

When Words Are Reasoning

Definitions as Strategies of Classification

Words are instruments for modifying our beliefs and affect our decisions. Stevenson (1944) underscored that words have a tendency to alter our knowledge, which he named “descriptive meaning.” Words describe, and at the same time hide, reality (Schiappa 2003). They frame a certain state of affairs by pointing out specific features and leaving out others. This two-fold dimension of names, their nature as instruments for providing and excluding information, is crucial for understanding the strategies of meaning listed in the first chapter. Selecting information always results in hiding some characteristics of a situation. Amplifying, or rather emphasizing some features of a complex state of affairs inevitably results in leaving out other characteristics. According to the selection of features, certain emotions can be triggered and others prevented. The strategies of selection are grounded on the power of words to represent, describe, and refer to reality. Sometimes words are not simply used to select what is important for the conversation, but to distort reality. Dictatorships are called ‘democracies’ while the word ‘pacification’ conceals massacres and human tragedies. However, sometimes the boundary between selecting the relevant aspects of reality and lying becomes, or is made to become, blurred. The meanings of words are altered, and also what they represent. The meanings of some words are altered, and a powerful ambiguity is introduced. Sometimes the effect is funny or ridiculous, but sometimes it is extremely effective. We can open the newspaper and notice how difficult it is to judge the boundaries of the words, between ‘true freedom’ and ‘slavery,’ ‘treason,’ and ‘true patriotism,’ ‘war-making’ and ‘peace enforcement’ (Doyle & Sambanis 2006: 1).

The problem of modifying the meaning of a word leads us to the crucial problem of definition. Since Aristotle, definition has been regarded as the instrument for classifying reality. It is the essential premise that supports the attribution of a property to an entity having specific qualities (Walton 1996: 54). It represents the relationship of identity between a predicate

(the *definiendum*) and other predicates (the *definiens*). Such a relationship was for a long time regarded as the expression of the immutable essence of the thing. This view led to a deadlock: How can this essence be known? How can the mutable and often unshared meanings of words be related to a fixed and unchangeable essence (Sager 2000: 217; Walton 2005a: 169–173)? The distinction between essential and unessential characteristics became more and more controversial (Sager 2000: 216–217) and led to relativistic approaches to definition (Schiappa 2003). From this perspective, if essence cannot be known or does not exist, any definition advanced can be good, as it cannot be verified or falsified. Is definition only a matter of choice? Do the meanings of words only depend on our purpose?

If we want to analyze how definitions are used to name reality and when they can become strategies of manipulation, we need to go back to their function. Our crucial claim is that we need to first understand what the purpose of a definition is in order to analyze its possible structures and its possible force. From this perspective, the questions concerning why, how, and when it is possible to alter the meaning of a word can be tackled by shifting the problem of definition from metaphysics to the realm of reasoning and argumentation. We maintain that definitions need to be considered as premises in the complex reasoning that we trigger when we want to classify reality. Definitions will be inquired into as instruments of classification, as premises having different possible structures and different possible purposes and conditions. In this view, the question of what a definition is turns into the problem of determining the possible strategies in the reasoning used to classify reality.

1. Why Definitions Cannot Be Persuasive

Stevenson claimed that some definitions are persuasive. They can be used to modify our attitude toward reality and affect our choices. However, the two concepts of definition and persuasion seem to be somehow conflicting. A definition, using the ancient Aristotelian account, is supposed to represent the shared meaning of a word, the elements commonly considered to be accepted by everybody (*Topics*, 101b 38-102a 8):

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 a term only, try it 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. One may, however, use the word ‘definitory’ also of such a remark as ‘The “becoming” is “beautiful”’, and likewise also of the question, ‘Are sensation and knowledge the same or different?’, for argument about definitions is mostly concerned with questions of sameness and difference.

Definitions describe what a thing is, or rather what the meaning of a word or phrase is for a specific community. For instance, the most famous definition in the ancient tradition was the definition of man as a ‘mortal rational animate being.’ The famous syllogism proceeded as follows (see Abaelardi, *Dialectica*, 271):

Socrates is a man.

A man is a mortal rational animate being.

Therefore Socrates is a mortal rational animate being.

This piece of reasoning is perfectly sound. However, it does not add much to our knowledge. Any possible interlocutor who maintains the classic definition of man cannot dispute that Socrates is a mortal, rational being. How can something that is shared or accepted by everybody be used to modify an attitude of the interlocutor? How can definitions be persuasive? These questions can be answered starting from the concept of persuasion.

Persuasion was the ground of the ancient rhetorical and dialectical theories. Persuasion had in ancient times a meaning different from what we sometimes associate with embellishment or rhetorical features (Kelly & Bazerman 2003). The word ‘persuasion’ semantically stems from *pístis*, that is, the credit that a speaker obtains by means of his speech, namely, the recipient’s agreement (Rigotti 1995: 11). In this ancient view, “The relation constituted by *pístis* is not only cognitive, but goes through the whole area of human relationships, both institutionalized and personal” (Rigotti 1995: 11). Persuasion is characterized by the freedom of choice, and is the result of a process of modification of one’s beliefs, more specifically propositions he or she is committed to (Walton & Krabbe 1995). When our interlocutors find an argument persuasive, it is generally because they think it is reasonable and it proceeds from premises that they accept or are committed to (Walton 2007a: 86).

The effect of persuasion can be compared to a conceptual change (Baker 2003). It amounts to adapting a viewpoint to the audience’s background knowledge, in order to make it more acceptable. In Baker’s view, this amounts to changing the epistemic status of the solution (Baker 2003: 48). The issue presented needs to be tailored to the interlocutors’ knowledge and interests, and its relevance and importance shown (Sutton 1996: 146; see also Martins et al. 2001). The act of persuasion is aimed at modifying the other’s perception of reality, and therefore influencing his or her autonomous judgments and actions (Simons, Morreale & Gronbeck 2001: 7; Chi & Roscoe 2002). The process of persuasion is therefore an activity that is grounded on what the interlocutor already holds, in order to lead him to modify his view of a controversial standpoint. For instance, if I want to persuade my interlocutor that going to the swimming pool is good, I need to proceed from what *he* holds to be good for him, such as ‘being fit’ or ‘being more attractive.’ If my purpose is to show that the Greek insolvency

can affect the whole European Union, I need to start from premises that are accepted by my audience, such as “When a state becomes insolvent it cannot pay its debts off.” Persuasion is therefore a dialogical process that has been described in argumentation in the models of dialogue called critical discussion and persuasion dialogue. Both models outline normative procedures intended to set out the structure of persuasion.

The first model, developed by Walton (1984; Walton & Krabbe 1995), is grounded on the notion of commitment. Arguments in persuasion dialogues are conceived as patterns of reasoning that transfer the acceptability of the premises, or rather the strength of the interlocutor’s commitments, to the conclusion (Walton 2007a: 87; see also Hahn & Oaksford 2006). This model of dialogue is based on two parties, called the proponent (or speaker) and the opponent (or hearer), and each tries to persuade the other to accept a claim by using arguments. Persuasion dialogues stem from a conflict of opinion, consisting in the respondent’s denial or questioning of the proponent’s position, and presuppose that each party has the capacity and freedom for defending its point of view (see Vanderveken 2001). The dialogue is aimed at altering a dialogical situation in which the interlocutors are committed to incompatible positions (A: Bob stole the milk; B: Bob did not steal the milk), or where the hearer refuses to accept the speaker’s viewpoint (A: Bob stole the milk; B: Why do you say that?). The interlocutors intend to change the other party’s commitments, which can be the description of a state of affairs (Bob stole the milk) or a judgment (Bob is a thief). The instrument to lead the interlocutors to change their position is a chain of arguments following from premises belonging to the knowledge shared by the latter.

The theoretical model of critical discussion has been developed by the *Pragma-Dialectical school*. In van Eemeren and Grootendorst’s view (see van Eemeren & Grootendorst 1984, 1992, 2004), a dialogue aimed at resolving a difference of opinion, called a critical discussion, is characterized by four stages: the confrontation stage, the opening stage, the argumentation stage, and the concluding stage. The confrontation stage represents the starting point of the dialogue, namely, the point in which a point of view is expressed by one party and is not accepted by the other party, who challenges it or cast doubts on it. The second stage is a level in which the parties “try to find out how much relevant common ground they share” (van Eemeren & Grootendorst 2004: 60). At this level the format of the dialogue, background knowledge, the values, and the roles are compared and discussed. At the argumentation stage the participants advance their arguments to support their viewpoint, whereas at the concluding stage the parties establish “what the result is of an attempt to resolve a difference of opinion” (van Eemeren & Grootendorst 2004: 60).

Both models are grounded on a similar notion of persuasion as a change of attitude stemming from a shared or common ground. The interlocutors

can persuade each other because they proceed from a set of shared propositions. At the same time, however, the conclusion needs to be debatable, or at least less acceptable than the premises. In order for a conceptual change to happen, there must be room for a change of a kind. If we maintain that definitions represent a form of truth, or a meaning that everybody agrees upon, how can they be used to persuade the other party? On the other hand, if definitions are only a matter of choice, how can they add any force to the conclusion? If I choose to define a man as ‘a luminous being,’ how can I persuade my interlocutor that he is luminous, if he does not agree with my premise? What is the argumentative foundation of reasoning from definition? What is the structure of classification and how can it be persuasive?

2. Definitions as Premises: Reasoning for Classifying

Reasoning by definition has often been regarded as an indefeasible type of reasoning. Mill (1869: 539) describes it in the following fashion:

Some particular properties of a thing are selected, more or less arbitrarily, to be termed its nature or essence; and when this has been done, these properties are supposed to be invested with a kind of indefeasibleness, to have become paramount to all the other properties of the thing, and incapable of being prevailed over or counteracted by them.

Mill regarded the appeal to the definition as an irrefutable argument. The classification could not be attacked, as it was based on essential features of the thing defined. For instance, in order to prove the absence of a void, the following reasoning was put forward. First, a body was defined as “what can move up and down.” Then, it was applied to a specific case: In the void a body cannot move up and down. From such a premise, by definition, in the void a body is not a body anymore (Mill 1869: 539). This argument was used to disprove the existence of a void, and was wholly grounded on the ‘nature’ of the bodies. However, what is commonly considered as an immutable truth is often a rhetorical strategy to refer to a shared and accepted view, which can be hardly rejected, or rather whose rejection would hardly be considered. The appeal to the definition or the essence becomes a rhetorical strategy of prevention by blocking any possible attack.

From a reasoning perspective, the appeal to the fixed essence of things hides the dialogical and logical roles of definition. Both in the essentialistic and relativistic perspectives, definitions are used to support a conclusion, which can be an absolute truth or a plausible viewpoint. In both cases, definitions are used or chosen to classify reality and are principles that can be shared, or controversial, from which a conclusion follows. However, just as the essence cannot be known, the choice of a definition cannot be arbitrary, at least from a purely strategic point of view. Just as with all the

possible premises on which we ground our reasoning, the force or acceptability of a definition affects the force or acceptability of the conclusion. In the first chapter we noticed how the term ‘enemy combatant’ was implicitly redefined to classify potential terrorists. However, even though the defining authority was the president himself, the redefinition was unsuccessful, as it was promptly rejected.

