

Preface

Protomodular categories were introduced more than 25 years ago now [4]. The book, written with my colleague F. Borceux [3], which gave a first overview of the theory and of its strong relationship with a conceptual non-abelian homological algebra, is now more than 10 years old. So the time seemed to have come to present the field in a refreshed and renewed way, drawing upon clarifications and advances made during the last decade.

This could have remained a wishful thinking without an invitation of Prof. Zurab Janelidze to give a series of lectures for master students at the Department of Mathematics & Applied Mathematics of the University of Stellenbosch during the 2nd Mathematical Structures Workshop in November 2015.

It turned the project to the more precise direction of an elementary and synthetic introduction aiming at master and postgraduate students, and starting from very basic algebraic observations. It also allowed me to carry out the old project of understanding the main properties regarding the equivalence relations in the context of regular categories without resorting to any metatheorem and only dealing with diagrammatic proofs, see for instance Lemma 5.2.7 and Theorem 5.2.8.

I am very grateful for the numerous fruitful discussions on the topic I had for years with my old friends and colleagues Francis Borceux, Marino Gran and George Janelidze. I thank very much Dr. Amartya Goswami from the University of Limpopo who took faithful notes of these lectures and made a first LaTeX draft.

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Dominique Bourn



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Bourn, D.

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