

Points of view and Argumentation: Semantics as an Empirical Science

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Human languages can be seen as objects of empirical observation and not only as objects of possible approximation by artificial languages. From that point of view, a careful rigorous approach must state what, in human languages, is accessible to the observers' senses and how this is related to semantic facts, which, in turn, must also be clearly characterised. The characterization of semantic facts must, in particular, be distinguished from what is accessible to the sensorial apparatus, as soon as one wants to distinguish between *language* and *speech*.

I will show that, in fulfilling that programme, one has to assess a central role to the constraints that human languages expressions impose onto how utterances and discourse can modify their audience's points of view. In other words, accepting a classical characterization of argumentation (according to which an *argumentation* intends to modify the point of view of the audience), I will show that the semantic description of human languages must include the description of the constraints that words and expressions impose on the possible argumentative orientation of utterances containing those words and expressions.

I will then emphasize the distinction between *constraints that must be met in order to understand an utterance*, and, on the other hand, *constraints that result from the interpretation of an utterance*. The former type of constraints will be shown to be characteristic of the *ideology* within which the speaker presents her/his discourse to be inscribed; sets of such constraints will be shown to characterise the so called cultural background in which the warrants of the argumentations are found.

I will, finally, present a descriptive model for this theoretical approach, based on a modified version of the *argumentative topoi* introduced by Ducrot in the 80s and then abandoned by him.

1. Scientificity and empiricity in the study of language meaning

I will very briefly¹ mention the main characteristics of scientificity and empiricity, and use them to show that moderate objectivism is irrational (even more irrational, actually, than extreme objectivism...). The whole discussion will help clarifying what is really observable in semantics and what semanticists are supposed to talk about, using those observations.

1.1. General features about scientificity and empiricity

We will limit ourselves to mention the general features that will be used in the discussion about semantics though, of course, these features are good for any empirical science. Since these aspects have been discussed in many different places and are widely known and accepted², we will omit the large amount of material written in order to justify them.

a) Scientificity

A scientific theory Θ provides means to

- i. structure a set Φ of phenomena of the field in *simple* and *more complex*

¹ See Raccah (1987a, 1999 and 2005) for detailed discussions.

² Cf. Kuhn (1962), Popper (1963), Chalmers (1976), Auroux (1998), etc.

- phenomena (*external hypotheses*);
- ii. assign descriptions to the phenomena of that set ('*theory of measure*' for Θ);
 - iii. generate descriptions of elements of Φ out of descriptions of other elements of Φ , by means of theory-specific operators (*internal hypotheses*);
 - iv. compare descriptions one to another (in particular, compare a description assigned to a phenomenon to a description generated by the *internal hypotheses*).

b) Empiricity

A scientific theory is *empirical* if the phenomena whose description the theory provides are *observable*, in the sense that: in order to check whether the descriptions are adequate, one has to "go out into the world", and access some part of it with her/his senses.

Since phenomena must have some material aspects in order to be accessible to our sensorial apparatus, it follows that what an empirical theory speaks about must have some material aspect, but need not be entirely material.

1.2. A criticism against moderate objectivism

If someone, in the twenty-first century, believed that our means of observation gave us access to the world, exactly the way it is, she or he would be considered as very childish, for we all know that we access the world through the interpretation of what our sensorial apparatus brings to our consciousness, and that nothing can guarantee that that interpretation corresponds (and in what sense...?) to the way the world really is. The naïve belief in question is often called extreme (or naïve) objectivism: it is, most of the time, replaced by *moderate objectivism*, which is widely accepted among scientists, though, as we will shortly see, it cannot be grounds for a scientific activity because it relies on a non-rational belief, which can be expressed as follows:³.

Moderate Objectivism belief

MOb: Our means of observation [*that is, our cognitive and perceptive apparatus, occasionally augmented with some technical devices*] give us a 'picture' of the world, which can be partial but still reproduces its essential features.

The main two reasons why MOb is not a rational belief are:

- a) We cannot know what the « essential features » of the world are, principally because we could not be in the position to exhibit « essential features » of the world which our cognitive system does not handle: the picture our cognitive apparatus can give us of the world is only a picture of what we can *grasp* about it... The statement of the belief MOb is thus circular for it really says that

MOb': Our means of observation give us a 'picture' of the world, which can be partial but still reproduces what our means of observation make us think that they are the essential features of the world.

