Substance and Definition, Reality and Λόγος: *METAPHYSICS* ZH

by Sheilah O'Flynn Brennan

METAPHYSICS ZH presents a number of apparently inconsistent statements concerning substance and definition. The problem of what sort of thing is definable and what must be included in the definition is obviously an important one for Aristotle. Both books, indeed, are concerned almost as much with definition as they are with substance, and the question, what is substance?, appears to be intricately linked with questions concerning definition. The specific problem to be addressed in this article is the following: what precisely is the Aristotelian teaching concerning substance and definition in *Metaphysics* ZH? The thorniest chapters relating to this question are Z10 and 11 and H 6. Z 10 and 11, probably the most difficult chapters in the whole of ZH, appear to present a number of mutually inconsistent theses side by side and call for a more thorough study than they have generally been accorded. H 6, for its part, has given rise to the problem concerning whether or not the definitory genus designates matter in the strict sense. The greater part of the discussion, therefore, will concentrate on these chapters. However, since an understanding of the parts of the treatise presupposes some comprehension of the whole, the discussion of these sections will be preceded by a brief account of what I take to be Aristotle's intention in ZH along with some indication of how my view differs from that of other commentators. Because we are dealing with nothing less than the central topic of these books, this article, indeed, might well be regarded as an attempt to bring into clearer focus both the nature of Aristotle's question in ZH as well as the nature of his answer.

The Texts

Let us begin with a list of the principal passages in *Metaphysics* ZH in which Aristotle appears to be giving a direct answer to the questions concerning what sort of substance is definable and what the contents of the definition should be:[1]

T1: But is the matter an element even in the formula? We certainly describe in both ways what brazen circles are; we describe both the matter by saying that 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. (Z 7, 1033a1-4)

T2: These [the material parts: the segments of a circle and the bones, muscles, and flesh of a man] are parts of the concrete thing, but not also of the form, i.e., of that to which the formula refers; wherefore also they are not present in the formulae. (Z 10, 1035a19-20)

T3: In one kind of formula, then, the formula of such parts [the material parts] will be present. (Z 10, 1035a21)

T4: In another [kind of formula, the formula of the material parts] must not be present, where the formula does not refer to the concrete object. (Z 10, 1035a22)

T5: Only the parts of the form are parts of the formula, and the formula is of the universal. (Z 10, 1035b35)

T6: Definition is of the universal and of the form. (Z 11, 1036a29)

T7: To reduce all things thus to Forms and to eliminate matter is useless labour; for some things surely are a particular form in a particular matter, or particular things in a particular state. . . . An animal is something perceptible, and it is not possible to define it without reference to movement nor, therefore, without reference to the parts' being in a certain state. (Z 11, 1036b22-29).

T8: 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

[1] Unless otherwise indicated, all quotations are from the translation of Aristotle's ***Metaphysics*** by W. D. Ross.

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 . . .), but in the concrete substance, e.g. a snub nose or Callias, the matter also will be present. (Z 11, 1037a24-33)

T9: If then the genus absolutely does not exist apart from the species-of-a-genus, or if it exists but exists as 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. (Z 12, 1038a5-8)

T10: Clearly the last differentia will be the substance of the thing and its definition. . . . One differentia—the last—will be the form and the substance. (1038a19, 26)

T11: Therefore one kind of substance can be defined and formulated, i.e., the composite kind, whether it be perceptible or intelligible; but the primary parts of which this consists 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. (H 3, 1043b28-33)

T12: Of matter some is intelligible, some perceptible, and in a formula there is always an element of matter as well as one of actuality. (H6, 1045a34-35)

Even a cursory look at these texts brings to light what seems to be a number of inconsistent and, in some cases, even contradictory statements. We are told that:

1) Definition is (only) of the form.—T2 (which appears to be making an absolute statement)
2) Definition is only of the composite.—T11
3) Definition is of either the form or the composite.—T3 with T4, T8
4) Definition is of the universal.—T5, T6
5) Definition of the form includes only the parts of the form.—T2, T4, T8
6) Definition of the composite includes only the parts of the form.—T5 (the universal being a composite, cf. 1035b28-32), T9 along with T10 (where the definition is of the species man)
7) Definition of the composite includes matter as well as form.—T1, T3, T7
8) Definition always includes matter.—T12

This article will attempt to show that the texts concerning substance and definition are in fact reconcilable despite these apparent inconsistencies.

The Objective of ZH

To begin the discussion, let me set out very briefly, what, in my opinion, is the general thrust of ZH. Given the limitation of space, I cannot call upon all the evidence that the text affords to substantiate my view, but if the interpretation I suggest helps to reconcile the apparent inconsistencies concerning substance and definition, that will suffice for the purposes of this article.

It is clear from the text that Aristotle's intention in ZH is to answer the question, what is substance? But how precisely are we to understand this question? As I read the treatise, what he is asking is, what reality in his philosophy performs the role that belonged to the Ideas in the Platonic system? The Platonic Ideas were not only self-subsisting substances but the causes of changing sensible things and the objects of science. Aristotle in the *Categories* had long since laid it down that individual sensible things were substances in their own right as self-subsisting entities on which other things (accidents and secondary substances) depended, but, as the study of sensible substances progressed, it had become clear that they themselves were dependent on some more fundamental reality for both their status as substance and their scientific intelligibility. It is on this more basic reality or substance that Aristotle fixes his attention in ZH. The question is, then, what is the stable, *καθ' αὑτό* substance that is the cause of the being of changing sensible things and the object of natural science? Now, when Aristotle speaks of substance as object of science in ZH, for the most part he speaks in terms of definition. What reality, he is asking, does definition express and how are we to understand the correspondence between the λόγος and the reality? It is

chiefly with this aspect of the question that we shall be concerned in the present article.

What I take to be Aristotle's answer will be subjected to further study in the following sections. To put it very briefly, it consists, as I see it, in investigating four candidates to take the place of the Platonic Forms, all of them derived from his own philosophy, and all possible objects of science: the essence, the universal, the genus, and the substratum. Of these four, he shows that it is the Aristotelian essence (*τὸ τί ἦν εἶναι*) that is substance, and that it is substance in the sense of form (Z 4-11). He rejects the universal and the genus (Z 13-16), but the substratum he keeps (cf. H 1). (The question of how and in what sense the substratum is substance, however, is a topic for another article.)

But the problem, we have said, has to do, in large part, with substance *precisely as definable,* and thus Aristotle must work through the complexities that arise for definition from the character of Aristotelian form as distinct from the Platonic Form. As the principle of composite substance, form is without matter but essentially related to matter, it is one and not made up of substances, and it is other than the universal (the species or the genus). The chief questions that Aristotle must address, consequently, are the following: whether the definition does or does not include matter (Z 10 and 11); how we are to explain the unity of definition which, unlike the definable reality, is composite (Z 12, H 3 and 6); and, finally, how it is that definition is of the species and made up of universals whereas the substance is neither a universal nor made up of universals (Z 13-16).

Throughout the discussion, therefore, Aristotle moves back and forth between definition and substance, *λόγος* and reality. Having ruptured the Platonic identity between the logical and the real, he has the more difficult task of working out their mode of correspondence. His account of definition and substance is

complete, in my opinion, only when form emerges in Book H as the actuality assumed by matter in the process of generation and definition is viewed as mirroring this generative relation of form to matter. Thus—and the point will be substantiated more fully during the course of the article—I see Aristotle as leading his readers from the "logicalism" typical of the Platonists to his own brand of naturalism, a distinctly post-Platonic naturalism in which form, though essentially relational, retains its primacy but in which matter too is οὐσια insofar as it shares, as potentiality, in the unity and definiteness of the form; a naturalism, moreover, which relates the logical genus to the matter of generation, and in general, turns the Platonic metaphor on its head by viewing the λόγος or definition as an imperfect image of sensible reality.

