Osgoode Hall Law Journal

Volume 32, Number 4 (Winter 1994) Article 5

10-1-1994

Computerized Administrative Decision Making and Fundamental Rights

Jacques Fremont

Follow this and additional works at: https://digitalcommons.osgoode.yorku.ca/ohlj

 Part of the Administrative Law Commons

Article



This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 4.0 License.

Citation Information

Fremont, Jacques. "Computerized Administrative Decision Making and Fundamental Rights." *Osgoode Hall Law Journal* 32.4 (1994) : 817-831.
DOI: https://doi.org/10.60082/2817-5069.1664
https://digitalcommons.osgoode.yorku.ca/ohlj/vol32/iss4/5

This Article is brought to you for free and open access by the Journals at Osgoode Digital Commons. It has been accepted for inclusion in Osgoode Hall Law Journal by an authorized editor of Osgoode Digital Commons.

Computerized Administrative Decision Making and Fundamental Rights

Abstract

Taking as a departure point the introduction of expert systems in the field of administrative adjudication, this paper aims to present some of the issues and problems that the law and jurists will face as a result of "new informational technologies." After an examination of how these technologies would function in a legal context, and a short discussion concerning administrative justice as it is now conceived and experienced, the impact of computerized administrative decision-making is examined. The paper assesses the likely impact of expert systems on administrative normativity, on the decision-making process, and on the quality of decisions made. This discussion shows, among other things, that the conception of expert systems in law might lead to a major change in the way jurists understand law and its functions. It also shows that the introduction of expert systems into administrative matters carries some major implications about the way law functions in action.

Keywords

Administrative courts--Technological innovations; Expert systems (Computer science); Technology and law

Creative Commons License



This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 4.0 License.

This article is available in Osgoode Hall Law Journal: https://digitalcommons.osgoode.yorku.ca/ohlj/vol32/iss4/5

COMPUTERIZED ADMINISTRATIVE DECISION MAKING AND FUNDAMENTAL RIGHTS©

BY JACQUES FRÉMONT*

Taking as a departure point the introduction of expert systems in the field of administrative adjudication, this paper aims to present some of the issues and problems that the law and jurists will face as a result of "new informational technologies." After an examination of how these technologies would function in a legal context, and a short discussion concerning administrative justice as it is now conceived and experienced, the impact of computerized administrative decision-making is examined. The paper assesses the likely impact of expert systems on administrative normativity, on the decision-making process, and on the quality of decisions made. This discussion shows, among other things, that the conception of expert systems in law might lead to a major change in the way jurists understand law and its functions. It also shows that the introduction of expert systems into administrative matters carries some major implications about the way law functions in action.

En prenant comme point de départ l'utilisation de systèmes experts au sein du processus d'adjudication administrative, cette étude vise à présenter certaines des problématiques que posera au droit et, par conséquent, aux juristes, l'introduction des nouvelles technologies de l'information. Après avoir examiné comment ces technologies fonctionnent dans un contexte juridique et discuté brièvement l'état de la justice administrative telle qu'elle est vécue, l'impact d'un processus informatisé de prise de décisions administratives est examiné. La question de l'impact probable de l'utilisation de systèmes experts est alors abordée tant à l'égard de la normativité administrative elle-même, qu'à l'égard du processus de prise de décision et de la qualité des décisions. Cette discussion démontre, entre autres, que la mise au point de systèmes experts juridiques risque de modifier considérablement la façon avec laquelle le droit comprend son fonctionment et, par conséquent, celle par laquelle les juristes anticipent le phénomène juridique. Elle démontre par ailleurs que l'utilisation de systèmes experts en matière administrative aura un impact important sur le monde de fonctionnement effectif du droit.

I. INTRODUCTION 818

II. LAW AND THE NEW INFORMATION TECHNOLOGIES 820

III. THE FUNDAMENTAL RIGHTS OF CLAIMANTS 822

© 1995, J. Frémont.

* Professor, Centre de Recherche en Droit Public, Faculté de Droit, Université de Montréal; Bora Laskin Professor of Public Law, Osgoode Hall Law School, 1993-94. This is the text of the Laskin Lecture delivered at Osgoode Hall Law School, York University, on November 24, 1993. An extended discussion of some of the issues raised in this lecture can be found in French in "Les Systèmes Experts en Matière Administrative, les Justiciables et leurs Droits" in K. Lippel, ed., *Nouvelles Pratiques de Gestion des Litiges en Droit Social et du Travail* (Cowansville: Yvon Blais, 1994) at 143-65.

