



Logical omniscience and counterpart semantics

Paul Égré – IHPST, Institut Jean-Nicod

Comments: Maria Aloni (ILLC)

The aim of this paper is to propound a new approach to the problem of hyperintensionality of belief contexts, using the apparatus of quantified modal logic and the machinery of counterpart semantics.

Consider the following sentence :

(1) Peter believes that if door A is locked, then door B is not locked, but he does not believe that if door B is locked, then door A is not locked

In standard epistemic logic and in intensional logic, an ascription of belief like (1), which involves two logically equivalent sentences, is predicted to be inconsistent. In Montague grammar, in particular, the proposition expressed by each embedded sentence is the same, and since beliefs are conceived as relations between individuals and propositions, the beliefs of an agent are predicted to be closed under logical equivalence. In modal epistemic logic, the situation is even worse, since beliefs are predicted to be closed under logical consequence. There clearly are, however, contexts in which a sentence like (1) can be uttered consistently. On the other hand, there is also a sense in which the same content is ascribed (or denied) to Peter in either conjunct of (1).

The present proposal attempts to reconcile these two intuitions, by offering a pragmatic account of hyperintensionality: the basic idea which I try to articulate in this paper, is that Peter's belief, even though opaque, can be analyzed as a *de re* belief about one and the same proposition (or about the same objects and relation each time), but under different counterpart relations, playing the role of modes of presentation, and acting as a pragmatic component in the evaluation of sentences.

The prime inspiration for this essay comes from the work of J. Gerbrandy (2000) on counterpart semantics for *de re* beliefs. In this paper, I offer to generalize Gerbrandy's semantics to a second-order modal language, in order to account for cases of hyperintensionality involving expressions of distinct syntactic categories (coreferential proper names, cointensional predicates, logically

equivalent sentences). The idea is that cases of hyperintensionality should be analyzed on a par with other classic instances of opacity for belief sentences, and the aim is to get a uniform treatment of all those cases. The proposal, however, rests on the idea that belief sentences can be given a *de re* logical form even in situations which would standardly be analyzed as *de dicto*. This idea raises problems of its own, which will be discussed along the way, but it also contains some potential benefits (like avoiding the use of impossible worlds beyond standard belief worlds).