It will be observed that this reading differs both from a general version (cf. Ross, Jaeger, Owens[2]) which takes Aristotle to be showing that the form (or the essence) is substance, or that it is primary substance, and which situates the conclusion at the end of Z, H being regarded merely as an addendum.[3] My account also differs from a second version[4] which takes Aristotle to be showing that the composite is substance and sees him as reaching this conclusion not before the end of H.[5]

[2] W. D. Ross, *Aristotle's Metaphysics* (Oxford, 1948), I, pp. xci-cxix; W. Jaeger, *Aristotle, Fundamentals of the History of his Development* (Oxford, 1962), pp. 198, 200, 205, 220; Joseph Owens, *The Doctrine of Being in the Aristotelian Metaphysics* (Toronto, 1957), e.g., ch. 16.

[3] Jaeger, *op. cit.*, p. 201; Owens, *op. cit.*, p. 237; Ross, *op. cit.*, I, pp. cxiii-cxiv.

[4] Cf. Richard Rorty, "Genus as Matter: A Reading of *Metaphysics* Z-H," in *Exegesis as Argument*, Supplementary Volume I of *Phronesis* (1973), pp. 393-420.

[5] ST. Thomas in his commentary on the *Metaphysics* makes the point that Book Z deals with substance logically by examining definition and other things that belong to logic, whereas Book H deals with sensible substances through their proper principles (VIII, i, 1681). It should be remarked nevertheless, that Book H remains concerned, right to the last chapter, with the problem of definition.

Contrary to both these interpretations, I do not take Aristotle in ZH to be arguing primarily that either the form or the composite is substance. It appears to me quite evident that Aristotle assumes throughout the treatise that composite, form, and even matter (despite Z 3) are all three substance in one sense or another.[6] What he is asking is whether the essence, the universal, the genus, or the substratum is substance. Nevertheless, I do think that his answer results in identifying form, considered precisely as essence, not as substance (that identity is assumed), but as *primary* substance.

Insofar, then, as I understand Aristotle to be identifying the essence, which he shows to be substance, with the form, there is some point of contact between my interpretation and the first version mentioned above. However, there is also a significant difference. Because I see Aristotle to be concerned in ZH with substance precisely as essence, I also see him as involved from beginning to end with the problem of substance as a definable entity, and I perceive this problem to be not merely of secondary but of absolutely central interest. Precisely as essence, the substance/form is not only the cause of being for the composite but also and equally the intelligible substance, the definable reality. Essence (*τὸ τί ἦν εἶναι*), indeed, is closely connected throughout Aristotle with knowledge and definition.[7] Yet this aspect is generally given short shrift as though it were at most of merely secondary interest in ZH, and this despite the fact that an even larger portion of the treatise is devoted to considering the definability of substance than to presenting form as the cause of being. The discussion of definition occupies the

[6] That there are three sorts of substance is recognized as early as 1029a35 (note "the third kind of substance") and stated again at 1035a1-3 and 1042a25-31. That the composite of matter and form is recognized to be substance long before H 6 is evident also from 1032a19-20, 1037a26, 29, 31, 1039b20-22, 1040b5, 1043a30, 1044b3.

[7] Cf., e.g., 194b27-28, 642a26, 1013a27, 1017b22-23, 1031a12-13, 1035b13-16.

whole or large portions of Z 10, 11, 12, 14, 15, H 2, 3, 6, whereas the discussion of form as a cause of being is pretty much restricted to Z 17 and certain brief passages in H 2 and H 3, passages which, it should be noted, are themselves directly related to the investigation of definition. But if we take Aristotle's question, what is substance, to mean, in large part, what is the stable reality that is the object of definition in natural science, not only do significant sections of Z fall into place, but the role of Book H becomes apparent. This latter book, indeed, introduces distinctions in terms of which we come to a better understanding of how the substance must be designated when considered as object of definition, what the parts of the definition stand for, and how the unity of both object and definition is to be explained. Thus H comes to be viewed not as a mere addendum, as it is for such commentators as Jaeger, Ross, and Owens, but as the part of the treatise that provides the ultimate conclusion to the argument. It follows that I agree with the second version as to where the conclusion of the argument lies, though I totally disagree as to what the conclusion is.

Book Z

To show that essence is the substance of sensible things is, as I see it, Aristotle's main task in Z. The discussion reaches its culmination in Z 10 and 11, the two chapters that contain more than half our texts. Before attacking Z 10 and 11, however, let us take a brief look at the chapters leading up to them.

Z 4 and 5 speak of essence in terms of *καθ' αὑτό* predication and definition. The essence, we are told, is what a thing is said to be *καθ' αὑτό*. Presumably, then, man would be the essence of Socrates. We also learn that the essence is what is expressed in the definition and that definition expresses something one and primary, a substance, that is, and not a compound of a substance with an accident, such as pale man. The conclusion is that essence belongs primarily to substance. It could appear

from Z 4 and 5, then, that what Aristotle has in mind as substance and essence is the species or universal, such as man. In Z 6 he goes on to establish that in the case of things that are primary and *καθ' αὑτό*, the essence is identical with that of which it is the essence, but not in the case of *κατὰ συμβεβηκός* compounds, such as pale man. One might suppose [8] that by primary and *καθ' αὑτό* things he means, in line with Z 4, something like the species man.[9] However, he does not use man or any Aristotelian species as an example but rather works with Platonic Ideas, the reason being that he wants examples now of *substances* that are primary, in the sense of having no substances or entities prior to them (1031a29-31). He wants examples of *καθ' αὑτό* substances, substances that are what they are and are intelligible in virtue of themselves. Such are substances which do not have essences but are, so to speak, their own essences. Then in Z 7-9, chapters which approach the problem not from the standpoint of predication and definition as in Z 4 and 5 but from the perspective of generation, Aristotle isolates the form of the composite substance, distinguishing it from the composite substance itself. This form he identifies as the non-generable essence and the primary substance of sensible things. Aristotelian form, then, as primary substance is what corresponds to the Platonic Idea. It is the substance that does not have an essence prior to it but is its own essence. Essence is substance precisely in the sense of form. Man, on the other hand, Aristotle tells us (1033b25), is but the composite sub-

[8] Ross understands *τὰ καθ' αὑτά λεγόμενα* in Z 6 to refer to either a *summum genus* or a species. (*Op. cit*, II, p. 176.) What might appear to argue against my position that Aristotle is not talking about the identity of a species and its essence is that at 1031b28-1032a4 he speaks of the essence of horse. But it is not always noted that what Aristotle is excluding in that passage is an essence of the essence of horse, and hence what he is by implication identifying as one and the same thing is not the horse and its essence but the essence of horse and its essence.

[9] To avoid anachronism I shall not use quotation marks to indicate the difference between words designating realities and words designating words or concepts or objects *qua* conceived.

stance considered generally. That form and not the universal or species is the substance as essence is the view that prevails in Z 10 and 11, and throughout the treatise. This is the lesson of Z 13, as I read it,[10] and as late as H 3 we are told emphatically that the form and not man is the essence and, as such, form is identical with its essence whereas man is not (1043b1-2, cf. 1037b4-5).[11]

But why does Aristotle begin his discussion of essence in Z 4 by associating essence and species rather than essence and form, a position which appears to be misleading at best? As I see it, Aristotle is starting off from his logical teaching as given in the *Categories*. If he is guiding his readers away from the logical view of the Platonists, as I think he is, his own logical position would be the appropriate first step. In the *Categories*, Man, the Platonic self-subsisting *οὐσία*, had become man the predicate of Socrates, the predicate which expresses what he is. This is where *Metaphysics* Z begins the investigation of essence, but before the discussion is over, Aristotle, to my mind, has moved several steps further beyond Plato. To anticipate certain points I shall make later in this article, I see Aristotle to be taking the position that species, and definition as well, express the essence of Socrates which essence is the *form*. That is, as predicates, they *express* the essence but *are not* the essence. Predicates and definitions belong to the realm of thought and

[10] My understanding of Z 13 differs from others that have been suggested in recent articles. Cf., e.g., Michael Woods "Problems in *Metaphysics* Z, Chapter 13," *Aristotle: A Collection of Critical Essays*, ed. J. M. E. Moravcsik (New York, 1967), pp. 215-238; Reinaldo Elugardo, "Woods on *Metaphysics* Z, Chapter 13," *Apeiron*, IX, 1 (1979), pp. 30-42; D. K. Modrak, "Forms, Types, and Tokens in Aristotle's *Metaphysics*," *Journal of the History of Philosophy*, XVII, pp. 371-381. I cannot, however, discuss the differences in the present article.

