

## Table of Contents

Introduction .....	9
I. Arithmetization of Metamathematics	
( $\text{PRR} \Rightarrow P \Leftrightarrow \text{meta-}P' \Leftrightarrow \text{meta-}P \rightarrow P_{\text{fp}} \Leftrightarrow P$ ) .....	17
PM's Formal System $P$ .....	18
The PRR .....	22
Definition $\text{PRR} \Rightarrow P$ .....	24
Building PRFs and PRRs .....	28
Correspondence .....	30
Capture .....	35
Ancillary PRRs .....	36
What does $\text{isVar}(x)$ say? .....	37
Syntax PRRs .....	40
Diagonal Composition .....	41
Fixed-Point .....	43
Incompleteness .....	45
Deduction PRRs .....	45
II. Indirect Self-Reference .....	49
What does $g$ not say? .....	56
III. An Odious Turn .....	63
Königsberg, 1930 .....	65
Princeton, 1962 .....	75
Warsaw, 1935 .....	80
Ohio, 1998 .....	89
Lisbon & Pisa, 2014 .....	96

IV. Wittgenstein's Perspective .....	103
Toronto, 1988 .....	106
Toronto, 1999 .....	116
Cambridge, 2011 .....	119
New Haven, 1958 .....	122
Gödel the Mathematician.....	125
References.....	133