- b) The 'picture' our cognitive apparatus gives us of the world cannot be directly compared to the world itself in order to exhibit their resemblance: in order to be in the position to do so, we would have to be in the position to access the world *without* using our cognitive apparatus so that we could have a point of comparison... There are ways to *indirectly* make that comparison (for instance, an analysis of human or non-human action on the world): but, as we will see, they need human interpretation and, thus, are not theory independent.

³ And this, of course, does not mean that it is false: it only means that no scientific method or conception can be based on it. I happen to share that belief, but this does not entail, of course, that it is a rational belief...

Thus, the role of the observer in the construction of the observable facts cannot be considered as a mere ‘deformation’ of a reality which would be external to her/him, but rather, as a construction of an accessible reality. The externalisation of that accessible reality constructed by the observer can only be posterior to its construction. This externalisation is the result of a social and cognitive process, whose semantic aspects will be addressed in section 2.

An important consequence of that discussion is that, technically, nothing is really *directly observable*, since we must interpret what our senses grasp; however, some entities are more indirectly observable than others: for instance, the mass of a block is observable only through a device which one must trust in order to assess it, while the existence of the block need not such an external device in order to be assessed. In the second case (when no external artificial device is needed), it is a normal language use to speak of ‘direct observation’, though, we insist, it is only a *less indirect* observation. We will conform to that language usage and, when there is no risk of confusion, we will use the phrase “directly observable” (without quotes) when we want to speak of observation that do not require instruments; when we need to insist on the fact that the observation does rely on the interpretation of our senses, we will introduce single quotes and say that the entity is ‘directly observable’.

1.3. What is observable about human languages?

In order to specify how that question must be understood, we will need to emphasize a few conceptual differences, which ‘go without saying’, but ‘go much better when stated’...

a) Preliminary conceptual differences:

In spite of the appearances, due to a specificity of English language, there is an important conceptual difference between

- i. Human languages
- ii. Formal languages and
- iii. Language faculty

In particular, though, it is easy to admit that there is *a priori* no interesting theoretical difference between *a red table* and *a green table*, it is much more difficult to admit (*pace* Montague) that there is *a priori* “no interesting theoretical difference between natural languages and artificial languages...”. Human languages are objects of empirical research, while formal languages are objects of mathematical research: in order to refute assertions about the former, one must ‘go out into the world’; in order to refute assertions about the latter, one must only reason. Language faculty is a more complex animal: though it seems to be a possible object of empirical research, as human languages are, it seems to be of a very different nature. In fact, though you speak one or perhaps several human languages, you certainly don’t speak any language faculty... In addition, once you acquired your native language, say, English, you are in possession of your language faculty; however, it is not so that anyone who is in possession of her/his language faculty becomes *ipso facto* an English speaker.

Again, some of the readers probably found the last paragraph trivially true (‘it goes without saying’...): it happens to be my opinion too, and probably that of many poly-lingual speakers... However, these opinions did not prevent such bright minds like Montague to explicitly make the categorical confusion between *human languages* and *artificial languages*; not to speak about the numerous bright minds, which implicitly confuse *human languages* with *language faculty*, in their pursuit of the so called *cognitive semantics*...

b) Conceptual differences:

In addition to the trivial conceptual distinctions reminded in the last paragraph, if we are to reflect on what is observable about human languages, we must take seriously the distinction between *sentence* and *utterance*, either as a simple type-token distinction, or, more accurately, taking into account the threefold distinction between *utterance token*, *utterance type* and *sentence*, presented in Racciah (1987b), where the type-token relation is separated from the projection relation: the first one induces the distinction between the two concepts of *utterance*; the second one induces the conceptual distinction between *sentence* and *utterance type*: an *utterance type* is defined as an ordered pair $\langle \textit{sentence}, \textit{situation type} \rangle$. No matter which degree of accurateness / sophistication we chose, we end up with the essential distinction reminded by Dascal (1983), between *utterance meaning* and *sentence meaning*. The first one is built by the audience and by the speakers and can be seen as belonging to the minds, while the second one belongs to the units of the different human languages.

From that discussion, it follows that *meanings* (be them sentence-meanings or utterance meanings) are not observable through our sensorial apparatus; the same can be said about *sentences* and about *utterance types*... And that seems to be very little encouraging for our 'search for empiricity'!

However, the material aspects of utterance tokens (*sounds*) are observable through our sensorial apparatus, which gives us a very small empirical entry to the study of sentence meaning. Behaviours (for instance, reactions to utterances) are observable too. The combination of those two observable items (sound and behaviour) *must* be a sufficient empirical input for the study of language meaning, because these data are the only data an infant has in order to acquire language, and they *are* sufficient indeed...