[11] That the primary and *καθ' αὐτό* things in Aristotle's philosophy are his forms is the conclusion to which he is moving, in my opinion, even in Z 6 where he says: "For it is enough that they are this [*καθ' αὐτό* and primary], even if they are not Forms [Platonic] or all the more so perhaps if they *are* forms [Aristotelian]" (1031b14-15, my translation).

language. (This, it would appear, is the point of 1029b13 in Z 4.) Thus in Z 4-9 Aristotle leads his readers from the essence *qua* expressed to the essence as reality. In doing so, we might remark, he moves from the logical εἶδος of the *Categories,* which is the species, man, to the εἶδος that is the substance and the reality, *viz.* the soul. These two senses of εἶδος Aristotle takes pains throughout *Metaphysics* Z to keep clearly distinct.[12]

We come now to Z 10 and 11, which include seven of our texts, T2 through T8. Having introduced essence in Z 4 and 5 and associated it with substance by way of a discussion of the λόγος or definition, in Z 7-9 he turned to view essence from the perspective of generation and identified it with a reality, substance in the sense of form. Now in Z 10 and 11 he enquires about the correspondence between λόγος and the reality. The question takes the following form: do the parts of the definition correspond to the parts of the thing defined? Z 7-9 identified the essence and primary substance with the form, which would imply that definition includes only the parts of the form. Z 10 and 11, as I read them, agree with this position, though with some important qualifications. Aristotle's exposition, however, is far from clear. We are told that definition is of the form (T2); it is either of the form or the composite (T3 and T4, T8); it is of the universal (T5 and T6), which, to make matters worse, Aristotle denies is a substance; whether of the form, the composite, or the universal, it contains only the parts of the form (T2, T4, T5, also T9 and T10); whether of natural or mathematical objects, it must include the material parts as well (T3, T7 *et sqq.,* cf. also 1036b10). Besides these texts, there is also T1 which occurs in Z 7 but which looks ahead to the problem of Z 10 and 11. T1 appears to be saying that composite things, such as the brazen circle, include matter in

[12] Note that in Z Aristotle refers to the species not merely as εἶδος as he does in the *Categories* but as τὰ γένους εἴδος cf. 1030a12, 1038a5) or more generally as τὸ καθόλου. His intention would appear to be to avoid confusing the two senses of εἶδος. Cf. 1035b28-32.

their definitions. How are we to make sense of such inconsistencies?

Let us begin by considering the various things which are introduced as *objects* of definition in Z 10 and 11: the form, the composite, and the universal, and to these we might add the species presented as a definitory object in Z4. Concerning the composite, however, it must be noted that it is not merely the composite that is given as an object of definition but the composite considered with reference to the form (T8, cf. 1035a7). But the composite taken with reference to the form, is a universal, since the form is alike in all members of the species; it is, in logical terms, a species. Callias considered merely with respect to his form is Callias considered as man. Consequently, this leaves us with only two objects of definition: the form, on the one hand, and, on the other, the composite taken with respect to its form or the universal or the species.

Only one of these, however, is substance, *viz.* the form. This point is of some significance since the general question under discussion is, what is substance, and in Z 4-11, the more specific question is, is essence substance. Besides, in Z 4 Aristotle's conclusion was that definition, strictly speaking, is of substance alone. That the universal predicate of individuals is not the substance of sensible things but rather soul is, is stated quite explicitly in Z 10 (1035b14-16, b28-32) and later a whole chapter (Z 13) is devoted to the point. The soul is the substance, the principle and cause of the composite; the universal, on the other hand, cannot be a principle and cause (1038b7); it is merely a predicate. The universal in other words, does not establish a thing in its being, it is merely an expression of its being. Besides, the universal is itself a composite of matter and form (1035b28-32); it is but the composite taken universally (cf. 1033b25, 1035b28-31, 1037a5-7).

The universal, then, is not the substance *of* the sensible composite but it is not the substance as composite either, since the

composite substance is the individual. When Aristotle distinguishes the three types of substance as the matter, the form, and the composite of both, the example he gives of the composite substance is an individual, Callias (cf. 1035a33, 1037a32, 1070a13). Moreover, in Z 15, where two types of substance are mentioned, the composite and the λόγος, the composite is again explicitly characterized as an individual. It is true that Aristotle in the *Categories* identified the species as a secondary substance, but even there he felt compelled to point out that the species is more like a quality that is predicable of the substance (3b15-21). In *Metaphysics* Z, Aristotle refines his terminology; the status of species has become clearer. He now refers to the species not as a secondary substance but as the composite substance taken universally. In other words, there exists only one sort of composite substance, *viz.*, the individual. The species (or genus) is that same substance conceived in a certain way, i.e., universally. The universal, after all, Aristotle tells us in the *De Anima* (417b24), exists in the mind. Since the universal, or the species, or the composite taken with respect to the form, considered precisely as such, is not a reality, it is neither substance in the sense of the form nor substance in the sense of the composite (cf. also 1053b17-18, 1060b20-23).

But if the species is not as such a substance, we have to explain the apparent identification of species with substance and essence in Z4. The species, we have seen, is the composite substance conceived in a certain way, but now I wish to suggest that for Aristotle the species is also the *form* and *essence* conceived in a certain way. In other words, insofar as the species term expresses the composite with reference to the form,[13] it also expresses the form indirectly by way of the composite. (It is for this reason, I suspect, that Aristotle allows species terms,

[13] Even in the *Categories* the secondary substance designates the substance as *qualitatively differentiated* (3b20), though there is no indication in that work of a *principle* of this qualitative differentiation.

and genus terms as well, to designate either the form or the composite—cf. 1043a29-37). When we say Socrates is a man, we are not merely specifying what sort of substance he is but we are also indicating what sort of form he has. Thus, insofar as the term man signifies the "what," it can also be said to signify indirectly the essence or form. Indeed, if the definition of man expresses the form, as Z 12 tells us it does (cf. T10), it would seem only reasonable that man, too, should express the form. Man, then, designates the essence, or even can be said to *be* the essence *qua* conceived and expressed in a certain way.

Still, man is not the essence *tout court*. As we have seen, man is not the substance. In fact, for Aristotle, man is not a reality. In the order of substance, the realities are the parcel of matter, the form, and the individual composite, and that is all. Man is not a reality *in* the individual, either.[14] Man, for Aristotle, is not a nature *ante rem, in re,* or *post rem*. Man is indeed *post rem,* but is not a nature or essence, for, in Aristotle, a nature or essence is a reality, and that reality is the form.

The distinction involved here is that between a reality and a reality *qua* expressed. We find something similar in *Metaphysics* Λ (1071a17-23), where the point is made that the universal cause as such does not exist; only the individual exists and functions as a cause. "Your matter and form and moving cause," we are told, "[are] different from mine" (1071a28); they are the same only "if one speaks universally or analogically" (1070a32-33). In other words, the universal cause, as universal, belongs to the realm of thought and language. So in Z 4 the universal *καθ' αὑτό* predicate, as well as the definition, belong to the realm of thought and language, which is to say they

[14] Ross speaks of man as something existing in the individual; cf. *op. cit*, I, p. ci. Chung-Hwan Chen claims that Aristotle, with his universal concrete (universal composite), is as guilty of duplication as Plato, the only difference being that for Aristotle the universal concrete is immanent in sensible things. Cf. "Universal Concrete, A Typical Aristotelian Duplication of Reality," *Phronesis* IX (1964), pp. 48-57.

belong to logic. It is for this reason, in my opinion, that Z 4 is characterized as a *logical* discussion (1029b13). Arguing by way of these logical entities, however, Aristotle is able to advance the argument by bringing essence and substance into close association. The essence of a thing, he tells us, is what that thing is said to be *καθ' αὑτό*, the "what" expressed in its definition. Consequently, insofar as there is definition primarily of substance, essence must be said to belong primarily to substance. Later in Z 7-9, he will view essence from the perspective of generation and will determine that essence *is* substance, that it is substance precisely in the sense of *form*. So while both man and two-footed animal express the essence, the form alone *is* the essence. Aristotle, I think was far more sophisticated regarding the distinction between reality and reality *qua* known and expressed than we give him credit for. It is this distinction, after all, that constitutes his fundamental divergence from Plato.

