A2.13 Philosophical Logic

The Liar-like paradoxes

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Assume the sentence (1) is false. The sentence (1) immediately leads to the Liar paradox, because it is easily to demonstrate that (1) is true if and only if (1) is false (not true). The T-scheme, that is the formula "A is true if and only if A" is essential for generating the paradox in question. The paper shows that we can formulate other the Liar-like paradoxes, in particular, the verifiability or analyticity paradox: (2) (2) is verifiable; (3) (3) is not analytic. These paradoxes are the Liar-like because they essentially depend on self-referentiality. Note, however, that that self-referentiality has the semantic character (it uses, directly or indirectly the T-scheme), but not consists in attributing to sentences non-semantic properties, for instance, "(1) is not written in italic". Accordingly, the Tarski-Lesniewski way out is based on a deep observation of how semantic machinery works.

Fuzzy Logic and Sorites Paradox: The Problem of Missing Input

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Sorites paradoxes are a class of paradoxical arguments which arise as a result of using vague terms such as "heap", "bald", or "tall". Vague terms, in contrast with precise terms, lack precise boundaries of application. There are objects to which a) the vague term applies, b) the vague term does not apply, and c) it is uncertain whether vague term applies or not (so called borderline cases). In borderline cases it is uncertain whether the vague term in question applies to them or not. Moreover, this uncertainty cannot be resolved by any enquiry. When we are asked whether some person is tall, we take only his height into consideration. When said person measures 150 centimetres, we are inclined to say that the person in not tall. When that person measures 220 centimetres, we would not hesitate calling that person tall. We, however, would not be so sure about a person measuring 184 centimetres. Yet we would be sure that a person measuring 190 centimetres is taller than a person measuring 185 centimetres. It seems that being tall is a matter of degree. At least proponents of fuzzy logic would say so. Sentences like "X is tall" can therefore have different truth value ranging from 1 – absolutely true – to 0 – absolutely false – according to X's height. "X is tall" can have truth value of 0.48571 for X measuring 184 centimetres and truth value of 0.57143 for X measuring 190 centimetres. In the case of sorites paradox, at least one of its premises has an intermediate truth value and its consequence
therefore cannot be absolutely true (or absolutely false). In my talk I am going to examine some of the problems that fuzzy logic faces when dealing with sorites paradoxes. I am going to point out that fuzzy logic can only be applied when certain class of vague terms is used to formulate sorites paradox, while it cannot be applied when the rest of vague terms is used. Furthermore, I am going to show that even in cases in which fuzzy logic can be employed, it presupposes another solution to sorites paradox and it therefore cannot be counted as a solution itself.

Some Remarks on the Cassationist Approach to the Liar Paradox

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The evaluation of any utterance of the sentence ‘L is false’, where the content of ‘L’ is fixed by the stipulation: L =df ‘L is false’, gives rise to the Liar Paradox. By appealing to intuitive principles about truth—such as Tarski’s Schema—we can easily see that L is true if and only if L is false. The cassationist approach to the Liar uses this fact in order to offer a reductio of the idea that L can successfully be used to express propositions or advance statements which we can then evaluate as true or false. As it happens with any other alleged solution to the Liar paradox, the cassationist approach should ideally meet some requirements: (a) not being ad hoc (actually explaining why our utterances of L fail to have content); (b) being general enough (explaining why different versions of the Liar—in particular, contingent Liar paradoxes (‘Cretans always speak falsely’), and paradoxes that involve indexicals in their formulation (‘This is false’)—are semantically defective); (c) being free from paradoxes (not generating paradoxes of its own). Goldstein, and more recently Rosenkranz and Sarkohi, have defended the cassationist view on the grounds that stipulations such as that fixing the meaning of ‘L’ or such as S =df ‘S is not true’—which gives raise to the most popular version of the strengthened liar paradox—are defective. They also consider different versions of the liar paradox and other paradoxes of self-reference. In this presentation I will examine to what extent their proposals are free from paradoxes and will raise some questions as to how we are to understand the semantic defectiveness of the above stipulations and the meaning of the singular terms appearing in them: ‘L’ and ‘S’.

A Conditional for Vagueness and the Liar

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See below for abstract