2. Indirect observation and the characterization of semantics

In the last section, we saw how difficult the task is for one who pretends to study semantics both scientifically and empirically; in addition, the last remark is particularly nasty since it follows from it that if we do not manage to do the job properly, it is not because the enterprise is impossible (any infant is able to unconsciously (re)construct the semantic system of a human language), but because we are not good enough...

If we want to be able to speak about sentences and sentence meaning, while we can only observe sounds and behaviours, we must be able to link them together, in the same kind of *indirect observation* with which a physicist relates *forces* (which are unobservable abstract entities) with some effects believed to be produced by those forces (for instance, the distance between two entities). After seeing how indirect observation needs causal attribution, we will mention the principal rational constraints on the causal attributions necessary in order to build semantic facts; this will lead us to a short discussion on the place of semantics with respect to cognitive science. We will then conclude the section with a few comments on the use of corpora as empirical input to a semantic theory.

2.1. Causality and indirectly observable facts

We have just seen that, since semantics speaks about abstract entities such as *sentences*, *meanings*, an empirical approach to this discipline requires the construction of *indirectly observable facts*, out of those concrete entities that can reach our sensorial apparatus, such as sounds and behaviours. This kind of requirement is not specific to semantics: as we saw with the example of physics, any empirical scientific discipline meets a similar requirement, which can be called *indirect observation*.

A brief investigation about indirect observation shows us that, in order to build acceptable abstract theoretical entities, one needs: (i) directly observable entities and events, and (ii) causal attributions, which link the directly observable entities to the abstract theoretical

entities. Moreover, in order for the abstract entities to be acceptable, the causal attributions must meet several rational constraints.

A few words on causality must be added, in order to explain why we have to speak of *causal attributions*, instead of *causal observations*.

If you see a man (or a woman) punching a door, and, after a while, you see pieces of the door laying on the floor, and the man (or woman) walking through the doorway, you would probably think that that person destroyed the door or knocked it down, may be because he (she) wanted to walk into the other room, etc. No one will doubt that the reason an observer might imagine for the action observed is but a hypothesis: it comes from an abductive reasoning, thanks to which we can attribute intentions to fellow humans (and even computers, cars, and so on...). However, few people are prepared to admit that even the action of destroying or knocking down the door has been attributed to the man (or woman) but has not been really observed. For what strikes the senses may be the scene and/or the noise, of punching the door; the scene and/or the noise of the door falling down or breaking; but nothing *observable* forces the observer to admit that those two observations are causally related: it may be very well the case that somebody in the other side of the door, invisible from your point of observation, broke that door in such a way that you believed that the person on *your* side of the door did it. Obviously that situation is very less likely to be the case than the one you proposed: unlikely is not impossible and you cannot pretend that you *saw* the man (or woman) break the door down. Not less obviously, though you cannot *truly* assert that you saw the person break down the door, you can *rationally* assert it... The fact that causal relations are not observable does not imply that it is irrational to believe in causality. Your belief will simply need rational justification in addition to or instead of factual evidence.

2.2. *De dicto vs. de re causality*

In order to better understand the rational constraints on scientific causal beliefs and, in particular, on causal beliefs involved in semantics, it may be useful to keep in mind an important distinction between two kinds of causal relations: *de re* vs. *de dicto* causality.

Whenever an observer *O* considers a fact F_1 that has been perceived (by himself or by someone else) *causes* a fact F_2 that has also been perceived, we may say that, for *O*, F_1 causes F_2 ; in such situations, we will speak of *de re* causality, and will write:

$$[F_1 \textit{ cause}_R F_2]_O$$

Suppose you ask me “why are you late at the meeting?” (fact F_2), and I answer “because I missed the bus” (fact F_1): under those hypotheses, I present the fact *having missed the bus* (F_1) as a *cause_R* of my *being late to the meeting* (F_2). I may be telling the truth or lying; but even if I *did* miss the bus, it does not necessarily follow from that fact that it *did* cause my being late. The causal statement, in this example says something about the relation between the two facts that cannot be reduced to the truth of one or the other.

