Book Reviews

Zenon Bankowski, Ian White and Ulrike Hahn (eds). *Informatics and the Foundations of Legal Reasoning*. Law and Philosophy Library, Kluwer Academic Publishers, Dordrecht/Boston/London, 1995. 374 pages.

'Informatics and the foundations of legal reasoning' is about the relevance of legal philosophy for legal applications of computer science, in particular applications of Artificial Intelligence (AI). It is the final result of a collaborative research project funded by the European Community. The book contains 14 articles of legal philosophers and computer scientists, and an elaborate introduction by the editors.

Artificial Intelligence (AI) can be described as the enterprise of making computers perform tasks that for humans require intelligence. The law has attracted AI researchers from the start, perhaps because of its written and structured sources of knowledge and its rich academic tradition of reflecting on its own reasoning methods. The aim of the project was to investigate to what extent the enterprise of AI applied to law is feasible: to what extent can law be formally modelled, and can these formal models be executed by a computer? Since legal reasoning is a branch of practical reasoning, an answer to these question is also relevant for argumentation theory. The theme of the book is rather broad, which makes the chapters considerably vary in content; moreover, space limitations prevent me from completely summarising each chapter. Therefore I will in this review adopt a personal approach, first sketching what I see as the main philosophical problems of AI and Law, and then discussing how the chapters contribute to their understanding.

With some the enterprise of AI and Law raises fears of human judges being replaced by cold, inhumane computer judges, ignoring human values and a sense of justice or fairness. However, regardless of whether these fears are justified, AI and Law research shows that computers can perform many other legal tasks, such as suggesting possible alternative arguments to put forward in a law suit, with their relative merits, while leaving the final choice to the human. Nevertheless, such systems must also be based on adequate models of legal reasoning. Now a very naive model, often attacked but almost never defended, is that legal reasoning is an instance of the 'axiomatic method'. All a lawyer would have to do is to identify the proper rule of law, to determine the facts of the case, and to logically apply the rule to the facts.

Why is this view naive? In the literature (both in legal philosophy and in AI and Law) two main reasons can be found. First there is the problem of the gap between the observed facts and the conditions of the legal rule (the problem of open texture or, in AI, the classification problem). The

problem arises since legislators cannot foresee the entire future, and therefore cannot formulate a rule for every possible concrete situation; they have to use abstract concepts, which cannot be defined in a way that solves all classification problems in advance. The gap is evident when a rule contains terms like 'reasonable care' or 'misuse of trade secrets', but even apparently specific terms are open-textured. Hart's classic example is that of a rule forbidding vehicles to enter the park. This clearly includes cars and bicycles, but what about skateboards or roller skates?

What do lawyers do when faced with the gap? Is solving hard cases a matter of judiciary discretion (Hart), or is there still 'one right answer' (Dworkin)? And if there is, can it only be found with creativity and intuition, or are lawyers still guided by explicit knowledge, albeit not a perfect system of rules, but a body of vague and often conflicting precedents, principles and human values? And if there is such knowledge, is its application still subject to standards for good and bad reasoning, albeit not to the strict and watertight rules of deductive logic?

Those who believe that solving hard cases is a matter of discretion, or of intuition and creativity, conclude that computers cannot perform an essential part of law application. Understandably, AI and Law research rejects the premises of this argument, but this does not imply a commitment to Dworkin's 'one right answer' thesis: a middle position is possible, admitting a certain degree of arbitrariness in legal reasoning, but also leaving room for rational methods. Although these methods will often not yield a unique solution to a case, they can at least reduce the space of possible outcomes. AI and Law has already made progress in formalising this view. For instance, computational models have been developed of analogical reasoning with precedents in adversarial contexts. And also progress has been made in tackling another problem, the defeasibility of legal reasoning.

