

Bibliography

- ANDĚL J. [1973]: On interactions in contingency tables,
Aplikace matematiky 18, 99-109
[1974]: The most significant interaction in a contingency table,
Aplikace matematiky 19, 246-252
- BALAAM L.N., FEDERER W.T.[1965]: Error rate basis,
Technometrics 7, 260-262
- BENDO VÁ K. [1975]: Tříhodnotové logiky a observační kalkuly
Three-valued logics and observational calculi ,
Thesis in preparation
- BENDO VÁ K., HAVRÁNEK T. [1973]: Výběr regresních modelů
Choosing regression models, Sdělení MSBÚ ČSAV,
2(1), Praha
- BISHOP YVONNE M.M., FIENBERG S.E., HOLLAND P.W. [1975]:
Discrete multivariate analysis, MIT Press
- BUCHANAN B.G. [1966]: Logics of scientific discovery,
Thesis, Michigan state university
- BÜCHI J.R.[1960]: Weak second order arithmetic and finite automata,
Zeitschrift für mathematische Logik und Grundlagen der
Mathematik 6, 66-92
- BURRIL C.W. [1972]: Measure, integration and probability,
McGraw-Hill, New York
- CARNAP R. [1935]: Testability and meaning, Philosophy and Science,
vol. III, Williams and Wickins, Baltimore
[1950]: Logical foundations of probability, Chicago
- CHANG C.C., KEISLER H.J.[1966]: Continuous model theory,
Princeton

- CHURCH A. [1956]: Introduction to mathematical logic, Volume I.,
Princeton
- CHYTIL M. [1969]: Zadání semantického modelu pro zpracování metodou
GUHA (On constituting of semantic models for GUHA - methods),
Československá fyziologie 18, 143-147
[1974]: Decomposition calculi and its semantics,
Studia logica 33, 277-282
- CLEAVE J.P. : The notion of logical consequence in the logic of
inexact predicates, Zeitschrift für mathematische Logik und
Grundlagen der Mathematik (to appear)
- COX D.R. [1965]: A remark on multiple comparisons methods,
Technometrics 7, 223-224
- COOK S.A. [1971]: The complexity of theorem proving procedures,
Proceedings of Third Annual ACM Symposium on Theory
of Computing, 151-158
- CRAIGH W. [1953]: On axiomatizability within a system, Journal of
Symbolic Logic 18, 30-32
- ČUDA K. [1973]: Contributions to the theory of semisets III,
Zeitschrift für mathematische Logik und Grundlagen
der Mathematik 19, 399-406
- DAVIS M. [1958]: Computability and unsolvability, New York
- EDWARDS A.W.F. [1963]: The measure of association in a 2x2 table,
Journal of the Royal Statistical Society, ser. A 129, 109-114
- FABIAN V. [1968]: Statistische Methoden, Deutscher Verlag
der Wissenschaften, Berlin
- FAGIN R. [1973]: Contributions, the Model Theory of Finite
Structures, Thesis, University of California, Berkeley
[1974]: Generalized first-order spectra and polynomial
time recognizable sets, Complexity of Computations
ed. R.Karp , SIAM - ACM proceedings, vol. 7, 43-73

[1975a]: Monadic generalized spectra, *Zeitschrift für mathematische Logik und Grundlagen der Mathematik* 21, 89 - 96

[1975b]: A spectrum hierarchy, *ibid.*, (to appear)

FERGUSSON T.S. [1967]: *Mathematical statistics, a decision theoretic approach*, Academic Press, New York

FINE T.L. [1973]: *Theories of probability*, Academic Press, New York

FISHER M.S., RABIN M.O. [1974]: Super-exponential complexity of Presburger arithmetic, MAC Technical Memorandum 43, MIT

FISHER R.A. [1933]: *The design of experiments*, Oliver and Boyd, London

FLUM J. [1975]: First order logic and its extensions, ISILC-Logic Conference, Lect. Notes in Mathematics 499, Springer Verlag

FRAISSÉ R. [1965]: A hypothesis concerning the extension of finite relations and its verification in certain special cases, *The theory of models*, ed. J.W. Addison, L. Henkin, A. Tarski, 364-375

