SYNTAX, SEMANTICS AND METAPHYSICS IN LOGIC: REPLY TO GUILLERMO ROSADO HADDOCK

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Abstract: In §§1-2 I consider some issues that Guillermo raises in connection with Husserl, especially the distinction between the notion of state of affairs and the more general notion of situation of affairs conceived as a common substratum for different states of affairs. After a few remarks about Church's slingshot argument in §3, I discuss several objections that Guillermo raises to my interpretation of Frege (§4), to Kripke's notion of rigid designator (§5) and to my objections to Tarski's semantic conception of truth (§6).

Key-words: Husserl. Frege. Kripke. Tarski. Situation of affairs. Conceptual content.

Guillermo reviews substantial parts of my book and makes many interesting remarks, critical and non-critical, about several different topics. In particular, he takes me to task for ignoring Husserl's works. I have felt for a long time that I should familiarize myself with Husserl's philosophy, but unfortunately something always seems to get in the way and I have never read more than a little passage here and there. So Guillermo is quite right to point out a number of places where my discussion might have benefited from an acquaintance with Husserl's

ideas. Although I will not be able to deal with all the different issues that Guillermo discusses, I will take some of his remarks about Husserl into account in my reply. I will follow Guillermo's organization into subjects.

1. SYNTAX, SEMANTICS AND METAPHYSICS IN LOGIC

Guillermo says that I show "no enthusiasm for the views predominant in logic since the 1930s, due to the work of Tarski, Gödel and their followers". This is somewhat ambiguous, and perhaps misleading, because my views have much in common with Gödel's[1] and the main philosopher that I attack for his views on logic is Quine. The ambiguity is due to Guillermo's 'due' which may simply point to the technical development of logic since the 30's and to what I refer to as the contemporary linguistic and mathematical view of logic.

Guillermo also points out that I do not refer either to Bolzano or to Husserl in connection with Quine's definition of logical truth. I did know Bolzano's definition but did not know Husserl's. What I would like to say in this regard is that I made no attempt in my book either to survey the literature on any given subject or to refer to authors who may have contributed to the development of ideas that I discuss in connection with one or another philosopher. What I did instead was to give very extensive references (including long quotations) to the work of those philosophers with whom I was engaging in argument. I agree therefore that my references in the book are rather spotty, but the character of the book is that of a long argument with some very specific philosophers.

I also did not know the discussion of logical necessity in §12 of Husserl's Third Logical Investigation, but in this case I would definitely have referred to it if I had known it. The distinction between laws and their instances is very obvious, and as I say in p. 29 I do not think that

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[1] See §3 of my reply to Frank Sautter.

anyone would fail to distinguish a physical law from its specific instances. Yet, in *logic* it is now common currency to put laws and instances together under the rubric 'logical truth' – and even to define the laws *via* the instances, as does Quine. The distinction between general logical laws and instances of these laws is clearly present in the work of Frege and Russell, although I do not recall either of them emphasizing the possibly contingent character of an instance that exemplifies a necessary logical law. I am very pleased to learn that Husserl does and that he formulates it in the same explicit form that I use in my text.

2. STATES OF AFFAIRS AND SITUATIONS OF AFFAIRS

I had heard of this distinction some years ago from Jairo José da Silva who in conversation made the point that it was odd to say that the statements 'Frege was a teacher of Carnap' and 'Carnap was a student of Frege' refer to *different* states of affairs – in my terminology. There seems to be a *common fact* to the two statements and that is what Husserl calls 'the situation of affairs'. Following up a reference in Rosado Haddock (1991) I looked up §48 of Husserl (1973) for a statement of the distinction, but I must acknowledge that I could not really make it out there – although this is probably due to my unfamiliarity with Husserl's style and terminology.

In any case, Guillermo suggests a specific characterization of the notion of situation of affairs in his paper. He introduces situations of affairs with a remark similar to Jairo's:

> A relation, *e.g.*, and its converse relation have a common substratum, which is, in some sense an abstract, being non-categorial. Such a substratum of states of affairs is a situation of affairs. (p. 120)

He then says that Frege's "notion of conceptual content was essentially Husserl's notion of a situation of affairs" (p. 125). Since conceptual content is characterized in terms of inter-derivability (p. 124), we could

say that a situation of affairs is what all true sentences that are logically equivalent have "in common"[2] – *i.e.*, the equivalence class of the states of affairs denoted by these sentences. In particular, it will follow from this that all the different interpretations (or readings) in terms of subject-predicate structure that I suggest for a sentence such as 'Frege was a teacher of Carnap' will have the same situation of affairs as substratum.