Suppose you now ask me “why do you consider John unfriendly?” (fact F_2). If I were to follow the same pattern as in the previous example, I should find a fact F_1 that would F_2 , and say, perhaps, something like “because his parents spoiled him when he was a child”... or any statement of a fact that could be considered as a *cause_R* of F_2 . But, if I *do* answer like that, you would probably protest that I am making fun of you, and that you don’t expect me to try causal hypotheses as to why F_2 is the case, but that you want me to tell you *why I believe* that F_2 is the case. You expected me to answer something like “because he refused to give me the newspaper he had already read”, or something that could reasonably be considered as a possible cause for my *finding* John unfriendly: in this example, we are no longer in a situation

where the fact F1 causes a fact F2, but rather, in a situation where the fact F1 causes that the observer *believes* the fact F2 to be the case. We speak of *de dicto* causality, and we write:

$$[F_1 \textit{ cause}_D 'F_2']_O$$

There are cases of ambiguity, such as the following: if I tell you that John was incredibly friendly to me yesterday, and you ask me why, I cannot be sure whether you want to know why he *was* so friendly or what made me *think* he was friendly, unless we have a specific common knowledge about John's behaviour and about his motivations.

One more remark about *de dicto* and *de re* causality is necessary in order to understand why it is so important (though, sometimes difficult) to understand which kind of causality we are speaking about. The remark concerns the relationship between the two kinds of causality.

It is interesting to observe that whenever it is the case that

$$[F_1 \textit{ cause}_R F_2]_O$$

then, it is rational to suppose that

$$[F_2 \textit{ cause}_D 'F_1']_O$$

[note the inversion of the indexes!]

For instance, if you know that whenever John misses the bus, he is late, it is rational to suppose that he missed the bus whenever he is late (though, of course, the hypothesis may be wrong very often –but that does not prevent it from being rational).

It follows from this property that confusing *de dicto* and *de re* causality results in an inversion of the causal attribution between the two facts involved, inversion that can safely be considered as dangerous...

2.3. Rational constraints on causal attributions in semantics

In order to provide a scientific empirical description of sentence meaning for human languages, we saw that we must observe utterances and human actions, and consider that some of the utterances observed *caused* some of the actions observed. This causal relation between utterances and actions is constrained by our rationality: as we will now see, not any causal attribution is acceptable for semantics.

- The generic and specific causal attribution hypotheses

In order to build the facts for semantics, it is not sufficient to recognize that utterances may cause human actions: it is also necessary to suppose that some particular utterance caused some particular behaviour. This latter hypothesis is a specific causal attribution, which must be justified *before* any theoretical semantic description, in order to avoid circularity.

Suppose an extra-terrestrial intelligence, ETI, wanted to study the semantics of English and, for that purpose, decided to observe speech situations. Suppose ETI hides in a room where several –supposedly English speaking– human beings are gathered, a classroom, for instance. Suppose now that ETI perceives that John pronounces “It is cold in here”. If ETI's observations are all of that kind, there is no chance that it can formulate grounded hypotheses about the meaning of the sequence it heard. For what can be perceived of John's utterance is only a series of vibrations, which, in themselves, do not give cues of any kind as to what it can mean (except for those who understand English and interpret the utterance using their private know-how). If ETI wants to do its job correctly, it will have to use, in addition, observations of another kind. Intentional states are ruled out since they are not directly accessible to the observers' sensorial apparatus. It follows that we will have to reject any statement of the kind: “the speaker meant so and so”, or “normally when someone says XYZ, he or she wants to convey this or that idea” or even “I, observer, interpret XYZ in such and

such a way and therefore, that is the meaning of XYZ". ETI will have to observe the audience's behaviour and see whether, in that behaviour, it can find a plausible *effect* of John's utterance: it will have to use indirect observation. The fact that it may be the case that no observable reaction followed John's utterance does not constitute an objection to the indirect observation method: it would simply mean that ETI would have to plan other experiments. After all, even in physics, many experiments do not inform the theorists until they find the experimental constraints that work.

Suppose that, in our example, ETI notices that, after John's utterance, the following three actions take place: (i) Peter scratches his head, (ii) Paul closes the window and (iii) Mary writes something on a piece of paper. We all know (actually, we think we know, but we only believe...) that the correct answer to the question "what action was caused by John's utterance?" is "Paul's". However, ETI has no grounds to *know* it and, in addition, it may be the case that Paul closed the window not because of John's utterance (which he may even not have heard), but because *he* was cold, or because there was too much noise outside to hear what John was saying... Obviously, the most plausible hypothesis, in normal situations, is the one according to which Paul's action was caused by John's utterance; but the fact that it is plausible does not make it cease to be a hypothesis...