FREIBERGER W., GREINER U. [1971]: *A short course in computational probability and statistics*, Applied mathematical sciences 6, Springer, New York

FUHRKEN G. [1972]: A remark on the Härtig quantifier, *Zeitschrift für mathematische Logik und Grundlagen der Mathematik* 18, 227-228

GABRIEL K.R. [1969]: Simultaneous test procedures - some theory of multiple comparisons, *Annals of Mathematical Statistics* 40, 224-250

GOOD I.J. [1963]: Maximum entropy for hypothesis formulation, especially for multidimensional contingency tables, *Annals of Math. Statist.* 34, 911 - 934.

- HÁJEK J., ŠIDÁK Z. [1967]: Theory of rank tests, Academia, Prague and Academic Press, New York
- HÁJEK J., VORLIČKOVÁ D. [1967]: Neparаметrické metody (Nonparametrical methods), SPN, Praha
- HÁJEK P. [1968]: Problém obecného pojetí metody GUHA (The question of a general concept of the GUHA method), Kybernetika 4, 505-515
- [1972]: Contributions to the theory of semisets I., Zeitschrift für mathematische Logik und Grundlagen der Mathematik 18, 241,248
- [1973a], [1974]: Automatic listing of important observational statements I - III, Kybernetika 9, 187-205, 251-271 and 10, 95-124
- [1973b]: Why semisets?, Commentationes Mathematicae Universitatis Carolinae 14, 397-420
- [1973c]: Some logical problems of automated research, Proceedings of the 1973 Symposium of Mathematical Foundations of Computer Science, High Tatras, Czechoslovakia
- [1974]: Generalized quantifiers and finite sets, Proceedings of the Autumn School in Set Theory and Hierarchy Theory, Wroclaw (to appear)
- [1975a]: On logics of discovery, Mathematical Foundations of Computer Science 75, ed. J. Bečvář, Lecture Notes in Computer Science 32, Springer-Verlag, 30-45
- [1975b]: Projective classes of models in observational functor calculi, Preprint of the V. International Congress on Logic, Methodology and Philosophy of Science, London Ontario, Canada
- [1975c]: Observationsfunktorkalküle und die Logik der automatisierten Forschung, Elektronische Informationverarbeitung und Kybernetik 12 (1976), 181-186

- HÁJEK P., BENDO VÁ K., RENC Z. [1971]: The GUHA - Method and the three valued logic, *Kybernetika* 7, 421-435
- HÁJEK P., HAVEL I., HAVRÁNEK T., CHYTIL M., RAUCH J., RENC Z.: *Metoda GUHA*, Dům techniky ČVTS, České Budějovice, 1975
- HÁJEK P., HAVEL I., CHYTIL M. [1966 a]: The GUHA Method of automatic hypotheses determination, *Computing* 1, 293-308
- [1966b]: GUHA - metoda systematického vyhledávání hypotéz (GUHA - a method of systematic hypotheses searching), *Kybernetika* 2, 31-47
- [1967]: GUHA - metoda systematického vyhledávání hypotéz II (GUHA - a method of systematic hypotheses searching II.), *Kybernetika* 3, 430-437
- HAVRÁNEK T. [1971]: The statistical modification and interpretation of the GUHA Method, *Kybernetika* 7, 13-21
- [1974]: Some aspects of automatic systems of statistical inference, *Proceedings of the European Meeting of Statisticians*, Prague (to appear)
- [1975a]: The approximation problem in computational statistics, *Mathematical Foundations of Computer Science* 75, ed. J. Bečvář, *Lecture Notes in Computer Science* 32, Springer-Verlag, 258-265
- [1975b]: Statistical quantifiers in observational functor calculi: an application in GUHA - methods, *Theory and Decision* 6, 213-230
- [1975c]: *Statistics and Computability*, Research report nr. 1 - AISC, Center of Biomathematics, Czechoslovak Academy of Sciences, Prague
- [1975d]: A note on simultaneous inference in contingency tables, (submitted)