Within both the essentialist and relativistic approaches, however, only one argumentative dimension is pointed out. Definitions are regarded as the premises supporting a conclusion, but the force of such premises and the effect of such a force are not analyzed. Perelman and Olbrechts-Tyteca, in their *The New Rhetoric* (1969), advance a view of definitions both as standpoints that need to be supported by arguments (such as etymology or consequences) and as arguments grounding a thesis. Definitions, for this reason, are analyzed as the result of an argument and as the premises for an ulterior argumentative move. The correspondence of identity between the *definiens* and the *definiendum* is regarded as a quasi-logical relation, argumentatively warranted (Perelman & Olbrechts-Tyteca 1969: 213).

Definitions, from this perspective, are argumentative instruments for classifying reality. They are argumentative for two reasons: They are premises of an argument and they are sustained by arguments. In order to understand the nature of the force of definition, and how and why some definitions can be better than others, it is necessary to first analyze the structure of the reasoning based on them.

2.1. *The Logical Structure of Classification*

The concept of reasoning from classification can be approached starting from modern accounts. The first to introduce the idea of an argument from classification, or rather a pattern of reasoning aimed at classifying states of affairs, was Hastings. In his Ph.D. thesis (1963), he identified two schemes that can be treated under the label of argument from classification. The first scheme leads from a set of characteristics to the attribution of a predicate to a subject. For instance, we can consider the following argument (from Windes & Hastings 1965: 160):

CLASSIFICATION OF ‘MONOPOLY’

Bounce – O Company controls the manufacture of all Ping-Pong balls in the U.S.
Therefore Bounce – O Company is a Ping-Pong ball monopoly.

The logical link between the classificatory conclusion and the premise can be reconstructed as a premise stating that, “Monopoly is control of the market.” Such a premise is a principle of classification, a possible definition of ‘monopoly.’

In the second scheme, a subject, classified as *X*, is predicated on the definition of *X*. In other words, first a predicate is attributed to a subject

(the subject is classified); then, by virtue of the definition of the predicate, some fundamental characteristics are attributed to the subject. For instance, from the classification of Bounce – O Company as a monopoly the conclusion that Bounce – O Company has no rivals in the market can be drawn. We can notice that the second scheme is the mirror image of the first. The definition used to classify a subject in the latter scheme is applied to the classified subject. We can represent the two argument schemes as follows (see Hastings 1963: 36–52):

ARGUMENT FROM CRITERIA TO VERBAL CLASSIFICATION

Event or object X has characteristics A, B, C, \dots
 If x has characteristics A, B, C, \dots , then x is Q
 Therefore, event or object X is Q

Hastings gives the following example, which can be represented in Figure 3.1 (1963: 36):

In voluntary health insurance you generally get a poor return for your money because overhead and profits of the insurance company eat up huge chunks of the premiums you pay. On individual policies these companies spend for overhead and profits an average of about 60% of what you pay them and only about 40 cents of your premium dollar goes for benefits to policyholders. Obviously such insurance is a mighty poor buy.

Hastings pointed out that the principle of classification needs to be shared by the audience in order for the argument to be acceptable. In order to assess the strength and acceptability of the classification, he listed seven

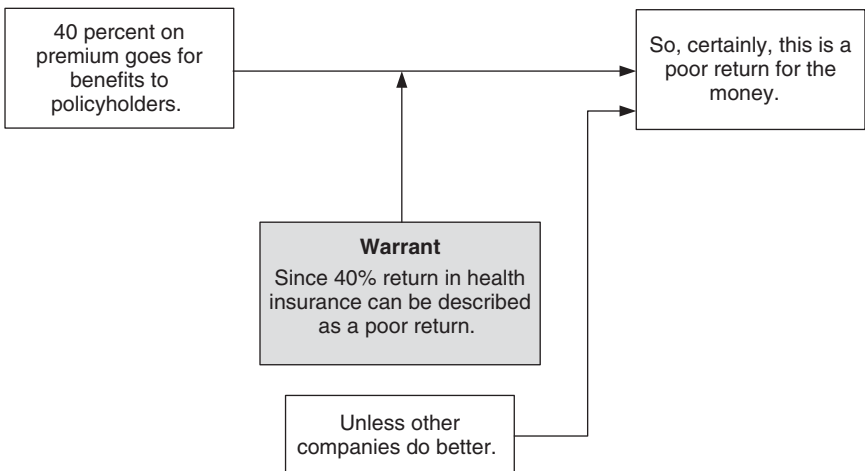


FIGURE 3.1. Hastings' insurance example

critical questions that can be asked to test the premises and the relationship between premises and conclusion (Hastings 1963: 42–45):

CQ ₁	What is the implicit definition being used?
CQ ₂	Is the definition acceptable? Are the criteria acceptable as a definition of the classification, label, adjectival category, etc.?
CQ ₃	Are there exceptions or qualifications to the definition and criteria?
CQ ₄	Are other criteria necessary for an adequate definition?
CQ ₅	Do the characteristics described meet the criteria?
CQ ₆	Are enough characteristics described to justify inclusion in this category?
CQ ₇	Could the event fit better into another category, or be classified differently on the basis of its characteristics?

In Hastings' argument from criteria to verbal classification we notice that the critical questions play a fundamental role. In the structure of the inference nothing is said about the nature of the conditional proposition, whereas the critical questions specify that the strength of the inference depends on the acceptability of the definition.

If the argument from criteria to verbal classification represents the conditions of the predication of a name, an argument from definition to characteristics highlights the structure of the inferences that can be drawn from the predication itself. In his account of argument from definition to characteristics, Hastings (1963: 46–54) underscored that the characteristics predicated in the conclusion may be semantic characteristics stated in the definition, or implications drawn from the definition. As in the case of an argument from classification, the classificatory premise, i.e. the definition, must be acceptable and accepted by the interlocutors, as specified in the critical questions (Hastings 1963: 53):

C.Q. 1	Is the definition an accurate or an agreed upon definition?
C.Q. 2	Do the implications or characteristics follow from the premises?
C.Q. 3	Are any conflicting, inconsistent, or superseding principles involved?

The structure of the scheme can be understood by considering Figure 3.2, which displays the structure of an argument drawn from Robinson (1947: 200).

CASE 1: TOLERANCE

Since you believe in tolerance in all things, you have no right to be so critical of this man's ungentlemanly conduct.

Here the scheme proceeds from an implicit definition of 'tolerance' (tolerance is the acceptance of any kind of behavior or position) that the audience or the interlocutor may agree upon. Such a definition does not correspond

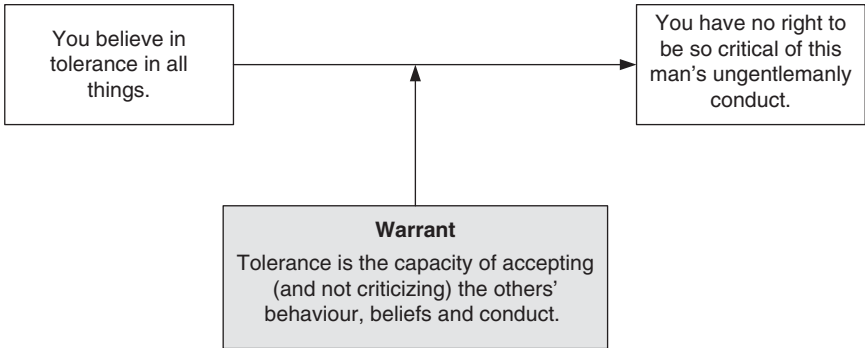


FIGURE 3.2. Inferences from tolerance

to the dictionary, which supposedly reports the common and shared meaning of words. However, the vagueness of the concept of ‘respecting other’s opinions,’ which constitutes the meaning of the word, makes the definition taken for granted somehow acceptable. From a predicate of the definition the conclusion is drawn. Since ‘accepting any kinds of behavior’ is contrary to criticizing them, the interlocutor is not tolerant in criticizing a man’s conduct.

The argument from definition to characteristics can be considered as a form of circular reasoning. Since the definition is taken to be accepted, the conclusion simply states a property of a premise. An argument of the kind, “Bob is a man; therefore he is an animate being” can be formally valid reasoning but an ineffective or at least useless argument. This type of argument becomes dialogically effective when the purpose of the conclusion is not to provide information or support for a potentially debatable viewpoint (which would not be the case, as the definition is already shared) but to perform another type of act, such as condemning, reminding, and so on, as shown in case 1 earlier. The speaker intended to point out an inconsistency rather than persuade the interlocutor. The speaker can also support a controversial conclusion using an apparently accepted or acceptable definition. For instance, we can consider the following case, diagrammed in [Figure 3.3](#) (Hastings 1963: 48):

CASE 2: RESCISSION OF A CONTRACT

If the United States be not a government proper, but an association of States in the nature of contract merely, can it, as a contract be peaceably unmade, by less than all the parties who made it? One party to a contract may violate it – break it, so to speak, but does it not require all to lawfully rescind it?

In this example, the speaker does not use the definition of ‘rescission,’ but the description of a more specific concept, ‘rescission by agreement.’ While a contract can be rescinded for different reasons, a contract can be rescinded by agreement only if the parties thereto actually agree on it. The tautology is only apparent, as the definition only *seems* to be shared.

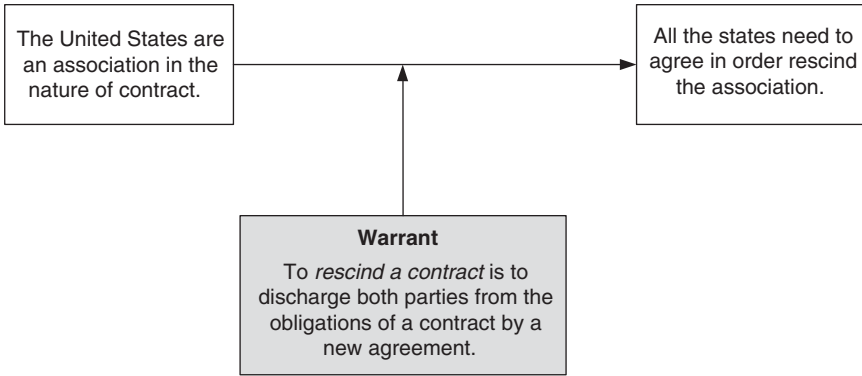


FIGURE 3.3. Structure of contract example

Hastings' description of reasoning from classification points out the crucial importance of the acceptability of the definition, or rather the principle of classification. But he does not inquire into what a definition is, and why a definition can support a conclusion.

2.2. Reasoning from What Is Acceptable

Why can a definition support a conclusion? As seen previously, definitions are not absolute truths. They do not hold valid for everything. The structure of logical inferences proceeds from quantifiers, in particular from the relationship between the universal quantification and the specific instance. For instance, the inference,

SYLLOGISM 1

Socrates is a man.
 Every man is a mortal rational animate being.
 Therefore, Socrates is a mortal rational animate being.

This syllogism is based on the relationship between 'every man' and 'a man,' in this case Socrates. However, reasoning from classification is much more complex than a relation between quantifiers. If we depart from the realm of logic and analyze what is persuasive, we need to acknowledge that while the aforementioned argument can be reasonable, even though it is not persuasive, the following ones cannot be persuasive because they are completely unreasonable (see Van Dijk 1977: 47):

SYLLOGISM 2

Socrates is a man.
Every man is a green without.
 Therefore Socrates is a green without.

SYLLOGISM 3

Socrates is a man.

Every man is an inexistent stone without a surface.

Therefore Socrates is an inexistent stone without a surface.