For Aristotle, then, there are but three sorts of substance, the matter, the form, and the individual composite. But of these three the form alone is the *intelligible* substance. Indeed, throughout Aristotle's works, form is presented as the substance *κατὰ τὸν λόγον*, and is even identified as the *λόγος* itself. Form and form alone, *De Anima* tells us, enters into the mind; it is both the known and the knowledge. And now in *Metaphysics* Z we are told that form alone is primary and *καθ' αὑτό*; form is what it is in virtue of itself and sensible substances are what they are in virtue of form; form is knowable in virtue of itself and sensible substances are knowable in virtue of form; in short, form is substance precisely as essence.[15] Aristotelian form has taken upon itself the function assigned in the Platonic

[15] This view of essence obviously differs from the Thomistic view as expressed in *De Ente et Essentia*, ch. 2, according to which the essence of a sensible substance, taken as that which is expressed in the definition, consists not of form alone but of form *and* common matter.

system to the ideas (cf. Z 6). This, in my opinion, is the chief lesson of Book Z, and Z 10 and 11 are to be understood within the context of this doctrine.

To return now to Z 10 and 11, Aristotle, we have seen, is addressing a problem concerning the correspondence between definition and substance defined. The definition has parts and so does the substance. Does this mean, he ask in Z 10, that the definition is composed of the λόγος of the parts of the thing defined? In some cases, he points out, the definition does include the λόγος of such parts, but in others it does not. The definition of the syllable, for instance, includes the λόγος of the letters whereas the definition of the circle does not include the λόγος of the segments, and yet both letters and segments are parts into which a thing dissolves.

Aristotle's answer in Z 10 and 11, however puzzling it might be in some respects, makes one thing absolutely clear: of form, matter, and composite, the form alone, as the essence, as prior to both matter and composite, is that to which the definition refers (T2, T5, T6, T8). The parts into which a thing dissolves, on the other hand, are material parts, parts which belong to the composite and not to the form. As such, they are not parts of the definition (T2). This idea is clearly asserted at the beginning of his answer in Z 10 and even more clearly repeated at the end of the discussion in Z 11, in the final passage that sums up the whole treatment of essence. It is, in other words, what I take to be the principal point of the two chapters. However, before an answer can be given to the puzzle concerning the circle and the syllable, certain qualifications and precisions have to be introduced.

The chief qualification is the following: despite that fact that the form alone is the essence expressed in the definition, there can be definition, Aristotle tells us, of the composite and *that* definition does contain the λόγος of the material parts (T3 and T4). It is in connection with this qualification that arise

most of the interpretative problems for the reader of Z 10 and 11.

First of all, one might wonder why, if form alone is the essence, Aristotle allows the thing defined to be either the form or the composite. In fact, as I shall argue in a moment, I think that, given the nature of the Aristotelian form, Aristotle is going to have to hold that definition in the primary sense can be *only* of the composite. But, for the time being, it will be sufficient to point out that the composite defined is the composite considered *qua* having form (1035a7), that is, the composite taken with reference to the form (T8), and thus the *reality* that is being considered is still the form. The composite considered solely with respect to the form is not as such a reality and must be distinguished from the composite substance as such. The latter is a reality but not a definable reality because of its material instability (T8, also 1039b20-31).

But there are further problems. First, T3 and T4 seem to be saying that whenever the object of definition is a composite, the matter into which a thing dissolves is included, and yet Aristotle will not allow the segments of the circle to be included in the definition even though, as we learn in Z 11, the circle must be considered to be a composite. Obviously, some further precision is called for.[16]

The precision required, it seems to me, is given a few lines earlier. At 1035a11-13, Aristotle comments that the letters are parts of the λόγος of the form and not matter. That the letters of the syllable are not its matter, however, flatly contradicts what he explicitly holds elsewhere (cf. 193a15-21). Even in Z 10 he takes pains to explain that the parts into which a thing dissolves are its matter. So what can he mean by the statement at 1035a11-13? The point Aristotle is making, as I see it, is that the letters viewed precisely as included in the conception

[16] Ross considers Aristotle to be vacillating on the question whether matter is to be included in definition; cf. *op. cit.*, I pp. ciii-civ.

of the form are not matter, that is, they are not the materials on which the form supervenes or into which the composite dissolves. The segments of the circle, on the other hand, are expressly identified as the matter on which the form supervenes (1035a13) and the matter into which the composite dissolves (1035a18,35). And that is all they are. The continuous, not the segments, is part of the notion of the form. So what Aristotle means to say in T3 and T4 is that such material parts are included in the definition of the composite as are part of the λόγος of the form. This would make perfectly good sense insofar as the composite is defined exclusively with reference to the form.

But even so qualified, T3 and T4 still seem to be at odds, with T2, which appears to state without qualification that material parts are not included in a definition. What should be noted, however, is that T2 excludes from definition the material parts whereas T3 and T4 include the λόγος of such parts. In other words, the material parts are included in the λόγος of the composite (if, that is, they belong to the λόγος of the form), but not as existing realities. They are included as conceived and expressed, and they are conceived and expressed in their relation to the form, i.e. as the substrate of the form, for matter *qua* matter (but not, of course, *qua* brass or *qua* earth) is in itself unknowable. Considered in relation to the form, they are conceived as universal. Whether, then, definition is of the form alone or of the composite taken with respect to the form, the material parts as they are in their full individual reality are not included, and T2 can be taken as absolute. It is for this reason that the object of definition, even when considered as composite, is not subject to generation and corruption but shares in the stability of the form (cf. 1035a23-35). It is also for this reason that the object of definition is a universal (T5 and T6).

As for the parts of the definition, according to Z 10, they

must be said to correspond to the parts of the form (T5). But in the case of the composite object each part of the form would imply matter in the same way as does the composite itself. In the case of the definition of man, animal would refer to the sentient powers (cf. 1035b18) and two-footed to a certain mode of locomotion, but in both cases the powers of the soul are conceived in conjunction with their material embodiments. As for the bodily part or organ, it is conceived wholly in relation to the function, that is, to the form (cf. 1035b16-18, T7 and 1036b29-31). The bodily parts considered as that into which a man dissolves, being with respect to the soul uninformed matter, are not the parts of the definition, since, as such, they are not implied in the notion of the soul. For Aristotle, dead feet are really not feet at all, nor is dead flesh really flesh. Feet and flesh, properly speaking, are bodily parts conceived precisely with respect to certain activities of soul.

So far we have been speaking of the definition of the composite taken with reference to the form, but what about the definition of the form taken by itself? There are difficulties here too. Aristotle maintains that the λόγος of the form, as distinct from the composite, does not include matter (T4) but he also claims that the letters of the syllable are a part of the λόγος of the form. Is he contradicting himself? Not necessarily. The letters *are* part of the λόγος of the form, but since they are not part of the form, they are included in the λόγος only by addition, as is the proper substrate of an attribute (cf. Z 5). Consequently, the λόγος of the material parts is not an integral part of the λόγος of the form as it is of the λόγος of the composite (cf. the definition of soul in *De Anima* II). This, I take it, is what Aristotle means in T4.

