

# The syntax of the lexicon: classes of objects and uses of predicates

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## 0. Introduction

G. Gross' ideas of "classes of objects" and "use of a predicate" are described in:

LE PESANT, D. ET MATHIEU-COLAS, M. (ÉD) (1998) : *Les classes d'objets*, *Langages* n° 131, Paris : Larousse.

GROSS, G. (1994) : « Classes d'objets et description des verbes », *Langages* n° 115, Paris : Larousse.

GROSS, G. (2012) : *Manuel d'analyse linguistique, Approche sémantico-syntaxique du lexique*. Villeneuve d'Ascq: Presses Universitaires du Septentrion.

FASCIOLO, M e GROSS G. (work in progress): *La sintassi del lessico*, UTET – de Agostini editions.

Here, I present Gross' theory focusing on some less known (I hope) aspects.

## 1. « Meaning » as « use »

My starting point is a pseudo-quote from Wittgenstein :

Consider for example the things that we call *wings*.

I mean the *wings of a bird*, *the wings of a building*, *the wings of a political party*, and so on. What is common to them all? Don't say: There must be something common, or they would not be called *wings*, but look and see whether there is anything common to all.

For if you look at them you will not see something that is common to all these *wings*, but similarities, relationships, and a whole series of them. To repeat : do not think, but look.

Look for example at *bird wings*. If you pass to *aircraft wings*, you will find many correspondences with the first group, but many common features drop out, and others appear. When we pass next to the *wings of a building*, much that is common is retained, but much is lost. Are they all "lateral"? Compare the *wing of a building* with the *wing of a political party*. Or, is there always the idea of something "accessory" ? Contrast the *wing of a political party* with the *wing of a football team*. Think how important is the idea of "flight" in all them...

And the result of this examination is: we see a complicated network of similarities overlapping and criss-crossing: sometimes overall similarities.

The previous argument is the source of the ideas of « family resemblances » and « meaning-as-use ». As matter of fact, these ideas moved the notion of « meaning » from the realm of semantics to the realm of pragmatics.

One consequence of this shift is that « meaning » has been defined in terms of notions such as « co-text », « window of words », « pattern ». These notions are certainly useful, but their nature is pragmatic and they are deprived of a real internal structure.

The first point that I would like to stress is that Gross' insight captures the very idea of « meaning-as-use » without falling into pragmatics. Indeed, Gross links the notion of « use » to the structure of the sentence and hence to syntax and semantics.

Consider the following examples :

<i>The eagle injured its wing</i>	<i>L'aquila si è ferita all'<u>ala</u></i>
<i>The aircraft has a mechanical failure at one wing</i>	<i>L'aereo ha un'avaria a un'<u>ala</u></i>
<i>They built a new wing</i>	<i>Hanno costruito un'<u>ala</u> nuova</i>
<i>The left wing voted the law</i>	<i>L'<u>ala</u> sinistra ha votato la legge</i>
<i>The referee cautioned the left wing.</i>	<i>L'arbitro ha ammonito l'<u>ala</u> sinistra</i>

These examples illustrate Wittgenstein's quote. According to Gross, they are instances of “predicative schemes” like:

- 1) <animate being> *to injure / ferirsi a* <body part>
- 2) <means of transport> *to have a mech. fail. at / avere un'avaria a* <device>
- 3) <human> *to build / costruire* <building>
- 4) <human\_politician> *to vote / votare* <law>
- 5) <human> *to caution / ammonire* <human\_player>

The brackets identifies “classes of objects”, while the verbs in italics are the semantic-conceptual predicates taking these classes as arguments.

Each predicative scheme identifies a *use* – and hence a meaning – of the word *wing*. At each use, the word *wing* belongs to different classes of objects. For instance, in 1) *wing* is a <device> together with *landing gears*, but not *seats*. In 3), *wing* is a <building> together with *bridge, hospital*, etc.

So, the notion of “use” is construed as a conceptual structure of the form *predicate (classes of arguments) – P(x,y)* – deployed in the structure of a simple sentence.

According to Gross, this notion is the basic unit of lexicon. This means that all lexical and semantic relations, inferences, translations, etc. are function of a specific use so defined. Let us consider some other examples:

- |     |  |  |
|-----|--|--|
| 6)  | <i>to take</i> <road>                      | <i>abattre</i> <animaux_grosse taille> |
| 7)  | <i>to take</i> <public mean of transport>  | <i>abattre</i> <batiments>             |
| 8)  | <i>to take</i> <private mean of transport> | <i>abattre</i> <aéronefs>              |
| 9)  | <i>to take</i> <medicament>                | <i>abattre</i> <cartes>                |
| 10) | <i>vieux</i> <device>                      | <i>dur</i> <saison>                    |
| 11) | <i>vieux</i> <aliment>                     | <i>dur</i> <humain>                    |
| 12) | <i>vieux</i> <vin>                         |  |
| 13) | <i>vieux</i> <humain>                      |  |

....