- HEMPEL C.G. [1965]: Aspects of scientific explanation,
Free Press, New York
- IVÁNEK J.: Master thesis, Department of Mathematics,
Charles University, Prague
- JENSEN R.B. [1965]: Ein neuer Beweis für die Entscheidbarkeit des
einstelligen Prädikaten kalküls mit Identität,
Archiv für mathematische Logik und Grundlagenforschung
7, 128-138
- KARP R.M. [1972]: Reducibility among combinatorial problems,
Complexity of computer computations, Plenum Publishers
85-104
- KENDALL M.G. [1951]: Regression, structure and relationship,
Biometrika 38, 11-25
1955 : Rank correlation methods, Griffin, London
- KEISLER H.J. [1970]: Logic with the quantifier "there exist uncountable
many", Annals of Mathematical Logic 1, 1-93
- KLEENE S.C. [1952]: Introduction to metamathematics, Van Nostrand,
Princeton
- KORNER S. [1966]: Experience and theory, Routledge, London
- KOWALSKI R. [1974]: Logic for problem solving, Memo 75,
Department of Computational Logic, School of Artificial
Intelligence, Edinburgh
- KRIPKE S. A. [1959]: Completeness theorem in modal logic,
Journal of Symbolic Logic 24, 1-14
- LEHMANN E.L. [1959]: Testing of statistical hypotheses,
J. Wiley, New York
- LEINFELLNER W. [1965]: Struktur and Aufbau wissenschaftlicher
Theorien, Physica Verlag, Wien

- LINDSTROM P. [1966]: First order logic with generalized quantifiers,
Theoria 32, 186-191
[1969]: On extensions of elementary logic, Theoria 35, 1-11
- MAKOWSKI A. [1973]: Notes for lectures on model theory at the logical
semester, Warsaw (mimeographed)
- MATIASEVIČ Ju.V. [1970]: Diofantovost perečislmych množestv,
Doklady Akademii Nauk SSSR vol. 191, 279-282. (English
translation: Enumerable sets are diophantine, Soviet Mathematics
11 no 2 [2970]), 354-357.
- MCCARTHY J., HAYES P. [1964]: Some philosophical problems from the point
of view of Artificial Intelligence, Machine Intelligence 4
- MELTZER B. [1970 a]: Generation of hypotheses and theories, Nature, 225,
972
- MELTZER B. [1970 b]: Power amplification for theorem provers, Machine
Intelligence 5, 165-179
- MENDELSON E. [1964]: Introduction to mathematical logic,
Van Nostrand, New York
- MEYER A.R. [1973]: Weak monadic second order theory of successors is not
elementary recursive, MAC Technical Memorandum, MIT
- MILLER R.G. [1967]: Simultaneous statistical inference,
McGraw-Hill, New York
- MINSKY M. [1974]: A framework for representing knowledge, AI memo nr.305, MIT
- MORGAN C.G. [1971]: Hypothesis generation by machine,
Artificial Intelligence 2, 179-187
- MOSTOWSKI A. [1957]: On a generalization of quantifiers,
Fundamenta mathematicae 44, 12-36
- NARIAKI S., MASANORI O. [1973]: Approximate distribution of the maximum
of $c - 1 \chi^2$ - statistic 2×2 derived from a $2 \times C$ contingency table,
Communications in Statistics 1, 9 - 16