Even though these definitions are universally quantified, they can hardly be reasonable. They cannot be accepted as descriptions of man, or as descriptions of an entity at all from a grammatical or categorical point of view. Reasoning from classification cannot be simply based on the logical principles of quantification. Moreover, from a purely epistemic point of view, our limited knowledge cannot support a universal statement about the entities. What is the foundation of reasoning from classification?

In the ancient dialectical studies, the relationship between premises and conclusions was supported by a material link, a semantic or causal relationship between the terms. In the Middle Ages, dialectical inferences were analyzed by combining a rule of reasoning, such as the deductive *modus ponens* (if p then q ; p ; therefore q) with a specific relation between the terms (Stump 1989: 6; Abaelardi, *Dialectica*, 264). The terms need to be connected by a reasonable and acceptable relationship. For instance, we can consider the following consequences:

He is a man; therefore he is a rational animate being.

*He is a man; therefore it is sunny today.

The first consequence is valid only because it is known that a “rational animate being” *can* be the definition of ‘man,’ and there is a generally accepted rule of inference, or *maxima propositio* (Boethii, *De Topicis Differentiis*, 1176d), that links the *definiendum* with the definition. On the contrary, no relationship between the terms can be found in the second reasoning. The acceptability and reasonableness of the inference depends on the local semantic connection between the terms (genus–species; cause–effect ...), which was called *habitus*.¹ Such a *habitus* needs to be reasonable and acceptable. For instance, in syllogisms 2 and 3 the relationship between the terms is unreasonable and unacceptable, and therefore the conclusion cannot follow.

The logical structure of reasoning from classification was developed by Kienpointner (1992). In *Alltagslogik* he analyzed the principles supporting

¹ “Unde sit locus, requiritur, a specie respondemus scientes ‘hominem’ ad ‘animal’ secundum hoc quod species eius est antecedere; cuius quidem interrogationis sententiam diligenter inquiramus” (Abaelardi, *Dialectica*, 264). “Itaque tam ex loca differentia quam ex maxima propositione firmitas inferentiae custoditur, alio tamen et alio modo; ex differentia quidem hoc modo quod ipsa in antecedenti posita uim inferentiae tenet secundum habitudinem ex qua consequenti comparatur. Oportet enim in ipso antecedenti semper de loco differentia agi [qui] secundum habitudinem ex qua ad illatum terminum inferendum adducitur.” (Abaelardi, *Dialectica*, 263–264).

a classification, some of the *maximae propositiones* that allow a categorization of a state of affairs to follow from a definition. Two schemes from definition were identified and can be represented as follows (Kienpointner 1992: 250–252):

Schemes – Argument from definition

What is predicated of the definition is also predicated of the *definiendum*, and vice versa.

X is predicated of the definition.

Therefore *X* is predicated of the *definiendum*.

What the *definiendum* is predicated of, also the definition is predicated of.

The *definiendum* is predicated of *X*.

Therefore the definition is predicated of *X*.

These schemes are descriptive, as they support a description of reality instead of an action or a decision. In these schemes, the definition can be substituted by the interpretation of the name (Kienpointner 1992: 259). According to this perspective, definition is necessary to the process of classification. Without a unique definition of a term, the same reality can be contradictorily classified. For instance, the word ‘full employment’ can be defined as ‘a situation in which only 5.5% of the population of a country is unemployed.’ If this definition is considered, a country like the United States can be classified as and characterized by ‘full employment.’ On the other hand, the same term can be defined as ‘a country in which all the employable adult people have a full-time activity.’ In this case, the same country would not be classified or characterized as ‘full employment.’

Kienpointner’s account, we can notice, revives the ancient tradition on topics. The major premise of the schemes, such as “What is predicated of the definition is also predicated of the *definiendum*, and vice versa” represents the ancient maxim of the *locus* from definition (see, e.g., Boethii, *In Ciceronis Topica*, 1059c). However, in its scheme it is not clear how the general principle (the maxim) is related to the premise that needs to be accepted or acceptable, namely, the definition.

Classification can be conceived as a type of reasoning grounded on plausible, or defeasible premises, and a semantic principle connecting them. How can the logical structure be related to the semantic link? How are the two dimensions of classification connected?

2.3. *The Structure of Reasoning from Classification*

As noticed previously, the relationship between premises and conclusion in a classification needs to be grounded on a principle that is shared or acceptable by the interlocutor. It would be unreasonable to claim, “This is a table, as it moves fast and is really funny.” The existence of several

ways of classifying the same state of affairs does not result in the fact that any method of classification is good, or that they are all equally acceptable or effective. Interpreting the ancient concept of definition developed in Aristotle's *Topics* (Giuliani 1972: 130), definitions can be conceived as *endoxa*, or commonly accepted opinions. From this view, definitions are a matter of commitment, that is, they depend on what is shared or can be shared between the interlocutors. How can the acceptability of a premise be included in the reasoning structure of an inference? How can the semantic relation be considered in a quasi-logical inferential structure?

As seen in the previous chapter, in Walton (1996: 54) Hastings' argument from criteria to verbal classification was developed specifying the nature of the consequence. Instead of expressing the relationship between characteristics and classification as a generic consequence (if p , then q), Walton specified the nature of the link as classificatory and expressed it as follows: "If some particular thing a can be classified as falling under verbal category C , then a has property F in virtue of such a classification." This type of reasoning proceeds from a universal generalization that cannot describe ordinary reasoning, subject to default and based on incomplete knowledge. Reasoning from classification needs to be described as a type of inference grounded on an acceptable and plausible premise. From a logical point of view, such a major premise, or warrant, to use Toulmin's term,² is a qualified generalization. This generalization is subject to exceptions, and hence the argument based on it is *defeasible*. This means that the argument can default if it is found that the case in point constitutes an exception to the rule. Such reasoning typically takes a form of argument studied in Walton (2004, chapter 4) and can be applied to the aforementioned scheme as follows (Walton 2005b: 107):

DEFEASIBLE *MODUS PONENS* FROM CLASSIFICATION

Premise 1	Generally, but subject to exceptions, if something has property C , you can also expect it to have property F .
Premise 2	Object a has property C .
Conclusion	Object a has property F .

This form of argument is called "defeasible *modus ponens*" (DMP), as opposed to the deductively valid form of *modus ponens* that is so familiar in deductive logic: If A then B ; A ; therefore B . A DMP is a special subtype

² Toulmin (1958: 103–107). Toulmin clearly saw inference warrants as defeasible in his model of argument. He expressed the conclusion using the wording "so, presumably," basing it on an inference containing an "unless" qualifier. If the qualifier is supported by evidence of an exception, the warrant is subject to default and the conclusion may not follow from the premises (1958: 105).

of *modus ponens* argument that applies to defeasible arguments.³ DMP is a common form of reasoning in argumentation, especially in arguments from and concluding to a classification.

The etymology of the term ‘defeasible’ comes from medieval English contract law, referring to a contract that has a clause in it that could defeat the contract in a case where special circumstances fit the clause. However, the origin of the term in modern philosophy is from a paper entitled “The Ascription of Responsibility and Rights” by Hart (1949; 1951). According to Hart, defeasible claims can be challenged either by a denial of the facts upon which they are based, or by a plea that circumstances are present that bring the case under some recognized head of exception (1951: 147–148). Hart (1961) also showed that defeasible reasoning arises from the use of defeasible concepts, using his famous example of the rule that no vehicles are allowed in the park. This rule could be defeated by issues of classification. For example, a car is classified as a vehicle, but what about a bicycle? Is it a vehicle? Both sides could be argued, in the absence of a law making a specific ruling. The best way of dealing with such disputes, we will contend, is to view arguments based on classification as defeasible.

The notion of *defeasible modus ponens*, however, seems to beg the question. The inference proceeds from a premise that cannot be universal, but only valid for most of the times. If the major premise is not universal, how can the inference be valid? A possible answer can be found in the ancient dialectical tradition that Kienpointner (1992) revived in his schemes. Kienpointner showed that the inference was based on the specific semantic principle connecting the definition to the thing defined. The link between premise and conclusion, or rather properties and classification, is not conceived as a relationship of quantification, but a semantic link based on the meaning of ‘definition’ (see the scheme from definition in Walton, Reed & Macagno 2008: 319). For instance, we can apply Kienpointner’s scheme as follows:

The <i>definiendum</i> is predicated of X.	Bob is a man.
What the <i>definiendum</i> is predicated of, also the definition is predicated of.	If Bob is a man, then Bob is a rational animal.
Therefore the definition is predicated of X.	Therefore Bob is a rational animal.

We can notice that if the semantic link is clear, the logical one is missing. The relationship between the semantic principle and the logical one is not stated: The endoxical (or commonly accepted) premise that a “rational

³ Verheij (2003) has recognized DMP as a form of argument widely used in legal argumentation.

animal is the definition of man” is lacking here. The only possible inference that can be drawn from the premises is the following:

The <i>definiendum</i> is predicated of X.	Bob is a man.
What the <i>definiendum</i> is predicated of, also the definition is predicated of.	If Bob is a man, then the definition of man is predicated of Bob.
Therefore the definition is predicated of X.	Therefore the definition of man is predicated of Bob.

In order to account for the relationship between semantics and logic, we can represent the structure of the inference as follows (see Rigotti & Greco 2006):

Maxim	Endoxon
What the <i>definiendum</i> is predicated of, also the definition is predicated of.	Rational animal is the definition of man
Preliminary conclusion:	
What man is predicated of, also rational animal is predicated of.	
The <i>definiendum</i> is predicated of X.	Bob is a man.
Therefore the definition is predicated of X.	Bob is a rational animal.

This structure of inference accounts for the double reasoning passage, in which the semantic principle logically applies to the premises. This complex pattern can be summarized in an argumentation scheme in which the defeasibility of the scheme is bound to the semantic relation. We can represent such as scheme by developing the scheme presented in Walton, Reed and Macagno (2008: 319; see Macagno & Walton 2009a: 96):

ARGUMENTATION SCHEME 7: REASONING FROM DEFEASIBLE
CLASSIFICATION

Definition Premise	<i>a</i> fits definition <i>D</i> .
Classification Premise	For all <i>x</i> , if <i>x</i> fits definition <i>D</i> , and <i>D</i> is the definition of <i>G</i> , then <i>x</i> can be classified as <i>F</i> .
Conclusion	<i>a</i> has property <i>F</i> .

In this scheme, we can notice that the reasonableness of the inference is guaranteed by the relation between the definition and its *definiendum*, whereas the relation between the endoxical premise and the relation between *definiens* and *definiendum* is represented by the additional premise “*D* is the definition of *G*.” The classification premise could also be

represented as, “What the *definiendum* is predicated of, also the definition is predicated of, and *D* is the definition of *G*.” The universal quantification of the semantic relation is defaultive, in the sense that it is valid only if the condition “*D* is the definition of *G*” applies. *D* needs to be accepted by the interlocutor as the definition of *G* for the inference to be acceptable. The critical questions appropriate for this version of the argument from verbal classification are the following (from Walton, Reed & Macagno 2008: 319):

CQ ₁	What evidence is there that <i>D</i> is an adequate definition of <i>G</i> , in light of other possible alternative definitions that might exclude <i>a</i> 's having <i>G</i> ?
CQ ₂	Is the verbal classification in the classification premise based merely on a stipulative or biased definition that is subject to doubt?
CQ ₃	Does <i>a</i> actually fit definition <i>D</i> ?