But the upshot of this is a paradox: *the sole definable reality in the Aristotelian system, when taken by itself, does not admit of definition in the strict and primary sense.* This, nonetheless, to my mind, is Aristotle's position (cf. 1039a19-22). I think

his point ultimately is that form alone is the definable reality but, given its relational nature, it can be defined, in the primary sense of definition, only by way of the composite, the composite, that is, taken with respect to the form and universally. Such a definition would include matter as an integral part and not merely by addition. Thus the definition of the form expressed by way of the composite would avoid the difficulty associated with the definition of an attribute, which definition must include something other than the attribute, namely, the proper substratum (cf. Z 5). As not definable in the strict sense in and by itself the Aristotelian form differs from the Platonic Form. But the Platonic Form, for Aristotle, is really only the composite taken universally, and hence is a definable object, but not the definable *reality*. That the form is not definable in the primary sense but only by way of the composite is not a point he explicitly makes in Z. There his main objective is to isolate form as the definable substance. He has to pay attention along the way, nevertheless, to the peculiar nature of the Aristotelian form, that is, its essential relation to matter, and the consequences this has for definition. It is precisely this character of form that allows us to think of the object of definition as being a composite. Aristotle takes pains, furthermore, to point out in Z 11 that although the form is the definable substance, neither natural nor mathematical things can be reduced to form (T7 *et sqq.*). So, though form does not have matter, the things we are dealing with in natural and mathematical science do have matter and must be defined with matter. Besides, he speaks of definition as being of the form *and the universal,* which could be taken to mean that definition is of the form as expressed by way of the universal. Also, when he gives examples of objects of definition, they are not forms, but species, such as man (cf. Z 12). Such considerations as these would support the view that what Aristotle has in mind is that form is, indeed, the sole definable substance but it can be

defined, at least in the primary sense of definition, only by way of the composite. This view is corroborated later in H 3 (T11) where Aristotle asserts quite explicitly that only one kind of substance can be defined, the composite kind (taken universally, of course).

We have seen that the essential relation of Aristotelian form to matter gives rise to problems concerning definition. But, as I suggested earlier, Aristotle also has to deal with problems concerning both the unity and the universality of definition. Before leaving Z, let us look briefly at two other instances where the problem of the correspondence of substance and definition comes to the fore. The first has to do with the problem of the unity of definition. This problem becomes the main topic of Z 12, where two of our texts occur (T9 and T10). It is solved, at least as far as Book Z is concerned (it will be taken up again in H), by reducing the two terms to one, the differentia, which, we are told, designates the form. As the reason why definition can be reduced to the differentia, Aristotle states that either the genus absolutely does not exist apart from the species or, if it does exist, it exists as matter (T9). What I take him to mean by the first alternative is that, contrary to the Platonic conception, the genus, considered as one nature predicable of the several species (cf. 1057b35-38), is not, nor does it designate, some reality that exists apart from the species. Animality never exists simply as such but as humanity or equinity (1058a1-7). In other words, it exists only as differentiated in the species. Thus the differentiated genus designates not two things but one. What it designates is the substance as form (signifying it by way of the composite taken with respect to the form). His conclusion that "definition is the formula which comprises the differentiae" (T9) does not mean that genera are to be dropped from definition. Differentiae cannot be dissociated from their proper genus. He means rather that the role of definition is to make explicit the differentiation

of the genus. Aristotle goes on to deal with the multiplicity found among the differentiae, pointing out that when there is a series of differentiae such as footed and two-footed, the second being a non-accidental differentia of the former, the last differentia alone is adequate to express the one reality which is the substance or form. This is the point of T10. As for the second alternative presented in T9, insofar as definition is seen to be an expression of form, matter *qua* matter, it would appear, would add nothing to the definition. The idea of genus as designating matter, however, is a possibility that will receive due consideration only in Book H.

The question, concerning the correspondence between definition and substance is raised once again at the end of Z 13, but this time the problem is viewed as residing in the object rather than the definition. How can there be definition of a substance, the question goes, if no substance consists of universals and no substance is composite, that is, composed of other substances in act? After attending in Z 14 to the difficulties that arise for the Platonists who take universals to be substances, Aristotle turns his attention in Z 15, to that part of the problem which concerns the universality of definition. He establishes that definitions are universal insofar as they are of the λόγος (in this context, the being or essence of a thing—1039b24) considered apart from its individual parcel of matter and thus considered ὅλως (1039b21). So, though the form/substance is not a universal, i.e. a species or a genus, and does not consist of universals, nevertheless, it gives rise to universals. Aristotle does not explicitly make this point in Z 15 but by now the connection is fairly obvious. The form gives rise to universals insofar as even when considered universally apart from the matter of individuals, it is not conceived entirely apart from matter, as T7 had already indicated. This relation of form and universal, indeed, was already implicit in T5 and T6. As for the composite nature of definitions, further developments concerning that problem must await Book H.

Thus Aristotle in Book Z has established that essence is substance, that it is substance in the sense of form. Neither the universal nor the genus (not even Being or One) is substance as a principle and cause of sensible things. The most taxing problem for Aristotle, however, has to do with the correspondence between the Aristotelian form and definition. And, though he has gone a long way in solving these difficulties, his answer is not complete, in my opinion, until he views the issue from the stand point of form as a principle of nature, which he will do in Book H.

Book H

With *Metaphysics* H there is a definite shift in perspective. Form is still viewed as the essence and λόγος (1043b1, 1044b12), but it is now situated squarely in the realm of nature and presented as the differentia, not of the genus, as in Z 12, but of the matter. As such, it is identified for the first time in ZH as *actuality,* the actuality assumed by matter in the process of generation. Correspondingly, matter is identified as potentiality. As potentiality, matter is to be viewed not merely as a subject of which the form is predicated, a subject distinct from the form and thus lacking in itself all the characteristics of substance, as in Z 3, but as that which shares in the unity and intelligibility, in the very being of the form. (It would appear indeed that the sort of predication involved presupposes a subject already sharing in the form, cf. 1031b15-18). Precisely as potentiality, matter is recognized in H to be substance.

Aristotle in H appears to be taking issue not only with the materialists, by insisting that natural things are not to be explained solely in terms of the addition of material elements, but also with the Platonists, by insisting that natural things are not to be explained solely in terms of the addition of Forms. He is taking the position that the substance/form is required as the cause of the very being and unity of the thing, but as such it is not a component. This same point, of course, had

been made in Z 17. What comes to light in H is just how it is such a principle without being a component. It is a principle of being and unity precisely as the differentiation of the matter and the actuality of the composite.

Aristotle in H, however, is still very much concerned with substance precisely as definable. We learn in T11 (H 3) that definition must be solely of the *composite* substance and be made up of one part that is as matter and one part that is as form, of which the latter is predicable of the former. In other words, definition must reflect the relation of form to matter. That definition in the strict sense must present the form by way of the composite (taken, of course, with reference to the form) was already implied in Z, if my reading of that book is correct. This position is now made explicit. The rest of T11, however, presents something definitely new. In Z 10 (T5) definition was viewed as made up of the parts of the form, e.g. sentience and a certain mode of locomotion. The parts of the form were taken in conjunction with their material counterparts, it is true, but *both* parts of the definition were viewed, nevertheless, as parts of the form. Now it is suggested that one part, the genus, designates the matter and the other part, the differentia, designates the form. T11 is reinforced by T12 of H 6 which states that in the formula there is always an element of matter. Here, then, it would appear, we have the second alternative introduced in T9 of Z 12.

A common interpretation of T12, however, has it that Aristotle in this text is not thinking of matter in the strict sense but only of matter in an analogous sense, merely as something undetermined and determinable (cf. W. D. Ross and J. Owens [17]). Proponents of this view point to the fact that Aristotle in T12 distinguishes sensible from intelligible matter.