I agree that it makes a lot of sense to pursue this line of thought, but we must be careful with logical equivalence. For, as Guillermo points out in pp. 121-122 in connection with the slingshot arguments, if we allow the kinds of transformations that Davidson and Gödel use, then we are led almost inexorably to Frege's conclusion that all true sentences have a common substratum – and that all false sentences have a common substratum as well. We must also reject the (commonly held) view that logical truths are logically equivalent, because otherwise sentences such as 'Plato is mortal or Plato is not mortal' and 'Gödel is mortal or Gödel is not mortal' would have the same substratum – with which I would not agree (and I think that Guillermo and Husserl would not agree either). Such rejection follows from my semantics because given that non-logical terms (singular or general) may fail to refer[3], sentences involving different non-logical terms are never logically equivalent. It is easy to see that in the case of the previous example one of the sentences could be true without the other being true – *i.e.*, one could be true and the other truth-valueless.

One thing that remains to be cleared up, at least in my mind, is what exactly *are* situations of affairs. It would seem that they are more "primitive" than states of affairs and that even if they "correspond" to equivalence classes of states of affairs they should be characterized independently of (and prior to) states of affairs. *They* are the states of the world that can be analyzed in various "equivalent" ways as states of

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[2] This is what Guillermo seems to suggest in p. 121.

[3] See Chapter 11, pp. 382-84.

affairs. The notion of state of affairs would seem to be a more "formal" notion than the notion of situation of affairs. But this seems to be the opposite of what Guillermo is saying in the passage that I quoted above. In any case, there is food for thought here and I am grateful to Guillermo and to Jairo for emphasizing this distinction.

3. THE SLINGSHOT ARGUMENTS

Guillermo agrees with my conclusions about the slingshot arguments and although he says that he disagrees with some of the details of my discussion it is not clear to me where are the points of disagreement. Again, I was not aware of his paper (1996) in *Manuscrito* and I was not aware of the paper he mentions by Hermann Weidemann. With respect to what he says about Church's argument in pp. 121-122, I would only remark that what is preserved in the different steps of the argument depends on how one analyzes the structure of the various sentences. In my analysis (5P)-(8P), for instance, nothing is preserved aside from truth-value – as I argue in p. 139[4].

4. THE INTERPRETATION OF FREGE

Given my ignorance of Husserl's philosophy I will not enter into the discussion of the relation between Frege's notion of sense and Husserl's notion of sense. This is a subject that has been much debated in the literature and to which I can contribute very little, if anything. What I will discuss are the specific criticisms that Guillermo raises in pp. 123-125 about my interpretation of Frege.

Guillermo first objects to what he calls my "partial leaning to interpret Frege as an epistemologist" and refers to pp. 29-30 of my book. I do not really know what he has in mind, but it seems quite clear to me

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[4] For further discussion of Church's argument (and Gödel's) see my reply to Marco Ruffino.

that Frege had very definite epistemological concerns. The first paragraph of the Preface of *Begriffsschrift* is an unmistakable statement of a program to find the ultimate *justification* of our arithmetical *knowledge.* When I referred to Frege's "epistemological considerations" on p. 30, I had in mind Frege's lifelong concern with *proof* and with its role in the justification of mathematical knowledge.

Guillermo also says that my "attribution to Frege of a sort of holistic view of reference [for statements] ... based on his choice of truth-values as the referents of statements ... is not explicitly warranted by Frege's writings". Again I am not sure what he has in mind, but if a view of reference for statements according to which *all* true statements refer to the *same thing* and *all* false statements refer to the *same thing* is not holistic, then I don't know what 'holistic' means. It may not be holistic in the same sense in which other holistic views are holistic, but it is holistic nonetheless[5].