IV. THE IMPACT OF COMPUTERIZED ADMINISTRATIVE DECISION-MAKING .. 824
A. *The Impact on Administrative Normativity* 824
B. *The Impact on the Decision-Making Process* 826
C. *The Impact on the Quality of Decisions* 827

V. CONCLUSION 830

I. INTRODUCTION

Law does not function in a vacuum. It is indeed very much tied to the society it is meant to serve. For more than a century now, the legal system has had to adapt to a series of social and economic developments. Late in the last century, the law had to manage the new realities that were the industrialization and the urbanization of occidental societies. The rules that had developed for an essentially pre-industrialized civilization were not necessarily adequate to face the challenges of this evolving context. New rules were developed by the legal system, and old rules were fine-tuned for the new conditions of the day. The subsequent emergence of the welfare state also forced a transformation of the legal order characterized by a re-definition of the relationship between the law, state, and citizen. From the early 1930s, and despite any Diceyan rhetoric, an autonomous body of public law has slowly emerged. The challenge to the evolution of the law was not so much the transformation of the society, but a changing perception of the role of law and legal institutions.

The legal system has, over the twentieth century, shown a remarkable capacity to adapt both to the changing societal conditions and to the new role attributed to it. Over the last fifteen years, a new phenomenon which the law has yet to come to terms with has developed. It is the emergence of a new, technological society which, through recent scientific and technological developments, has forced a questioning of many of the beliefs on which society and the legal order are based. Men can become women, babies can be conceived in laboratories, genes can be manipulated and modified, and computers can process and disseminate information as quickly as it is produced. In response to this new state of things, the law once more has to react and adjust.

But this time around, the law seems to be having some trouble adjusting. Many of the traditional legal concepts are no longer sufficient

to effectively deal with the challenges of these new realities. For instance, the concept of ownership is of little use in resolving issues of intellectual property relating to software or new biotechnological techniques. New dimensions must often be added to the strictly legal ones in order to resolve many of the problems created by these new technologies—so much so that ethical and moral considerations are now an accepted part of the new normative order in our societies. The law is struggling to cope with many of these new realities and, imagination willing, will probably succeed in regaining a certain form of control over these new technologies. In fact, it would probably be unbearable to members of the legal profession if the empire of law shrank on this occasion.

But there is one further challenge for the law in these trying days. It is the application of some of these new technologies to the law and legal order themselves. The question to be asked is the following: if law is so good at adapting to societal changes and scientific or technological breakthroughs in other sectors of human activity, will it be able to do so when the time comes for it to adapt to the tremendously powerful informational tools that are just around the corner? The challenge is immediate for the law and all jurists. We are still essentially functioning as a nineteenth-century profession in the way we manipulate, use, and produce information. In our occidental legal systems, we still like to believe that legal rules can only be written. It is comforting to know that legal decisions can only be made by responsible individuals, judges, or administrators.

Today, these assumptions must be challenged, and some of the formidable issues which the law will inevitably face in its adaptation to the "new informational realities" will be discussed here. For the purpose of this exercise, I will discuss the introduction of expert systems into the field of administrative adjudication, and present some of the kinds of issues and problems these new technologies will present to the law and to jurists. This should be sufficient to demonstrate the conceptual and practical difficulties that these technologies will raise and to indicate the intellectual challenges and sort of questioning each of us will face. But before doing so, it is necessary to explain what these technologies are and to say a few words about administrative justice as it is now conceived and experienced.

II. LAW AND THE NEW INFORMATION TECHNOLOGIES

When reference is made to expressions such as "artificial intelligence" or "expert systems," people usually imagine a world of robots. In the context of law, we could talk of "Cyberlaw." Some of you will undoubtedly remember Stanley Kubrick's celebrated film *2001: A Space Odyssey*, in which HAL the computer attempted to take over the spaceship.[1] Of course, we are not there—at least not yet!

Any casual observer will have noticed, however, the rapidly growing influence of, and corresponding dependence on, computers in the everyday life of lawyers. Word processing, legal databases, and on-line research services are all mainstream, if not old, technologies. The recent appearance of CD-ROMs and, more significantly, the Internet, will render many of today's technologies obsolete. Information including legal information will soon be accessible quickly and at costs which are negligible compared to today's prices. In fact, computers that are important today will undoubtedly become the most indispensable research and practice tools. But these developments only constitute the first few steps in future developments.

