

STUDIES IN LEGAL LOGIC

Law and Philosophy Library

VOLUME 70

Managing Editors

FRANCISCO J. LAPORTA, *Department of Law,
Autonomous University of Madrid, Spain*

ALEKSANDER PECZENIK, *Department of Law, University of Lund, Sweden*

FREDERICK SCHAUER, *John F. Kennedy School of Government,
Harvard University, Cambridge, Mass., U.S.A.*

Former Managing Editors

AULIS AARNIO, MICHAEL D. BAYLES†, CONRAD D. JOHNSON†,
ALAN MABE

Editorial Advisory Board

AULIS AARNIO, *Research Institute for Social Sciences,
University of Tampere, Finland*

ZENON BAŃKOWSKI, *Centre for Law and Society, University of Edinburgh*
PAOLO COMANDUCCI, *University of Genoa, Italy*

ERNESTO GARZÓN VALDÉS, *Institut für Politikwissenschaft,
Johannes Gutenberg Universität Mainz*

JOHN KLEINIG, *Department of Law, Police Science and Criminal
Justice Administration, John Jay College of Criminal Justice,
City University of New York*

NEIL MacCORMICK, *European Parliament, Brussels, Belgium*

WOJCIECH SADURSKI, *European University Institute,
Department of Law, Florence, Italy*

ROBERT S. SUMMERS, *School of Law, Cornell University*

CARL WELLMAN, *Department of Philosophy, Washington University*

STUDIES IN LEGAL LOGIC

by

JAAP HAGE

*University of Maastricht,
The Netherlands*



A C.I.P. Catalogue record for this book is available from the Library of Congress.

ISBN 1-4020-3517-9 (HB)
ISBN 978-1-4020-3517-3 (HB)
ISBN 1-4020-3552-7 (e-book)
ISBN 978-1-4020-3552-4 (e-book)

Published by Springer,
P.O. Box 17, 3300 AA Dordrecht, The Netherlands.
www.springeronline.com

Printed on acid-free paper

All Rights Reserved
© 2005 Springer

No part of this work may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission from the Publisher, with the exception of any material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work.

Printed in the Netherlands.

CONTENTS

INTRODUCTION	1
CHAPTER 1: LAW AND DEFEASIBILITY	
1. Introduction	7
2. Kinds of defeasibility	8
2.1 Non-monotonicity and defeasibility	8
2.2 Ontological and conceptual defeasibility	9
2.3 Epistemic and justification defeasibility	10
2.4 Justification defeat and defeasible reasoning	11
2.5 Absolute and relative justification	11
2.6 Logical defeasibility	14
3. Is legal reasoning defeasible?	15
3.1 Justification defeat and the burden of proof	15
3.2 Justification defeat and the context of discovery	17
3.3 The defeasibility of legal rules	21
4. Does legal reasoning require non-monotonic logic?	24
4.1 Alchourrón's criticism of non-monotonic logic	24
4.2 Soeteman on legal justification	26
4.3 The nature of logic	29
5. Conclusion	31

CHAPTER 2: LAW AND COHERENCE

1. Introduction	33
2. Justification	35
2.1 Acceptances	36
2.2 Internal personal justification	37
2.3 Justification for an audience	40
2.4 Broad coherentism	40
3. Mutual support	43
3.1 Deductive support	43
3.2 Coherence as constraint satisfaction	45
4. A case study	48
4.1 Contributive reasons	49
4.2 Missing links	50
4.3 Connections as elements of the theory	51
4.4 Abstract reasons as elements	52
5. Conclusions from the case study	54
6. Integrated coherentism	58
7. The relativity of justification	60
8. The base of coherence	62
9. Authority versus coherence?	64
10. Conclusion	67

CHAPTER 3: REASON-BASED LOGIC

1. Reason-based logic as an extension of predicate logic	69
2. The language and ontology of RBL	72
2.1 Sentences, states of affairs and facts	72
2.2 Abstract states of affairs	76
3. Reasons	77
3.1 Kinds of reasons	77
3.2 Decisive reasons	78
3.3 Contributive reasons	79
3.4 Weighing contributive reasons	79
3.5 Abstract reasons	81
3.6 Weighing knowledge	84
4. Reasoning with contributive reasons	84
5. Rules	87
5.1 The representation of rules in RBL	87
5.2 Rule application	88
5.3 Applicability as a contributive reason to apply a rule	90
5.4 Non-applicability as a contributive reason against application	91
6. Reasoning with rules	92
6.1 Simple rule application	93
6.2 Rule conflicts	94
7. Reason-based logic as a non-monotonic logic	95
Appendix	98

