

PREFACE

Oiva Ketonen (1913–2000) was the closest to a student the creator of modern proof theory Gerhard Gentzen had. Their encounter took place in 1938–39 in Göttingen, with Ketonen hoping to receive a suitable topic for a doctoral dissertation, and Gentzen instead deeply immersed in an attempt at proving the consistency of analysis. We both regret not having asked Ketonen, our emeritus colleague at the University of Helsinki, what specific suggestions he may have got from Gentzen. One likely candidate is Ketonen’s figuring out of a sharpening of Gentzen’s midsequent theorem, another an alternative method of cut elimination sketched in a Finnish article published in 1943. Ketonen’s profound work on the invertibility of the rules of classical sequent calculus, one that led to the tableau method and to powerful methods of proof analysis among others, appears instead to be in all respects his own discovery.

Ketonen’s logical work begins and finishes with his doctoral thesis, save for two expository articles in Finnish that we have translated, to have a complete collection. We wish to thank Ketonen’s son, Dr Timo Ketonen for the permission to publish his father’s logical papers in English translation. We also wish to thank on this occasion Michael von Boguslawski, whose doctoral thesis on the logical turn of Finnish philosophy brought to light valuable facts about Ketonen’s years as a doctoral student.

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