Thus, before ETI can continue its study, in addition to the following general hypothesis

H_0 Utterances may cause behaviours

it must admit one of the abovementioned specific causal hypotheses, for instance:

h_s The specific utterance observed caused the specific behaviour described as (ii)

It is important to keep in mind that H_0 and the different h_s are not facts about the world but hypotheses: they do not characterise the way things are but rather the way things are conceived of in our rationality.

- The 'anti-matter' hypothesis

Let us suppose that ETI shares with us the aspects of our contemporary occidental rationality expressed by H_0 . This would not prevent it from believing that the way John's utterance caused Paul's action is that the vibrations emitted by John during his utterance physically caused Paul to get up and close the window. Though it hurts our contemporary occidental rationality, this idea is not absurd: the fact that we simply cannot take it seriously does not *make* it false⁴. Moreover, utterances do have observable physical effects: a loud voice can hurt the hearers' ears, specific frequencies can break crystal, etc. What our rationality cannot accept is the idea that the linguistic effects of the utterances could be reduced to material causality. In order to rule out this idea, we need another hypothesis, which is also characteristic of our rationality rather than of the state of the world:

H_1 The linguistic effects of an utterance are not due to material causes

As a consequence of H_1 , if we cannot believe that the observable actions caused by an utterance are due to its materiality, we are bound to admit that they are due to its form. In our rationality, the causal attribution requested by H_0 is constrained to be a formal causality.

- The 'anti-magic' hypothesis

If we use the term *sentence* to refer to a category of form of utterances, we start to be in the position to fill the gap between what we can observe (utterances and behaviours) and what

⁴ Some Buddhist sects seek the "language of nature" in which the words emit the exact vibrations which correspond to the objects they refer to...

we want semantics to talk about (sentences and meanings). However, there is yet another option that our rationality compels us to rule out: ETI could accept H_1 and believe that though the causality that links John's utterance to Paul's action is not material, it directly determined Paul's action. That is, one could believe that John's utterance directly caused Paul to close the window, without leaving him room for a choice. This sort of belief corresponds to what we can call a 'magic thinking'; indeed, in the tale about Ali Baba, for instance, there would be no magic if the "sesame" formula were recognised by a captor which would send an "open" instruction to a mechanism conceived in such a way that it could open the cave. The magical effect is due to the directedness of the effect of the formula. It is interesting to note that this feature of our rationality, which compels us to reject direct causality of forms, is rather recent and not completely 'installed' in our cognitive systems: there are many traces in human behaviour and in human languages of the 'magic thinking'. From some uses of expressions like "Please" or "Excuse me" to greetings such as "Happy new year!", an impressive series of linguistic expressions and social behaviours suggests that, though a part of our mind has abandoned the 'magic thinking', another part still lives with it. Think, for instance, about the effects of insults on normal contemporary human beings...

However, for scientific purposes, we definitely abandoned the 'magic thinking' and, again, since it is a characteristic of our rationality and not a matter of knowledge about the world, no observation can prove that it has to be abandoned: we need another hypothesis, which could be stated as follows:

H_2 The directly observable effects of utterances are not directly caused by them

The acceptance of that "anti-magic" hypothesis has at least two types of consequences on the conception one can have of human being.

The first type of consequences pertains to ethics: if utterances do not directly cause observable effects on human actions, no human being can justify a reprehensible action arguing that they have been told or even ordered to accomplish them. If a war criminal tries to do so, he or she will give the justified impression that he or she is not behaving like a human being, but rather like a kind of animal or robot. As human beings, we are supposed to be responsible for our actions; which does not mean that we are free, since a reprehensible decision could be the only way of serving vital interests. Though this type of consequences of H_2 are serious and important, they do not directly belong to the subject matter of this paper and we will have to end the discussion here. However, we think they were worth mentioning...

