

CONTENTS

Preface	XI
List of donors	XIII
Speech at the opening session on August 25, <i>A. Heyting</i>	1
Speech at the closing session on September 2, <i>A. Heyting</i>	4
In Memoriam A. I. Malcev, <i>Yu. L. Ershov</i>	5

1. MATHEMATICAL LOGIC

Infinitary properties of models generated from indiscernibles, <i>C. C. Chang</i>	9
Two complete algebraic theories of logic, <i>W. Craig</i>	23
Numbered fields, <i>Yu. L. Ershov</i>	31
Models with orderings, <i>H. J. Keisler</i>	35
Recursion theory as a branch of model theory, <i>R. Montague</i>	63
Craig's interpolation theorem in some extended systems of logic, <i>A. Mostowski</i>	87
Formalization principle, <i>G. Takeuti</i>	105

2. FOUNDATIONS OF MATHEMATICAL THEORIES

Autonomous transfinite progressions and the extent of predicative mathematics, <i>S. Feferman</i>	121
Constructive functions in "The Foundations of Intuitionistic Mathematics", <i>S. C. Kleene</i>	137
Functions, ordinals, species, <i>G. Kreisel</i>	145
Formal systems of intuitionistic analysis I, <i>J. Myhill</i>	161
On simple type theory with extensionality, <i>K. Schütte</i>	179
Constructive reasoning, <i>W. W. Tait</i>	185
The theory of choice sequences, <i>A. S. Troelstra</i>	201

3. AUTOMATA AND PROGRAMMING LANGUAGES

Problems in the theory of programming languages, <i>J. W. De Bakker</i>	227
---	-----

Computable and uncomputable elements of syntax, <i>H. Hiž</i>	239
On the notion of a computer, <i>Z. Pawlak</i>	255

4. PHILOSOPHY OF LOGIC AND MATHEMATICS

Interpretation of quantifiers, <i>D. Føllesdal</i>	271
An approach to constructive mathematical logic, <i>A. A. Markov</i>	283

5. GENERAL PROBLEMS OF METHODOLOGY AND PHILOSOPHY OF SCIENCE

A self-correcting observation language, <i>Mary B. Hesse</i>	297
The varieties of information and scientific explanation, <i>J. Hintikka</i>	311
Epistemology without a knowing subject, <i>K. R. Popper</i>	333

6. METHODOLOGY AND PHILOSOPHY OF PHYSICAL SCIENCES

Things, structures and phenomena in quantum physics, <i>B. D'Espagnat</i>	377
What do physical models tell us? <i>E. McMullin</i>	385
The origin of the universe, <i>D. W. Sciama</i>	397

7. METHODOLOGY AND PHILOSOPHY OF BIOLOGICAL SCIENCES

A unified approach to biological and social organisms, <i>N. Rashevsky</i>	403
--	-----

8. METHODOLOGY AND PHILOSOPHY OF PSYCHOLOGICAL SCIENCES

Some thoughts on the use of models in psychology, <i>B. A. Farrell</i>	415
Perception as a function of behaviour, <i>J. G. Taylor</i>	431

9. METHODOLOGY AND PHILOSOPHY OF SOCIAL SCIENCES

On judging the plausibility of theories, <i>H. A. Simon</i>	439
---	-----

10. METHODOLOGY AND PHILOSOPHY OF LINGUISTICS

The logic of questions, <i>J. J. Katz</i>	463
Existence, location, possession and transitivity, <i>J. Lyons</i>	495

**11. HISTORY OF LOGIC, METHODOLOGY AND
PHILOSOPHY OF SCIENCE**

Leibniz on possible worlds, <i>B. Mates</i>	507
Gāṅgeśa on the concept of universal property (Kevalānvayin), <i>B. K. Matilal</i>	531
Scientific program of the congress.	543
Author index.	554