

focusing on her argument, I aim to do two things. First, to show that her argument depends on illicitly assuming that the joint truth of  $A$  and  $B$  suffices for the truth of 'if  $A$  then  $B$ '; secondly, to extend this insight, to see how Stalnaker's elaboration of the Ramsey test makes the same assumption, and to show how the correct analysis of conditionals can be obtained by developing Ramsey's test in a different way, not based on this, essentially truth-functional line of thought.

MAARTEN DE RIJKE, *A modal logic for updating and contracting.*

Department of Mathematics and Computer Science, University of Amsterdam, 1018 TV Amsterdam, The Netherlands.

In recent years many so-called dynamic systems have been introduced. In [1] and [2] a somewhat informal description is given of a modal language designed for reasoning about the processes of updating and contracting information. This language—that I will call  $UC$ —is not meant as yet another device for reasoning about information and its dynamics, but rather as a more or less general framework in which other proposals can be described and compared. Quite a number of such comparisons have been given in [1], [2].

This  $UC$  language has two sorts: it not only has the usual Boolean part but also a relational part containing procedures that may be combined using the standard relation algebra operations. These two realms are connected with various *modes* that take propositions to procedures and various *projections* that take procedures to propositions. The former include instructions to update or contract with a certain proposition, as well as minimal versions of such instructions, while the function that returns, given a procedure  $\alpha$  as input, the domain of  $\alpha$ , is an example of the latter.

My aim is to establish some formal results about the  $UC$  language. These cover the following topics:

1. *Correspondence and expressiveness.* Like ordinary modal formulas the formulas in  $UC$  can be translated into a first-order language—more precisely, into a 3-variable fragment that contains the *full* 2-variable fragment. The first-order counterparts of the  $UC$  language can be characterized semantically using an appropriate notion of bisimulation.

2. *Decidability.* Employing a version of the unbounded tiling problem the satisfiability problem for the  $UC$  language may be shown to be  $\Pi_1^0$ -hard. However, reasonably large fragments of the full language can be shown to be decidable.

3. *Completeness.* Using methods developed by Gabbay/Hodkinson [3] and Venema [4] a complete axiomatization for the  $UC$  language can be found.

#### REFERENCES

- [1] J. VAN BENTHEM, *Modal logic as a theory of information, Proceedings of the Mal'cev conference*, USSR Academy of Sciences, (to appear).
- [2] ———, *Logic and the flow of information*, International Congress of Logic, Methodology, and Philosophy of Science (D. Prawitz et al., editors), North-Holland, Amsterdam (to appear).
- [3] D. M. GABBAY and I. M. HODKINSON, *An axiomatization of the temporal logic with Since and Until over the real numbers, Journal of Logic and Computation*, vol. 1 (1991), pp. 229–259.
- [4] Y. VENEMA, *Many-dimensional modal logic*, Dissertation, University of Amsterdam, Amsterdam, 1991.

VLADIMIR V. RYBAKOV, *Intuitionistic logic and preserving admissibility.*

Free University of Berlin, 1000 Berlin, Germany.

Our aim is to look from the point of view of admissibility inference rules at the tabular intermediate logics extending Hyting propositional intuitionistic logic  $H$ . The key tool is the semantical criterion for admissibility in  $H$  offered in [1]. We say that an intermediate logic  $A$  preserves all intuitionistic admissible rules (and denote it by  $A \in PIAR$ , if every admissible in  $H$  inference rule is admissible in  $A$ ). The class of all such tabular logic we denote by  $PIAR_t$ . Let  $M_1$  be frame isomorphic to the 5-element lattice which expresses nonmodularity ("Pentagon"),  $M_2$  designs the frame obtained from  $M_1$  by removing the greatest element and  $M_3$  is  $M_2$  with added cover of elements with depth 2.

A complete description of the class tabular superintuitionistic (intermediate) logics preserving inference rules admissible in  $H$  is given by

**THEOREM 1.** *A tabular logic  $A$  preserves all intuitionistic admissible rules iff  $W_2 \in A$  (which means that  $A$  is width not more than 2) and  $A \not\subseteq \Lambda(M_i)$ ,  $1 \leq i \leq 3$ .*