The first two critical questions represent the possible reasons for not accepting that *D* is *the* definition of *G*, while the last one is aimed at undermining the factual premise (*a* is *D*). A definition can be attacked based on a comparison with alternative accounts (CQ₁) or reasons internal to the definition itself (CQ₂). For instance, the definition may not be convertible with the *definiendum*, or it may describe a different concept.

3. Definitions and Definitional Structure

The analysis of the argument schemes from verbal classification shows how the link between the premises and conclusion is grounded on a semantic link, called *maxim* in the ancient dialectical tradition, and an endoxical, or commonly shared premise (the definition). In the previous section, we took into account the structure of the inference, showing how the conclusion depends on two conditions:

1. The object *x* must fit the definition *D*.
2. *D* must be accepted as the definition of *G*.

How can the concept of definition be related to a principle of inference? How is the maxim connected with a semantic principle (*to be the definition of*)? What is a definition?

If we analyze the way we classify reality or argue from definitions, we can notice that there are several definitions for the same concept (see Gallie 1956). We often argue because we do not have the same understanding of a concept, because our definition does not correspond to our interlocutor's. What is democracy? What is peace? The problem, however, is not simply limited to the existence of different definitions intended as definitional discourses. The fact is that there are also different definitions in the sense of definitional methods. Victorinus, in

his *Liber de Definitionibus*,⁴ lists fifteen different types of definitions. For instance, a concept such as ‘man’ can be defined as ‘the rational animal,’ ‘the animal that can pity the Gods,’ ‘the featherless biped,’ ‘the being composed of two legs, a head, two arms...,’ ‘the being to which *Homo sapiens sapiens* and *Homo sapiens idaltu* belong,’ and so on. Definitions can be different for their semantic content (‘Man is the rational animal’ and ‘Man is the laughing animal’) but also for their structure (‘Man is the rational animal’ and ‘Man is the being composed of two legs, a head, two arms, etc’).

The acceptability of a definitional discourse needs to be distinguished from the strength of a definitional structure. For instance, we can consider the following arguments grounded on two different definitions of ‘monopoly’:

Pop Cola is <i>controlling the soft drinks market</i> . Therefore it is a monopoly.	A monopoly is a company that exclusively controls the market.
Pop Cola is a <i>big soft drinks company</i> . Therefore it is a monopoly.	A monopoly is a big industry in a field of activity.

The second argument is based on a definition that cannot be accepted. ‘Big industry in a field of activity’ might describe what a corporation or specialized firm is, but it cannot define ‘monopoly.’ The acceptability of the definitional discourse is different from the acceptability and strength of the structure of a definition. For instance, if we analyze the following argument, we can notice that it is clearly unreasonable:

3. This object is white. Therefore it is a bag

‘To be white’ cannot be considered as a definition of ‘bag.’ It does not tell what a bag can be, nor does it describe its possible properties. The relationship between the premise and conclusion cannot even be retrieved, as it cannot even be identified with a possible definition. The alleged definitional link is not simply unacceptable, but unreasonable. On the contrary, the following cases would be commonly accepted as reasonable arguments.

4. This object is a container of flexible material that is used for carrying or storing items. Therefore it is a bag.
5. This object is something which you can carry by hand and you can put stuff into. Therefore it is a bag.
6. This object is used for baggage (*bagage*). Therefore it is a bag.
7. This object has two handles and a sack. Therefore it is a bag.

Such arguments are grounded on a specific and clear definitional relation between the qualities mentioned in the premise and the property

⁴ See also Boethii *Liber de Diffinitione*.

Genus-species definition		Definition by parts	
This object is a container of flexible material that is used for carrying or storing items.	A	This object has two handles and a sack.	B
(A bag is a container of flexible material that is used for carrying or storing items.)	$A \leftrightarrow B$	(A bag is characterized by two handles and a sack.)	$A \rightarrow B$
Therefore it is a bag.	B	Therefore it is a bag.	A

FIGURE 3.4. Logical properties of definitions

attributed to the object in the conclusion. The features that the object is claimed to possess are forms of definition of the property attributed to the object in the conclusion. However, these arguments differ because of the nature or structure of the definition they are based on. Definition (4) is commonly considered to be the genus-difference definition of ‘bag,’ that is, a definition showing the most generic semantic features, and the characteristics distinguishing the *definiendum* from other concepts of a language. Definition (5) is a definite description, that is, a definition in which only the attributes proper to the *definiendum* are pointed out, or some of its characteristic accidents. Definition (6) is a definition by etymology, in which the *definitum* is described by showing its relationship with the words from which it historically stemmed. Definition (7) is a definition by parts, highlighting the material or quantitative parts of the object that the *definiendum* refers to is made of.

These definitions are different from a logical, semantic, and pragmatic perspective. Definitions (4), (5), and (6) are commonly considered as convertible with the *definiendum*, as they represent respectively its fundamental semantic features, the attributes or the combination of attributes that can refer only to it, and its etymology. In contrast, the definition by parts is not convertible; even if a bag always has two handles and a sack, two handles and a sack can be something entirely different from a bag if the way they are combined is not specified. The parts in themselves (and not their specific connection, which would constitute a genus) can be conceived only as signs or presumptions that the object is a bag, just like the fact that a being has two feet and no feathers is a possible sign that it can be a man. From a logical perspective, it is apparent from the previous examples how different definitions have different logical properties. An argument from genus-difference definition (4) is much stronger from a logical point of view than an argument from mereological definition (7). The former is convertible with the *definiendum* and represents the semantic features that the interlocutors are supposed to share in order to understand each other. On the contrary, a simple list of the quantitative parts an object is made of cannot be convertible. We can represent the different logical structures of the two definitions (indicated in the column on the right of each definition) in Figure 3.4.

While in the first case the definition allows a type of deductive reasoning, in the second case a different form of reasoning is triggered that proceeds from a necessary condition, but not a sufficient one.

The logical structure of the definition can also be affected by the specific semantic relation between the *definiendum* and the predicates in the definition. For instance, the definition of a bag as ‘a container’ has logical properties different from its description as a ‘white thing with the logo of a shop on it.’ In the first case we are pointing out a necessary condition of being a bag, while in the second we are listing some characteristics that can be said of many different entities. Depending on the semantic relationship, the logical properties may vary. For instance, arguments based on definite descriptions (such as Definition 5) can be convertible or not, depending on whether they describe the concept using a property that can be attributed only to it or a generic and common characteristic. For instance, if we claim that this being is a horse because it whinnies, we are proceeding from a property that only horses have. On the contrary, if we support such a conclusion maintaining that it is a proud or noble animal, we are defining ‘horse’ using prototypical or stereotypical attributes that can be predicated of many other animals or beings. Independently from the acceptability of the shared knowledge expressed by the definition, the propositional structure of the definition itself can determine the logical properties of the arguments proceeding from it.

From a pragmatic perspective, the argumentative effectiveness of a definition depends on the context of its use and the knowledge it presupposes. An argument based on an essential definition can be used only when the essential features of the object are already known by the hearer. The interlocutor needs to share the taxonomy, or rather the structure of the semantic system. For instance, in (4) the hearer needs to know that the entity is used for carrying items in order to classify it as a bag. In contrast, an argument based on a definition by parts can be used when only physical evidence is given. For instance, even in cases in which the purpose of the object is unknown, it is possible to cite its physical characteristics. A definition from etymology leads to arguments from classification especially aimed at generating the possible implications of the already classified object (you are a counselor; therefore you should advise, not advocate). Definitions by descriptions are the most argumentatively and rhetorically powerful, as from the choice of the properties a value judgment can be suggested. For instance, we can consider the following definitions of ‘embezzlement’:

8. Embezzlement is theft of assets (usually money) entrusted to your care.
9. Embezzlement is the siphoning of another’s money.
10. Embezzlement is a fraud committed by many employees.

Definition (8) is a definition by genus and species in which the most important semantic features of the *definiendum* are pointed out. The *definiendum* is explained by connecting it to the more generic and shared concept of ‘theft,’ and differentiating the thing defined by the other types of theft using the difference ‘of assets entrusted of your care.’ On the contrary, (9) and (10) are

not aimed at describing a concept, but rather at hiding it behind a metaphor (in Definition 9) or eliciting a value judgment in Definition 10, where it corresponds to a justification based on an appeal to popular practice. In (10), in particular, the *definiendum* is described by means of one of the possible properties that can be attributed to it, but in this fashion its meaning is only vaguely explained. As noticed in the previous chapter, knowing what a concept is, and situating it within one's own system of desires, is essential for judging the thing defined. Whereas in (8) the concept of 'embezzlement' is clearly connected with notions the interlocutor is acquainted with (theft, company money), in (9) and (10) a clear value judgment is harder to be elicited. Where the notion of 'theft' is shared and commonly judged as negative, 'siphoning' or 'fraud' are vague and less known, and the popularity of a crime can make it more acceptable or at least less contemptible (see Blakey 1982 for the use of euphemisms in law).

Definition refers to different types of phrases, using an Aristotelian term (*Topics*, 101b 39). Aristotle refers to all phrases that may be advanced to establish the identity between two concepts as *definitory* (102a 6). All such definitions have different purposes and different logical properties. Who advances a definition claims that an identity exists between the *definiendum* and the definition. Such an identity can be based on semantic features or physical properties. However, some definitions can structurally establish an identity, while others cannot. What makes a definition a good one? What are the characteristics of a definition? How is it possible to assess a definition? In order to answer these questions it is necessary to introduce the Aristotelian semantic system and his theory of logical properties of semantic relations.

4. The Nature of Definition: The Tradition and the Theory of Predicables

In the ancient rhetorical tradition the types of definitions were described according to their argumentative and strategic force. However, the strongest definition was considered the genus-difference definition, also called "essential," which was identified as the only proper one.⁵ Together with the definition by parts and etymology, the essential definition was considered

⁵ "Quaerit homo quid sit: huic utique genus est animal. Cum igitur in definitione qua explicabo quid sit homo 'animal' dixerō ac deinde reliqua conectam, erit substantialis definitio; substantiam enim hominis declaravi, cum dixi 'animal'. [...] Haec substantialis esse dicitur et haec propria, haec integra, haec a philosophis probata, ita ut alio modo facta definitio numquam esse dicatur." (Victorini, *Liber de Definitionibus*, 7, 23–8, 4). "Ergo praeceptis et dialecticorum et philosophorum illud tenere debemus: non esse definitionem nisi solam quae in ea re quam definitam volumus, primum quam eius rei 'esse' intellegimus, declarat atque ostendat substantiam. Hoc ut apertus fiat, hic docebimus nullam esse definitionem certam integram approbandam nisi eam quam dicunt philosophi substantialem." (*Liber de Definitionibus*, 7, 10–16).

as “substantial,” as it made clear what the defined concept was. The force of such a definition depended on the inferences that its structure allowed.

Aristotle, in his *Topics*, laid the fundamentals of his dialectical studies of classification. In this work, Aristotle distinguished between the four predicables, which are four classes of semantic-logical relations of predication. These relations are formulated in the form of intrinsic topics, namely, instruments of discovery and inference warrants, which are directly connected to the subject of discussion. Aristotle distinguished four predicables: **genus** (e.g., ‘A house is a building’), **definition** (e.g., ‘A house is a building that serves as living quarters for one or a few families’), **property** (e.g., ‘Do up a house,’ which is said of ‘house’ only), and **accident** (e.g., ‘red’ or ‘nice’ said of ‘house’). All the predicables can be predicated of the species, which in these examples is ‘house.’ The species, conceived by Aristotle as a thing, can be interpreted as a categorization of a fragment of reality that we can describe as the meaning of a word.⁶ The species (or concept) is that which can be predicated of more individuals different in number (e.g., ‘house’ can be predicated of my house, or my neighbor’s house....), and falls outside the domain of dialectic. Dialectic is concerned with relations between concepts, not about reasoning relative to the particular objects (Crowley & Hawhee 1999: 54; Green-Pedersen 1984: 119)⁷.