CHAPTER 4: COMPARING ALTERNATIVES

1. Right and better	101
2. Qualitative comparative reasoning	102
2.1 Comparing reason sets	103
2.2 Degrees and probabilities	104
2.3 The ‘logic’ of comparison	105
2.4 Weak Transitivity	107
3. Theory construction	108
4. Comparing solutions for a case type	110
5. Comparing goal sets	112
6. Case-based reasoning as a form of comparative reasoning	113
7. Qualitative comparative reasoning and legal proof	119
8. Comparing sets of reasons	122
9. Comparative reasoning about sets of contributive reasons	127
10. Comparing alternatives	129
11. Application of the formalization	131
12. Related research	134

CHAPTER 5: RULE CONSISTENCY

1. Introduction	135
2. Rules as conditionals	136
3. Consistency, compatibility and constraints	139
4. Rules as constraints	142
5. Conditionless rules	144
6. Exceptions to rules	145
7. Model theory for rules	147
8. Constraints	149
9. Compatibility of states of affairs	152
10. The consistency of rules	153
11. Minimizing exceptions	156

CHAPTER 6: WHAT IS A NORM?

1. Introduction	159
2. The command theory of norms	161
3. Norms as effects of commands	164
3.1 Searle's distinctions	165
3.2 Constitutives, commissives, orders and obligations	166
3.3 Conventional acts	168
3.4 Conclusions concerning the command theory	170
4. Deontic facts	171
4.1 Linguistic evidence for the view that norms are deontic facts	
171	
4.2 Searle on social and institutional facts	173
4.3 Weinberger on the dual nature of norms	174
4.4 A moderate form of idealism	175
5. The correspondence theory of truth	176
5.1 Criticisms of the correspondence theory	177
5.2 Language-dependent entities	178
5.3 The correspondence theory rehabilitated	179
5.4 Ockam's razor?	180
6. Reason-based facts	181
6.1 Dependent facts	182
6.2 Two kinds of reason-based facts	184
7. Deontic facts	184
7.1 The gap between 'is' and 'ought'	185
7.2 The social existence of rules	186
7.3 Why the world is not inert	188
7.4 Types of deontic facts	191
8. Of rules	192
8.1 The ontological effects of rules	193
8.2 Legal rules	194
8.3 The world-to-word fit of rules	195
8.4 Deontic rules and commands	196
8.5 The descriptive counterpart of deontic rules	197
9. What is a norm?	201

CHAPTER 7: LEGAL STATICS AND LEGAL DYNAMICS

1. Modeling the law	203
2. Two types of connections between states of affairs	204
3. States of affairs	206
3.1 Temporary and durable states of affairs	206
3.2 Supervenience	207
3.3 Modalities	207
4. Events	208
4.1 The effects of an event	209
4.2 Supervenience of events	211
5. Rules	212
6. Signing a sales contract	214
7. Classification	216
8. Rights	218
8.1 Claims	219
8.2 Property rights	220
8.3 Human rights	222
9. Juridical acts	222
10. Validity	223
11. Juristic facts	225

**CHAPTER 8: DIALECTICS IN ARTIFICIAL
INTELLIGENCE AND LAW**

1. Introduction	227
2. The pioneering work of Lorenzen and Lorenz	228
2.1 Validity as the outcome of a winning strategy	229
2.2 Dialectical characterization of logical operators	230
2.3 Some characteristics of the Dialogische Logik	231
3. Defeasibility and dialectics	232
3.1 Battles of arguments	234
3.2 Static dialectics	237
3.3 Dynamic dialectics	238
4. Variations on the dialectical theme	240
4.1 The HYPO-system	240
4.2 Dialectics as models of bounded rationality	240
4.3 Dialectics as a theory of rational acceptance	242
5. Truth and justification; a philosophical digression	243
5.1 Habermas' consensus theory of truth	244
5.2 Overcoming foundationalism	245
5.3 Law as reason-based fact	247
6. Gordon's Pleadings Game	248
7. The procedural and rhetorical nature of the law	251
8. The role of legal rules in law-establishing dialogues	254
9. Reasoning about dialogue rules and dialogue moves	256
10. The burden of proof and the role of the arbiter	257
11. Mediating systems	259
12. Concluding observations	262

**CHAPTER 9: LEGAL REASONING AND
LEGAL INTEGRATION**

1. Introduction	265
2. The case of the murderous spouse	266
3. The law as an open system	269
4. Of reasons and their logic	270
4.1 Reasons	271
4.2 Rules	272
4.3 Principles	273
5. The subsumption model of rule-based reasoning	274
6. The reason-based model of rule application	276
6.1 The first extension of the reason-based model of rule-application	276
6.2 The second and third extension to the reason-based model of rule-application	278
7. The two-layer model of the law	279
8. The reason-based model of rule application and the open nature of the law	281
9. The reason-based model of case-based reasoning	284
10. Comparing case-based and rule-based reasoning	288
11. The case of the murderous spouse revisited	290
12. The possible and the actual	293
13. Conclusion	294
BIBLIOGRAPHY	297
INDEX	319