

MEANING AND ESSENCE

Excerpts from Aristotle's writings

Aristotle

Source: selected, arranged and edited by Katerina Stathi, Berlin, 2005 (c. 300 BC), translations from <http://classics.mit.edu>.

Introduction

Aristotle contributed to the development of science and philosophy in an extraordinarily wide variety of disciplines, including epistemology, zoology, astronomy, physics, logic, rhetoric, ethics, psychology, and politics. His contribution to language is not encapsulated anywhere in a special treatise devoted to the subject. The study of language and grammar was not pursued as an end in itself by Aristotle, but semantic and syntactic issues are revealed primarily in the study of logic and dialectic. His works on logic were grouped together by his successors under the name of *Organon* 'instrument' (implying that logic is the instrument of scientific inquiry). The *Organon* comprises the following works:¹ *Categories*, *On Interpretation*, *Prior Analytics*, *Posterior Analytics*, *Topics*, *On Sophistical Refutations*. Other works that are relevant to language are the *Poetics* and the *Rhetoric*. For the development of linguistic theory the *Metaphysics* has also played an important role.

Aristotle deals with language explicitly and exclusively only in two places: at the beginning of *On Interpretation* (chapters 1–4) and in the *Poetics* (especially chapter 20) in a digression on the parts of speech. Otherwise, linguistic considerations are intertwined with remarks on ontology, logical analysis, literary style, and rhetoric.

In the *Categories* Aristotle undertakes the project of classifying everything "that is" (*ta onta*). After an introduction to the criteria used in this classification, Aristotle establishes ten categories (substance, quantity, quality, relation, place, time, position, state, action, affection). Although he does not mention anywhere whether this is intended as an exhaustive or an illustrative list, there is a consensus among subsequent analysts that the

list is complete. Of the categories that are established, substance (*ousia*) is distinguished as primary. Substances are independent things, whereas all other categories (non-substances) are dependent on substances, i.e. qualities are necessarily qualities of some substance or other. Although Aristotle's classification is ontological, the ten categories have reflexes in language and correspond to a greater or less degree to linguistic classes. Moreover, in order to establish the categories, Aristotle uses predication (*katēgoresthai*) as a basis for his classification (i.e. sentences like "Socrates is X").

On Interpretation is a treatise on the analysis of propositions and truth and falsity. Aristotle begins with the units out of which a sentence is composed, by defining the *onoma* (noun/topic), the *rhēma* (verb phrase/comment), and the sentence (*logos*).² Among other things, special emphasis is laid on issues of affirmation and negation and the scope of negation. This issue is also dealt with in the *Prior Analytics* which is a theory of syllogistic logic, while *Posterior Analytics* treats syllogism and the scientific method. Aristotle establishes methods for drawing inferences from premises.

In the *Topics* Aristotle presents his theory of dialectic. He develops rules for effective scientific argumentation and refutation. In order to succeed in scientific argumentation, one has to be very accurate about terms. Aristotle distinguishes four elements of primary importance for the discussion of terms: definition, property, genus, and accident. The whole work contains examples of very detailed analyses of words and concepts. *On Sophistical Refutations* is a continuation of the *Topics* with respect to informal fallacies. One has to be aware of fallacies that are due to language as, for example, "homonymy"³ or the wrong interpretation of phrase structure, pronunciation, etc.

In the *Poetics*, Aristotle deals with poetry, which is defined as imitation (*mimēsis*) of reality (the part that has survived to the present day concerns tragedy and epic poetry). Chapter 20 is a digression on the "parts of speech". This must not be interpreted in the technical sense it has today (more or less equivalent to word class), but literally as the parts out of which speech is composed. This comprises the units of language beginning with the smallest (letters/sounds) to the biggest, which is the text. We also find an analysis of metaphor.

The *Rhetoric* is a treatise on oratory and political debate which involves the persuasive use of language. In this work, Aristotle refers to sentences other than declarative ones, which are dealt with in his logical works. The third book is of particular interest for linguistics, since it contains – in modern terms – a discussion of certain aspects of pragmatics (situation of speech, oral vs. written language, etc.), and metaphor is analysed here as well.

The *Metaphysics* contains Aristotle's ontology. Aristotle termed this subject "first philosophy" – the name *Metaphysics* was coined later. It is a work of overwhelming wealth, and its content cannot be summarized in a few

lines. Basically, Aristotle wants to deal with the first causes (*aitiai*) and the principles (*archai*) of things. He studies the "being qua being", i.e. entities in so far as they are entities. From this it follows that he is particularly interested in things that are not subject to change or dependent on matter, i.e. in things that are eternal. In this sense, this science is the "first" and "highest" science. Book VII (or Z) contains his theory of substance, which is more fully developed than in the *Categories*.

Aristotle's influence on linguistic theory has been immense and can be demonstrated in various fields; for examples, see Allan (2004) and Ax (1992). The present selection of passages from Aristotle's writings is intended to cover only the topic of lexicology and issues related to lexical analysis. The material has been arranged in six sections. Section one introduces Aristotle's terminology used in the analysis of things. Section two contains Aristotle's view on words. Section three concerns the parts of speech. Section four is about Aristotle's categorization, based on the *Categories*. These excerpts contain a wealth of interesting observations on lexical relations and other semantic issues. Section five contains Aristotle's views on definition. Section six presents the four "causes", on which James Pustejovsky's theory of qualia structure is based.

Aristotle's views on everything that goes beyond the word level has not been taken into account here. Therefore, his views on truth and falsity (which form the basis of truth-conditional semantics) along with his views on propositions, negation, etc. have not been considered. The same is true for those parts of Aristotle's thinking that have influenced linguistic thought, like the notions "substance", "form", and "matter", which are found in de Saussure's theory. These issues are beyond the scope of this volume. For Aristotle's views on metaphor cf. *Critical Concepts: Metaphor and Figurative Language* (forthcoming).

Excerpts from Aristotle's writings

Translations are taken, with minor corrections, from The Internet Classic Archive (<http://classics.mit.edu>)⁴

1 Terminology

The *Categories* (1a1–15) begins with the following definitions of terms:

Things are said to be named 'equivocally'⁵ when, though they have a common name, the definition corresponding to the name differs for each. Thus, a real man and a figure in a picture can both lay claim to the name 'animal'; yet these are equivocally so named, for, though they have a common name, the definition corresponding to the name differs for each. For should any one define in what sense

each is an animal, his definition in the one case will be appropriate to that case only.

On the other hand, things are said to be named 'univocally'⁶ which have both the name and the definition answering to the name in common. A man and an ox are both 'animal', and these are univocally so named, inasmuch as not only the name, but also the definition, is the same in both cases: for if someone should state in what sense each is an animal, the statement in the one case would be identical with that in the other.