The predicables are divided into two groups according to their semantic properties. The first class incorporates the predicables that can reveal the essence of the thing, that is (see Rigotti & Greco 2006) what the concept is or, rather, its fundamental characteristics (Stebbing 1933: 429). Genus and definition fall into this group. The second class is characterized by not expressing the essence of the thing, and incorporates property and accident. On the other hand, a second division of the predicables is advanced in *Topics* and is relative to the logical properties. While definition and property are convertible with the species they are predicated of, genus and accident are not. We can represent such a classification as shown in Figure 3.5.

From this broad division it is possible to understand the definition of the predicables. The **genus** answers the question “*What is it?*” and reveals the essence of the thing, without being convertible with the species it is

⁶ This interpretation is coherent with Aristotle’s perspective of dialectic. Dialectic does not deal with objects and individuals (what we can call ‘things’), but with species, namely, linguistic organizations of reality. He is not interested in the matter, but in the form, that is in the relevant semantic properties of the concepts.

⁷ Aristotle (*Topics*, 104a 7–13) considers a dialectical proposition to be a proposition held by everybody, or the majority, or the wise. Dialectics (*Topics*, 105b 30–33) is about philosophy, and philosophy is not concerned with particulars. In the Middle Age, the account of the predicables is different. Medieval tradition stems, in fact, from Porphyry’s *Isagoges*, in which the species is considered to be a predicable, along with property, difference, genus, and accident. This distinction is extremely helpful in the process of *stasis*.

SEMANTIC DIMENSION <i>Logical dimension</i>	SHOWING THE ESSENCE		NOT SHOWING THE ESSENCE	
	Definition	Genus	Property	Accident
<i>Convertible with the thing.</i>	Ex: Man is a reasonable animal.		Ex: to laugh (man).	
<i>Not convertible with the thing.</i>		Ex: Man is an animal.		Ex: This man is strong.

FIGURE 3.5. The predicables

predicated of. It is predicated of several species. For instance, the genus (or rather the proximate genus) of man is an ‘animate being’: in fact, it would be meaningless to say “*This is a man, but he is not an animate being.*” The **definition** is that which is convertible with the species it is predicated of and reveals the essence of it. It is constituted by the proximate genus and the specific difference.⁸ For instance, the definition of man that was agreed upon in the Middle Ages was “animal, mortal, rational,” as “being animate” distinguished man from plants, “being rational” from the beasts, and “being mortal” from the other rational being, God. The difference divides the generic feature in its species, which in their turn are inferior genera to be divided by a further difference. Obviously, the same genus can be divided differently. The structure of division can be represented as in Figure 3.6 (Boethii, *Porphyrii Isagoge, Translatio Boethii*, II; Damasceni, *Dialectica*, 30, 7–24).

The **property** is what is convertible with the subject it is predicated of, without expressing the essence of the thing. In other words, the property is absolutely or relatively predicable of only one thing. In order to explain this concept, it is useful to use some examples. The adjectives indicating colors, such as ‘yellow,’ ‘blue,’ and so on, can be attributed only to what can be a ‘surface’ (or a metaphor for an entity having a surface). The famous example of ‘green ideas’ clearly shows how the breach of the property results in ungrammaticality. Similarly, only animate bodies can ‘sleep.’ The adverb ‘pitch’ can only be predicated of the term ‘black,’ just like the phrase ‘as a bull’ of the adjective ‘strong.’ ‘*Grammaticus*’, in the Aristotelian and medieval tradition, was considered the property of man, since it cannot be predicated of any other being. This property differentiates the concept from everything else.

⁸ A good example of this procedure is found in Cicero’s *Topics* (Ciceronis, *Topica*, XXVIII): “Hereditas est pecunia. Commune adhuc; multa enim genera pecuniae. Adde quod sequitur: quae morte alicuius ad quempiam pervenit. Nondum est definitio; multis enim modis sine hereditate teneri pecuniae mortuorum possunt. Unum adde verbum: iure; iam a communitate res diiuncta videbitur, ut sit explicata definitio sic: Hereditas est pecunia quae morte alicuius ad quempiam pervenit iure. Nondum est satis; adde: nec ea aut legata testamento aut possessione retenta; confectum est.”

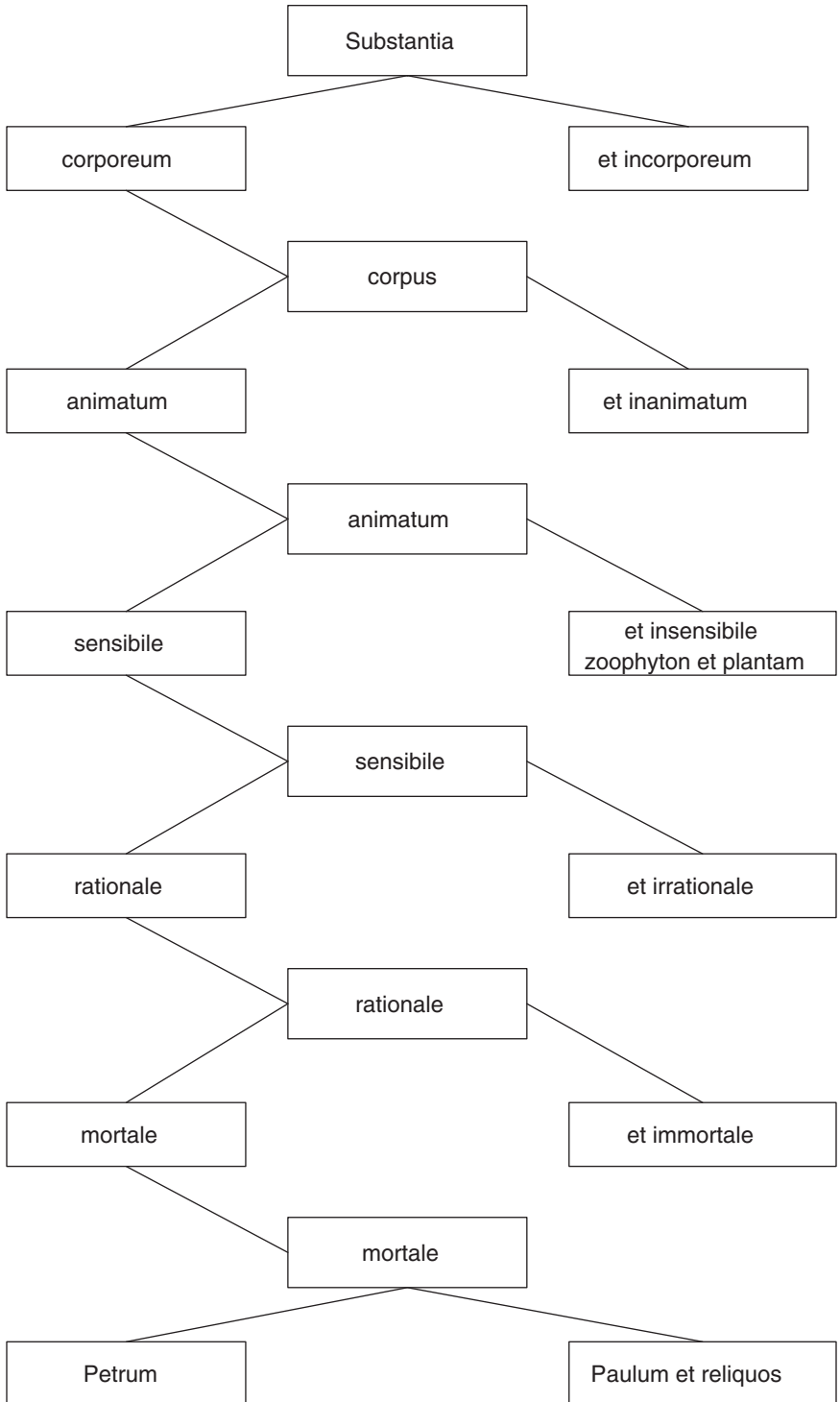


FIGURE 3.6. Dividing the genus

It is, in other words, absolute. However, the property might be relative. If nearby a stable there are horses, dogs, cows, and a kangaroo, the kangaroo can be identified as the ‘two-legged animal.’ *Two-leggedness* in this case is a property of kangaroo relative to the other four-legged animals.

Accident comes last in the Aristotelian semantic system. Accident is defined as “something which can belong or not belong to some one particular thing” (*Topics*, 102b 6–7). For instance, a person can be sitting or not be sitting,⁹ or a house can be red or white, nice or tiny, big or small. All accidents of a species are properties of its genera: A man can ‘sit’ because he is ‘animate’; he can ‘be tall’ or ‘heavy’ because he is a ‘body’; he can ‘exist’ because he is a ‘substance’ (‘white’ cannot ‘exist’ but can only ‘be dark’ or be predicated of a substance).

From this distinction between the different relations of predication, it is possible to understand the Aristotelian treatment of the types of classification. It is possible to classify a concept (a thing) indicating its genus: A man is ‘an animal.’” It is possible to identify a thing by using its definition: A man can be defined as ‘a rational animal.’ Finally, it is possible to describe a concept by using a property, absolute or relative. For instance, a man is ‘a being that is able to learn grammar,’ or ‘a two-legged being,’ or ‘the animal at the top of the food chain.’ In Aristotle’s view, all these definitional methods can be used to clarify the concept. However, their logical properties are different. In order to understand the argumentative differences between the possible definitions, it is useful to analyze the characteristics that a definition needs to fulfill, and the effects of the failure to comply with such requirements.

5. Strategies of Obscurity: The Correctness of Definitions

The essential definition, as outlined in the *Topics*, is therefore not a metaphysical definition, aimed at describing properties of reality, but a type of logical-semantic relation. An awareness of this type of definition is fundamental to communication and argumentation. According to Aristotle, there must only be one definition of a thing, that is, of a concept (*Topics*, 141a 32–34; 143a 1). His interest is focused on the different possible uses of a word in a dialogue (*Topics*, 106a 9–10), namely, the different essences a word can be used to represent. This approach can be named, using the modern classification, as ‘terminological’ (De Bessé 1990). Making distinctions between the different senses of a word (a semantic analysis) is a necessary preliminary step to any discussion, in order to avoid equivocations. In other words, only if the interlocutors speak about the same concepts it is possible for them to understand each other and avoid fallacies and misunderstandings (Naess 2005

⁹ It is interesting to notice (Rigotti 1997) that a man can be sitting or standing, or he can be stretched out, but he must be in a position. Similarly, a stone can be green or grey, but it cannot jump. Accident is related to the possibility of predication, to the semantic genera of the predicates, the ten categories.

(1953): 151). The method to achieve this result is to share the same definitions of the concepts. The methodology of definition given in the *Topics* is based on two crucial characteristics: the correctness of the definition, and the ability of the definition to express the essence of the thing. For a definition to be **correct**, two requisites must be respected (*Topics*, IV, 3):

- a) Avoid obscurity and unclear expressions.
- b) Avoid unnecessarily long descriptions.