At each use, *to take*, *abattre*, *vieux* or *dur* enter in different nets of lexical relations – hyponymy, antonymy, synonymy, and so on.

Note, for instance, that *vieux* is antonym of *jeune* both for <humans> and <wines>. However, the meaning is completely different. Note, moreover, that *dur* is a synonym of *âpre*, *insupportable*, *rigide* for both <seasons> and <humans>, but, once again, the meaning is completely different.

This implies that it would be pointless to define *vieux* as an antonym of *jeune* or *dur* as a synonym of *âpre*, *insupportable*, etc. before a specific predicative use. Otherwise said, a word is not a “synonym of...”, an “antonym of...”, and so on, but rather it “works as a synonym, an antonym, a meronym of...” as regards a predicative use.

To sum up, a predicative use is like the hub of a halo of phenomena which extend to the whole relational dimension of lexicon, and is open to empirical study.

## 2. G. Gross’ limits

Before proceeding, it should be stressed that Gross’ theory has a “dark side” and is somehow “paradoxical”.

The dark side is that Gross completely ignores the existence of a syntax beyond lexicon. For him, “syntax” is completely defined by the conceptual and semantic relations embedded in lexicon – his predicative uses – which are necessarily consistent. However, as argued by Prandi, there is another kind of syntax – a formal

one – that can either reproduce or violate the previous conceptual and semantic relations.

The paradox is that the best way to elucidate Gross' predicative uses is precisely by means of that part of syntax that he ignores: that is, the syntax beyond lexicon, which can force semantic predicates to take conflicting arguments. This is the reason why Gross' examples usually concern the core of the simple sentence, and the description of his classes of objects is carried out through the violation of lexical solidarities or consistency restrictions.

### 3. Classes of objects

Let me now focus on the notion of classes of objects.

According to Gross, there are two kinds of classes of objects: “objects-classes” (strictly speaking) and “hyper-classes”. This distinction is delicate.

Examples of hyper-classes are general categories like: <humans>, <animals>, <vegetables>, <living beings>, <material objects>, <times>, <places>. Hyper-classes are few and identify a natural material ontology. Hyper-classes are not immediately relevant for fine graded lexical description.

Examples of object-classes are: <cattle>, <insects>, <political figures>, <trees>, <public means of transports>, etc. Objects-classes are many and are relevant for fine graded lexical description. Objects-classes are defined by “appropriate predicates”. “Appropriate predicates” are, roughly, collocations or lexical solidarities. For instance: *to butcher* is appropriate to <cattle>, *to crush* is appropriate to <insects>, *to assassinate* to <political figures>, *to prune* to <trees>, and so on. I will come back soon on this notion of “appropriate predicate” soon.

The crucial point is that the distinction between objects-classes and hyper-classes is not a matter of generality, but a matter of function. The function of objects-classes is to classify. The function of hyper-classes is not to classify, but rather to set the conceptual limits inside of which the lexicon can carve objects-classes out by means of “appropriate predicates”. The diagnostic criterion which separates objects-classes and hyper-classes is the result of their violation.

The violation of a hyper-class results in inconsistency, a living metaphor or a conceptual conflict (Prandi 2017). Inconsistency and living metaphors cannot be corrected – but only interpreted – and there is no consistent hypernym which can dissolve the conflict:

*\*to assassinate the melancholy / \*to kill the melancholy*

*\*to prune the melancholy / \*to cut the melancholy*

The violation of an object-class results in a “lexical mistake” or “inappropriate use”. Lexical mistakes and inappropriatenesses can be corrected and there is a consistent hypernym which dissolves the conflict:

*\*to butcher a fly = ~~to butcher~~ → to crush a fly / to kill the fly and the cow*

*\*to prune the grass = ~~to prune~~ → to mow the grass / to cut the grass and a tree*

So, one can make a mistake (*\*I prune the grass / \*I butcher the ant*) and correct it, because *to cut the grass* and *to kill the ant* are consistent. That is to say... because that mistake and its correction take place inside the hyper-classes of <material things> and <living beings>.

Hence, a hyper-class (*living beings*, for instance) works as a logical space inside of which the lexicon can code some appropriate use of a predicate (for instance *to butcher*, *to crush*) in order to carve some object-class out (for instance, *cattle* or *insects*). <Cattle> or <insects> are classifying tools; <living beings> is not a classifying tool, but the ground on which the lexicon constructs its classifying tools through lexical solidarities and collocations – that is appropriate predicates.