Ignoring that legal reasoning is defeasible is a second flaw of the axiomatic model. The defeasibility is partly caused by the open-texturedness of legal concepts: any attempt at complete definition is subject to amendment or exception in new, unexpected situations. But the same holds for legal rules: a legislator cannot foresee all circumstances in which the conditions of a rule are fulfilled, and therefore there can always be reasons for not applying a rule, based on, for instance, legal principles or social policies. A classic example is the case of a grandson who had killed his father and then claimed his part of the heritage. Although all the conditions of the relevant rule were fulfilled, its consequence was still not accepted, because of the principle that nobody shall profit from their own wrongdoing.

In short, legal reasoning is nonmonotonic: arguments that are acceptable on the basis of certain information, might be invalidated if new situations make stronger counterarguments applicable. In my view, one consequence of this is that legal decisions cannot take the form of a single deductive

argument. Instead, they should have a dialectical form, where the counterarguments are explicitly rejected.

In formalising the dialectical structure of legal argument, AI and Law research has made considerable progress, partly inspired by general AI research on nonmonotonic reasoning, and also by dialectical schools of argumentation theory, which will be familiar to frequent readers of this journal. Systems exist that can present alternative arguments to a user, with their relative strengths and weaknesses. In this book, *Sartor* presents such a system. However, a lot more remains to be done and here is where AI and Law can benefit from legal philosophy and argumentation theory. Firstly, the dialectical point of view raises the question whether individual arguments should be deductive, or whether they may also be, for instance, analogical or inductive. The point is that when an argument has been successfully defended in a rationally conducted dispute, its acceptance might be rational even if it is not of deductive form. Furthermore, it is important to study the types of knowledge lawyers use when deciding hard cases and comparing conflicting arguments. Finally, AI and Law needs insights on the persuasive force of legal arguments, and on how the procedural context of legal reasoning influences its structure.

How does the present book contribute to these issues? Most philosophical chapters address open texture, analogical reasoning and defeasibility, and show awareness of the limitations of the naive axiomatic view on legal reasoning. On the other hand, much of their content is not new for AI and Law, either because they essentially repeat or summarize well-known insights, or because they raise questions that AI and Law already attempts to answer.

Hilgendorf discusses the philosophical foundations of Alexy's discourse theory of rational legal argument. However, his conclusion is mainly negative, being that these foundations are disputable; what AI and Law researchers would rather like to learn is how accepted procedural norms for legal argument influence its structure. Hilgendorf is also one of the authors who observe that bridging the gap between facts and legal concepts involves analogical reasoning: in deciding a new case, often comparisons are made with decisions in past cases. *Bankowski* discusses analogical reasoning in anglo-american common law, which is based on precedents rather than legislation. He argues that analogies cannot be replaced by a general rule which explains the analogy. Reasoning with rules and cases is intertwined: on the one hand, without the analogy the rule would not be there, so the analogy provides support for the rule; on the other hand, justifying the analogy involves an appeal to rules or principles. Although this is an interesting insight, for AI and Law researchers it is not new; they would have preferred a discussion of the structure of the intertwining. *Samuel* stresses that legal rules are not the only source of legal knowledge, since much legal knowledge is implicit in the mixture of 'descriptive, inductive and deductive techniques' that lawyers use for bridging the gap of open

texture. AI and Law researchers will agree, but they would like to hear more about the structure of these techniques. *Pipe* essentially summarises Hart's analysis of the problem of open texture. He also observes, interestingly, that open texture is just as well a problem for humans as for computers and that there is no reason why computers will always perform worse than humans. *Smith*, discusses the role of reasoning in anglo-american common law. He illustrates that the open-texturedness of a legal concept makes that each application of the concept in a legal decision changes its meaning, which thus evolves over time. Following the american legal philosopher Levi, Smith sees this as a contingent process, not determined by legal reasoning. Although to a certain extent this might be true, in my view Smith here ignores the possibility that argumentation can at least reduce the space of acceptable outcomes; the final choice might be arbitrary, but reasoning has determined the possibilities from which to choose. Finally, *Bengoetxea*, who usefully lists many philosophical problems for formalisations of legal texts, recognizes that applying law involves decisions on the validity and interpretation of norms, and on the classification of facts under a legal concepts, and he notes that reasoning about these issues is non-monotonic. True as this may be, in AI and Law this is by now a commonplace.