Things are said to be named 'derivatively',⁷ which derive their name from some other name, but differ from it in termination. Thus the grammarian derives his name from the word 'grammar', and the courageous man from the word 'courage'.

2 Words and their meaning

2.1 The symbolic nature of language

In *On Interpretation* (16a3–8) Aristotle says:

Spoken words are symbols of mental experience and written words are symbols of spoken words. Just as all men have not the same writing, so all men have not the same speech sounds, but the mental experiences, which these directly symbolize, are the same for all, as also are those things of which our experiences are the images.

2.2 The conventional nature of language

In *On Interpretation* (16a19, 26–29) Aristotle says:

By a noun we mean a sound significant by convention [...]. The limitation 'by convention' was introduced because nothing is by nature a noun or name – it is only so when it becomes a symbol; inarticulate sounds, such as those which brutes produce, are significant, yet none of these constitutes a noun.

In the *Poetics* (Chapter 21) Aristotle says:

Words are of two kinds, simple and double. By simple I mean those composed of nonsignificant elements, such as *gē* 'earth'. By double or compound, those composed either of a significant and nonsignificant element (though within the whole word no element is significant), or of elements that are both significant. A word may likewise be triple, quadruple, or multiple in form, like so many

Massilian expressions, e.g., 'Hermo-caicoxanthus [who prayed to Father Zeus]'.

3 Elements of language and parts of speech

In the *Poetics* (Part 20) Aristotle says:

Language in general includes the following parts: Letter, Syllable, Connecting Word, Noun, Verb, Inflection or Case, Sentence or Phrase.

[...]

A Connecting Word⁸ is a nonsignificant sound, which neither causes nor hinders the union of many sounds into one significant sound; it may be placed at either end or in the middle of a sentence. Or, a nonsignificant sound, which out of several sounds, each of them significant, is capable of forming one significant sound – as *amphi*, *peri*, and the like. Or, a nonsignificant sound, which marks the beginning, end, or division of a sentence; such, however, that it cannot correctly stand by itself at the beginning of a sentence – as *men*, *etoi*, *de*.

A Noun is a composite significant sound, not marking time, of which no part is in itself significant: for in double or compound words we do not employ the separate parts as if each were in itself significant. Thus in [the name] Theodorus, 'god-given', the *doron* or 'gift' is not in itself significant.

A Verb is a composite significant sound, marking time, in which, as in the noun, no part is in itself significant. For 'man' or 'white' does not express the idea of 'when'; but 'he walks' or 'he has walked' does connote time, present or past.

Inflection belongs both to the noun and verb, and expresses either the relation 'of', 'to', or the like, or that of number, whether one or many, as 'man' or 'men'; or the modes or tones in actual delivery, e.g., a question or a command. 'Did he go?' and 'Go' are verbal inflections of this kind.

4 Categories

In the *Categories* Aristotle says:

Categories (1b25–2a10)

Expressions which are in no way composite signify substance, quantity, quality, relation, place, time, position,⁹ state,¹⁰ action, or

affection. To sketch my meaning roughly, examples of substance are 'man' or 'horse', of quantity, such terms as 'two cubits long' or 'three cubits long', of quality, such attributes as 'white', 'grammatical'. 'Double', 'half', 'greater', fall under the category of relation, 'in the market place', 'in the Lyceum', under that of place, 'yesterday', 'last year', under that of time. 'Lying', 'sitting', are terms indicating position, 'shod', 'armed', state; 'to lance', 'to cauterize', action; 'to be lanced', 'to be cauterized', affection.

No one of these terms, in and by itself, involves an affirmation; it is by the combination of such terms that positive or negative statements arise. For every assertion must, as is admitted, be either true or false, whereas expressions which are not in any way composite such as 'man', 'white', 'runs', 'wins', cannot be either true or false.

Substance

Categories (2a11-2b22)

Substance, in the truest and primary and most definite sense of the word, is that which is neither predicable of a subject nor present in a subject; for instance, the individual man or horse. But in a secondary sense those things are called substances within which, as species, the primary substances are included; also those which, as genera, include the species. For instance, the individual man is included in the species 'man', and the genus to which the species belongs is 'animal'; these, therefore – that is to say, the species 'man' and the genus 'animal' – are termed secondary substances.

It is plain from what has been said that both the name and the definition of the predicate must be predicable of the subject. For instance, 'man' is predicated of the individual man. Now in this case the name of the species 'man' is applied to the individual, for we use the term 'man' in describing the individual; and the definition of 'man' will also be predicated of the individual man, for the individual man is both man and animal. Thus, both the name and the definition of the species are predicable of the individual.

With regard, on the other hand, to those things which are present in a subject, it is generally the case that neither their name nor their definition is predicable of that in which they are present. Though, however, the definition is never predicable, there is nothing in certain cases to prevent the name being used. For instance, 'white' being present in a body is predicated of that in which it is present, for a body is called white: the definition, however, of the colour 'white' is never predicable of the body.

Everything except primary substances is either predicable of a primary substance or present in a primary substance. This becomes evident by reference to particular instances which occur.

'Animal' is predicated of the species 'man', therefore of the individual man, for if there were any individual man of whom it could not be predicated, it could not be predicated of the species 'man' at all. Again, colour is present in a body, therefore in individual bodies, for if there were any individual body in which it was not present, it could not be present in body at all. Thus everything except primary substances is either predicated of primary substances, or is present in them, and if these last did not exist, it would be impossible for anything else to exist.

Of secondary substances, the species is more truly substance than the genus, being more nearly related to primary substance. For if anyone should render an account of what a primary substance is, he would render a more instructive account, and one more proper to the subject, by stating the species than by stating the genus. Thus, he would give a more instructive account of an individual man by stating that he was man than by stating that he was animal, for the former description is peculiar to the individual in a greater degree, while the latter is too general. Again, the man who gives an account of the nature of an individual tree will give a more instructive account by mentioning the species 'tree' than by mentioning the genus 'plant'.

Moreover, primary substances are most properly called substances in virtue of the fact that they are the entities which underlie every else, and that everything else is either predicated of them or present in them. Now the same relation which subsists between primary substance and everything else subsists also between the species and the genus: for the species is to the genus as subject is to predicate, since the genus is predicated of the species, whereas the species cannot be predicated of the genus. Thus we have a second ground for asserting that the species is more truly substance than the genus.

[...]

Categories (2b29-3a28)

It is, then, with good reason that of all that remains, when we exclude primary substances, we concede to species and genera alone the name 'secondary substance', for these alone of all the predicates convey a knowledge of primary substance. For it is by stating the species or the genus that we appropriately define any individual man; and we shall make our definition more exact by stating the

former than by stating the latter. All other things that we state, such as that he is white, that he runs, and so on, are irrelevant to the definition. Thus it is just that these alone, apart from primary substances, should be called substances.

