Why assignment functions can do all the job of contexts

David Kaplan's Logic of Demonstratives (1989a, 1989b) distinguished two kinds of meanings: *content* (the customary contribution of an expression to the proposition expressed) and *character* (a rule for determining the content of an expression in a context). Indexicals are notable for having a variable character: their content, unlike that of proper names, verbs or definite descriptions, may vary from context to context. Thus, in Kaplan's system semantic values are relativized to two parameters: first, character determines the content of a sentence in a context; on a second stage, content assigns extensions according to circumstances of evaluation – which, in turn, are a pair consisting of a possible world and a time. Contexts are understood as a tuple consisting of an agent, a possible world, a time and a place, i.e., the parameters necessary for determining the content of pure indexicals such as "I", "actually", "now" and "here".

As it is customary in model-theoretic semantics, there is yet a further relativization to an assignment function that determines the values of the variables. And, given the usual analogy between demonstrative pronouns and variables, the content of this kind of expressions is to be determined by the assignment. It follows, then, that the content of a sentence is dependent on two different parameters: contexts provide the contents of pure indexicals, and assignment functions determine the value of demonstratives[1]. We will be arguing that this distinction is unmotivated and that, indeed, there is no need for a context in theorizing about semantics. This is so because, as we will be arguing, pure indexicals are also variables, and their functioning is analogous to that of demonstratives.

Consider an utterance of (1) in a context that has Mary as its agent:

(1) Only I admitted what I did wrong

This sentence is ambiguous between a reading in which Mary claims that she is the only x that admitted what Mary did wrong, and another in which in which she claims that she is the only x that admitted what x did wrong. This difference is far from being idle, since the former reading would be falsified if someone else (say, Jean) admitted what Mary did wrong, but this needn't falsify the second reading. On the other hand, if Jean admits what she did wrong, the second reading of (1) turns out false, but the former may remain true. Now, given these facts it is also clear that the second occurrence of "I", on

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[1] Indeed, this leads Kaplan (1989b) to suggest that we include assignment functions among the parameters of the context, which he understands as a "tuple of content-generating parameters".

the second reading, isn't about Mary at all, but rather a variable ranging over all individuals.

It is tempting to say that this reading falsifies Kaplan's claims on indexicals, since it allows for a shifted interpretation. But actually this is a part of a more common phenomenon regarding pronouns in general:

(2) The boys each thinks that they are alone in the room

(3) She expects to become a man and buy herself a house

"Their" is plural, yet it ranges over all the boys individually. In (3), a feminine pronoun is being used for talking about someone who by that time will already be a man. All these facts are normally accounted for by means of a semantic principle named *feature deletion* (or *transmission*) *under binding* (Heim 2001; von Stechow 2003a, 2003b), which basically states that bound pronouns receive, at the phonetic level, all the φ-features of their binders (number, gender, etc.), but that these features are nowhere to be found at the level of logical form, i.e., that they receive no semantic interpretation. Thus, a variable ranging over all individuals will be phonetically realized as some variant of "she" if it is bound by a feminine pronoun. And a variable bound by a first-person indexical will always be realized as some variant of "I", as in the second reading of (1), even if this variable has no first-person features whatsoever.

Sentences like (1) show that the functioning of pure indexicals is analogous to that of demonstratives: they can be either bound or free, and if they are bound their φ-features receive no semantic interpretation. If this is so, it makes sense to treat them as simply contributing a variable to the logical form of the sentences in which they appear. So, instead of saying that context determines a set of content-generating parameters such as an agent, a time, a place, a world and an assignment, we may just say that the assignment does all the job, since all the context dependence we need consists in assigning values to the variables[2].

The reason for this move, however, is not just simplicity. Predelli (2004, 2005a, 2005b) has argued that the notion of context as a set of the parameters has been the source of much confusion regarding the nature of the semantic inquiry, and has proposed that an alternative labelling, such as "index", may be more fitting. Moreover, he has argued that

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[2] A similar proposal has been developed by Paolo Santorio (2012), though the reasons he adduces for treating all pronouns as variables are quite different.

the difference between pure indexicals and demonstratives seems rather idle, since the former are as dependent on speaker intentions as the latter are. If Predelli is right in his claims, then the idea of treating all pronouns as variables might be on the right track: assignments may play the role of Predelli's "indexes", i.e., as that part of context-dependence determined by the speaker's intentions; thus, semanticists needn't rely on anything going under the label "context".

References

– HEIM, I. (2001) "Features of Pronouns in Semantics and Morphology", manuscript.

– KAPLAN, D. (1989a), "Demonstratives", in Almog, J. et al. (eds.), *Themes from Kaplan*, Oxford, Oxford University Press, pp. 481-564.

– KAPLAN, D. (1989b), "Afterthoughts", in Almog, J. et al. (eds.), *Themes from Kaplan*, Oxford, Oxford University Press, pp. 565-614.

– PREDELLI, S. (1998), "I Am not here now". *Analysis*, vol. 58 (2), pp. 107-15.

– PREDELLI, S. (2011), "I Am still not here now", *Erkentniss*, vol. 74, 289-303.

– PREDELLI, S. (2004b), "Think before you Speak: Utterances and the Logic of Indexicals", *Argumentation* 18, pp. 445-63.

– PREDELLI, S. (2005a), *Contexts. Meaning, Truth, and the Use of Language.* Oxford: Oxford University Press.

– PREDELLI, S. (2005b), "Painted Leaves, Context and Semantic Analysis", *Linguistics and Philosophy*, 28, pp. 351-74

– SANTORIO, P. (2012), "Reference and monstrosity", *Philosophical Review*, vol. 121(3), pp. 359–406

– VON STECHOW, A. (2003a), "Binding by verbs: Tense, person and mood under attitudes", in Lohnstein H. and Trissler S. (eds), *The Syntax and Semantics of the Left Periphery*, Berlin-New York: Mouton de Gruyter, pp. 431–488.

– VON STECHOW, A. (2003b) "Feature Deletion under Semantic Binding: Tense, Person, and Mood under Verbal Quantifiers", In *Proceedings of NELS*, vol. 33, pp. 379-403.