[17] Cf. W. D. Ross, *op. cit.* I, pp. ci-ciii; II, p. 233, note at 1043b29; p. 238, notes at 1045a25 and a34; J. Owens, *op. cit.*, p. 210; and also M. Grene, "Is Genus to Species as Matter to Form? Aristotle and Taxonomy," *Synthese* 28 (1974), p. 66.

The intelligible matter they take to be a sort of logical matter, the matter of definition.

My own position is that Aristotle *is* talking about matter in the strict and literal sense. Richard Rorty also holds this view,[18] but for totally different reasons, reasons with which I cannot agree. Before presenting my own account, let me briefly discuss Rorty's argument. According to Rorty, Aristotle in ZH is attempting to establish that the *composite* is substance and does so by arguing for the identity of the sensible individual with its essence, which identity he shows by determining that matter must be included in the form or essence, which matter is represented by the genus in the formula. This argument, Rorty informs us, leaves Aristotle with three unsolved problems. First of all, insofar as he identifies the genus with matter, he would have to say that genus terms do not stand for a collection of qualities and thus they have no meaning. The second problem has to do with accidents. According to Rorty, Aristotle has not really succeeded in explaining the identity between Socrates with his accidents and the form man. Aristotle, Rorty's account goes, identifies the ensemble of accidents in a particular substance with the matter in it and the matter in it with the proximate material cause of its generation, and then claims that this last is either only a mere potency or is destroyed during the process of generation. This, in Rorty's view, is Aristotle's way of telling us that accidents do not count and it results, he says, in absurdity. And thirdly, according to Rorty, Aristotle undermines his solution concerning the unity of substance, which is established in terms of potency and ac-

[18] *Op. cit.* For a summary of the argument see p. 417. Cf. also R. Rorty, "Matter as Goo; Comments on Grene's Paper," *Synthese* 28 (1974), pp. 72-73. St. Thomas, without *identifying* the genus with matter in the strict sense, saw them as closely associated. Cf. his commentary on the *Metaphysics*, VIII, ii, 1697. In the *De Ente et Essentia*, ch. 2 he says, "The genus signifies the whole as a name expressing what is material in the thing without the proper form's determination."

tuality, by using the potency-actuality distinction to explain non-substantial unities.

That my account is radically different from Professor Rorty's is already apparent. Contrary to Rorty's position, I take Aristotle in ZH to be establishing that the essence is substance and that it is substance as form, that form, in other words, is both the cause of being and also the definable reality of the sensible composite. Against Rorty and others,[19] I do not think that Aristotle in Z 6 is arguing for the identity of the sensible individual and its essence but for the identity of a substance and its essence, which substance turns out to be form. As far as I can see, Aristotle does not include matter in the form or essence, but is everywhere most careful to exclude it.[20] What he does establish, in my opinion, is that the form must be *defined* with matter, and thus be defined by way of the composite considered with reference to the form. The *reality* that is being defined, however, is still the form. (Since both definition and composite object are universal and the matter included in both is matter considered universally, there is no reason to downplay the universality of the genus, as Rorty feels compelled to do.) As for the problem concerning the accidents, I cannot agree that the ensemble of accidents is to be identified with the matter; accidents, after all, are formal determinations. Their association with matter consists in the fact that they belong to the individual by virtue of its matter, as distinct from the essential properties which belong to the individual by virtue of its form. Furthermore, the accidents of the individual are not to be identified with the material cause of the generation. It is true that

[19] Cf. Edwin Hartmann, "Aristotle on the Identity of Substance and Essence," *The Philosophical Review*, LXXXV, 4 (1976), pp. 545-561; W. D. Ross, *op. cit.*, I, p. 176; J. Owens, *op. cit.*, pp. 216-221, who admits that the identity is not perfect. Aristotle, however, nowhere explicitly affirms such an identity and at 1037b4-5 he explicitly denies it. At 1043b2 and 1037a34-b4 he explicitly affirms the identity of the *form* and its essence.

[20] Cf., e.g., 1032b14, 1035b20, 1037a1, 1037b27, 1039b21.

Socrates' whiteness can be the result of the individual characteristics of the material cause of the generation, but they can at least to an equal degree be due to the individual characteristics of the moving cause (cf. *De Gen. An.*, 768a2 *et sqq.*). This obviously does not mean that the whiteness is an attribute of the menses or the sperm, or that the menses or the sperm remain unchanged in the product of the generation. And, in any case, the matter designated by the definitory genus would not be the matter of the individual, the matter which is the source of both the accidents and the instability of the composite, but matter considered solely in relation to the form and universally. Finally, as I shall attempt to show before the close of this article, the fact that Aristotle associates genus and matter does not mean that the genus is without determinate characteristics, and the fact that Aristotle establishes unity in terms of potency and actuality does not mean that he establishes *substantial* unity (required for definition) in terms of potency and actuality *alone*.

Although I have serious misgivings about Professor Rorty's argument, I do think, nevertheless that there is something to his point that the genus represents matter. In my opinion, Aristotle's position in H is that, in the case of natural substances, the genus term in a definition can be viewed as designating universally the material substratum of the differentia. It goes without saying that a distinction must be made between animal as a logical genus and animal as designating matter. To this and other distinctions we shall turn our attention later. First I would like to give my reasons for thinking that Aristotle is associating the genus with matter.

We know that Aristotle in several places links genus with matter. The association can be seen, in particular, in Δ 28 (1024b8-9) where the genus of the definition and the matter appear to be identified; in I 8 (1058a1) where Aristotle speaks of the genus "whether as matter or otherwise," and later

(1058a22-24) where the states that " the genus is the matter of that of which it is called the genus . . . in the sense in which the genus is an element in a thing's nature "; in Z 12 (T9) which, as we have seen, suggests the possibility that the genus exists as matter; and finally, in a passage, which to my knowledge has not been cited in this connection, Δ 18, 1022a32-34, which speaks of animal and two-footed as *causes* of man.

What above all leads me to opt for the view that Aristotle is speaking of matter in the strict sense, however, is the whole thrust of Book H. As I see it, the objective of H is to establish form as a principle of nature, specifically as the actuality which corresponds to the potentiality of matter, and to establish definition as presenting form considered according to this function. In both H 2 and H 3, Aristotle moves directly from a discussion of the potential and actual principles of *things* to the constituents of the *definition* of these things. It is strikingly obvious in H 2 (cf. 1043b10 *et sqq.*) that he is taking the constituents of the definition to be exactly the same as the constituents of the thing. He is saying that definition gives the form and the matter, and the examples he offers of matter are wood and stones, bricks and timber, water, in other words, matter in the strict sense. As for H 3 (cf. T11), he again speaks of the definition as giving the matter and the form, and though this time there are no examples, there is no reason to believe that he is not thinking of matter in the strict sense, especially since just before he had been talking about matter as a constituent of the sensible thing. That he does have matter in the strict sense in mind becomes even more obvious when we consider the sequence of Aristotle's thought concerning definition from H 2 to H 3. In H 2, Aristotle refers to people who define things in terms of the matter or potential principle alone, or in terms of the form or actual principle alone, or in terms of both, and then in H 3 he gives his own view: definition must be of the composite thing and have one part that is as matter and

one part that is as form. Since in H 2, the matter given in the definition was matter in the strict sense, one would naturally expect the same in H 3. Moving on to H 4 and 5, we see Aristotle talking about the principles of generation and especially the material principle, which, of course, is matter in the strict sense. Finally, in H 6 he turns to the problem of the unity of definition. It is to be noted that in this chapter Aristotle talks as much about the unity of the object as he does about the unity of the definition, and he relates the unity of the definition directly to the unity of the object. The definition and the object (e.g., man) are one for the same reason, because of the potency-actuality relation that obtains between their constituents. When he gives examples of definition, moreover, he uses the principles of the object, the matter (in the strict sense) and the form: bronze and roundness, plane and figure (shape). In sum, in my judgement, all the evidence in Book H points to the view that the matter expressed in the definition is the matter of the thing defined, the matter out of which it came to be, matter in the strict sense.