Another of Guillermo's objections concerns what I say about Frege's conception of senses. Guillermo seems to understand reality as comprising physical (spatio-temporal) reality and conscious reality, and therefore places Frege's senses – and I suppose also other abstract entities – outside reality in a "third realm". I don't particularly like this terminology, and for me reality is *all there is* and includes abstract and logical aspects as well as physical and mental aspects – and in particular it includes senses. I think that Frege's view was not too far from this and that he would definitely have rejected Guillermo's qualification "if at all".

I also never said that for Frege senses are identifying properties. This idea is suggested by Frege's treatment of the senses of objects in "On Sense and Reference", but for him senses of objects are objects and not properties. The characterization of senses (in general) as identifying

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[5] As a matter of fact, I never used the term 'holistic' but referred to the 'connection' of statements with reality. For further discussion of this see §1 of my reply to John Corcoran.

properties is *my* characterization of senses inspired by Frege's remarks about the features of senses of objects.

But these are small points – and primarily terminological points, perhaps. Guillermo's main objection is that I confuse the notions of conceptual content and of judgeable content that Frege introduces in *Begriffsschrift*. He puts me in good company though, because according to him also Frege makes this confusion in later years. Well, do we?

One of Guillermo's arguments is that "it is extremely improbable that a so rigorous thinker as Frege would introduce in two successive sections of a logical treatise two different names for the same notion ... without expressly asserting such an identity" (p. 124). Let us look at what Frege says in those sections.

When Frege introduces the content stroke in §2 he says:[6]

> Not every content becomes a judgment when ⊢ is written before its sign; for example, the idea "house" does not. We therefore distinguish [judgeable contents] from [unjudgeable contents].[7]

At the end of §2 he says:

> *Whatever follows the content stroke must have a [judgeable] content.*

At the beginning of §3 he says:

> the contents of two judgments may differ in two ways: either the consequences derivable from the first, when it is combined with certain other judgments, always follow also from the second, when it is combined with these same judgments, [and conversely,] or this is not the case.

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[6] The following quotations from *Begriffsschrift* are from the translation in van Heijenoort (1967).

[7] For obvious reasons I have changed the translation "contents that *can become a judgment* from those that *cannot*" to "[judgeable contents] from [unjudgeable contents]".

He then goes on:

> I call that part of the content that is the *same* in both the *conceptual content*. Since *it alone* is of significance for our ideography, we need not introduce any distinction between propositions having the same conceptual content.

What Frege seems to be doing is distinguishing contents that can be judged from those that cannot (*e.g.* 'house'), and then saying that there are some differences of content that are irrelevant in judging and that the contents that are judged are the conceptual contents. Maybe I am wrong about this, but I think that Frege is asserting the identity.

5. KRIPKE ON RIGID DESIGNATION

Guillermo objects to Kripke that the notion of rigid designator should apply to "definite descriptions of logico-mathematical entities" and not to proper names because a "proper name ... is an arbitrary designation" (p. 126). In my opinion this is based on a misunderstanding of Kripke's view.

A designator is rigid not on account of having a non-arbitrary connection with the thing designated, but on account of designating whatever it in fact designates in the actual world in every possible world – or in every counterfactual situation. Thus, even though 'Al Gore' has an arbitrary connection with the man who was vice-president of the United States during the Clinton presidency, if I say

> If Al Gore had won the election, the United States would have ratified the Kyoto agreement,

I would be referring to *Al Gore*; the very man who did not win the election. On the other hand, if I say

> If the vice-president of the United States during the Clinton presidency had been a woman, she would have been the first woman to hold that office,

I would *not* be referring to Al Gore (and assuming *him* to be a woman) in this counterfactual situation, even though the definite description 'the vice-president of the United States during the Clinton presidency' does refer to Al Gore in the actual world. The name 'Al Gore' is rigid whereas the definite description 'the vice-president of the United States during the Clinton presidency' is not.

This is not to say that Guillermo is not right about logico-mathematical descriptions being rigid. But one has to be careful because it is not the descriptions of logico-mathematical *entities* that are rigid, but the descriptions that only involve logical and mathematical notions. Thus, the description 'the smallest prime number' is rigid while the description 'the number of cats on my bed' is not, even though they both denote the number 2.