Further, primary substances are most properly so called, because they underlie and are the subjects of everything else. Now the same relation that subsists between primary substance and everything else subsists also between the species and the genus to which the primary substance belongs, on the one hand, and every attribute which is not included within these, on the other. For these are the subjects of all such. If we call an individual man 'skilled in grammar', the predicate is applicable also to the species and to the genus to which he belongs. This law holds good in all cases.

It is a common characteristic of all substance that it is never present in a subject. For primary substance is neither present in a subject nor predicated of a subject; while, with regard to secondary substances, it is clear from the following arguments (apart from others) that they are not present in a subject. For 'man' is predicated of the individual man, but is not present in any subject: for manhood is not present in the individual man. In the same way, 'animal' is also predicated of the individual man, but is not present in him. Again, when a thing is present in a subject, though the name may quite well be applied to that in which it is present, the definition cannot be applied. Yet of secondary substances, not only the name, but also the definition, applies to the subject: we should use both the definition of the species and that of the genus with reference to the individual man. Thus substance cannot be present in a subject.

Yet this is not peculiar to substance, for it is also the case that differentiae cannot be present in subjects. The characteristics 'terrestrial' and 'two-footed' are predicated of the species 'man', but not present in it. For they are not in man. Moreover, the definition of the differentia may be predicated of that of which the differentia itself is predicated. For instance, if the characteristic 'terrestrial' is predicated of the species 'man', the definition also of that characteristic may be used to form the predicate of the species 'man': for 'man' is terrestrial.

[...]

Categories (3b10-4a21, 4b13-18)

All substance appears to signify that which is individual. In the case of primary substance this is indisputably true, for the thing is a unit. In the case of secondary substances, when we speak, for instance, of

'man' or 'animal', our form of speech gives the impression that we are here also indicating that which is individual, but the impression is not strictly true; for a secondary substance is not an individual, but a class with a certain qualification; for it is not one and single as a primary substance is; the words 'man', 'animal', are predicable of more than one subject.

Yet species and genus do not merely indicate quality, like the term 'white'; 'white' indicates quality and nothing further, but species and genus determine the quality with reference to a substance: they signify substance qualitatively differentiated. The determinate qualification covers a larger field in the case of the genus than in that of the species: he who uses the word 'animal' is herein using a word of wider extension than he who uses the word 'man'.¹¹

Another mark of substance is that it has no contrary. What could be the contrary of any primary substance, such as the individual man or animal? It has none. Nor can the species or the genus have a contrary. Yet this characteristic is not peculiar to substance, but is true of many other things, such as quantity. There is nothing that forms the contrary of 'two cubits long' or of 'three cubits long', or of 'ten', or of any such term. Someone may contend that 'much' is the contrary of 'little', or 'great' of 'small', but of definite quantitative terms no contrary exists.

Substance, again, does not appear to admit of variation of degree. I do not mean by this that one substance cannot be more or less truly substance than another, for it has already been stated that this is the case; but that no single substance admits of varying degrees within itself. For instance, one particular substance, 'man', cannot be more or less man either than himself at some other time or than some other man. One man cannot be more man than another, as that which is white may be more or less white than some other white object, or as that which is beautiful may be more or less beautiful than some other beautiful object. The same quality, moreover, is said to subsist in a thing in varying degrees at different times. A body, being white, is said to be whiter at one time than it was before, or, being warm, is said to be warmer or less warm than at some other time. But substance is not said to be more or less that which it is: a man is not more truly a man at one time than he was before, nor is anything, if it is substance, more or less what it is. Substance, then, does not admit of variation of degree.

The most distinctive mark of substance appears to be that, while remaining numerically one and the same, it is capable of admitting contrary qualities. From among things other than substance, we

should find ourselves unable to bring forward any which possessed this mark. Thus, one and the same colour cannot be white and black. Nor can the same one action be good and bad: this law holds good with everything that is not substance. But one and the selfsame substance, while retaining its identity, is yet capable of admitting contrary qualities. The same individual person is at one time white, at another black, at one time warm, at another cold, at one time good, at another bad. [...]

But it is by reason of the modification which takes place within the substance itself that a substance is said to be capable of admitting contrary qualities; for a substance, admits within itself either disease or health, whiteness or blackness. It is in this sense that it is said to be capable of admitting contrary qualities.

To sum up, it is a distinctive mark of substance, that, while remaining numerically one and the same, it is capable of admitting contrary qualities, the modification taking place through a change in the substance itself.

Quantity

Categories (4b20–5a14)

Quantity is either discrete or continuous. Moreover, some quantities are such that each part of the whole has a relative position to the other parts: others have within them no such relation of part to part.

Instances of discrete quantities are number and speech; of continuous, lines, surfaces, solids, and, besides these, time and place.

In the case of the parts of a number, there is no common boundary at which they join. For example: two fives make ten, but the two fives have no common boundary, but are separate; the parts three and seven also do not join at any boundary. Nor, to generalize, would it ever be possible in the case of number that there should be a common boundary among the parts; they are always separate. Number, therefore, is a discrete quantity.

The same is true of speech. That speech is a quantity is evident: for it is measured in long and short syllables. I mean here that speech which is vocal. Moreover, it is a discrete quantity for its parts have no common boundary. There is no common boundary at which the syllables join, but each is separate and distinct from the rest.

A line, on the other hand, is a continuous quantity, for it is possible to find a common boundary at which its parts join. In the case of the line, this common boundary is the point; in the case of the

plane, it is the line: for the parts of the plane have also a common boundary. Similarly you can find a common boundary in the case of the parts of a solid, namely either a line or a plane.

Space and time also belong to this class of quantities. Time, past, present, and future, forms a continuous whole. Space, likewise, is a continuous quantity; for the parts of a solid occupy a certain space, and these have a common boundary; it follows that the parts of space also, which are occupied by the parts of the solid, have the same common boundary as the parts of the solid. Thus, not only time, but space also, is a continuous quantity, for its parts have a common boundary.

[...]

Categories (5a38–5b10)

Strictly speaking, only the things which I have mentioned belong to the category of quantity: everything else that is called quantitative is a quantity in a secondary sense. It is because we have in mind some one of these quantities, properly so called, that we apply quantitative terms to other things. We speak of what is white as large, because the surface over which the white extends is large; we speak of an action or a process as lengthy, because the time covered is long; these things cannot in their own right claim the quantitative epithet. For instance, should any one explain how long an action was, his statement would be made in terms of the time taken, to the effect that it lasted a year, or something of that sort. In the same way, he would explain the size of a white object in terms of surface, for he would state the area which it covered. Thus the things already mentioned, and these alone, are in their intrinsic nature quantities; nothing else can claim the name in its own right, but, if at all, only in a secondary sense.