Aristotle lists a series of topics that can be understood as rules for the assessment of a definition. For instance, we can analyze the following topics:

Obscurity	
1. The definition contains equivocal words.	a. A house is a <i>place</i> where a family lives (it can be any place).
2. The definition does not distinguish between the different meanings of the <i>definiendum</i> .	b. A house is a <i>building with a roof</i> (Dwelling? Shelter?).
3. The definition contains words used in a metaphorical sense.	c. A house is the <i>heart</i> of a family.
4. The definition contains words whose use is unusual (not very well established and known).	d. A house is a <i>gaff</i> where people live.
5. The definition contains terms whose proper meanings do not describe the things and that are not metaphors. The senses of these words cannot be recovered.	e. A house is a building that can have an <i>e-space</i> .
Length	
1. The definition contains attributes universally applicable (attributes that are not the proximate genus or that apply to all the things under the same genus).	a. A house is a building that <i>has a foundation</i> .
2. The definition contains an attribute that is useless, that is not necessary to distinguish the thing from all the other concepts.	b. A house is a dwelling, <i>sometimes very nice</i> , which serves as living quarters for <i>big or small</i> families.
3. The definition is not peculiar of the species defined, since it does not belong to all the individuals falling under the same species.	c. A house is a <i>big</i> dwelling that serves as living quarters for families.
4. In the definition the same attributes are predicated more than once of the same thing.	d. A house is a dwelling <i>built by humans</i> that serves as living quarters for families.

The topics of obscurity and length distinguish the essential definition from the definitions built to direct the interlocutor's value judgments. For instance, metaphors are used to establish an analogy between the *definiendum* and other entities or qualities that do not describe it. For example, the definition of house as the 'heart of a family' or of man as 'the microcosm' (Victorini, *Liber de Definitionibus*, 28, 6–7) allows the speaker to draw inferences based on analogy. Since the house is the heart of a family, it cannot be changed, as it is impossible or cruel to change the heart. If man is referred to as the 'microcosm,' it can be claimed that man reflects the natural order of things, and so on. Metaphorical definitions trigger arguments from analogy, whose structure can be represented as follows (Walton 1995: 135–136; Macagno & Walton 2009b):

ARGUMENTATION SCHEME 8: REASONING FROM METAPHORICAL
DEFINITIONS

Premise 1	Generally, case C_1 is similar to case C_2 .
Premise 2	Proposition A is true (false) in case C_1 / property G is attributed to C_1 .
Conclusion	Proposition A is true (false) in case C_2 / property G is attributed to C_2 .

Metaphorical definitions are not used for the dialogical purpose of clarifying a concept and avoiding misunderstanding. They are rhetorical instruments to trigger specific inferences, supporting classifications that could not be grounded on the simple essential definition. Metaphors can also be used to trigger value judgments. For instance, the definition of youth as the 'flower of life' supports a positive judgment grounded on the positive evaluation of flowers and transferred to 'youth' by means of an analogical reasoning (Victorini, *Liber de Definitionibus*, 22, 8–9; Ciceronis, *Topica*, VII, 32, 2–5). The other obscure definitions can serve for various argumentative purposes. The vagueness of a concept can be used to hide reality and elicit a value judgment not connected with the reality referred to, or simply pursue specific rhetorical or strategic goals. For instance, we can consider the following definition of 'peace' (Barack Obama, *Nobel Peace Prize Acceptance Address*, Oslo, Norway, December 10, 2009):

DEFINITION OF 'PEACE'

A just peace includes not only civil and political rights – it must encompass economic security and opportunity. For true peace is not just freedom from fear, but freedom from want.

What is 'security'? What is 'freedom'? What is 'want'? Such terms are vague, or have been redefined to include several concepts. However, they are all considered as positive and supported by everybody.

Definitions may include technical terms, unclear to the interlocutor (what Schiappa called “bureaucratization”) in order to hide the concept and at the same time exclude the audience from the community able to judge and understand it. Sometimes technical terms are used only to prevent the audience from making an independent judgment. For example, in medical litigations, technical expert testimony sometimes has the effect of impressing and at the same time confounding the jury (Mahadevan & Garmel 2005: 665). The purpose of such definitions is to misuse authority: Since it is impossible for me to even understand the issue, I have to follow what the expert says. This type of argument is not simply an argument from authority, which is subject to assessment (Walton 2002: 49–50):

ARGUMENTATION SCHEME 9: REASONING FROM AUTHORITY

Premise 1	Source <i>E</i> is an expert in subject domain <i>S</i> containing proposition <i>A</i> .
Premise 2	<i>E</i> asserts that proposition <i>A</i> is true (false).
Conclusion	<i>A</i> is true (false).

This argument needs to be evaluated by considering six critical questions. In particular, the *Backup Evidence Question* is extremely relevant for the case. Such a question, which can be expressed as “Is *E*’s assertion based on evidence?” presupposes an understanding of the issue by the interlocutor (see the role of authority in doctor–patient interactions in Buchanan et al. 1998). He or she can accept the argument only if it sounds reasonable. The role of ‘bureaucratic’ definitions is to exclude understanding, and therefore assessment.

Definitions can be excessively long because the purpose of the speaker is to describe a specific instance of the *definiendum*, not the generic concept. For instance, in Chapter 1 we mentioned the definition of ‘wisdom’ as ‘knowledge of how to acquire money’ and of ‘folly’ as ‘desire of inordinate glory.’ In both cases the definition, in addition to being too specific, provides a description that is useless to outline ‘wisdom’ or ‘folly.’ On the contrary, they can only be attributed to specific kinds of wisdom or folly. However, the properties attributed have the purpose to elicit reasoning from values. Similarly, in the ancient definition of ‘informer’ as ‘a wicked and dangerous citizen,’ the properties can be attributed to several kinds of criminals or citizens breaching the law. Such attributes, again, simply point out such qualities to lead the interlocutor to negatively evaluate the informers. Victorinus called such definitions “definitions *per laudem e per vituperationem*” (Victorini, *Liber de Definitionibus*, 26, 16–27, 1; 27, 13–14) and provided the following example (Isidori Hispaniensis, *Etymologiarum sive Originum Libri XX*, II, 29.13):

DEFINITION OF ‘SLAVERY’

Slavery is the last of all evils, and should be repelled not only by war, but also by death.

The exaggeration of the negativity of the concept is increased by emphasizing its evil character, comparing it to war and death. The purpose of this definition cannot be the clarification of the concept, but rather the simple devaluation or amplification of ‘slavery.’¹⁰

6. Strategies of Circularity: The Logic of Prior Terms

In Aristotle’s view, the definition must express the essential property of a thing, in other words, its fundamental semantic features. The notion of an essential property, or a “semantically fundamental characteristic,” depends upon the concepts of intelligibility and differentiation (*Topics*, VI, 4). The definition must make known the meaning of the concept, by describing it using the prior and more intelligible concepts,¹¹ that is, the genus and the *differentia*. The genus is more intelligible than the species, since the species is more complex, being constituted by the genus and the difference. The same applies to the difference. The basic principle is what can be taken for granted. In genus-difference definitions, the genus is presupposed to be known by the interlocutor, and therefore it is taken to be already part of his commitments (Tarello 1980: 195).

The first basic requirement for advancing a definition is the logical and epistemological priority of its terms. Aristotle sets out the following rules:

Topic of Prior Terms	
1. An opposite cannot be defined by means of its opposite (when it is possible to avoid this circular definition).	Good is what is not bad.
2. A thing cannot be defined by its opposite belonging to the same division.	A man is a being that is not a beast.
3. A definition cannot contain the term defined.	A house is a building that is a house for a family.
4. A thing cannot be defined by using its species.	A boat is a vehicle a ferry belongs to.

Aristotle provides such rules to distinguish the essential definition from three other types of definitions with different logical properties. A definition should

¹⁰ “Non enim aut consequens eius est aut aliquid horum quae *εννοηματικη* definitioni dedimus, sed sola vituperatio est, quae servitutem malorum omnium dicit esse postremum; nec accipitur rursus malum quasi genus esse ad servitutem – nam malum qualitas est, servitus ad aliquid – unde, cum diversae sint res, malum genus esse non potest ad servitutem; iure igitur per vituperationem facta dicitur servitutis supra posita definitio?” (Victorini, *Liber de Definitionibus*, 27, 21–28)

¹¹ For the notion of basic elements of meaning see Mel’cuk’s Meaning-Text theory (Mel’cuk 1997).

not be circular (either by including the very *definiendum* in the definition or by denying its contrary) and inductive (mentioning some or all the specific concepts falling under the *definiendum*).

Victorinus analyzes the definition by negation of the contrary (*per privantiam contrarii*) and the definition by species as two definitional strategies. The definition by species was classified as “essential” and “not essential” according to its structure. It is possible to define by species either by listing all the possible more specific concepts that can fall within the generic *definiendum*, or by providing only one or more examples as illustration (*ως τύπος*). For instance, we can consider the following definitions by essential parts (Ciceronis, *Topica*, 10, 6–8):

DEFINITION OF ‘TO FREE’

If someone has not been freed by either having his name entered in the census-roll or by being touched with the rod or by a provision in a will, then he is not free. None of these apply to the individual in question. Therefore he is not free.

The definition of ‘to free a man’ is provided by listing all the possible ways a slave can be freed. If all such possibilities are denied, the generic concept is denied. This pattern of reasoning is grounded on a logical principle and a semantic one. The logical principle is the combination of the *modus tollens* and the rules of the inclusive disjunction. The *definiendum* is posited as equal to the disjunction of its species. The only way of denying the disjunction is to deny that an entity can fall within any of the species. By denying all the species it is possible to deny the generic concept, the *definiendum*.

Modus Tollens	Inclusive Disjunction
If x is A , then x is B . x is not B . Therefore, x is not A .	$\neg(A \vee B) \equiv (\neg A \wedge \neg B)$
Denying the species	
If x is A , then x is A_1 , or A_2 , or A_3 , etc. x is not A_1 , and x is not A_2 , and x is not A_3 , etc. Therefore, x is not A .	

As can be seen here, since the reasoning is only plausible and is not subject to quantification, the link between the antecedent and the consequent needs to be supported by a rule of inference, which can be expressed as follows: “It is impossible for something to be predicated of the genus if it is not predicated of one of its species” (*Topics*, 121a 28–29). These axioms and the rule of inference can be applied to reasoning from classification and result in the following scheme:

ARGUMENTATION SCHEME 10: REASONING FROM SPECIES

Classification	For all x , if x fits A , and A_1 , A_2 and A_3 are the only species of A
Premise	(only A_1 , A_2 and A_3 can be classified as A , x fits A_1 , or A_2 , or A_3).
Negation Premise	x does not fit A_1 , and x does not fit A_2 , and x does not fit A_3 .
Conclusion	x does not fit A .

