Expert systems in law—A jurisprudential inquiry by Richard Susskind, Oxford University Press, 1987, pp 300, £30.00, ISBN 0-19-825582-9.

This is one of a new generation of books on the applications of knowledge-based systems, deriving from expert experience of both the humanities application domain and the technology. For an instructive comparison, see the work of Jean-Claude Gardin and his colleagues in the field of Archaeology (Gardin, 1988 reviewed in this issue) and Anglo-French work in the fields of Archaeology, History, Literature and Law (Ennals and Gardin, 1989). "Expert Systems in Law" is learned, while down to earth and constructive, and amply illustrated from working systems. It is concluded that there are no theoretical obstacles, from the point of view of legal philosophy, to the development of "rule-based" systems of limited scope.

Richard Susskind set out, as he put it, "to bring expert systems in law out of the textbook and into the marketplace". His own career has moved in a corresponding direction, from legal training in Glasgow and research at Oxford to consultancy with Ernst and Whinney in the City. His claims are always modest, and focussed on cases such as the Scottish Law of Divorce and Latent Damage Law. The work draws on the best legal research, and opens it to wider scrutiny.

Susskind places great emphasis on the role of the legal knowledge engineer. It is not sufficient to be familiar with logic, knowledge representation and Artificial Intelligence programming techniques: without a foundation in jurisprudence the legal program would lack interpretation and context. One side-effect of this book is to bring an effective end to the dialogue of the deaf over the applications of logic and logic programming to the law. Susskind offers a rigorous account of the applicability of expert systems from within the legal culture. His conclusions are not inconsistent with those of Kowalski (1984), Sergot (1982) and Bench-Capon (1988), but are more likely to carry weight with legal professionals. Knowledge domains always look more straightforwardly translateable into rules when viewed from the outside: domain experts both find they cannot fully express their knowledge in the form of rules, and resist the attempts of outsiders to do so as misconceived. Thus Leith (1986) inveighed agains the use of the law as a playground for logic programmers, misconstruing both the enterprise and the objectives, but correct in his diagnosis of a lack of legal knowledge among the knowledge engineers concerned.

The Expert Systems literature has understandably been dominated by demonstrations of the potential of the technology, with the underlying motivation being the advancing understanding across a broad front of applications domains. Indeed, this formed part of the context for Sergot's work on the law and my own work in Education from 1980, both under the direction of Robert Kowalski. The field has now advanced to the stage where domain experts can identify appropriate research areas, and clarify the limitations. Demonstrations are now in the context, and according to the criteria, of the knowledge domain, rather than the technology. To see this progress in the Education field, compare my original "Beginning Micro-PROLOG" (Ennals, 1983) and the recent international collection "PROLOG", Children and Students" (Nichol et al., 1988). For broader surveys of the law and Expert Systems, see "Computer Power and Legal Language" (Walter, 1988), and "Knowledge Based Systems: Applications in Administrative Government" (Duffin, 1988).

Jurisprudence is assigned a central role throughout this book, both to articulate the presuppositions and limitations of building expert systems, and also to provide sound, practical, guidance for their designers. Not only does jurisprudence cast light on the difficulties in applying rule-based systems, but the use of expert systems technology throws open what had previously seemed arcane areas of dispute to wider participation. In past generations philosophers have taken up legal studies: we could well imagine knowledge engineers embarking on courses in jurisprudence, and perhaps being drawn into the professional study of the law. It is perhaps in such a way that the long-term applications of knowledge engineering to the law will come about. Technology transfer is often best done by people, as Richard Susskind himself illustrates in his own career.

These ideas were presented by Susskind at an Anglo-French seminar on Expert Systems and Humanities Research in 1986, where they found echoes from other Humanities scholars. The subsequent seminar in 1988 focussed on issues of interpretation, with work on legal decision support

systems reported by Christine Bourcier (Bourcier, 1989). There is broad common ground in the analysis of the logicist foundations of the reconstruction of expert legal reasoning in terms of logical deductions. This provides in turn a reasoned context for PROLOG work on the law, in Britain, France and the United States.

A broader context for Susskind's work in the context of administrative law is seen in his paper "Government Applications of Expert Systems in Law", presented at a CCTA Conference (Susskind, 1988). A number of Advisory systems have been developed, and all require a deep understanding of the legal, administrative and institutional context in which they are operating. None have been entirely straightforward as the methodologies of knowledge-based systems have been relatively ad hoc to date, and there has been a lack of clear strategy in both private and public sector projects.

"Expert Systems in Law" is written with a commendably clear style, and is accompanied by an excellent bibliography. It offers a lucid introduction to a crucial field, and is recommended for readers from backgrounds in either law or knowledge engineering. The need for qualified legal knowledge engineers is frequently stressed, and this book provides a sound foundation. The Conclusion makes recommendations for further work. In particular, Susskind sees the following subjects as requiring attention: legal knowledge acquisition as a socio-legal matter; a socio-legal investigation of communications between human legal experts and their consultees, with a view to developing an advanced user interface; computational linguistics and expert systems in law; legal reasoning with uncertainty and by analogy. In addition he raises issues of the law of evidence, liability for bad advice, ethical and sociological implications, and the evaluation of the performance of expert systems in law.

What will the impact of expert systems in law be on the legal profession, already in turmoil? Does it pose yet another threat to their closed shops and restrictive practices? Will real lawyers use real expert systems, and if they do so, will they ever see them as more than tools to support expert decisions? Will Richard Susskind's present employers, Ernst and Whinney, see Advice Systems or the advice which they help the consultants to provide? Similar questions should be asked of all professions, for all are challenged by the development of Intelligent Knowledge Based Systems. Richard Susskind does us a service in enabling us to start the discussion concerning the law.

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