Categories (5b11–29)

Quantities have no contraries. In the case of definite quantities this is obvious; thus, there is nothing that is the contrary of 'two cubits long' or of 'three cubits long', or of a surface, or of any such quantities. A man might, indeed, argue that 'much' was the contrary of 'little', and 'great' of 'small'. But these are not quantitative, but relative; things are not great or small absolutely, they are so called rather as the result of an act of comparison. For instance, a mountain is called small, a grain large, in virtue of the fact that the latter is greater than others of its kind, the former less. Thus there is a reference here to an external standard,¹² for if the terms 'great' and 'small' were used absolutely, a mountain would never be called small or a grain large. Again, we say that there are many people in

a village, and few in Athens, although those in the city are many times as numerous as those in the village: or we say that a house has many in it, and a theatre few, though those in the theatre far outnumber those in the house. The terms 'two cubits long, three cubits long,' and so on indicate quantity, the terms 'great' and 'small' indicate relation, for they have reference to an external standard.¹³ It is, therefore, plain that these are to be classed as relative.

[...]

Categories (6a19-35)

Quantity does not, it appears, admit of variation of degree. One thing cannot be two cubits long in a greater degree than another. Similarly with regard to number: what is 'three' is not more truly three than what is 'five' is five; nor is one set of three more truly three than another set. Again, one period of time is not said to be more truly time than another. Nor is there any other kind of quantity, of all that have been mentioned, with regard to which variation of degree can be predicated. The category of quantity, therefore, does not admit of variation of degree.

The most distinctive mark of quantity is that equality and inequality are predicated of it. Each of the aforesaid quantities is said to be equal or unequal. For instance, one solid is said to be equal or unequal to another; number, too, and time can have these terms applied to them, indeed can all those kinds of quantity that have been mentioned.

That which is not a quantity can by no means, it would seem, be termed equal or unequal to anything else. One particular disposition or one particular quality, such as whiteness, is by no means compared with another in terms of equality and inequality but rather in terms of similarity. Thus it is the distinctive mark of quantity that it can be called equal and unequal.

Relatives

Categories (6a36-6b6)

Those things are called relative, which, being either said to be of something else or related to something else, are explained by reference to that other thing. For instance, the word 'superior' is explained by reference to something else, for it is superiority over something else that is meant. Similarly, the expression 'double' has this external reference,¹⁴ for it is the double of something else that is meant. So it is with everything else of this kind. There are, moreover, other relatives, e.g. habit, disposition, perception, knowledge, and attitude. The significance of all these is explained by a

reference to something else and in no other way. Thus, a habit is a habit of something, knowledge is knowledge of something, attitude is the attitude of something. So it is with all other relatives that have been mentioned.

[...]

Categories (6b15-7a18)

It is possible for relatives to have contraries. Thus virtue has a contrary, vice, these both being relatives; knowledge, too, has a contrary, ignorance. But this is not the mark of all relatives; 'double' and 'triple' have no contrary, nor indeed has any such term.

It also appears that relatives can admit of variation of degree. For 'like' and 'unlike', 'equal' and 'unequal', have the modifications 'more' and 'less' applied to them, and each of these is relative in character: for the terms 'like' and 'unequal' bear 'unequal' bear a reference to something external. Yet, again, it is not every relative term that admits of variation of degree. No term such as 'double' admits of this modification.

All relatives have correlatives: by the term 'slave' we mean the slave of a master, by the term 'master', the master of a slave; by 'double', the double of its half; by 'half', the half of its double; by 'greater', greater than that which is less; by 'less', less than that which is greater. So it is with every other relative term; but the case we use to express the correlation differs in some instances. Thus, by knowledge we mean knowledge of the knowable; by the knowable, that which is to be apprehended by knowledge; by perception, perception of the perceptible; by the perceptible, that which is apprehended by perception.

[...]

Categories (7a5-18)

Occasionally, perhaps, it is necessary to coin words, if no word exists by which a correlation can adequately be explained. If we define a rudder as necessarily having reference to a boat, our definition will not be appropriate, for the rudder does not have this reference to a boat qua boat, as there are boats which have no rudders. Thus we cannot use the terms reciprocally, for the word 'boat' cannot be said to find its explanation in the word 'rudder'. As there is no existing word, our definition would perhaps be more accurate if we coined some word like 'ruddered' as the correlative of 'rudder'. If we express ourselves thus accurately, at any rate the terms are reciprocally connected, for the 'ruddered' thing is 'ruddered' in virtue of its rudder. So it is in all other cases. A head

will be more accurately defined as the correlative of that which is 'headed' than as that of an animal, for the animal does not have a head qua animal, since many animals have no head.

Quality

Categories (8b25–9a4)

By 'quality' I mean that in virtue of which people are said to be such and such.

Quality is a term that is used in many senses. One sort of quality let us call 'habit' or 'disposition'. Habit differs from disposition in being more lasting and more firmly established. The various kinds of knowledge and of virtue are habits, for knowledge, even when acquired only in a moderate degree, is, it is agreed, abiding in its character and difficult to displace, unless some great mental upheaval takes place, through disease or any such cause. The virtues, also, such as justice, self-restraint, and so on, are not easily dislodged or dismissed, so as to give place to vice.

By a disposition, on the other hand, we mean a condition that is easily changed and quickly gives place to its opposite. Thus, heat, cold, disease, health, and so on are dispositions. For a man is disposed in one way or another with reference to these, but quickly changes, becoming cold instead of warm, ill instead of well. So it is with all other dispositions also, unless through lapse of time a disposition has itself become inveterate and almost impossible to dislodge: in which case we should perhaps go so far as to call it a habit.

[...]

Categories (9a14–35)

Another sort of quality is that in virtue of which, for example, we call men good boxers or runners, or healthy or sickly: in fact it includes all those terms which refer to inborn capacity or incapacity. Such things are not predicated of a person in virtue of his disposition, but in virtue of his inborn capacity or incapacity to do something with ease or to avoid defeat of any kind. Persons are called good boxers or good runners, not in virtue of such and such a disposition, but in virtue of an inborn capacity to accomplish something with ease. Men are called healthy in virtue of the inborn capacity of easy resistance to those unhealthy influences that may ordinarily arise; unhealthy, in virtue of the lack of this capacity. Similarly with regard to softness and hardness. Hardness is predicated of a thing because it has that capacity of resistance which enables it to withstand disintegration; softness, again, is predicated of a thing by reason of the lack of that capacity.