Law, it should be remembered, thrives on information. Like mathematics or philosophy, it is one of the few fields of human activity that generates its own knowledge without necessarily referring to the external world. Some of the emerging information technologies that are the most promising for the law are those associated with data processing generally, and artificial intelligence and expert systems specifically. The concept of "artificial intelligence" (AI) appeared in the 1950s almost simultaneously with the emergence of computers. AI can be useful in fields in which human intelligence constitutes an essential dimension, such as robotics, expert systems, or the recognition of natural languages, images, or sounds. In some of these applications, such as robotics, AI techniques are well-developed and integrated within today's industrial world. But things are different where expert systems are concerned.

Expert systems are intelligent computerized systems which use knowledge, as well as inference procedures, in order to simulate intelligent reasoning and to solve problems in the same way experts in any given field would do.[2] In brief, expert systems in law, for instance, would reason like an expert jurist and find a solution to the problem it

---

[1] The film was inspired by Arthur C. Clarke's 1953 short story "The Sentinel," reprinted in A.C. Clarke, *Across the Sea of Stars* (New York: Harcourt, Brace & Co., 1959) at 3.

[2] P. Harmon & D. King, *Expert Systems* (New York: Wiley Press, 1985) at 5.

has to solve. Specific programming languages (LISP and PROLOG) that have very few formal constraints have been developed precisely for that purpose and are now generally used to conceive and build expert systems. Since the early 1970s many expert systems have been developed and this trend has accelerated with the emergence of small and powerful computers. The technology to build such systems is widely available at low cost, and there are now few areas of human activity for which expert systems have not been built. However, and one has to be honest about this, the development of this technology has not yet produced many truly impressive systems. The same is true for the legal world where a few dozen expert systems have been developed and are probably in use today.[3] In Canada, to my knowledge, three expert systems have been developed (Chomexpert at the Université de Montréal, Nervous Shock Advisor at the University of British Colunbia, and Logexpert at the Université du Québec à Montréal) and none have been commercially or administratively used.

In fact, the law is generally considered to be one of the most difficult fields in which to build such expert systems, precisely because of the generally fluid nature of legal knowledge. While in "hard" sciences a mineral has or does not have certain properties, or a cell does or does not react to certain chemicals, in law two jurists will rarely adopt precisely the same reasoning, even in simple, routine legal cases. That is to say nothing of complex cases or those where "fuzzy" or "open-textured" notions are used. For example, what constitutes "reasonable" behaviour in any given circumstance? How should one define fairness in a specific case? The generally imprecise nature of the law is just one of the many difficulties facing any person attempting to build an expert system. The variety of reasoning available to jurists (formal logic, deontic logic, predicate logic, rhetoric, *etcetera*) as well as the various interpretation rules we use on a continuous basis (teleological, strict, *etcetera*), add to the difficulty. The continuing

---

[3] See D. Bourcier, "The expert system BRUITLOG and the MAIRILOG project" (1989) in I.Th.M. Snellen, W.B.H.J. van de Donk & J.-P. Baquiast, eds., *Expert Systems in Public Administration* (North-Holland: Elsevier Science Publishers B.V., 1989) at 79. For the Norwegian System for Housing Aid, see J. Bing, "Computer-assisted systems for public administration: Impact on legal decision processes" in Snellen *et al.*, *ibid.* at 113. For Yugoslavia (as it was then known), see M. Olave, V. Rajkovic & M. Bohanec, "An application for admission in public school systems," *ibid.* at 145; N. Aucagne *et al.*, "SEMAPI: An expert system for public administration procurement," *ibid.* at 161; P. Levine & J.-L. Minel, "A development tool for expert systems in the field of regulations," *ibid.* at 183; M. Aucoin, B. Micha & D. Pham-Hi, "An expert system for corporate checkup at the Banque de France," *ibid.* at 209; K. Vittrup, "ESKORT: A toolbox for VAT auditors," *ibid.* at 225; P. Wahlgren, "Social Assistance and Knowledge-Based Systems: PLUTO—A Support System" (Stockholm: The Swedish Agency for Administrative Development, Statskontoret Report, 1988).

evolution of the law, which makes it impossible to freeze the state of the law at any given moment, causes the same problems. One could also point to the natural languages that support the law, as well as to temporal logics which are more or less specific to the law, to demonstrate the incredible complexity of the universe we intuitively deal with everyday. But the fact that things are immensely complicated does not mean that they will not succeed. Current cross-disciplinary research such as that conducted at the Centre de Recherche en Droit Publique of the Université de Montréal and in another dozen centres around the world will lead, if not in the short term, at least in the medium term, to the elaboration of efficient and real-world size legal expert systems.