Certain commentators, we have noted, take his use of the phrase "intelligible matter" in H 6 (cf. T12) to indicate that he is speaking of the genus as a sort of purely logical matter peculiar to definitions. But surely "intelligible matter" in H 6 means the same thing as intelligible matter in Z 10 (1036a9-12) and Z 11 (1037a4), that is, the matter of mathematical objects. The point of T12, to my mind, is clearly that not only sensible objects but even mathematical objects have an element of matter, not sensible but intelligible, such as the plane in the case of the circle (cf. 1024b1-9). Indeed, it is surely the plane and not figure (*pace* Rorty and Ross [21]) that is the

[21] Rorty states that figure expresses the matter ("Matter as Goo," p. 76). Ross takes both terms, plane figure, to express the material element in the definition (*op. cit.*, II, p. 238, n. 1045a35). Rorty also draws an analogy between animal and figure, but figure, unlike animal (cf. below), does not represent a stage in a real process and is not something in real

matter in the definition of circle (cf. 1024b1-9). Even though plane is presented as differentiating the figure, it differentiates figure in much the same way as sanguineous differentiates animal in sanguineous animal or brazen differentiates circle in brazen circle. The definition of the mathematical circle could just as well be worded in such a way as to put the matter in the genus place: a plane shaped in a certain way. Intelligible matter, then, has the same general sense as sensible matter: that from which something is made. As far as I can see, therefore, there is no evidence at all for the view that Aristotle has abruptly and without warning shifted to another sense of the term matter. In fact, such a view appears to run quite contrary to the very aim of Book H.

I am not claiming, however, that in *every* context the genus term designates matter. It seems perfectly clear that Aristotle generally takes the genus term to designate a formal determination, albeit indeterminate. In the *Categories* both species and genus are presented as expressing what the thing is (2b8,30-34) and as stating substance as qualitatively differentiated (3b20). Furthermore, H 3 (1043a29-35) states explicitly that the term animal could be taken to mean either the form or the composite but it says nothing about animal signifying the matter. And finally animal is predicated of man without any change in the form of the word, such as the change from wood to wooden, which would not be the case for Aristotle if the predicate animal designated matter (1033a5-7, 1049a19-24). Animal, consequently, would appear to designate form, or something as having form, rather than matter. As I see it, however, in H Aristotle is not contradicting his general doctrine concerning genus terms. His point there is a limited one. He is merely saying that in one context, that of the definition of a natural

potency to an ultimate determination. It is only an indeterminate way of thinking of the form. St. Thomas, on the other hand, takes intelligible matter in H 6 to be the matter of mathematical objects. Cf. his commentary on the *Metaphysics*, VIII, v, 1760, 1761.

substance, the genus term, precisely when taken in relation to the differentia, signifies matter. When used as a predicate, this same term would still signify a formal determination.

Further, I am not even claiming that for Aristotle the genus term of *every* definition designates matter. Definitions sometimes present the form alone, in which case the genus term obviously does not designate matter. Examples of such definitory genera are receptacle in one of the definitions of house given in H 2 (1043a16) and desire in one of the definitions of anger given in *De Anima* (403a30-31). Similarly, figure in the definition of the circle at 1033b14—the figure whose circumference is at all points equidistant from the center—designates the form indeterminately, and so does figure in T1. And even animal in the definition of man, when it is viewed from the perspective of Z rather than H, signifies the form. Indeed, though animal in Z is not conceived apart from matter, it is certainly not conceived as matter.

Having made these qualifications, let me now state more precisely what I take to be Aristotle's point concerning definition in H. Aristotle is certainly not identifying the genus as such with matter, as Rorty in places appears to claim. The genus is a nature universally conceived which abstracts from the differentiae. It is a common nature that is predicable of the various species. This is the genus of which Aristotle speaks in Z 12. There he points out that the genus does not exist except as differentiated in the species (cf. T9). That is, the reality itself, which is *conceived* apart from the differentiations, always *exists* with one or other differentiation. In Z 10, however, Aristotle makes the point that the definition presents the parts of the form (T5). According to this view the term animal would designate a part of the soul, *viz.* the sentient part. As such, animal, strictly speaking, would not be a genus. But there is a close connection between the two senses. Insofar as the genus animal designates a thing having a sentient nature it would be

derived from the sentient part of the soul. Thus insofar as the term animal designates a nature *qua* having sentient powers, it designates indirectly the sentient powers themselves. Now, in H, as Aristotle directs his argument to its conclusion, he presents the genus term as signifying not merely a part of the form but as matter having that part of the form and potential to the ultimate determination. The point of Z 12 now becomes clear. The reason why animal *in reality* is never just animal but is always differentiated is that animal represents but a material component in man, and, further, the reason why two-footed animal is not two things but one is precisely this potency-actuality relation. It is not correct then simply to identify without qualification the genus with matter. Animal *qua* genus is not matter but is derived from matter, yet the term animal in the definition of man can be viewed as designating the matter from which the genus was derived.

On the other hand, Aristotle is not merely making the point (*pace* Ross and Owens) that the relation between the genus and the differentia is analogous to that between matter and form, simply insofar as both matter and genus are determinable. In my view, he is establishing a much stronger connection: the genus and the differentia are related as potency and actuality precisely because the genus term designates the matter in the strict sense and the term expressing the differentia designates the form (i.e., the ultimate determination of form). Thus object (the composite substance universally conceived) and definition are one for the same reason.

The basis for H's position concerning the definitory genus of natural substances can best be seen in the Aristotelian teaching concerning generation. According to Aristotle, the elaboration of the form of man starting with the menses is a continuous process, one stage being material for the next. But in this process, Aristotle tells us in *De Generatione Animalium* (736b1-5, 778b32-34), the generic characteristics appear before the more

specific ones. Thus the embryo has certain fundamental animal characteristics, such as some degree of sentience, before it has the characteristics of a given species. The embryo with animal features, though already endowed with some parts of the form, will function as matter with respect to determinations yet to be developed. What must be noted, however, is that even in this context, animal refers not merely to matter but to matter precisely as having a certain formal determination. It designates not so much the matter of animals as matter *qua* having animal characteristics. It is only in relation to the differentia or the ultimate determination that it signifies matter. And it is precisely because, for Aristotle, animal signifies form insofar as it signifies matter *qua having* form, and not *merely* form, as Plato thought, that it can designate matter at all.

Definition, of course, is not to be seen as presenting an account of the process of generation but rather as presenting the nature of the fully constituted substance. But the constituted substance is a product of generation and retains in its nature an element of that from which it came (cf. 1058a22-24). Though animal has become man, animal *as such* remains something other than the species. In the man matter is still, relative to the final determination now possessed, a potential element. It is not potency in the sense of an unfulfilled capacity but in the sense of a capacity now fulfilled. Matter has been actualized in the sense that it has been given form and the man now exists actually, but the matter *qua* matter is not itself the actuality. Animal and two-footed, then, from the perspective of H, stand for real elements in man, elements that can be separated in time but when united still retain their relation of real potency to real actuality.

What Aristotle has done in H, in my opinion, is to re-interpret such definitions as two-footed animal in such a way as to bring them into explicit conformity with the requirements of natural science. The whole inquiry of ZH, indeed, as Aris-

totle takes care to clarify, is about *sensible* substances and the objective is to determine the substance that the philosophy *of nature* must express in its definitions (cf. 1037a13-18, 1029a35). (It is still a metaphysical investigation, of course, insofar as the topic is substance.) In Z, the definition of man, reducible to the differentia, is viewed as expressing the form. In this respect, it is like the second definition of house given in H 2. Considered in this way it is a logical definition like the first definition of anger in *De Anima* I (403a30-31). In H, on the other hand, the definition of man is viewed as a complete physical definition, presenting both form and matter as distinct parts, like the third definition of house in H 2 and the third definition of anger in *De Anima* (403b6-8) Incidentally, to my mind, T1 in Z 7 looks ahead to the three types of definition given in H 2. The brazen circle, it says, can be viewed in terms of its matter or in terms of its form (with figure as the genus) but concludes that it has its matter in its formula. What is interesting in the case of the definition of man is that, unlike the other cases, the *same* definition is taken as either a logical or a physical definition. In this respect, it corresponds to the definition of letter with voice as the genus, the example given in T9 to illustrate a genus taken as matter.[22] In H, then, Aristotle is saying that the definition of form, expressed as the definition of the composite (taken with reference to the form) and understood as presenting matter and form as distinct components is decidedly preferable and even *de rigueur* in the study of natural science. In H, in other words, he has moved from Z's logical mode of defining to a mode of defining more appropriate to natural substances taken as such.