A third class within this category is that of affective qualities and affections. Sweetness, bitterness, sourness, are examples of this sort of quality, together with all that is akin to these; heat, moreover, and cold, whiteness, and blackness are affective qualities. It is evident that these are qualities, for those things that possess them are themselves said to be such and such by reason of their presence. Honey is called sweet because it contains sweetness; the body is called white because it contains whiteness; and so in all other cases.

[...]

Categories (10a11–16)

The fourth sort of quality is figure and the shape that belongs to a thing; and besides this, straightness and curvedness and any other qualities of this type; each of these defines a thing as being such and such. Because it is triangular or quadrangular a thing is said to have a specific character, or again because it is straight or curved; in fact a thing's shape in every case gives rise to a qualification of it.

[...]

Categories (10b12–18, 10b26–32, 11a5–7, 14, 15–19)

One quality may be the contrary of another; thus justice is the contrary of injustice, whiteness of blackness, and so on. The things, also, which are said to be such and such in virtue of these qualities, may be contrary the one to the other; for that which is unjust is contrary to that which is just, that which is white to that which is black. This, however, is not always the case. Red, yellow, and such colours, though qualities, have no contraries.

If one of two contraries is a quality, the other will also be a quality.

[...]

Qualities admit of variation of degree. Whiteness is predicated of one thing in a greater or less degree than of another. This is also the case with reference to justice. Moreover, one and the same thing may exhibit a quality in a greater degree than it did before: if a thing is white, it may become whiter.

Though this is generally the case, there are exceptions. For if we should say that justice admitted of variation of degree, difficulties might ensue, and this is true with regard to all those qualities which are dispositions. [...]

The qualities expressed by the terms 'triangular' and 'quadrangular' do not appear to admit of variation of degree, nor indeed do any that have to do with figure. [...] Thus it is not all qualities which admit of variation of degree.

Whereas none of the characteristics I have mentioned are peculiar to quality, the fact that likeness and unlikeness can be predicated with reference to quality only, gives to that category its distinctive feature. One thing is like another only with reference to that in virtue of which it is such and such; thus this forms the peculiar mark of quality.

Action, Affection, Position, Time, Place, State

Categories (11b1–15)

Action and affection both admit of contraries and also of variation of degree. Heating is the contrary of cooling, being heated of being cooled, being glad of being vexed. Thus they admit of contraries. They also admit of variation of degree: for it is possible to heat in a greater or less degree; also to be heated in a greater or less degree. Thus action and affection also admit of variation of degree. So much, then, is stated with regard to these categories.

We spoke, moreover, of the category of position when we were dealing with that of relation, and stated that such terms derived their names from those of the corresponding attitudes.

As for the rest, time, place, state, since they are easily intelligible, I say no more about them than was said at the beginning, that in the category of state are included such states as 'shod', 'armed', in that of place 'in the Lyceum' and so on, as was explained before.

Having

Categories (15b17–31)

The term 'to have' is used in various senses.¹⁵ In the first place it is used with reference to habit or disposition or any other quality, for we are said to 'have' a piece of knowledge or a virtue. Then, again, it has reference to quantity, as, for instance, in the case of a man's height; for he is said to 'have' a height of three or four cubits. It is used, moreover, with regard to apparel, a man being said to 'have' a coat or tunic; or in respect of something which we have on a part of ourselves, as a ring on the hand: or in respect of something which is a part of us, as hand or foot. The term refers also to content, as in the case of a vessel and wheat, or of a jar and wine; a jar is said to 'have' wine, and a corn-measure wheat. The expression in such cases has reference to content. Or it refers to that which has been acquired; we are said to 'have' a house or a field. A man is also said to 'have' a wife, and a wife a husband, and this appears to be the most remote meaning of the term, for by the use of it we mean simply that the husband lives with the wife.

Other senses of the word might perhaps be found, but the most ordinary ones have all been enumerated.

Opposition

Categories (11b17–23)

We must next explain the various senses in which the term 'opposite' is used. Things are said to be opposed in four senses: (i) as correlatives to one another, (ii) as contraries to one another, (iii) as privatives to positives, (iv) as affirmatives to negatives.

Let me sketch my meaning in outline. An instance of the use of the word 'opposite' with reference to correlatives is afforded by the expressions 'double' and 'half'; with reference to contraries by 'bad' and 'good'. Opposites in the sense of 'privatives' and 'positives' are 'blindness' and 'sight'; in the sense of affirmatives and negatives, the propositions 'he sits', 'he does not sit'.

5 Aristotle on definition

In the *Topics* Aristotle says:

Book I, Part 5

We must now say what are 'definition', 'property', 'genus', and 'accident'. A 'definition' is a phrase signifying a thing's essence. It is rendered in the form either of a phrase in lieu of a term, or of a phrase in lieu of another phrase; for it is sometimes possible to define the meaning of a phrase as well. People whose rendering consists of one term only, try as they may, clearly do not render the definition of the thing in question, because a definition is always a phrase of a certain kind. [. . .]

A 'property' is a predicate which does not indicate the essence of a thing, but yet belongs to that thing alone, and is predicated convertibly of it. Thus it is a property of man to be capable of learning grammar: for if A is human, then he is capable of learning grammar, and if he is capable of learning grammar, he is human. For no one calls anything a 'property' which may possibly belong to something else, e.g. 'sleep' in the case of human, even though at a certain time it may happen to belong to him alone. That is to say, if any such thing were actually to be called a property, it will be called not a 'property' absolutely, but a 'temporary' or a 'relative' property: for 'being on the right hand side' is a temporary property, while 'two-footed' is in point of fact ascribed as a property in certain relations; e.g. it is a property of man relatively to a horse and a dog. That nothing which may belong to anything else than A is a convertible predicate of A is clear: for it does not necessarily follow that if something is asleep it is a human.

A 'genus' is what is predicated in the category of essence of a number of things exhibiting differences in kind. We should treat as predicates in the category of essence all such things as it would be appropriate to mention in reply to the question, 'What is the object before you?'; as, for example, in the case of a man, if asked that question, it is appropriate to say 'He is an animal'. The question, 'Is one thing in the same genus as another or in a different one?' is also a 'genetic' question; for a question of that kind as well falls under the same branch of inquiry as the genus: for having argued that 'animal' is the genus of human, and likewise also of ox, we shall have argued that they are in the same genus; whereas if we show that it is the genus of the one but not of the other, we shall have argued that these things are not in the same genus.

