THE BULLETIN OF SYMBOLIC LOGIC
Volume 10, Number 2, June 2004

REVIEWS

The Association for Symbolic Logic publishes analytical reviews of selected books and articles in the field of symbolic logic. The reviews were published in ***The Journal of Symbolic Logic*** from the founding of the JOURNAL in 1936 until the end of 1999. The Association moved the reviews to this BULLETIN, beginning in 2000.

The Reviews Section is edited by Alasdair Urquhart (Managing Editor), Lev Beklemishev, Mirna Džamonja, David M. Evans, Erich Grädel, Geoffrey P. Hellman, Denis Hirschfeldt, Julia Knight, Michael C. Laskowski, Roger Maddux, Volker Peckhaus, Wolfram Pohlers, and Sławomir Solecki. Authors and publishers are requested to send, for review, copies of books to *ASL, Box 742, Vassar College, 124 Raymond Avenue, Poughkeepsie, NY 12604, USA.*

In a review, a reference "JSL XLIII 148," for example, refers either to the publication reviewed on page 148 of volume 43 of the JOURNAL, or to the review itself (which contains full bibliographical information for the reviewed publication). Analogously, a reference "BSL VII 376" refers to the review beginning on page 376 in volume 7 of this BULLETIN, or to the publication there reviewed. "JSL LV 347" refers to one of the reviews or one of the publications reviewed or listed on page 347 of volume 55 of the JOURNAL, with reliance on the context to show which one is meant. The reference "JSL LIII 318(3)" is to the third item on page 318 of volume 53 of the JOURNAL, that is, to van Heijenoort's *Frege and vagueness*, and "JSL LX 684(8)" refers to the eighth item on page 684 of volume 60 of the JOURNAL, that is, to Tarski's *Truth and proof*.

References such as 49***5*** or 280***1*** are to entries so numbered in *A bibliography of symbolic logic* (the JOURNAL, vol. 1, pp. 121–218).

DOV GABBAY. ***Fibring logics,*** Oxford Logic Guides, vol. 38. Oxford University Press, 1998, xiii + 475 pp.

Studying combined logics is a growing trend in applied logic. The general question is this: Suppose language $\mathcal{L}_3$ has been formed by fusion of two languages $\mathcal{L}_1$ and $\mathcal{L}_2$. Let two logics L_1 and L_2 be defined over $\mathcal{L}_1$ and $\mathcal{L}_2$, respectively. What can be said about conservative extensions L_3 in $\mathcal{L}_3$? This is a fairly broad problem. Conservative extensions are not unique, and they may have different properties. In modal logics, several extensions have been studied in detail. For example Marcus Kracht and Frank Wolter, *Properties of independently axiomatizable bimodal logics*, ***The Journal of Symbolic Logic***, vol. 56 (1991), pp. 1469–1485, studied bimodal modal logics which are the minimal conservative extensions of their monomodal fragments (called fusions). Another example are the products of modal logics, to which the author of the present book has made important contributions. Numerous questions arise: what are the properties of the combination and can they be predicted from the properties of the fragments? Is there a general recipe by which we can obtain combined systems?

The present book promotes *fibring* as a general model construction for combined systems. The general idea is this. Let the languages $\mathcal{L}_1$ and $\mathcal{L}_2$ and two classes of models be given. Fibred models can be thought of as models for one of the languages enriched with an oracle that answers about the truth of formulae of the other language. This oracle takes the form

1079-8986/04/1002-0004/$3.50