In my view, the book best meets its aim in the way the first three chapters relate to each other when they discuss defeasibility. First *Bell* illustrates in detail how policy arguments give rise to defeasibility. Then *MacCormick* illuminates the role of defeasibility in law, which according to him is pragmatic, i.e. procedural: in law the distinction general rule – exception does not serve to *predict* the existence of a legal fact, but divides the burden of proof in procedures that authoritively *determine* the existence of such facts. Then *Sartor* shows in impressive detail how legal language uses various constructs for allocating the burden of proof, and how they can be formalised in various nonmonotonic logics.

Two chapters observe that the philosophical problems are not inevitable; both the domain and the task of an AI and Law system can be chosen such as to avoid or reduce the problems. *Dewitz* observes that when the facts of a case can be described in terms of computer input, as with electronic data interchange, the problem of open texture does not arise. And *Edwards* makes similar observations about a tutoring system for Scots intestate succession law, which law is almost completely contained in a single statute, which is coherent and written in concrete terms.

Open texture and defeasibility are problems of legal reasoning, but AI and Law also needs insights on the structure of legal language. Three chapters address this issue. *Barden* claims that every legal decision in the end affirms or denies some relation of entitlement of one legal person to another. Although this claim is certainly interesting, Barden's attempt to logically formalise it suffers from the use of symbolism without a full grasp of its meaning. This cannot be said of the other two papers, written from

a computer science perspective by competent logicians. *Jones and Sergot* discuss a well-known topic of both legal philosophy and AI and Law: does a suitable formalisation of legislation require the use of deontic logic? (deontic logic is a modal logic, with the normative modalities 'ought' and 'may'). Their answer is that this depends on whether a distinction must be expressed between what ought to be the case and what is actually the case. They show in detail that this is not a trivial matter, but requires careful analysis of both the content of regulations and the nature or task of the computer system in which they are represented.

Interestingly, Jones and Sergot do not restrict their analysis to the law. According to them any organisation or system, even a computer system, is norm-governed and can therefore be seen as a normative system. This considerably extends the relevance of their analysis, and also of legal philosophy and AI and Law in general. *Kowalski* also observes similarities between legislation and computing, which can be exploited in both directions. He particularly sees them between the language of legislation, being a structured version of natural language, and logic programming, being a structured version of the language of standard predicate logic, executable as a programming language by mechanically applying logical inference rules. His thorough analysis of the ways to exploit the parallels is directly useful for AI and Law practitioners, although his treatment of deontic concepts seems to deviate from the recommendations of Jones and Sergot.

Finally, what is my overall assessment of the book? Although I have argued that AI and Law can certainly benefit from legal philosophy, the present book does not provide many new insights. On the other hand, most chapters are clearly and elegantly written, and are sound or at least interesting and thought provoking. Moreover, for students of AI and Law the book provides a good, if somewhat fragmentary introduction to the philosophical aspects of AI and Law. Finally, the book and project must be welcomed as one of the few elaborate attempts to connect legal philosophy, especially legal argumentation theory, with AI and Law.

HENRY PRAKKEN
Computer Law Institute, Faculty of Law
Free University Amsterdam, The Netherlands

Rita Kirk Whillock and David Slayden (Eds.). *Hate Speech*. Thousand Oaks, CA: Sage Publications, 1995, 294 + xvi pp.

Freedom of speech is a fundamental Constitutional right given to all Americans. Possibly because the courts have been relatively successful defending this right, may people have a tendency to take it for granted. Sadly, we are most likely to hear freedom of speech discussed when people or groups who espouse unpopular views – and/or express them in