In an ideal world, an efficient legal expert system will be able to provide its user, through simple access, with all the legal advice about an area of law and about the specific facts at hand. For example, if the area of law were unemployment insurance, such a system could indicate whether a person is entitled to unemployment benefits and could ground its conclusion in statutes, regulations, or the case law. It could also provide the user with the full texts on which the system has relied and any contrary reasoning that can be derived from the same facts. In other words, such a system, in theory, could replace unemployment insurance agents, even in cases that call for closer examination of the facts (*e.g.*, was the departure "voluntary" and has there been "misbehaviour" on the part of the claimant?). It then becomes easy to perceive the impact such a system could have if it were used to make decisions concerning individual cases. This raises the issue of administrative justice.

III. THE FUNDAMENTAL RIGHTS OF CLAIMANTS

All is obviously not well with administrative justice these days. In this respect, we should avoid perceiving the administrative-adjudicative world strictly from the somewhat perverse points of view of the litigator, the student, or the academic. Rather, it should be seen from the perspective of the claimant, the taxpayer, or the citizen for whom the minor case is the most important in the world; and from the perspective of the administration itself, which has to make thousands of decisions every day, each of them affecting someone's rights.

From the many millions of administrative decisions taken every year in Canada, one must conclude that a certain number are erroneous, and that from this number a great majority will never be subsequently challenged. The scope of this phenomenon is difficult to assess since, by definition, the figures are almost impossible to gather. However, a

Royal Commission of Inquiry on Unemployment Insurance estimated that in 1986 payments made by mistake accounted for $120 million and that from this number 20 per cent were explainable by clerical mistakes and 15 per cent by erroneous decisions of the agents.[4] One suspects that the real figure from the point of view of the claimants would be much higher. Every mistake identified as such by the administration will lead to amounts being claimed months, if not years, later from persons otherwise unable to reimburse these amounts—a process which in turn leads to further litigation. When there is litigation before administrative tribunals or in judicial forums, claimants and lawyers have to struggle with complex statutes and regulations, diverse case law, and directives, policies, and other non-official norms. On top of all that, the official laws and norms can change so much on a regular basis that it sometimes becomes difficult merely to identify which provisions were applicable to the cause of action. In short, it can be said that in many sectors administrative justice has today attained a level of chaos unparalleled in many sectors of the physical universe! New information techniques can surely help or, at the very least, cannot worsen the actual state of administrative justice. Of course, if these information systems can help administrative justice, at least at the initial determination level, they cannot and must not do so at the expense of the rights of the persons concerned.

It seems to me that, at the initial determination level, the persons concerned have two broad categories of rights: the right to be dealt with under an adequate process, and the right to receive a fundamentally sound decision. If the initial determination process is adequate, each file will only be considered by the decision maker on an individual basis to a minimal extent, and in every case the discretion of the decision-maker should not be in any way fettered. Moreover, the decision should be made within a reasonable period of time, since extensive delays in many instances result in economic hardship for claimants and, as the old saying goes, justice delayed is justice denied.

If the legal system likes to stress the importance of the process leading up to a decision, it should not lose sight of the crucial importance of getting the decision right in the greatest possible number of cases. In other words, a procedurally correct decision will be of little help if the decision is legally or factually wrong. It seems to me that the individual involved is, in every case, entitled to a just and equitable decision, as well as to an objective application of the legal norms. The

---

[4] *Commission of Inquiry on Unemployment Insurance*, Report by C.E. Forget (Ottawa: Department of Supply and Services, November 1986) at 302.

decision must, to a certain extent, be foreseeable and as fully reasoned as possible. Constitutional provisions and social decency also require that all persons involved be treated equally.

I believe that some of the new information tools can go a long way towards improving the general quality of administrative decisions along those lines. It is also my proposition that these new information tools will force the legal and administrative systems to come to terms with original questions about the role and the limits of the law and the legal system.

IV. THE IMPACT OF COMPUTERIZED ADMINISTRATIVE DECISION-MAKING[5]

Any discussion about the eventual impact of expert systems on the rights of the persons involved will necessarily depend on both the nature of the expert systems and the rights involved. The discussion can, therefore, only remain general since one can identify many categories of expert systems and related utilities.[6] For the purposes of this discussion, we can probably speak of expert systems that help to make decisions, or that make decisions on their own. I have grouped the consequences of such systems into three categories: those that affect administrative normativity itself; those that affect the decision-making process; and those that concern the quality of the decisions made. Let me briefly describe each of these categories.