The second type of consequences of H_2 concern the relationship between semantics and cognitive science. Indeed, H_2 , combined with H_0 and H_1 , can be seen as a way of setting the foundations of a science of human cognition and of picturing its relationship with related disciplines. If we admit, in agreement with H_0 , H_1 and H_2 , that an utterance indirectly and non materially causes an action, we are bound to accept the existence of a non physical causal chain linking the utterance to the action, part of that chain being inaccessible to our sensorial apparatus. The object of semantics is the first link of the chain; the first internal state can be seen as the *utterance meaning*. The action is determined by a causal lattice in which the utterance meaning is a part, and which includes many other elements and links; none of these elements or links are directly observable, though indirect observation can suggest more or less plausible hypotheses about them. Different theoretical frameworks in cognitive science construe that causal lattice in different ways; they also use the variations of different observable parameters in order to form these hypotheses. In our example, the only two directly observable parameters were utterances and actions, for the part of the lattice that we are interested in is the chain that links utterances to actions. However, other kinds of cognitive

science experiments could be interested in studying the variations of other directly observable parameters, such as electrical excitation, visual input, outside temperature, etc. for the beginning of the chain and movement characteristics, body temperature, attention, etc. for the end of the chain⁵.

The fact that cognitive science and semantics may share experimental devices is not sufficient to suggest that there can be a “cognitive semantics”: the object of semantics (the link between utterances and utterance meanings) does not belong to the causal lattice which constitutes the object of cognitive science.

The following diagram (adapted from Racciah (2002)) sums up the discussion and shows the consequences that can be drawn from it concerning the relationship between the object of semantics and that of cognitive science.

A few more words should be added, as consequences of that discussion:

a) Essential role of *Discourse Analysis*

It follows from the empiricity requirements that discourse analysis is a privileged tool in order to build part of the data which are necessary in order to be in the position to test semantic descriptions.

b) Insufficiency of *Discourse Analysis*

However, the analysis of a particular discourse in a given situation does not provide a semantic description of the linguistic units used in that discourse: semantic description concerns language and is independent of situations.

c) Insufficiency of *corpus analysis*

Ordinary corpora provide only one half of the empirical data required in order to study semantics: unless precise hints for the actual interpretation in the specified situation are given *within* the corpus, semantic description cannot be tested against the corpus.

3. Semantic description and ‘encapsulated’ ideologies

As we saw above, in order to consider semantics as an empirical science, a semantic description of a human language must be the description of the set of constraints that words and structures of that language impose on the construction of the meaning of the utterances and discourses.

With such a characterization, the semantic description is thus

- utterance- independent (being a set of *constraints*)
- empirically grounded (being based on the observation of the utterances)

We will now see that one of the essential sets of constraints specific to human languages concern argumentation. We will see that linguistic constraints on argumentation characterize two different kinds of points of view: the ones which the speaker pretends to explicitly defend, and the ones which the hearer must adopt (at least provisionally) in order to understand what the speaker is saying.

3.1. *Semantics and argumentation*

It is very well known by all pragmaticists and by several semanticists that utterances and discourse may be presented by their speakers as inducing their hearers to accept some conclusions, related to the meaning of the utterances and to the situation in which they have been uttered. Such utterances or discourses are called *argumentations*. Though not all

⁵ We obviously didn't choose realistic nor very interesting parameters... but our purpose is only illustrative.

utterances are argumentations, it is a noticeable fact that *any* sentence of *any* human language may be uttered as an argument for some conclusion.

For instance, many utterances of the sentence

(1) It is eight o'clock

are not argumentations: they can be simple answers to questions such as "What time is it?". However the same sentence (1) can be uttered in order to have the hearer hurry up, or else relax, according to the situation.

Given the fact that that property holds for absolutely *any* sentence of *any* human language, the semantics of human languages *must* account, among others, for the constraints their units impose on the possible argumentative orientation of the utterances containing those units.

In order to understand the importance of that fact for semantics, one must keep in mind that an utterance cannot be said to be correctly interpreted whenever its argumentative orientation is not understood. However, an important distinction must be drawn between

- the properties, for an utterance, of being a *good* or an *acceptable* argumentation, in virtue of logical or social norms or in virtue of cognitive constraints, and
- the property, for an utterance, of *presenting itself* as an argumentation, in virtue of the linguistic structure of the utterance

Only the latter is concerned with semantic description, since it is the only one which concerns the linguistic units exclusively.

3.2. Constraints on argumentation and on points of view

Since the argumentative orientation of an utterance is part of its utterance meaning, we may understand that that an *argumentative orientation* is a *point of view* defended by the utterance.

At this point, it is useful to distinguish between

1. Points of view that result from the interpretation of an utterance
and

2. Points of view that must be met in order to understand an utterance.

The first kind of point of view are attributed to the speaker and may be questioned by the hearer, while points of view of the second kind are presented as shared by the speaker and the hearer; they reveal the ideology within which the speaker rests.