Here, we find a crucial point.

If the violation of a hyper-class results in inconsistency, then consistency stems from hyper-classes. If the violation of an object-class does not result in inconsistency, but in a lexical mistake, then objects-classes – and lexical solidarities which define them – do not preside over consistency, but over lexical correctness or appropriateness. Hence, objects-classes – and not hyper-classes – are genuine lexical or semantic classes: that is, the relevant classes one has to know in order to talk a language properly.

Moreover, if consistency is a priori granted by hyper-classes – and not by object classes – then lexical solidarities or collocations simply cannot affect consistency. As a consequence, they can play over consistency: that is to say, they can be arbitrary. The fact that consistency does not stem from the lexicon itself – but rather from a natural ontology of hyper-classes which grounds it – is the precondition for the very arbitrariness – or freedom – of the lexicon.

More concretely, the lexicon can:

i) have predicates which simply match hyper-classes – *to kill* <living beings>, ...

ii) code appropriate predicates which carve objects-classes out from hyper-classes – *to crush* <insects>, *to prune* <trees>

iii) have predicates which cut through hyper-classes – *to take*, etc. This is polysemy.

Note that, if lexical solidarities or collocations cannot affect consistency, then we can understand why lexicon can allow *to nourish a baby* and *to nourish a hope* – that is polysemy or point (iii) – without making us completely crazy. The reason is that consistency is not a matter of lexicon (that is a matter of objects-classes and lexical solidarities), but rather a matter of ontology (that is a matter of hyper-classes). Otherwise said, we can understand why polysemy is so innocent.

This leads to my last point, which concern precisely polysemy.

#### 4. Polysemy

A good theory of lexicon, I believe, should answer this question: how is it possible that “polysemy” exists for the lexicographer, but not for the speaker? Otherwise said, a theory of lexicon should capture the fact that, for the lexicographer, polysemy is *the* problem, while, for the speaker, polysemy is not even perceived.

Now, this fact perfectly fits Gross’ theory. According to him, polysemy manifests itself when a lexicographer takes a word out from a predicative use and looks at it in isolation, but it simply disappears when that very word is put into a predicative use.

Let us come back to some examples of Gross’ uses:

- |    |  |  |
|----|--|--|
| 6) | <i>to take</i> <road>                      | <i>abattre</i> <animaux_grosse taille> |
| 7) | <i>to take</i> <public mean of transport>  | <i>abattre</i> <batiments>             |
| 8) | <i>to take</i> <private mean of transport> | <i>abattre</i> <aéronefs>              |
| 9) | <i>to take</i> <medicament>                | <i>abattre</i> <cartes>                |

First of all, note a corollary. Since polysemy exists before uses, and since lexical relations exist after uses, polysemy is not a lexical relation. More specifically, polysemy is not a hypernym-hyponym relation: between the whole polysemic space of a word and each specific meaning of that word, there is not a relation “general concept – specific concept”.

Be that as it may, facing the previous examples, let us ask: in order to identify the meanings at stake, do we need different words – or synonyms – for each line? The answer is clear: no.

Once we have a pattern of classes of objects on the structure of a sentence – that is, once we have a predicative use – we identify a meaning. Once a meaning is identified, the fact that the lexicon codes a synonym is contingent. Otherwise said, Gross theory *does not solve* the problem of polysemy – because there is no problem to solve – but rather it *generates* polysemy. Hence, this theory captures an essential feature of lexicon.

## 5. Conclusion

Since it generates polysemy, Gross' approach is different from an approach which aims to resolve polysemy by means of synonymy. Offering one or more synonyms could seem a reasonable strategy in order to disambiguate the polysemy of a word. For example, in order to disambiguate *abattre*, one can imagine a set like {*abattre*, *démolir*}. Since *démolir* seems to immediately suggest *démolir un bâtiment*, and since this is the only use in which *démolir* and *abattre* are synonyms, in practice, this strategy works (more or less well).

Now, such a strategy means to gamble that: a) there are synonyms and: b) these synonyms have a lesser degree of polysemy than the entry term. So, in the end, this strategy assumes that the lexicon “minimises polysemy”. If this is true, however, this approach contradicts the very functioning of lexicon, which does not need to minimise polysemy, but it can extend it to all words.

Indeed, in principle, nothing prevents that: a) there are no synonyms and b) if there are synonyms, they are, in turn, very polysemic. This is the case, for instance of {*dur*, *âpre*, *insupportable*...}. Of course, in practice, this is quite rare; but the point is that this possibility is consistent with the functioning of the lexicon.

Gross approach, instead, grounds the description of lexicon on the notion of use – a pattern of classes of objects deployed in the structure of a simple sentence – and it allows polysemy without limits.