- NILSSON N.J. [1971]: Problem solving methods in Artificial Intelligence, McGraw-Hill, New York
- O'NEIL R.O., WEITHERIL G.B. [1971]: The present state of multiple comparisons methods, Journal of the Royal Statistical Society, ser.B, 33, 218-250
- PEARSON E.S., HARTLEY H.O. [1972]: Biometrika tables for statisticians, vol. II, Cambridge University Press
- PLOTKIN G.D. [1971]: A further note on inductive generalization, Machine Intelligence 6, 101-124
- POKORNÝ D. [1975]: Asociační kvantifikátory v nominálních kalkulech (Associational quantifiers in qualitative calculi), Master thesis, Dept. of Math., Charles University, Prague
- POPPER K.R. [1966]: Logik der Forschung, J.c. B. Mohr, Tübingen
- POUR-El M.B., CALDWELL J. [1975]: On a simple definition of computable functions of a real variable with applications to functions of a complex variable, Zeitschr. f. math. Logik und Grundlagen d. Math. 21, 1-19
- PUDLÁK P. [1975a]: Observační predikátový počet a teorie složitosti. Observational predicate calculi and complexity theory, Thesis, Charles University, Prague
- [1975b]: The observational predicate calculus and complexity of computations, Commentationes Mathematicae Universitatis Carolinae 16, 395-398
- [1975c]: Polynomial complete problems in the logic of automated discovery, Mathematical Foundations of Computer Science 75, J. Bečvář, Lecture Notes in Computer Science 32, Springer-Verlag, Heidelberg
- RABIN M.O. [1974]: Some impediments to Artificial Intelligence, Information Processing 74 Proc. of IFIP Conf. , Stockholm, 615-619
- RACKOFF C.W. [1975]: The computational complexity of some logical theories, MAC Technical report 144, MIT

- RAO C.R. [1965]: Linear statistical inference and its applications,
J.Wiley, New York (sec.ed.1973)
- RAUCH J. [1975]: Ein Beitrag zu der GUHA Methode in der
dreiwertigen Logik, Kybernetika 11, 101-113
- REEKEN A.J. VAN [1971]: Report of the Dutch working party
on statistical computing, Applied Statistics (JRSS-C),
20, 73-79
- RESCHER N. [1962]: Plurality quantification, Journal of
Symbolic Logic 27, 373-374
- RÖDDING D. [1967]: Primitiv-rekursive Funktionen über einem
Bereich endlicher Mengen, Archiv für Mathematische
Logik und Grundlegensforschung, 10, 13-29
- ROGERS H. [1967]: Theory of recursive functions and effective
computability , McGraw-Hill, New York
- ROSSER J.B., TURQUETTE A.R. [1952]: Many-valued logic,
North-Holland, Amsterdam
- SCOTT D. [1964]: Measurement structures and linear inequalities,
Journal of mathematical psychology 1, 233-247
- SCOTT D. S., KRAUSS P. [1966]: Assigning Probabilities to logical
formulas, in: Aspects of Inductive Logic (J. Hintikka and P.
Suppes, eds.) pp. 219-264. North Holland, Amsterdam.
- SHOENFIELD J.R. [1967]: Mathematical logic, Addison-Vesley,
[1971]: Degrees of unsolvability, North-Holland,
Amsterdam
- ŠIDÁK Z. [1962]: Rectangular confidence regions for the means
of multivariate normal distributions, Journal of the
American Statistical Association 62,
626-633
- SIEFKES D. [1970]: Büchi's monadic second order successor
arithmetic , Lecture Notes in Mathematics 120,
Springer - Verlag, Heidelberg

- SLOMSON A. [1968]: The monadic fragment of predicate calculus with the Chang quantifier, *Lecture Notes in Mathematics* 70, Springer-Verlag, Heidelberg 279-302
- SUPPES P. [1962]: Models of data, *Logic, Methodology and Philosophy of Science; Proceedings of the 1960 Interantional Congress* ed. E. Nagel, P. Suppes, A. Tarski, Stanford University Press, 252-261
- SUPPES P. [1965]: Logics appropriate to empirical theories, *The theory of models*, ed. J.W. Eddinson, L. Henkin, A. Tarski, 364-375
- THARP L.H. [1973]: The characterisation of monadic logic, *Journal of Symbolic Logic* 38, 481-488
- TONDL L. [1972]: *Scientific procedures*, Reidel, Dortrecht
- TRACHTENBROT B.A. [1950]: Nevozmožnost algoritma dlja problemy razrešivosti na konečnych klassach (Impossibility of an algorithm for the decision problem on finite classes), *Doklady Akademii Nauk SSSR* vol. 70, 559-572
- VOPĚNKA P., HÁJEK P. [1972]: *The theory of semisets*, North-Holland, Amsterdam and Academia, Prague
- YANAGIMOTO T., OKAMOTO M., [1969]: Partial orderings of permutations and monotonicity of a rank correlation statistics, *Annals of the Institute of Statistical Mathematics (Tokyo)* 21, 488-507
- YASUHARA A. [1971]: *Recursive functions, theory and logic*, Academic Press, New York
- ZINDEL P. [1966]: *Gamma rays on man in the moon marigolds*, Gerhard Pegler-Verlag, München
- ZELEN M. [1970]: Exact significance tests for contingency tables embedded in 2^n classification, *Proceedings of the 6th Berkeley Symposium in Probability and Mathematical Statistics*, University of California Press, 737 - 757.