An 'accident' is (i) something which, though it is none of the foregoing – i.e. neither a definition nor a property nor a genus yet belongs to the thing and (ii) something which may possibly either belong or not belong to any one and the self-same thing, as (e.g.) the 'sitting posture' may belong or not belong to some self-same thing. Likewise also 'whiteness', for there is nothing to prevent the same thing being at one time white, and at another not white. Of the definitions of accident the second is the better: for if he adopts the first, any one is bound, if he is to understand it, to know already what 'definition' and 'genus' and 'property' are, whereas the second is sufficient of itself to tell us the essential meaning of the term in question. To Accident are to be attached also all comparisons of things together, when expressed in language that is drawn in any kind of way from what happens (accidit) to be true of them; such as, for example, the question, 'Is the honourable or the expedient preferable?' and 'Is the life of virtue or the life of self-indulgence the pleasanter?', and any other problem which may happen to be phrased in terms like these. For in all such cases the question is 'to which of the two does the predicate in question happen (accidit) to belong more closely?' It is clear on the face of it that there is nothing to prevent an accident from becoming a temporary or relative property. Thus the sitting posture is an accident, but will be a temporary property, whenever a man is the only person sitting, while if he be not the only one sitting, it is still a property relatively to those who are not sitting. So then, there is nothing to prevent an accident from becoming both a relative and a temporary property; but an absolute property it will never be.

Book VI, Part 1

The discussion of Definitions falls into five parts. For you have to show either (1) that it is not true at all to apply the expression as

well to that to which the term is applied (for the definition of Man ought to be true of every man); or (2) that though the object has a genus, he has failed to put the object defined into the genus, or to put it into the appropriate genus (for the framer of a definition should first place the object in its genus, and then append its differences: for of all the elements of the definition the genus is usually supposed to be the principal mark of the essence of what is defined); or (3) that the expression is not peculiar to the object (for, as we said above as well, a definition ought to be peculiar): or else (4) see if, though he has observed all the aforesaid cautions, he has yet failed to define the object, that is, to express its essence. (5) It remains, apart from the foregoing, to see if he has defined it, but defined it incorrectly.

Whether, then, the expression be not also true of that of which the term is true you should proceed to examine according to the commonplace rules that relate to Accident. For there too the question is always 'Is so and so true or untrue?': for whenever we argue that an accident belongs, we declare it to be true, while whenever we argue that it does not belong, we declare it to be untrue. If, again, he has failed to place the object in the appropriate genus, or if the expression be not peculiar to the object, we must go on to examine the case according to the commonplace rules that relate to genus and property.

It remains, then, to prescribe how to investigate whether the object has been either not defined at all, or else defined incorrectly. First, then, we must proceed to examine if it has been defined incorrectly: for with anything it is easier to do it than to do it correctly. Clearly, then, more mistakes are made in the latter task on account of its greater difficulty. Accordingly the attack becomes easier in the latter case than in the former.

Incorrectness falls into two branches: (1) first, the use of obscure language (for the language of a definition ought to be the very clearest possible, seeing that the whole purpose of rendering it is to make something known); (2) secondly, if the expression used is longer than is necessary: for all additional matter in a definition is superfluous. Again, each of the aforesaid branches is divided into a number of others.

Part 2

One commonplace rule, then, in regard to obscurity is, See if the meaning intended by the definition involves an ambiguity with any other, e.g. 'Becoming is a passage into being', or 'Health is the balance of hot and cold elements'. Here 'passage' and 'balance' are

ambiguous terms: it is accordingly not clear which of the several possible senses of the term he intends to convey. Likewise also, if the term defined is used in different senses and he has spoken without distinguishing between them: for then it is not clear to which of them the definition rendered applies, and one can then bring a captious objection on the ground that the definition does not apply to all the things whose definition he has rendered: and this kind of thing is particularly easy in the case where the definer does not see the ambiguity of his terms. Or, again, the questioner may himself distinguish the various senses of the term rendered in the definition, and then institute his argument against each: for if the expression used is not adequate to the subject in any of its senses, it is clear that he cannot have defined it in any sense aright.

Another rule is, See if he has used a metaphorical expression, as, for instance, if he has defined knowledge as 'unshakable', or the earth as a 'nurse', or temperance as a 'harmony'. For a metaphorical expression is always obscure. It is possible, also, to argue sophistically against the user of a metaphorical expression as though he had used it in its literal sense: for the definition stated will not apply to the term defined, e.g. in the case of temperance: for harmony is always found between notes. Moreover, if harmony be the genus of temperance, then the same object will occur in two genera of which neither contains the other: for harmony does not contain virtue, nor virtue harmony. Again, see if he uses terms that are unfamiliar, as when Plato describes the eye as 'brow-shaded', or a certain spider as 'poison-fanged', or the marrow as 'bone-formed'. For an unusual phrase is always obscure.

Sometimes a phrase is used neither ambiguously nor yet metaphorically, nor yet literally, as when the law is said to be the 'measure' or 'image' of things that are by nature just. Such phrases are worse than metaphor; for the latter does make its meaning to some extent clear because of the likeness involved; for those who use metaphors do so always in view of some likeness: whereas this kind of phrase makes nothing clear; for there is no likeness to justify the description 'measure' or 'image', as applied to the law, nor is the law ordinarily so called in a literal sense. So then, if a man says that the law is literally a 'measure' or an 'image', he speaks falsely: for an image is something produced by imitation, and this is not found in the case of the law. If, on the other hand, he does not mean the term literally, it is clear that he has used an unclear expression, and one that is worse than any sort of metaphorical expression.

Moreover, see if from the expression used the definition of the contrary is not clear; for definitions that have been correctly rendered

also indicate their contraries as well. Or, again, see if, when it is merely stated by itself, it is not evident what it defines: just as in the works of the old painters, unless there were an inscription, the figures used to be unrecognizable.

Part 3

If, then, the definition is not clear, you should proceed to examine on lines such as these. If, on the other hand, he has phrased the definition redundantly, first of all look and see whether he has used any attribute that belongs universally, either to real objects in general, or to all that fall under the same genus as the object defined: for the mention of this is sure to be redundant. For the genus ought to divide the object from things in general, and the differentia from any of the things contained in the same genus. Now any term that belongs to everything separates off the given object from absolutely nothing, while any that belongs to all the things that fall under the same genus does not separate it off from the things contained in the same genus. Any addition, then, of that kind will be pointless.

Or see if, though the additional matter may be peculiar to the given term, yet even when it is struck out the rest of the expression too is peculiar and makes clear the essence of the term. Thus, in the definition of man, the addition 'capable of receiving knowledge' is superfluous; for strike it out, and still the expression is peculiar and makes clear his essence. Speaking generally, everything is superfluous upon whose removal the remainder still makes the term that is being defined clear. [. . .]

Moreover, see if anything contained in the definition fails to apply to everything that falls under the same species: for this sort of definition is worse than those which include an attribute belonging to all things universally. For in that case, if the remainder of the expression be peculiar, the whole too will be peculiar: for absolutely always, if to something peculiar anything whatever that is true be added, the whole too becomes peculiar. Whereas if any part of the expression do not apply to everything that falls under the same species, it is impossible that the expression as a whole should be peculiar: for it will not be predicated convertibly with the object; e.g. 'a walking biped animal six feet high': for an expression of that kind is not predicated convertibly with the term, because the attribute 'six feet high' does not belong to everything that falls under the same species.