The list of the species needs to be exhaustive in order for the reasoning to follow. In law, these types of definitions are extremely dangerous, as they need to include all the possible entities that the predicate may refer to (Tiersma 1999: 119). For instance, consider the following definition of ‘securities’ (18 USC Section 2311):

DEFINITION OF ‘SECURITIES’

‘Securities’ includes any note, stock certificate, bond, debenture, check, draft, warrant, traveler’s check, letter of credit, warehouse receipt, negotiable bill of lading, evidence of indebtedness, certificate of interest or participation in any profit-sharing agreement, collateral-trust certificate, preorganization certificate or subscription, transferable share, investment contract, voting-trust certificate; valid or blank motor vehicle title; certificate of interest in property, tangible or intangible; instrument or document or writing evidencing ownership of goods, wares, and merchandise, or transferring or assigning any right, title, or interest in or to goods, wares, and merchandise; or, in general, any instrument commonly known as a “security”, or any certificate of interest or participation in, temporary or interim certificate for, receipt for, warrant, or right to subscribe to or purchase any of the foregoing, or any forged, counterfeited, or spurious representation of any of the foregoing.

The risk is that a new type of security is introduced. In this case, the interlocutor can show that it is not a security from a legal point of view, and therefore that it is not subject to the law on securities. The defeasibility of such a definition rests on the completeness of the enumeration. The species need to be completely exhaustive.

From a dialectical perspective, definitions by enumeration are useful for shifting the burden of providing all the possible evidence concerning a concept. For instance, we can consider the following definition of ‘no consent’ in the Canadian Criminal Code (section 244(3), see Temkin 2002: 117):

DEFINITION OF ‘NO CONSENT’

For the purpose of this section, no consent is obtained where the complainant submits or does not resist by reason of:

- (a) the application of force to the complainant or to a person other than the complainant
- (b) threats or fear of the application of force to the complainant or to a person other than the complainant
- (c) fraud
- (d) the exercise of authority.

The concept is defined by providing the genus (failure to resist) and a list of circumstances in which there is no consent. Such an enumeration is aimed at shifting the evidential burden onto the defendant (Tadros 2006). If the prosecution proves that one of such circumstances apply, “the accused will have to introduce evidence if he wishes the issue to reach the jury” (*R. v. Robertson*, 1 S.C.R. 918, 1987). For instance, if the victim has been shown to have consented out of fear, a presumption is raised that there was no consent, and the accused needs to introduce evidence supporting the absence of *mens rea*.

Another dialectical property is the rule of negation. In order to deny a classification, the speaker does not have to simply deny the attribution of a property, but rather provide evidence that all the specific instances are not the case. For this reason, the definition by enumeration has a counterpart in the definition by exclusion, or defining a concept by denying all the contrary instances. For instance, ‘non-strategic nuclear weapons’ were defined as “all weapons not covered by strategic arms control treaties as nonstrategic nuclear weapons” (Woolf 2004: 6). In such a case, the speaker presupposes both the knowledge of the genus (weapon) and the excluded species (weapons covered by arm control treaties) (Tarello 1980: 206).

Definitions by illustration are grounded on a type of reasoning from example. Such definitions do not include all possible instances of predication of the *definiendum*, but only the most prototypical ones (Victorini, *Liber de Definitionibus*, 26, 8). For instance, in the following case, instead of explaining the meaning of ‘artificial means,’ the drafter simply listed the most common types of operations classified as such (Bayles 1991: 262):

DEFINITION OF ‘ARTIFICIAL MEANS’

My living will states that if I would not recover from a disability I “not be kept alive by artificial means or ‘heroic measures’, including, but not limited to, any resuscitation efforts, the transplant of any vital organ, or the use of a respirator.”

This type of definition is useful for a rhetorical and explanatory purpose. For instance, Victorinus provides the following definition by illustration (Victorini, *Liber de Definitionibus*, 26, 8):

DEFINITION OF ‘ARTIFICIAL MEANS’

Animate being, such as man.

This case provides the interlocutor with a clear instance of a particular type of animate being. From such an example, he can abstract the trait of rationality as fundamental, and therefore could have concluded that dogs or cats are not animals. The rhetorical power of such a definition lies in the characteristics of the examples chosen. If we define ‘peacekeeping missions’ as ‘missions such as Operation Restoring Hope in Somalia,’ we allow the interlocutor to draw the conclusion that peacekeeping missions are actually operations of war (Mayall 1996: 110; Blokker 2000: 557). The nature of this

type of inference can be understood by analyzing the structure of argument from example (from Macagno & Walton 2009b: 173):

ARGUMENTATION SCHEME 11: REASONING FROM EXAMPLE

1. Example Premise	If x is like y , then x is A .
2. Factual Premise 1	y also has property G .
3. Abstraction of the Property	What is A is also G .
4. Factual Premise 2	x is G .
Conclusion	x is A .

In this case, the hearer is led to abstract the property of ‘being a war operation’ from the comparison between the two examples. Since the operation in Sudan is known to have become an operation of war, peacekeeping missions can be concluded to be war operations (step 3 of the scheme) and further instances can be classified as such (step 4 and conclusion).

Aristotle points out that a concept shall not be defined by negation of the contrary of the *definiendum*. An example of a definition “*per privantiam contrarii*” is the definition of ‘good’ as “what is not evil” (Victorini, *Liber de Definitionibus*, 23, 9–11). Such definitions presuppose the knowledge of the contrary, and do not describe what a thing is, but what it is not. The problem with this type of definition is the nature of the paradigm to which the two predicates (the contraries) belong. The paradigm can be constituted of only two elements, such as in the case of dead–alive (either a man is dead or he is alive). Otherwise, the paradigm can include more elements. For instance, the paradigm of ‘moral qualities’ can be characterized by the contraries good–bad, but in between there are several other types of intermediate predicates. Moreover, definitions by contrary do not specify the meaning of the concept, and therefore do not specify the meaning of a word in case of polysemy. For instance, if we define ‘dead’ as ‘not alive,’ we do not specify the generic property the two species fall within. Are they instances of ‘vital condition’? Or are they rather included in the generic quality of ‘responsiveness’ or ‘level of productivity’? From a dialectical perspective, definitions by negation of the contrary trigger only one type of reasoning, whose correctness depends on the type of paradigm of the predicates. The classification is grounded on the exclusion of the alternative, and proceeds from the following logical rule:

Disjunctive Syllogism

Either A or B .

Not B .

Therefore A .

While binary paradigms allow for this type of reasoning, paradigms with more than two elements do not. The only conclusion that can be drawn is that the

contrary predicate or the other possibilities are the case. When the contrary predicates belong to a non-binary paradigm, the conclusion that *A* is the case from the negation of *B* is a logical fallacy (see Engel 1994: 140–142). This reasoning is useful when the speaker wants to suggest that an intermediate predicate, which cannot be precisely identified, applies. Definition by negation is extremely useful to shift the burden of proof. To illustrate, we can consider the case *Adams et al. v. United States*, in which the defendant (the Health and Human Services Division, hereinafter HHS) wanted to prove that the plaintiffs (working as investigators) were not entitled to overtime pay as their duties were administrative, and administrative works are not entitled to overtime pay. In order to show that the job was to be classified as administrative, they advanced the following reasoning (*Adams et al. v. United States* No. 90–162C and Consolidated Cases [doc. 661, 2007: 9–10]):

DEFINITION OF ‘ADMINISTRATIVE WORK’

Defendant sees the production work of HHS as the sponsoring of federally-funded health care and benefit programs, not the investigation of abuses in the delivery of those programs. [...] Defendant argues that performing criminal investigations cannot be part of the production work of HHS. [...] Defendant concludes that plaintiffs were exempt administrative employees of HHS during the relevant time period.

The defendant’s argument was grounded on a definition by negation of the contrary, and, in particular, the negative definition of ‘administration work’ as ‘work that is not productive.’ Since the defendant’s work did not consist in sponsoring health care and benefit programs, it was shown to be administrative. The defendant in this case could not proceed from the definition of ‘administration work,’ as the work was not characterized by managerial tasks. But the negative definition allowed him to shift the burden of proof onto the other party.

The rhetorical force of definitions by negation of the contrary consists in the attribution of contrary qualities to contrary predicates. Such a line of argument was described by Aristotle as follows (Aristotle, *Rhetoric*, 1397a 7–10):

One *topos* of demonstrative [enthymemes] is that from opposites [*ek tōn enantiōn*]; for one should look to see if the opposite [predicate] is true of the opposite [subject], [thus] refuting the argument if it is not, confirming it if it is: for example, that to be temperate is a good thing; for to lack self control is harmful.

This argument is based on two interrelated paradigms. ‘Temperance’ is presented as contrary to ‘lack of self-control’ and ‘to be a good thing’ as contrary to ‘to be harmful.’ The two paradigms are connected by a relationship of “quality of the consequences.” When the two paradigms are binary, such an argument can be extremely effective, as the negative definition can be used simply to point out the difference between the two concepts and deny the predication of a quality. For instance, we can consider the following example (Ciceronis, *Topica*, III, 17, 10–18):

DEFINITION OF ‘CONSUMPTION’

The woman to whom the man bequeathed the usufruct of ‘all his goods’ should not believe that, if the oil and the wine cellars were left filled, their content belonged to her. For it is use (*usus*) not its consumption (*abusus*) which was granted (the two are opposite to one other).

In this case, ‘consumption’ is defined as the opposite of ‘use.’ Since from a legal point of view either a good is expressly bequeathed or it is not bequeathed at all, the fact that the consumption is not the use supports the conclusion that the use has not been mentioned. For this reason, it cannot have been bequeathed.

Definitions by negation can be powerful tools that can be used to redefine a concept and elicit value judgments based on the topic from contrary qualities. If we define ‘wisdom’ as ‘what is not ignorance’ or ‘what is not erudition,’ we redefine the *definiendum* by selecting only one of its possible characteristics or causes (‘The ability to discern or judge what is true, right, or lasting’). We place the concept under the genus of ‘educative condition’ or ‘learning,’ altering its genus (ability). At the same time, we trigger specific conclusions based on the positive value we associate with wisdom. For instance, we can argue that “wisdom is good” or “useful” and conclude that erudition is bad or useless, or we can maintain that “wisdom is honorable” and show that ignorance is shameful.

7. The Logical Force of Definition by Genus and Difference

For a definition to express an essence, it must be constituted by its genus and difference. Aristotle provided a set of rules to attribute the genus and the difference correctly, which at the same time constitute the logical proprieties of the components of the essential definition.

7.1. *The Logic of the Genus*

The concept of genus can be clarified by the most important topics by which it is characterized (Aristotle, *Topics*, 120b 12–123a 27):

Topics	Examples
1. The genus must include all the members of the species it is predicated of.	1. Theft is a crime. Therefore embezzlement is a crime.
2. The genus is predicated in the category of essence. Genus and species must fall in the same category.	2. Theft is an action. Therefore embezzlement is an action, not an omission.
3. The species can be predicated of the definition of the genus, not vice versa.	3. Embezzlement is theft. Therefore embezzlement is an act of stealing.

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| 4. The genus is predicated of what the species is predicated of. | 4. This manager embezzled the company's money. Therefore he stole the company's money. |
| 5. It is impossible for something to be predicated of the genus if it is not predicated of one of its species. | 5. Bob never embezzled, robbed, skimmed, and rustled. Therefore you cannot call him a thief.
If you are a white collar worker, it does not mean that you cannot be a thief. White collar workers often commit embezzlement. |
| 6. What is placed in the genus cannot be predicated of the definition of anything contrary to the genus. | 6. Embezzlement is a crime. Therefore it cannot be honest. |
-

The topics of the genus allow the inferences proceeding from the more generic concept to the more specific ones and from the more specific to the more generic. These topics play a crucial role in the inferences triggered by persuasive definitions. For instance, we can consider the previous redefinition of 'peace' as "not just freedom from fear, but freedom from want." According to such a definition, the war in Afghanistan was made for peace, as it was waged to free the Afghans (from their political slavery). Moreover, it is possible to claim that Greece cannot be at peace now, as peace is the absence of necessity or constraints and Greeks are subject to the rules of International Monetary Fund and now have many necessities. It is also possible to claim that the population in Greece needs peace, and therefore has the need to be freed from their necessities. Since the process of freeing the Afghans from their political oppression was violent, peace can also be claimed to be violent. Finally, the war against the Taliban cannot be said to be a form of oppression, as it was a mission of peace.

