Few Remarks on Axiomatization of Relating Properties

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Relating Logic is a logic of relating connectives – just as Modal Logic is a logic of modal operators. The basic idea behind relating connectives is that the logical value of a given complex proposition is the result of two things:

(i) the logical values of the main components of this complex proposition; supplemented with

(ii) a valuation of the relation between these components.

The latter element is a formal representation of an intensional relation that emerges from the connection of several simpler propositions into one more complex proposition.

During the 1st Workshop of Relating Logic, the following problem was posed:

Problem α: axiomatization of logics defined by relating semantics. [1]

Here we try to answer to the relational part of that problem. First, we work on fragments of mono-relating language with at least one relating connective (so, the logic is two-valued, its language is formed with a functionally complete set of classical connectives and one relation in a model is employed). Second, we consider so called positive as well as negative relating properties of relations in models. Under such assumptions we present how to apply algorithm α to obtain an adequate axiomatization of logic determined by a set of relating properties.

References

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