A well known example illustrates the distinction. Consider an utterance of the sentence

(2) John is a republican but he is honest

in a situation in which speaker and hearer wonder whether they can trust John for some particular matter. The utterance of (2) clearly defends a positive point of view about trusting John, though, in order to understand it, one *must* admit –at least for a second– that republicans should not be trusted in general. This effect is due to the specific constraint on interpretation imposed by "but", according to which the two members of the utterance must defend opposite points of view; given that "honest" indicates, in any situation, a positive point of view regarding trust, it is not possible to understand (2) without building a negative point of view as to whether republicans should be trusted. In order to better understand the strength of the semantic constraint imposed by "but", it is useful to examine an example where normal

hearers have real cognitive difficulties adopting points of view which fulfil the constraints imposed by “but”.⁶ Consider an utterance of the sentence

(3) It is raining but I have to finish my work

in a situation in which it is an answer to an offer to go out for a walk. The first impression given by utterances of (3), in situations of the kind envisaged, is that the speaker made a mistake or that there is something wrong somewhere. If an observer is urged to understand the utterance *as it is*, she/he might eventually imagine that both the speaker and the hearer are members of some ‘rain lovers’ club, and there will be no interpretation problem... The cognitive effort is heavy⁷, but such a far-fetched hypothesis is the only way to build an interpretation for the utterance; this shows the strength of the semantic constraint imposed by “but”.

4. Describing argumentative constraints

We have seen that semantics *must* describe the constraints that linguistic units impose on points of view, and we saw that it *must* distinguish between *constraints suggested* and *constraint imposed* (or *presupposed*⁸). It is now time to show that this *can* be done...

We will first examine some properties of a few special cases which will be used for the description of the general case. After showing how these properties can be extended to the general case, we will sketch the basic elements of the technical apparatus, leaving the details for technical reports.

4.1. Special cases

Articulators

Some of the constraints on points of view are imposed by articulators (i.e. connectives like “but” and operators like “even” or “little”). They are language-specific and can be very different from one human language to the other. We saw, in the last section, the two constraints “but” imposes on points of view: they concern the articulation between the points of view that the utterance can have the hearer construct.

Euphorical / Dysphorical words

Some words impose positive (resp. negative) judgements wherever they are used, and whoever uses them. Words like “interesting” or “honest” (that we saw in the last section), impose a positive judgement even if used by a boring or a dishonest speaker; words like “stupid” impose a negative judgement even when used by non-intelligent speakers.

Combining the constraints of the articulators with the euphorical / dysphorical properties allows an observer to *compute* the ideological force of other words in an utterance. The ideological force, computed in that manner, may vary, for the same word, from an utterance to the other

(2) John is a republican but he is honest

(4) John is a republican but he is dishonest

⁶ We are not trying to suggest that republicans are objectively generally dishonest: the example would work the same with democrats or ecologists... What *is* suggested is that it is *cognitively* easy to imagine that the speaker supposes that the hearer shares that point of view with him/her.

⁷ Surely heavier than to imagine that republicans are not, in general, honest...

⁸ The term “presupposed” is used by analogy with logical presupposition: the phenomenon described here shares properties with classical presupposition but cannot be identified with classical presupposition (the first essential reason is that one concerns truth values while the other one does not concern truth at all).

It follows from that last observation that ideological forces computed in that way cannot, generally, be attributed to the words of the language and do not belong to the semantic description. As we will see in the next section, in order to be entitled to consider an ideological feature as a possible candidate for the semantic description of a linguistic unit, pairs like the one above should show one (and only one) problematic utterance.

4.2. *General case*

Other words impose more sophisticated judgements which are encoded as in a micro-programme provided by the human language which they belong to. Here the diversity across languages is even stronger than for the articulators. Those micro-programmes, attached to the words, require accepting the influence of specific points of view on some entities onto the points of view from which one will consider some other entities. For instance, the word “*lavorare*”, in Italian requires that the *activity* referred to be considered from the point of view of *tiredness*⁹

As an illustration, we will examine a few examples concerning the word “rich”. We will let the reader appreciate, in (5)-(8), whether the utterances marked as problematic do suppose specific hypotheses on the situation.¹⁰

- (5) John is rich: he has a lot of power
- (6) ?? John is rich: he has very little power
- (7) ?? John is rich but he has a lot of power
- (8) John is rich but he has very little power

These pairs of examples suggest that the set of constraints which describes the word “rich” should include *seeing possession as source of power*. A last example concerning the semantic description of “rich” is an apparent curiosity, which becomes highly predictable as soon as one seriously envisages that the constraints which the words of a human language impose are not *constraints on denotation*, but rather *constraints on points of view*.

