

Are Intensions Necessary? Sense as the Construction of Reference

It is well known that possible world semantics (*PWS*) reaches an impasse when it attempts to interpret expressions like $3 + 2$ and $6 - 1$, as these expressions have the same intension yet differ in meaning. Similar difficulties are raised by predicates like *bought* and *sold*—as indeed are by any two necessary truths (or falsities). To solve the problem of nonsynonymous cointensionals, *PWS* was supplemented by a structural theory of meaning.^{1,2,3,4} According to this theory, the meaning of an expression e is not just its intension e' , but rather (a tree of intensions that describes) the way in which e' was built, compositionally, from the intensions of its constituents.

It is generally agreed that the structural theory of meaning is strong enough to carry *PWS* over the wall of nonsynonymous cointensionals. But then considerations of simplicity should have led us to ask whether the structural theory of meaning was not strong enough to carry *all* of the weight *PWS* could carry—or whether the structural theory of meaning cannot *supplant* rather than *supplement* *PWS*. This is the question this paper wishes to address.

PWS was developed in order to solve a number of problems that drove extensional semantics into the ground. Chief among them were (i) the variable informativeness of identity statements, (ii) the failure of substitution in opaque contexts, (iii) the compositional interpretation of modal verbs and adverbs, (iv) the nontrivial nature of counterfactuals, and (v) the nonsynonymy of vacuous predicates. The purpose of this paper is to provide thumbnail sketches of the kinds of solutions a purely extensional structural theory of meaning can afford to all of these problems. To do so we will develop a view (henceforth *PEST*) according to which the meaning of an expression e is (a tree of extensions that describes) the way in which the extension e' of e was built, compositionally, from the extensions of its constituents.

Coupled with proof-theoretic interpretations of modality and counterfactuals,^{5,6} *PEST* can provide satisfying solutions to (i)–(v). And can do so, of course, without invoking the vast intractable ontology of possible worlds. The paper closes by replying to a number of plausible objections that might be levelled against *PEST*. For, semantic structure *underdetermines* meaning (cf. *person/human*). And, paradoxically, *overdetermines* it as well (cf. *oculist/ophthalmologist*). More fundamentally, *PEST* clashes with the set-theoretical Axiom of Well-Foundedness.⁷ But this is something every structural theory of meaning must face—the structural version of *PWS* included.⁸

References

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