Supervenience, Dependence, Disjunction

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Abstract

This paper explores variations on and connections between the topics mentioned in its title, using as something of an anchor the discussion in Valentin Goranko and Antti Kuusisto’s “Logics for propositional determinacy and independence”, a venture into what the authors call the logic of determinacy, which they contrast with (a demodalized version of) Jouko Väänänen’s modal dependence logic. As they make clear in their discussion, these logics are closely connected with the topics of noncontingency and supervenience. Two opening sections of the present paper address some of these connections, including related earlier logical work by the present author as well as very recent work by Jie Fan. The Väänänen-inspired treatment is presented in a third section, and then, in Sections 4 and 5, as a kind of centerpiece for the discussion, we follow Goranko and Kuusisto in elaborating one principal reason offered for preferring their own approach over that treatment, which concerns some anomalies over the behaviour of disjunction in the latter treatment. Sections 6 and 7 look at dependence and (several different versions of) disjunction in inquisitive logic, especially as presented by Ivano Ciardelli. Section 8 revisits the less formal property-supervenience literature with issues from the first two sections of the paper in mind, and we conclude with a Postscript addressing a further conceptual issue pertaining to the relation between modal and quantificational dependence logics.

Keywords
- Modal dependence logic; disjunction; supervenience, inquisitive logic; contingency; whether-disjunction; conservative extension

Full Text:

PDF

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And that violates the standard Tarskian truth conditions for disjunction: a disjunction is true if at least one of its disjuncts is true. To reject Completeness, then, is to suppose that there is a world at which disjunctions do not have their standard truth conditions. There are two familiar obstacles to arguments of this sort: one having to do with the relation between supervenience and determination (or dependence), the other having to do with the relation between supervenience and reduction. I will take them in turn.

### Infinite Disjunction

These keywords were added by machine and not by the authors. This process is experimental and the keywords may be updated as the learning algorithm improves.

- Blackburn 1985 “Supervenience Revisited”, IAN Hacking, (ed.)
- Google Scholar
- Davidson 1980 “Mental Events”, Actions and Events, Oxford: Clarendon
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In philosophy, supervenience refers to a relation between sets of properties or sets of facts. X is said to supervene on Y if and only if some difference in Y is necessary for any difference in X to be possible. Equivalently, X is said to supervene on Y if and only if X cannot vary unless Y varies. Here are some examples. Whether there is a table in the living room supervenes on the positions of molecules in the living room. The truth value of (A) supervenes on the truth value of (¬A).