

Peter Schotch, Bryson Brown, Raymond Jennings, eds.
On Preserving: Essays on Preservationism and Paraconsistent Logic.
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On Preserving collects ten papers providing an overview on foundational issues in preservationism. Apart from the two introductory papers the papers are technical and require a background in modal logic and model theory. They treat of technical rather than philosophical foundational issues in preservationism. Most papers can be read as stand-alone papers, which leads to some minor repetitions in the book overall.

Preservationism is a version of paraconsistent logic. There are several approaches to paraconsistency, most prominently Relevant Logics, Adaptive Logics, Logics of Formal Inconsistency and versions of Priest's Logic of Paradox LP. Preservationism is a minor camp in the overall field, but developed into a school as well. As much of the work in the other camps can be regionally identified as Australian, Belgian and Brazilian, preservationism is Canadian. The first two papers introduce the reader to the basic ideas of preservationism. As the name has it 'preservationism' is concerned with preserving something. In contrast to standard logic, understood as preserving truth from the premise set to the conclusion, preservationism preserves something else. This is due to inconsistent premise sets. In their case *ex contradictione quodlibet* drives standard logic to derive any sentence whatsoever. If these sets are inconsistent only because the conjunction of the premises is inconsistent, not because of the presence of a single absurd formula, preservationism's main idea takes hold: split the premise set into a disjunction of consistent sets; the least number of sets needed to do that is what defines 'the level' of the premise set; if some conclusion can be derived relative to *one* of these disjunct consistent sets in *all* of the ways of carving the original set up consistently (at that level), then this conclusion follows, according to preservationism. So what preservationism preserves is 'truth at a level'. This mode of deriving an inference from inconsistent premise sets is called 'forcing'.

Because splitting an inconsistent premise set into disjunct consistent sets forbids building some conjunctions—most importantly those which express the inconsistency of the premise set—preservationism is also called (mostly by its critics, none of whom takes part in the collection) 'non adjunctive'. It is criticized (e.g. by those paraconsistency advocates such as the dialetheists, who endorse true contradictions) as blocking naturally available conjunctions, thus changing the meaning of 'and'.

Against these criticisms Scotch and Jennings, either together or with co-authors, defend preservationism in a witty and sometimes mocking style. That makes their expositions a funny read, but it sometimes papers over a lack of argument on their part. For example, they mock and belittle the talk of 'true premise sets' in standard logic, as only sentences, not sets, are true; but a few paragraphs later they themselves talk of

‘indexed sets’, where what is ‘indexed’ are again only the sentences in the set.

Although the authors stress the wide applicability of preservationism, they provide no extended applications or models of target applications. In two papers deontic logic is briefly mentioned as an area of application (as we will not build conjunctions of contrasting or contradictory obligations). However these are only hints, and no systematic exposition is provided, nor a comparison with other paraconsistent treatments of inconsistent obligations. The same holds for the claim that preservationism captures the way theorists deal with inconsistent theories. Some technically interesting ideas are advanced on extending the concept of forcing to a version where the splitting concerns not just consistency but also grouping sub-theories together. Again, neither an extended application nor a comparison to similar approaches in non-monotonic logic—the so called ‘preferred sub-theories’ approach—is developed.

The major problem is the lack of defense for the semantics of limited conjunctions. Scotch and Jennings originated their approach by limiting conjunction building in modal logic, i.e., limiting the (K)-axiom of normal modal logics. If we have boxed statements $\Box A$, $\Box B$, $\Box C$... in a conjunction we get only a boxed statement of the *disjunction* of their possible conjunction. A ternary modal accessibility relation, $R(x,y,z)$, can then be used making boxed A true at x if A is true at either y or z , and so on for n -part conjunctions. What does this mean? Why should we endorse this semantics? The preservationists often write as if the box should be understood as belief, but the truth condition of $\Box A$ requires only *one* of the accessible worlds to support A , which does not fit *belief* in epistemic modal logic. As epistemic modal logicians have it, this is the truth condition for *holding something possible*. Some papers turn to abstract algebraic semantics instead. Some philosophical embedding of the semantic ideas might foster the preservationist’s case here.

All of this does not diminish the obviously fruitful development of preservationism as a Canadian approach to paraconsistency. It might just call for a more extended collection on preservationism. *On Preserving* is a good starting point for those trained in logic and familiar with some ideas around paraconsistency.

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