042a3-24).

A les lignes 1042a24-26 Aristote affirme:

1) «Revenons maintenant aux substances sur lesquelles il y a accord: ce sont les substances sensibles. Les substances sensibles comportent toutes de la matière (ὑλην ἔχουσιν)».

Dans ma thèse je vise à montrer que dans le livre H Aristote aborde la structure ontologique des substances à partir de leur composition matérielle.

Ce point de départ de l'analyse implique une révision du caractère de détermination ontologique de la matière que Aristote nous présente à H1 1042a27-28 :

2) «j'appelle matière ce qui, sans être un ceci en acte, est un ceci un puissance»;

Ces deux affirmations soutiennent l'argumentation du livre H dans son ensemble.

D'un côté il s'agit de traiter la composition matérielle des substances sensibles par rapport à celles autres substances qui n'ont pas de matière dans leur structure ontologique. Cette comparaison concerne aussi bien celles entités qui n'ont pas une matière susceptible de changement substantiel, mais qui ont une matière susceptible des autres changements (H1 104b5-6, H4 1044b3-20), que celles entités qui n'ont pas matière absolument (H6 1045a33-b7; H6 1045b23).

De l'autre côté il s'agit de traiter aussi bien la composition que la génération des substances sensibles dans le cadre défini par les notions de matière et forme regardées dans leur signification dynamique, respectivement, comme puissance et acte. Ça veut dire comprendre le statut substantiel de la matière vers sa détermination, ou, autrement dit, vers l'actualisation des ses propriétés dispositionnelles intrinsèques.

Dans mon travail, je montre que cette dernière perspective de

recherche nous fournit le contenu du paradigme abstrait de Z17: la compréhension de la notion de substances dans son rôle causal-explicatif vient, donc, dans le cours du livre H, modélisé sur la relation entre puissance et acte dans les complexes biologiques. Dans ce cadre de référence j'analyse le relation entre éléments et différences comme principes de l'être que Aristote décrit dans le texte de H2 (1042b11-36).

En plus, aussi bien dans le texte de H2 que dans le texte de H3, Aristote affiche une structure définitionnelle où l'un élément correspond à la notion de matière comme puissance et l'autre à la notion de forme comme acte. Cependant, il montre dans H3 et plus diffusément dans H6 que le référence à deux éléments ne compromet pas l'unité de la définition, car elle dépende de l'unité ontologique assuré par la notion de forme comme acte (H3 1044a8-9).

Contrairement à la tendance diffusée dans la littérature spécialisée je ne lis pas les chapitres H4-H5 comme des appendices faiblement liées au projet général du livre H. Au contraire, la substantialité de la notion de ὕλη est abordée par rapport à son rôle dans la génération des substances sensibles (H4) et à son rôle dans leurs processus de corruption. Dans le deux cases il s'agit d'inscrire la notion de matière dans le cadre de sa détermination potentielle. Dans le chapitre 4 tout ça implique la distinction entre la matière remote et la matière propre (οἰκεία ὕλη) de chaque objet sensible. Dans le chapitre 5 tout ça implique la distinction entre la positivité (ἔξις) et la privation (στέρησις) naturelle que concerne chaque changement entre états contraires.

Les deux majeurs perspectives de recherche du livre H – composition matérielle et fonction de la matière dans les processus de la génération et de la corruption - sont finalement

réunies dans le conclusif chapitre 6 par rapporte au thème concernant la notion d'unité. H6 a été toujours abordé comme un chapitre isolé dans la structure de H. Au contraire, dans ma thèse je vise à montrer que ce chapitre est la conclusion attendue pas seulement de H mais plutôt de l'entière recherche sur la notion de substance dans le livres ZH.

En particulier, le but d'Aristote consiste en montrer que ses outils explicatifs (l'hylémorphisme et la doctrine des catégories) sont préférables à la doctrine Platonicienne des Idées. Cette comparaison a lieu dans H6 par rapport à la question de l'unité. D'un côté la compréhension dynamique et mutuelle de matière et forme comme puissance et acte permet d'assurer aussi bien l'unité ontologique que définitionnelle des substances composées. Par contre la doctrine Platonicienne des Idées semble impliquer une double référence ontologique à deux entités qui restent séparées. De l'autre côté la doctrine des catégories, avec laquelle Aristote aborde la question de substantialité sans faire référence à la notion de matière, assure l'être et l'unité immédiate sans postuler la séparation des prédicats universelles «Être» et «Un» comme dans la doctrine Platonicienne de la Participation.

Pour ces raisons ma thèse montre, par un commentaire détaillé des toutes les lignes de H, que ce livre ne représente pas une simple collection des appendices à Z, mais, au contraire, un endroit décisif pour comprendre l'entier projet de la *Métaphysique* d'Aristote.