- (9) ?? This baby is rich
- (10) This baby just inherited a huge fortune

Though the logical proposition one can associate with (10) *implies* the logical proposition one can associate with (9), utterances of (9) are *problematic*, while utterances of (10) are not. The explanation of this otherwise puzzling fact is the conflict between the points of view on power suggested by “baby” with the point of view on power suggested by “rich”.

4.3. *Elements of the descriptive model*

As a result of what has been said, the main idea which guides acceptable theoretical models for the semantics of human languages is that sentences do not merely convey information, but also give conventional indications on how this information is seen by the speaker. In this section, we present the characteristic features of one of these acceptable models

⁹ See Bruxelles and al. (1995) for more details on the description of that word.

¹⁰ It is reminded that, in semantic examples, nothing syntactically correct can be considered ‘impossible’ or ‘non interpretable’: an utterance is *problematic* if specific hypotheses concerning the situation it refers to or the situation in which it must be interpreted are *necessary* in order for the utterance to be understandable. Such utterances are understood thanks to some knowledge of the situation, while *non problematic* utterances need only knowledge of the language to be understood. Another way to put it is that the contribution of language to the interpretation of problematic utterances is insufficient, while the contribution of the situation the interpretation of non-problematic utterances is insignificant.

a) Topical fields

The concept of *topical field* is used to represent these conventional indications on points of view. Thus, if we accept that information can be represented as *conceptual fields*, a *topical field* can be seen as a point of view on some information, that is, as a valuation of a conceptual field. We can thus represent topical fields as ordered pairs <CONCEPTUAL FIELD, *valuation principle*>, where the *valuation principle* can be either a judgment (in that case, we have an *elementary* topical field), or another topical field (in that case, we have a *compounded* topical field); see (Racah 1990) for more about topical fields. A more formal definition is the following:

i. Elementary topical field:

An ordered pair <CF,*val*> is an *elementary topical field* if and only if:

CF is a conceptual field, and

Val is a member of the simple evaluation set {good,bad}

ii. General recursive definition

An ordered pair <CF,*TF*> is a *non-elementary topical field* if

CF is a conceptual field, and

TF is either an elementary topical field or a non-elementary topical field

iii. Closure

X is a *topical field* if and only if it is

either an elementary topical field

or a *non-elementary topical field*

As expected, a topical field, considered to be a way of seeing a conceptual field, may also serve as a valuation principle for other topical fields. Simple valuations (*good / bad*) on conceptual fields, regardless of there being a justification for them, lead to *elementary topical fields*.

b) Topoi

A *topos* is a category of warrants of argumentation. Keeping in mind that an argumentation presents itself as inducing a point of view, we can see a topos as relating two *topical fields* in such a way that the points of view represented by the first topical field (*antecedent*) influence the points of view represented by the second one (*consequent*). The general form of a topos is thus

//the more (the less) P, the more (the less) Q//

where P and Q are topical fields.

Depending on the degree of integration of the topoi in the culture of a linguistic community, three kinds of topoi must be distinguished:

- Dynamic topoi: they are evoked by utterances or discourses, in their situations of interpretation.
- Cultural topoi: they may be evoked by –not very original– utterances or discourses, *and* are shared by a linguistic community.
- Lexical topoi: they may be evoked by –*doxical*– utterances or discourses *and* are shared by a linguistic community, *and* are ‘crystallised’ in the words of the natural language spoken within that community.

Present research in lexical semantics, within the framework explicated above, aims at *building* and *applying* contrastive linguistic tests which can rigorously exhibit the status of the

topoi evoked by utterances¹¹. This technical phase is useful and necessary in order to accurately and systematically provide lexical descriptions which include all and only the topoi which are crystallized in the words of the different languages taken into consideration. A 'by-product' of this research direction is the specification of the cultural differences encoded in the different human languages analysed; in particular, research on the relationship between lexical description and the semantics of proverbs¹² and/or idiomatic expressions¹³ is rather active. Another 'by-product' (in a long-term prevision...) is the realisation of multi-lingual dictionaries of the ideologies crystallised in the different linguistic communities.

¹¹ See, for instance, Chmelik (2005) for a description of one test and for its application.

¹² See, BenMahfoudh-Hubert (2005).

¹³ See Creus (2004).

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