Adventures in the Paraconsistent Jungle

Jean-Yves Béziau

Abstract

This is a survey of the main contributions of the author to the field of paraconsistent logic. After a brief introduction explaining how the author entered this field, Section 2 describes his work on C-systems: reformulation of the semantics of C1, creation of a sequent systems for C1, proof of cut-elimination for this system, extension of C1 into a stronger logic C1+. Section 3 is about his investigations on the definition of paraconsistent logic and a general theory of negation. Section 4 relates what he considers as its main contribution: the discovering that classical first-order logic and the modal logic S5 are paraconsistent logics and how this led him to a new theory of opposition, where a polyhedron replaces the traditional square of opposition. In Section 5 he explains that he conceives the philosophical aspects of paraconsistency mainly in relation with applications and he says a word of what kind of situation paraconsistent logic may apply to. Section 6 describes his work as paraconsistent promoter, editor, translator, and organizer. Finally in Section 7, he indicates his future lines of paraconsistent investigations and forthcoming works. The paper includes a complete bibliography of his works in paraconsistent logic. This paper can be read by anyone interested in logic even with few or no knowledge of paraconsistent logic.
A paraconsistent logic is a logical system that attempts to deal with contradictions in a discriminating way. Alternatively, paraconsistent logic is the subfield of logic that is concerned with studying and developing paraconsistent (or "inconsistency-tolerant") systems of logic. Inconsistency-tolerant logics have been discussed since at least 1910 (and arguably much earlier, for example in the writings of Aristotle); however, the term paraconsistent ("beside the consistent") was not coined until 1976. A final version of this paper is published in a special issue ("Logic: Consistency, Contradiction, and Consequence") of Principia 22(1), pp. 59 - 85, 2018.