It seems clear that even in Book Z Aristotle had in mind another conception of definition. In Z 12 he gave as his in-

[22] Although its status as matter probably cannot be illustrated by way of generation, voice, nevertheless, is the physical matter formed into the spoken letter. It can also be considered as a logical genus.

tention to inquire *first* about definitions reached by division and went on to speak about the division of logical genera by differentiae. He makes the point that the differentiated genus designates the form. Then at the end of the chapter he characterized his remarks as a *first* attempt at stating the nature of definitions reached by the method of divisions. The problem with this is that nowhere in ZH does he appear to return to the topic. In my opinion, however, the continuation of the discussion is to be found in Book H. What he was reserving for later treatment was his idea that for a natural substance the genus is derived from the matter and the genus term in a definition can be taken to designate that matter. Z 12, of course, had suggested this view of the genus (T9), but did not develop it since in Z the emphasis was on form. Thus, from the physical perspective of H, we view sensible substances not merely in terms of species made up of genera and differentiae, nor merely in terms of differentiated genera designating Aristotelian forms, but precisely as matter differentiated in certain determinate ways, and we view their definitions as presenting matter thus differentiated.

It is worth noting that Aristotle, though he makes no mention of it, has in fact answered the question of B 3: is it the matter or the genus that is the principle of the thing? We have learned that for sensible substances the matter is that from which the *thing* begins, and the genus, with which the *definition* begins, is derived from and expresses the matter (cf. the conflation of the two senses of genus in Δ 28, 1024b8-9). Furthermore, by the association of genus and matter, Aristotle has brought together the two types of definition put forward in B 3 (998b13-14): definition by the genera and definition which states the constituents. In ZH, however, Aristotle has a further and most important point to make: neither the matter nor the genus (nor any universal) is the principle of the *being* of the sensible thing. That principle is form and form is the in-

telligible reality that we attempt to express in our definitions, even though we must express it with its relation to matter. Thus Aristotle is confronting at the same time the logical view of the Platonists and the materialistic view of the naturalists. He is, in other words, clarifying his own position as a post-Platonic naturalist.

Let us turn now to the question of the unity of definition conceived in the manner of Book H. It is, of course, the view of form as actuality that solves the riddle. However the point has been made that the potency-actuality relation alone cannot ground the particular kind of unity characteristic of substance and its definition since this relation holds as well between substance and accident. But, in my opinion, Aristotle never claims that it can. He is not talking in H 6 about the potency-actuality relation in general but the potency-actuality relation that exists in the composite between the form that is the substance/essence and the corresponding matter. The fundamental reason why the definition is one is because the form is one (cf. 1044a2-10). The form alone is one whole essence (1044a9). This means that in the case of natural substances, matter, considered in itself, precisely as the substrate of the form, the form being taken *in its entirety,* contributes nothing in the way of essence. This was the lesson of Z 3. Of itself matter has no separate identity. Even H identifies the essence solely with the form and actuality (1043b1). Furthermore, H 6 tells us that form is, by virtue of itself, a kind of being and a kind of unity. At least that, to my mind, is the most reasonable reading of 1045a35-b6 and b25, though it is not a standard one. The " things which have no matter," to which Aristotle refers to these passages, are not, in my opinion, immaterial substances and they are not the ultimate genera or the categories (*pace* W. D. Ross and J. Owens [23]);

[23] Cf. Ross, *op. cit.*, II, p. 237, note at 1045a36; Owens, *op. cit.*, p. 225. St. Thomas takes Aristotle in these passages to be speaking of immaterial substances. Cf. his commentary on the *Metaphysics*, VIII, v. 1762.

they are *forms* (cf. 1037a2).[24] And it is because they have no matter that they are what they are and are unities (i.e., *definable* unities) in virtue of themselves and without qualification (cf. 1052a32-34). This, after all, is just another way of saying that they, unlike the composites of form and matter, are identical with their essences. Thus, it is not merely the potency-actuality relation between the matter and the form that makes the composite a definable unity. Rather it is a definable unity because the form to which the matter is related, as purely potential element to actual, is the definable substance brought to light in Z, the essence which, being one, holds within itself the total intelligibility of the composite. Aristotle's insistence in H 6 that the potency-actuality relation alone is sufficient to ground the unity is meant only to exclude some third element that would connect the potency and the actuality. The potency-actuality relation *by itself* constitutes a unity, but it does not necessarily constitute a *substantial* unity. That matter and form constitute the most perfect and basic instance of a potency-actuality unity is due precisely to the nature of the things related.

Let me hasten to add, however, that the definitory genus obviously does not designate the matter that underlies the form taken in its entirety, but rather the matter considered with some part of the form. The genus term, therefore, signifies something of the essence. And the differentia, for its part, does not express the whole form; it is but the final determination of the matter, the final feature of the form that distinguishes one species from the others. Thus the determinations expressed by the genus and the differentia represent together only one form. In the definition, the form is, as it were, divided into parts.

[24] Even an accident, for Aristotle, if my reading of 1045a35-b6 is correct, is distinct from a composite insofar as it is a kind of being and a kind of unity by virtue of itself. This does not, of course, preclude the fact that its definition must include its proper subject and is not a definition in the primary sense.

This, of course, is also the view of Z 10. But in Z, even though the form, as object of definition, was in fact expressed by way of the species (cf. Z 12), and hence by way of the composite, still there was no question of a potency-actuality relation. With the potency-actuality relation of H both the unity and the distinctness of the parts of the definition are accounted for. Nevertheless, were it not for the fact that only one form is involved there would be no substantial and therefore no definitory unity.

The unity of form expressed in the definition of substance also explains how T11 can maintain, seemingly against the doctrine of Z 4, that definition is of parts of which one is predicable of the other. (Two-footed, of course, is not predicated of animal as such but only of *this* animal or of this *sort* of animal.) What Z 4 wanted to exclude was the compound made up of a substance and its accident, such as pale man. Its conclusion was that definition is of something one; it is only or primarily of substance. It is quite obvious, however, that the predicative relation between animal as matter and two-footed as form is of quite another order and does not exclude the unity of substance or essence required for definition.

In conclusion, then, in Z Aristotle singled out the definable reality, distinguishing it from species and genus, from merely logical entities, and now in H he has advanced beyond Z to place this reality in its full natural setting, showing it to be the actuality of matter. But since he is concerned with substance precisely as definable, he must attend to the problems relating to definition. Accordingly, the λόγος is seen to present the substance/form, not merely as an essence, but as an essence that is the culmination of a process of generation, the logical genus and the material principle of generation being thereby intimately linked. Hence H, without totally rejecting Z's more logical view of definition, moves beyond the prior book to show how the definable reality is most appropriately ex-

pressed in natural science and how the parts of the definition are best understood. Once seen from the perspective of the potency-actuality relation, the problems concerning the proper place of matter in the definition of natural substance as well as the unity of such definitions are finally solved. Such, in sum, is the schema into which the texts listed at the outset of this article can be seen to fit without inconsistency.

And so Aristotle has made his way from the world of Ideas to the conceptions into which the Ideas have been transformed, and finally to the realities of nature which these conceptions are meant to designate. The post-Platonic naturalist, in other words, has accomplished his aim: to lead his readers from the shadowy world of the Platonists into the full light of nature.

University of Notre Dame,
Notre Dame, Indiana.