7.2. *Specifying the Genus*

The second characteristic of the genus is that it needs to be the most proximate to the species and needs to be specified by means of the difference. Aristotle in book VI of his *Topics* provides some rules to correctly specify the genus, which can be summarized as follows:

Topics of the Difference

- | | |
|--|---|
| The definition must divide the species by means of the difference from something else. There must be an opposite of the species in the division. | Embezzlement is a fraud committed by employees (are there frauds that cannot be committed by employees?). |
| The difference must be a difference of the genus considered. | Embezzlement is the appropriation of assets (it is the dishonest appropriation). |

The genus cannot be divided by negation.	Fraud is what is not honest.
The difference must not be a species of the genus or the genus of the one stated.	Peace is what is not war.
The difference must signify an essential (not accidental) quality of the subject. It cannot signify affections, special or temporal indications.	A fraud is a crime like embezzlement.
The genus is predicated of the species; the difference is predicated of the species. The genus cannot be predicated of the difference, or vice versa. The species cannot be predicated of the difference.	Embezzlement is a larceny committed by white collar workers.
The difference of relatives must be relative and relative to the primary relation of the term. In case of an artifact, the difference must be relative to its natural purpose.	Embezzlement can be committed only by people to whom assets are entrusted, as it is the misappropriation of assets entrusted to one's care.
The difference must not be an affection of the genus.	Money is a medium for the happiness of the people (not the natural purpose).
	Embezzlement is a contemptible crime (if no one holds it in contempt, it would be still embezzlement).

The concept of difference is fundamental for understanding the difference between the semantic analysis and the definition by parts. The difference divides a generic concept in its more specific ones. It is based on the formal properties of a concept. Such parts are not physical, but merely categorical. On the contrary, it is possible to define a concept by showing its physical components. The definition by integral parts has two main schemes:

Definitions		Inferences
X is A and B .	A house is walls, the foundation, a roof, etc.	There are walls, the foundation, a roof, etc. Therefore there is a house (there might not be).
X is made of A and B .	A house is made of walls, the foundation, a roof, etc.	A house is destroyed. Therefore walls, the foundation, a roof are destroyed (they might be not destroyed).

In all these schemes, we should notice that the subject cannot be identical with the single part. In the first scheme, the whole is not identical to

the compound of the parts. In other words, the subject is not convertible with the *definiens*. In the second scheme, the subject and the *definiens* are not convertible since they cannot be subject to the same predications. For instance, if a house is destroyed, the parts it was made of can still be intact. The definition must indicate the specific composition of the parts, in order to indicate the essence of the compound. Definitions by material parts are useful only for destructive purposes (Ciceronis, *Topica*, 9): If there are no walls, there cannot be a house. However, such definitions are the ground of fallacious arguments by composition and division. A soccer team can be defined as having eleven football players; however, if the team is strong, it does not follow that one single player is strong.

The definition, in addition to being convertible with the subject,¹² must therefore express its fundamental characteristics. In other words, the definition must not be merely wider or narrower than the *definiendum*, but also must comply with semantic and logical conditions. The argumentative power of an essential definition is based on its being hardly questionable. Semantics can be conceived as the deepest level of *endoxa* (or shared commitments): To refuse to accept the most basic semantic characteristics may result in refusing to accept a fragment of the shared semantic system. For instance, if we refuse to claim that a man is an animate being, we deny the possibility of attributing him predicates such as ‘to walk’ or ‘to breathe.’ For most of the concept the semantic analysis can be highly controversial, as there is not one agreed upon meaning. Moreover, the essential definition is always convertible with the *definiendum*, and it can be used to develop inferences based on the genus. For instance, if we consider the definition of ‘free speech’ as ‘the human right regarding the freedom of expression,’ by showing that ‘free speech’ has been forbidden, we can support the conclusion that a human right has been violated (what is said of the species is said of the genus as well). These observations can be useful to understand the difference between an essential definition and the other kinds of definitions.

7.3. *The Logical Force of the Genus-Difference Definition*

In definitions by genus and difference, the definition is convertible with the *definiendum*. Such a property is the foundation of different inferential patterns that underlie different uses of the argument from classification and constitute different schemes (Petri Hispani, *Summulae Logicales*, 1990: 52–54):

¹² For the use of the Aristotelian topical relations in rhetorical speech, see Weaver (1953). Analyzing the definition of ‘human referred to the black slaves,’ for instance, he notices that the category of ‘not human’ applies only in certain circumstances to the slaves and not to all the black people.

1a. Thing defined/definition as subject of predication (Positive)	1b. Thing defined/definition as subject of predication (Negative)
Maxima: Whatever is predicated of the thing defined is predicated of the definition as well, and vice versa.	Maxima: Whatever is removed from the thing defined is removed from the definition as well, and vice versa.
<i>Example:</i> A person stealing the assets entrusted to his care betrays the trust. Therefore, who embezzles money betrays someone's trust.	<i>Example:</i> A person stealing the assets entrusted to his care cannot be trusted. Therefore, who embezzles money cannot be trusted.
2a. Definition as predicate (Positive)	2b. Definition as predicate (Negative)
Maxima: Whatever the thing defined is predicated of, the definition is predicated of as well, and vice versa.	Maxima: From whatever the thing defined is removed, the definition is removed as well, and vice versa.
<i>Example:</i> Bob embezzled his company's funds. Therefore, Bob stole the funds entrusted to his own care.	<i>Example:</i> Bob did not embezzle his company's funds. Therefore, Bob did not steal the funds entrusted to his own care.

Such topics make the argument from classification much more complex. They represent the two directions of the argument from classification and the two axioms from which it proceeds. In the argument from classification, only the positive and negative topics concerning the attribution of a definition to a subject are represented. We can represent all the topics of the definition as a predicate as follows:

ARGUMENTATION SCHEME 12: REASONING FROM CLASSIFICATION OF AN ENTITY

Definition Premise	a is classified as G . / a is classified as D .
Classification Premise	For all x , if x is classified G , and D is the definition of G , then x can be classified as D .
Conclusion	a is classified as D . / a is classified as G .

The other schemes, based on the attribution of a property to the defined thing, can be represented with the following argument scheme:

ARGUMENTATION SCHEME 13: REASONING FROM/TO CLASSIFICATION OF A DEFINITION

Definition Premise	$G(a)$ is classified as F . / $D(a)$ is classified as F .
Classification Premise	For all x , if x is G , and D is the definition of G , then x is D .
Conclusion	$D(a)$ is classified as F . / $G(a)$ is classified as F .

In addition to being convertible, the essential definition is constituted by the genus and therefore it is characterized by the aforementioned logical properties of the genus (Petri Hispani, *Summulae Logicales*, 56; Aristotle, *Topics*, 120b 12-123a 27). For this reason, the critical questions mentioned in Section 1.3 need to be developed further to include the properties and purposes of definition as follows:

CQ ₁ : <i>Purpose.</i>	What is the purpose of definition <i>D</i> ? Is it aimed at describing the meaning of <i>D</i> , or rather qualifying it or providing criteria for heuristically classifying a state of affairs as <i>D</i> ?
CQ ₂ : <i>Fundamental characteristics.</i>	Does the definition express what the <i>definiendum</i> is? Or does it not answer such a question, or beg it?
CQ ₃ : <i>Convertibility in predication.</i>	Can all entities or states of affairs classified as <i>G</i> be also classified as <i>D</i> ? Are there any entities or states of affairs that are <i>G</i> but cannot or are not <i>D</i> ?
CQ ₄ : <i>Convertibility in qualities.</i>	Can all entities or states of affairs referred to as <i>G</i> be classified in the same fashion as entities or states of affairs referred to as <i>D</i> ?
CQ ₅ : <i>Clarity.</i>	Does the definition explain the meaning of the <i>definiendum</i> using more generic and simpler concepts? Or does it use metaphors or vague terms? Does the definition include terms less understandable than the <i>definiendum</i> ?
CQ ₆ : <i>Non-circularity.</i>	Is the <i>definiendum</i> described using more specific concepts, or denying its contrary?

An essential definition, as shown in the previous subsections, is characterized by semantic and logical properties that allow one to situate the concept defined within a conceptual system. This system, being grounded on necessary semantic features, can be common to different types of ontological classifications. In such a fashion, in a clarification dialogue, an essential definition can play a fundamental role by constituting the more basic classification system common to different types of conceptual representations. Moreover, topics from genus and definition characterize essential definitions by means of necessary rules of inference.

8. Conclusion

Words can direct and trigger emotions, suggest, influence, or alter our evaluation of reality. The emotive force of words lies in the value judgment that stems from their use and is ultimately grounded on the state of affairs that they are used to represent. Stevenson pointed out how words have

a descriptive and an emotive dimension, which are often related to each other by an identifiable pattern of reasoning. If the value judgment cannot be severed from what the judgment is about, it is however possible to modify the descriptive meaning of a word in an explicit or implicit fashion. The quasi-logical instrument to analyze how the (cognitive or descriptive) meaning of a word can be changed is the definition. The definition is the logical-semantic link between what a word means and the different types of reasoning aimed at using such a word to classify reality, or classifying the reference of such a word. On this argumentative perspective, a definition is the premise of reasoning from classification, and like all other arguments, it needs to be accepted to support a conclusion. This characteristic of reasoning from classification reflects the structure of our knowledge. Definitions need not be true or false, but simply acceptable or accepted.

The apparent relativism of this account of definition is actually grounded on strong logical criteria that distinguish what can be an acceptable definition from what cannot. Definitions cannot be all the same, but they need to be assessed through logical tests and counterarguments. A strong and acceptable definition is a definition that can resist all possible objections, which have been broadly summarized in the critical questions mentioned in Section 6.3. Such questions represent the generic criteria to establish whether the interlocutor can accept a definition based on his classification of reality and his use of language, which are his more basic commitments.

The manipulative use of persuasive definitions and emotive words is ultimately based on either an alteration of the properties of a state of affairs, omitting some qualities or details or falsely presupposing the existence of others, or the use of a definition that the interlocutor would not accept. In both cases, the target is the two basic premises of the argument from classification. The speaker can either alter the factual premise or the definition. However, only in conditions of the interlocutor's total lack of knowledge about facts or language would such an argument be a strong one. In normal conditions, the hearer can simply assess the premises and reject the conclusion or consider it as extremely weak. Why, then, is the use of emotive language so effective? Why are persuasive definitions powerful and sometimes dangerous instruments? The answers cannot be found in argumentation schemes, in which premises and conclusions are represented simply as propositions that can be evaluated and objected. A different approach is needed, which investigates the strategies used to hide reality and prevent the interlocutor from detecting and objecting to redefinitions and omissions or misrepresentations of states of affairs. We need to enter the domain of pragmatics and see how these schemes and these patterns of reasoning are actually used to act. We need to analyze the acts of language in order to understand how their inner logic actually works.