## TABLE OF CONTENTS

Introduction	XV
PART ONE: MODELLING OF LEGAL REASONING	1
Causation in the Law of Torts and Criminal Law L. ÅQVIST	3
Toward Modelling Legal Argument K.D. ASHLEY, E.L. RISSLAND	19
Aspectual Actions and the Deepest "Paradox" of Deontic Logic HN. CASTANEDA	31
Is It Possible to Program an Ethical System? Foundation of Social Impact Assessment in the Theory of Informatics	
A. CORNELIS	51
Heuristics A. DAVID	63
Sequences and Levels in the Legal System R.A. GUIBOURG	69
A Contrario Argument, Use and Interpretation C.A. LERTORA MENDOZA	89
Logic and the Procedure of Equity V. LUIZZI	99
Legal Thinking and Automation A. OSKAMP, G.P.V. VANDENBERGHE	105
A Non-classical Logic for Based on the Structures of Behaviour R. STAMPER	115
R. SIAMPER	112
Remarks on Representational Models of Legal Systems R. TOKARCZYK	141
Representation Models of Legal Systems and the Problems of Their Computerization J. WROBLEWSKI	153
	100
PART TWO: LOGIC AND LEGAL DECISION-MAKING PROCESSES	173
Conditionality and the Representation of Legal Norms	
C.E. ALCHOURRÓN	175

Decision Making	
F. BODARD, M. HELLA, Y. POULLET, P. STENNE	187
Permissive Norms and Normative Systems E. BULYGIN	211
Conceptual Retrieval and Legal Decision-making C.G. DeBESSONET, G.R. CROSS	219
The Applicability of an Evidentiary Value Model to Judicial and Prosecutorial Decision Making R.W. GOLDSMITH	229
Meta-logic Programming in METALOG M.T. HARANDI, M.J. SCHOPPERS	247
Logic for Problem Solving E. JACOBSEN	257
Legal Models, Rationality and Informatics A.A. MARTINO	269
Knowledge Base in the Automated Analysis of Legislation A.A. MARTINO, L. ABBA, P. ASIRELLI, A. CAMMELLI, P. MARIANI, M. MARTELLI, F. SOCCI, D. TISCORNIA	281
Permissions and Obligations. An Informal Introduction L.T. MCCARTY	307
Deontic Logic and Natural Law D. SANCHEZ GARCIA	339
PART THREE: ANALYSIS AND FORMAL REPRESENTATION OF LEGAL LANGUAGE	347
The SIGNER System: A Semi-intelligent System for the Formal Control of Legal Texts L. ABBA, C. BIAGIOLI, P. MERCATALI	349
THES GIUR: Definition of an Experimental Thesaurus in TLS (Thesaurus and Linguistic Integrated System) L. ABBA, A. CAMMELLI, G.A. ROMANO, G. TADDEI ELMI	361
Analysis of the Logical Structure of Legal Rules by a Modernized and Formalized Version of Hohfeld Fundamental Legal Conceptions L.E. ALLEN, C.S. SAXON	385
Temporal Aspects on the Formalization and Computerization of Law H. BAUER-BERNET	451
Semantic Analysis in Legal Text Information	.01
Retrieval D. DAVIS	473

Table of Contents	ix
Principles for the Formal Representation of Legislative Statements G. FERRARI, C. BIAGIOLI	483
A Theory of Derogation (With Special Reference to Italian Law) R. GUASTINI	495
Children and the Semantic Representation of the Verbs of Contract J.G. HOOK	515
Legal Drafting: An Analysis of the Process of Ambiguity Resolution (Disambiguation) in Sentence Processing W.R. LOEFFLER	527
The Thesaurus as a Relational Data Model P. PETRUCCI	539
The System of Headings in Statutory Texts F. STUDNICKI	549
Formalization in Legal Languages R.J. VERNENGO	555
PART FOUR: ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEMS IN LAW: METHODOLOGY AND APPLICATIONS	565
System Design for a Computer-aided Juridical Expert System B. ALSCHWEE, S. GRUNDMANN	567
A Model for Legal Decision Making by Computer R.V. de MULDER	581
Expert Systems and Legal Decision-making Models E. FAMELI, P. MERCATALI	593
Expert Systems as a Tool for Drafting Legal Decisions H. FIEDLER	607
Problems of Applying Legal Expert System in Legal Practice J.W. GOEBEL, R. SCHMALZ	613
Expert Systems in Law. A Jurisprudential and Formal Specification Approach D.I. GOLD, R.E. SUSSKIND	625
Future Generation Computer Systems in the Service of the Law M.A. HEATHER	643
Clear Rules and Legal Expert Systems P. LEITH	661

Microcomputers and Judicial Prediction S.S. NAGEL	681
Using an Expert System in Testing Legal Rules L. PHILIPPS	703
Using Purposes of the Law in Legal Expert Systems J. THORNE, M. UGARTE	711
Teleogenic Behavior Based on Granular Control C.F. WALTER	717
PART FIVE: MATHEMATICAL METHODS FOR LEGAL ANALYSIS	735
Images of the Lexicon U. BERNI CANANI	737
Computer Indexing to Legal Testimony: The Royal Commission 1983-1984 A. GILMOUR-BRYSON	745
Approach to a Theory of "Soft Algorithms" L. REISINGER	761
The 'Ars Judicandi' Programme M. SANCHEZ-MAZAS	773
Fiscal Legislation Planner D. STRIPINIS	821
The Use of Models in Planning Legislation W.R. SVOBODA	831
On Some Methods of Complex Mathematical and Logical Modelling in Law V. VRECION	841
PART SIX: DATA BASE AND CONCEPTUAL INFORMATION PROCESSING	855
Legal Information Science, an International Discipline: Prospects for Cooperation between Italy and Argentina C. BIAGIOLI, P. MERCATALI, S. TOSCANO	857
DQL The Deductive Augmentation of Relational Database Query Language QUEL J. HAN, Z. LI	861
Law, Logic and Automation G. MASSA	875
Pace to Peace. Application to Law of the "Pacemaker (c) Program" R.P. MERTENS	8855

Table of Contents	xi
Legal Data Bases on Micro-computers G. PIRELLI	889
Full Text Data Base Management Systems: A Model and Implementation for Law B.N. ROSSITER	899
The Use of Inference Mechanisms in the Interrogation of Relational Databases G.P. ZARRI	917
Author Index	931