Again, see if he has said the same thing more than once, saying (e.g.) 'desire' is a 'conation for the pleasant'. For 'desire' is always

'for the pleasant', so that what is the same as desire will also be 'for the pleasant'. Accordingly our definition of desire becomes 'conation-for-the-pleasant': for the word 'desire' is the exact equivalent of the words 'conation for-the-pleasant', so that both alike will be 'for the pleasant'. [. . .] Likewise, too, those fail who say that 'cooling' is 'the privation of natural heat'. For all privation is a privation of some natural attribute, so that the addition of the word 'natural' is superfluous: it would have been enough to say 'privation of heat', for the word 'privation' shows of itself that the heat meant is natural heat.

Again, see if a universal have been mentioned and then a particular case of it be added as well, e.g. 'Equity is a remission of what is expedient and just'; for what is just is a branch of what is expedient and is therefore included in the latter term: its mention is therefore redundant, an addition of the particular after the universal has been already stated. So also, if he defines 'medicine' as 'knowledge of what makes for health in animals and men', or 'the law' as 'the image of what is by nature noble and just'; for what is just is a branch of what is noble, so that he says the same thing more than once.

Part 4

Whether, then, a man defines a thing correctly or incorrectly you should proceed to examine on these and similar lines. But whether he has mentioned and defined its essence or no, should be examined as follows: First of all, see if he has failed to make the definition through terms that are prior and more intelligible. For the reason why the definition is rendered is to make known the term stated, and we make things known by taking not any random terms, but such as are prior and more intelligible, as is done in demonstrations (for so it is with all teaching and learning); accordingly, it is clear that a man who does not define through terms of this kind has not defined at all. Otherwise, there will be more than one definition of the same thing: for clearly he who defines through terms that are prior and more intelligible has also framed a definition, and a better one, so that both would then be definitions of the same object. This sort of view, however, does not generally find acceptance: for of each real object the essence is single: if, then, there are to be a number of definitions of the same thing, the essence of the object will be the same as it is represented to be in each of the definitions, and these representations are not the same, inasmuch as the definitions are different. Clearly, then, any one who has not defined a thing through terms that are prior and more intelligible has not defined it at all.

The statement that a definition has not been made through more intelligible terms may be understood in two senses, either supposing that its terms are absolutely less intelligible, or supposing that they are less intelligible to us: for either sense is possible. Thus absolutely the prior is more intelligible than the posterior, a point, for instance, than a line, a line than a plane, and a plane than a solid; just as also a unit is more intelligible than a number; for it is the prius and starting-point of all number. Likewise, also, a letter is more intelligible than a syllable. Whereas to us it sometimes happens that the converse is the case: for the solid falls under perception most of all more than a plane-and a plane more than a line, and a line more than a point; for most people learn things like the former earlier than the latter; for any ordinary intelligence can grasp them, whereas the others require an exact and exceptional understanding.

Absolutely, then, it is better to try to make what is posterior known through what is prior, inasmuch as such a way of procedure is more scientific. [. . .] [A] correct definition must define a thing through its genus and its differentiae, and these belong to the order of things which are absolutely more intelligible than, and prior to, the species. For annul the genus and differentia, and the species too is annulled, so that these are prior to the species. They are also more intelligible; for if the species be known, the genus and differentia must of necessity be known as well (for any one who knows what a man is knows also what 'animal' and 'walking' are), whereas if the genus or the differentia be known it does not follow of necessity that the species is known as well: thus the species is less intelligible. [. . .]

[. . .]

Of the failure to use terms that are prior there are three forms:

- (1) The first is when an opposite has been defined through its opposite, e.g. good through evil: for opposites are always simultaneous by nature. [. . .] One must, however, observe that it is perhaps not possible to define some things in any other way, e.g. the double without the half, and all the terms that are essentially relative: for in all such cases the essential being is the same as a certain relation to something, so that it is impossible to understand the one term without the other, and accordingly in the definition of the one the other too must be embraced. One ought to learn up all such points as these, and use them as occasion may seem to require.
- (2) Another is if he has used the term defined itself. This passes unobserved when the actual name of the object is not used, e.g. supposing, any one had defined the sun as a 'star that appears by day'.

For in bringing in 'day' he brings in the sun. To detect errors of this sort, exchange the word for its definition, e.g. the definition of 'day' as the 'passage of the sun over the earth'. Clearly, whoever has said 'the passage of the sun over the earth' has said 'the sun', so that in bringing in the 'day' he has brought in the sun.

(3) Again, see if he has defined one coordinate member of a division by another, e.g. 'an odd number' as 'that which is greater by one than an even number'. For the co-ordinate members of a division that are derived from the same genus are simultaneous by nature and 'odd' and 'even' are such terms: for both are differentiae of number.

Likewise also, see if he has defined a superior through a subordinate term, e.g. 'An "even number" is "a number divisible into halves"', or "'the good" is a "state of virtue"'. For 'half' is derived from 'two', and 'two' is an even number: virtue also is a kind of good, so that the latter terms are subordinate to the former. Moreover, in using the subordinate term one is bound to use the other as well: for whoever employs the term 'virtue' employs the term 'good', seeing that virtue is a certain kind of good: likewise, also, whoever employs the term 'half' employs the term 'even', for to be 'divided in half' means to be divided into two, and two is even.

Part 5

Generally speaking, then, one commonplace role relates to the failure to frame the expression by means of terms that are prior and more intelligible: and of this the subdivisions are those specified above. A second is, see whether, though the object is in a genus, it has not been placed in a genus. This sort of error is always found where the essence of the object does not stand first in the expression, e.g. the definition of 'body' as 'that which has three dimensions', or the definition of 'man', supposing any one to give it, as 'that which knows how to count': for it is not stated what it is that has three dimensions, or what it is that knows how to count: whereas the genus is meant to indicate just this, and is submitted first of the terms in the definition.

Moreover, see if, while the term to be defined is used in relation to many things, he has failed to render it in relation to all of them; as (e.g.) if he define 'grammar' as the 'knowledge how to write from dictation': for he ought also to say that it is a knowledge how to read as well. For in rendering it as 'knowledge of writing' has no more defined it than by rendering it as 'knowledge of reading': neither in fact has succeeded, but only he who mentions both these things, since it is impossible that there should be more than one definition of the same thing.

[...]