Perspectives in Mathematical Logic

In recent years interconnections between different lines of research in mathematical logic and links with other branches of mathematics have proliferated. The subject is now both rich and varied. It is the aim of this series to provide, as it were, maps or guides to this complex terrain as seen from various angles. The group is not committed to any particular philosophical program. Nevertheless, the critical discussion which each planned book undergoes ensures that it will represent a coherent line of thought; and that, by developing certain themes, it will be of greater interest than a mere assemblage of results and techniques.

The books in the series differ in level: some are introductory, some highly specialized. They also differ in scope, some offering a wide view of an area while others present more specialized topics. Each book is, at its own level, reasonably selfcontained. Although no book depends on another as prerequisite, authors are encouraged to fit their book in with other planned volumes-sometimes deliberately seeking coverage of the same material from different points of view.

J. Barwise

Admissible Sets and Structures

An Approach to Definability Theory

1975. 22 figures, 5 tables. XIV, 394 pages
ISBN 3-540-07451-1



P.G. Hinman

Recursion-Theoretic Hierarchies

1978. Approx. 500 pages
ISBN 3-540-07904-1

Springer-Verlag
Berlin
Heidelberg
New York

A. Levy

Basic Set Theory

1978. 2 tables. Approx. 350 pages
ISBN 3-540-08417-7

K. Schütte **Proof Theory**

Translation from the German by
J.N. Crossley

1977. XII, 299 pages
(Grundlehren der mathematischen
Wissenschaften, Band 225)
ISBN 3-540-07911-4

Contents: Pure Logic: Fundamentals. Classical Predicate Calculus. Intuitionistic Predicate Calculus. Classical Simple Type Theory. – Systems of Arithmetic: Ordinal Numbers and Ordinal Terms. Functionals of Finite Type. Pure Number Theory. – Subsystems of Analysis: Predicative Analysis. Higher Ordinals and Systems of Π_1^1 -Analysis.

This book was planned as a new edition of Schütte's *Beweistheorie* (Grundlehren der mathematischen Wissenschaften, Band 103). However, in view of the development of the subject, the book was virtually completely rewritten, and translated into English. Intuitionistic predicate logic and simple type theory are studied as well as classical predicate logic, and proofs of cut elimination are provided. The Gödel interpretation of number theory is presented in full detail. Various sub-systems of analysis (including Π_1^1 -analysis) and predicative systems of Δ_1^1 -analysis and ramified analysis are considered. The delimitations of deducible transfinite induction for all systems are studied. The required theory of ordinal numbers is provided first classically and then constructively. With the basic notions of positive and negative part of a formula, a clear and simple formalization of many parts of proof theory is provided.

Textbooks in Logic

D.W. Barnes, J.M. Mack
**An Algebraic Introduction
to Mathematical Logic**
1975. 5 figures. IX, 121 pages
(Graduate Texts in Mathematics,
Volume 22)
ISBN 3-540-90109-4

H. Hermes
**Introduction
to Mathematical Logic**
Translator: D. Schmidt
Universitext
1973. XI, 242 pages
ISBN 3-540-05819-2

Y.I. Manin
**A Course
in Mathematical Logic**
Translated from the Russian
by N. Koblitz
1977. 1 figure. XIII, 286 pages
(Graduate Texts in Mathematics,
Volume 53)
ISBN 3-540-90243-0

J.D. Monk
Mathematical Logic
1976. X, 531 pages
(Graduate Texts in Mathematics,
Volume 37)
ISBN 3-540-90170-1



Springer-Verlag
Berlin
Heidelberg
New York