It is also important to notice that according to Kripke's views there are many rigid descriptions that are not logico-mathematical descriptions. If I say referring to Al Gore (*e.g.*, by pointing at him)

> If this man had been elected, the United States would have ratified the Kyoto agreement,

the indexical description 'this man' is rigid. Also such descriptions as 'the father of Al Gore' (or 'Al Gore's father') are rigid according to Kripke. For it is an essential property of Al Gore that he is his father's son, and there could not be a possible world or counterfactual situation in which the description 'the father of Al Gore' refers to anybody else.

6. TARSKI'S SEMANTIC CONCEPTION OF TRUTH

My examination of Tarski's semantic conception of truth in Chapter 7 was not designed to question its mathematical importance – as I mention in note 1 p. 427. I am well aware of the merits of Tarski's work and I do not think that the problem is to complement it with other insights. What led me to the discussion of Chapter 7 was rather the following.

I always treated Tarski's semantic conception of truth as a realist (correspondence) theory of truth that meant to do justice to the basic Platonic and Aristotelian intuitions about truth. Tarski says something *like this* many times and it would be perfectly compatible with his nominalism for him to espouse a realist theory of truth. But some philosophers argued, both in print (*e.g.*, Putnam[8]) and in various discussions, that Tarski's conception is *neutral* as among various conceptions of truth. Moreover, others (*e.g.*, Mates[9]) claimed that the very nature of Tarski's criterion (T) made Tarski's conception non-metaphysical – and pointed out that Tarski himself says something like that – as I quote in p. 255 (note 29).

One of my main arguments is that one cannot have it *both* ways. Either one *does* justice to the Platonic and Aristotelian intuitions and the theory *is* a metaphysical realistic theory, or one has a non-metaphysical theory and *does not* do justice to the Platonic and Aristotelian intuitions. This is part of the basis for my claim that if we interpret Tarski's conception non-metaphysically, then it is really a syntactic conception of truth. But there is another important point.

I insist throughout my book that sentences may be neither true nor false. I derive this from Frege and I discuss it at length in the book and in several of these replies[10]. Usually people take this idea to refer to

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[8] See the quotation in note 28 (p. 254).
[9] See pp. 236-37.
[10] See the end of §2 of the reply to Marco Ruffino, for example.

some sort of "deviant" little logic called 'free logic' to be studied alongside other more or less deviant logics. But *I take it seriously*, and it seems to me that it completely undermines Tarski's theory of truth as a theory of *truth*. Why? Because it is at the very heart of Tarski's conception that all appropriate instances of schema (T) are true. But if one holds that sentences containing terms that do not refer are neither true nor false, then it is evident that the biconditional

> The sentence 'Odysseus was set ashore at Ithaca while sound asleep' is true if, and only if, Odysseus was set ashore at Ithaca while sound asleep,

is not true if 'Odysseus' does not refer. Hence, for Tarski's strategy to be successful he must be able to rule out such biconditionals – *i.e.*, he must be able to rule out sentences that are neither true nor false. To say that he only wants to deal with sentences that *are either true or false* would clearly compromise the account as an account of truth, because it would *presuppose* the very notion that it attempts to explain. My argument in pp. 237 ff. is that there is no satisfactory way out of this dilemma – unless, of course, one takes the account to be purely syntactic. What I mean by 'syntactic' in this context is that the acceptance of the (T) biconditionals is not based on their *truth* (*i.e.*, is not grounded on reality) but is simply imposed as a formal condition. It would follow then that *any* set of such biconditionals that behaves in accordance with the laws of classical logic will be just as good as any other set from the point of view of Tarski's characterization of truth[11].

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[11] This is what Guillermo suggests when he says that Tarski theory "is concerned with a multiplicity of interpretations none of which is distinguished as our world" (p. 127). But this is not what Tarski claims to be doing – see, *e.g.*, the quotations in notes 5, 20 and 27 of Chapter 7.

As I see it, therefore, the problem is not that my conception of logic does not allow me to do justice to Tarski's work[12], but that Tarski and some of his followers want to eat their cake and have it too. Either one takes seriously the intuitions that one is trying to explain or one does not claim to be explaining them. And, as I said before, this has nothing to do with the formal character and mathematical applications of Tarski's work.

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[12] For additional discussions of Tarski see the end of my reply to John Corcoran and §1 of my reply to Frank Sautter.