Part 6

Again, in regard to the differentiae, we must examine in like manner whether the differentiae, too, that he has stated be those of the genus. For if a man has not defined the object by the differentiae peculiar to it, or has mentioned something such as is utterly incapable of being a differentia of anything, e.g. 'animal' or 'substance', clearly he has not defined it at all: for the aforesaid terms do not differentiate anything at all. [...] Likewise, also, see if, though it be true, yet the addition of it to the genus fails to make a species. For then, clearly, this could not be a specific differentia of the genus: for a specific differentia, if added to the genus, always makes a species. If, however, this be no true differentia, no more is the one adduced, seeing that it is a co-ordinate member of a division with this.

[...]

Look and see, further, whether the differentia belongs only by accident to the object defined. For the differentia is never an accidental attribute, any more than the genus is: for the differentia of a thing cannot both belong and not belong to it.

[...]

Part 8

If the term defined be relative, either in itself or in respect of its genus, see whether the definition fails to mention that to which the term, either in itself or in respect of its genus, is relative, e.g. if he has defined 'knowledge' as an 'incontrovertible conception' or 'wishing' as 'painless conation'. For of everything relative the essence is relative to something else, seeing that the being of every relative term is identical with being in a certain relation to something. He ought, therefore, to have said that knowledge is 'conception of a knowable' and that wishing is 'conation for a good'. Likewise, also, if he has defined 'grammar' as 'knowledge of letters': whereas in the definition there ought to be rendered either the thing to which the term itself is relative, or that, whatever it is, to which its genus is relative. [...]

[...]

Part 14

[...]

Also, even when one cannot attack the definition as a whole for lack of acquaintance with the whole, one should attack some part

of it, if one knows that part and sees it to be incorrectly rendered: for if the part be demolished, so too is the whole definition. Where, again, a definition is obscure, one should first of all correct and reshape it in order to make some part of it clear and get a handle for attack, and then proceed to examine it. For the answerer is bound either to accept the sense as taken by the questioner, or else himself to explain clearly whatever it is that his definition means. Moreover, just as in the assemblies the ordinary practice is to move an emendation of the existing law and, if the emendation is better, they repeal the existing law, so one ought to do in the case of definitions as well: one ought oneself to propose a second definition: for if it is seen to be better, and more indicative of the object defined, clearly the definition already laid down will have been demolished, on the principle that there cannot be more than one definition of the same thing.

6 Aristotle's "causes"

Pustejovsky's theory of qualia structure is based on Aristotle's "causes" (*aitiai*). Pustejovsky recognizes four qualia and defines them as follows (1995: 85–86; see also Pustejovsky 1991, reprinted in Volume 2 of this collection):

1. CONSTITUTIVE: The relation between an object and its constituents, or proper parts (including material, weight, parts and component elements).
2. FORMAL: that which distinguishes the object within a larger domain (including orientation, magnitude, shape, dimensionality, color, position).
3. AGENTIVE: Factors involved in the origin or "bringing about" of an object (including creator, artifact, natural kind, causal chain).
4. TELIC: Purpose and function of the object (including i) purpose that an agent has in performing an act and ii) built-in function or aim which specifies certain activities).¹⁶

In *Physics* (Book II, Part 3), Aristotle says:

Now that we have established these distinctions, we must proceed to consider causes, their character and number. Knowledge is the object of our inquiry, and men do not think they know a thing till they have grasped the 'why' of it (which is to grasp its primary cause). So clearly we too must do this as regards both coming to be and passing away and every kind of physical change, in order that, knowing their principles, we may try to refer to these principles each of our problems.

In one sense, then, (1) that out of which a thing comes to be and which persists, is called 'cause', e.g. the bronze of the statue, the silver of the bowl, and the genera of which the bronze and the silver are species.

In another sense (2) the form or the archetype, i.e. the statement of the essence, and its genera, are called 'causes' (e.g. of the octave the relation of 2:1, and generally number), and the parts in the definition.

Again, (3) the primary source of the change or coming to rest; e.g. the man who gave advice is a cause, the father is cause of the child, and generally what makes of what is made and what causes change of what is changed.

Again, (4) in the sense of end or 'that for the sake of which' a thing is done, e.g. health is the cause of walking about. ('Why is he walking about?' we say. 'To be healthy', and, having said that, we think we have assigned the cause.) The same is true also of all the intermediate steps which are brought about through the action of something else as means towards the end, e.g. reduction of flesh, purging, drugs, or surgical instruments are means towards health. All these things are 'for the sake of the end, though they differ from one another in that some are activities, others instruments.

This then perhaps exhausts the number of ways in which the term 'cause' is used.

Notes

- 1 The titles of the works of ancient Greek authors such as Aristotle are traditionally referred to in their Latin translation. The Latin titles of the works mentioned here are as follows: *Categories* = *Categoriae*, *On Interpretation* = *De Interpretatione*, *Prior Analytics* = *Analytica Priora*, *Posterior Analytics* = *Analytica Posteriora*, *Topics* = *Topica*, *On Sophistical Refutations* = *De Sophisticis Elenchis*, *Poetics* = *De Arte Poetica*, *Rhetoric* = *Ars Rhetorica*, *Physics* = *Physica*.
- 2 Later, in the *Poetics*, his system of the "parts of speech" is refined (see below).
- 3 This covers both homonymy and polysemy in modern terms.
- 4 Typing errors and mistranslations have been corrected. Sometimes an alternative translation is provided in footnotes. The texts are translated by E. M. Edghill (*Categories, On Interpretation*), S. H. Butcher (*Poetics*), W. A. Pickard-Cambridge (*Topics*), R. P. Hardie and R. K. Gaye (*Physics*).
- 5 In the original: 'homonymously'.
- 6 In the original: 'synonymously'.
- 7 In the original: 'paronymously'.
- 8 The class of "nonsignificant connecting words" includes prepositions, conjunctions, and particles. Linguistic tradition has made this dichotomy in distinguishing between content words and function words (open-class vs. closed class items).
- 9 Literally, "being-in-a-position"; cf. also Ackrill (1963: 5).

- 10 Literally "having"; cf. also Ackrill (1963: 5).
 11 Since the term "extension" is too theory-laden (although this is what is implied here), Ackrill's translation which is neutral and closer to the original is to be preferred: "One draws a wider boundary with the genus than with the species, for in speaking of animal one takes in more than in speaking of man" (p. 10).
 12 Literally "to another", cf. also Ackrill (1963: 15) and below "something else, other thing".
 13 Cf. previous note.
 14 Ackrill's (1963:17) definition is preferable here: "and what is double is called what it is of something else".
 15 Literally "is said/spoken of in many ways"; cf. also Ackrill (1963). This expression is used by Aristotle whenever he refers to words having two or more senses.
 16 The order of qualia 3 and 4 has been reversed relative to Pustejovsky's order so that they correspond exactly to the sequence of the "causes" in Aristotle's text.

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