A. *The Impact on Administrative Normativity*

I have already mentioned some of the difficulties associated with mere access to the legal and administrative provisions that are applicable in any given case. The first result flowing from the introduction of an administrative expert systems decision-making process would

---

[5] For a more elaborate discussion, see J. Frémont, "Les Systèmes Experts en Matière Administrative, les Justiciables et leurs Droits" (1993) in K. Lippel, ed., *Nouvelles Pratiques de Gestion des Litiges en Droit Social et du Travail* (Cowansville: Yvon Blais, 1994) at 143-63.

[6] See M. Schauss, "Les Systèmes Experts en Droit: Quelle Aide à la Décision?" in M. Schauss, ed., *Systèmes Experts et Droit* (Bruxelles: E. Story-Scientia, Précis et Travaux de la Faculté de Droit de Namur, no. 6, 1988) at 30; D. Bourcier, "De la Règle de Droit à la Base de Règles: Comment Modéliser la Décision Juridique?" (1993) in C. Thomasset, R. Coté & D. Bourcier, eds., *Les Sciences du Texte Juridique: le Droit Saisi par L'Ordinateur* (Cowansville: Yvon Blais, 1993) at 201. The "textbook model" is discussed in P. Leith, *The Computerised Lawyer: A Guide to the Use of Computers in the Legal Profession* (London: Springer-Verlag, 1991) at 213.

undoubtedly be to allow everyone to gain full access to all the relevant norms (including the case law) that apply in any given case. Such a process would also allow users to gain access to a level of expertise—that which is formalized within the system—to which they would normally not have access.

Another effect of such systems on administrative normativity is the process of formalizing the norm which will inevitably force a certain refinement and lead to greater precision with regard to its application. Fuzzy or open-ended norms will thus become more rigid and be defined more precisely.[7] This refining process carries some obvious difficulties since it is clear that, in many cases, indeterminate norms are used precisely because they are indeterminate. In such cases, one must avoid restricting the application of the norm exclusively to a catalogue of pre-collected facts.[8] Any valid expert system must, on the contrary, be able to adequately manage all the facts relevant to any given decision.

This, in turn, leads us to question the legal status of the norm that has been refined through the formalization process. Should the provisions so formalized be considered as a further "coat" of legal norms, which would co-exist with the "official" state-defined (by law or regulation) provisions? If the expert system has any official role to play within the decision-making process, should this new coat of normativity receive legislative approval?[9] If it does not get such approval, but is effectively used, does such formalization constitute an illegal delegation of normative power? Or should the new coat of normativity be recognized as guidelines and policies which more or less form an unofficial level of normativity, giving the state the advantage of bypassing judicial scrutiny? One of the fascinating dimensions of conceiving formalization in this way is that it could represent an order of legal normativity existing without any semantic support, being strictly conceptually and informationally defined.

In questioning the impact of expert systems on administrative normativity, one must inquire about their influence on the evolutionary process of the law. Does the decision of the expert system in any

---

[7] See J. Bing, "The Emergence of a New Law of Public Administration" (1990) in H.W.K. Kaspersen & A. Oskamp, eds., *Amongst Friends in Computers and Law: A Collection of Essays in Remembrance of Guy Vandenberghe* (Deventer-Boston: Kluwer Law and Taxation, 1990) 229 at 235.

[8] See J. Bing, "Three Generations of Computerized Systems for Public Administration and Some Implications for Legal Decision-Making" (1990) 3 Ratio Juris 219 at 233.

[9] See C. Magnusson, "New Roles in the Shaping of the Law" in P. Seipel, ed., *From Data Protection to Knowledge Machines: The Study of Law and Informatics* (Deventer-Boston: Kluwer Law and Taxation, 1990) 135 at 144.

particular case have value as precedent? If not, why not? If it does, is there not a danger that in some respects the law could gradually freeze on any legal question since the system will make identical decisions in similar cases and each decision will reinforce the system's perception that the decision is right on a given point?[10]

These are only some of the effects that the expert systems will have on administrative normativity. They are not trite. But the introduction of expert systems will also have some effects upon the decision-making process itself.

B. *The Impact on the Decision-Making Process*

It might be at this level, in fact, that the impact of the introduction of expert systems will be the most widely felt. Expert systems will allow a rapid and complete integration of the new rules within the decision-making process which, in turn—and it is not a small dividend from an administrative point of view—will lead to greater uniformity in the application of the law. The productivity of the decision makers will be substantially improved, while their decisions will be more precise and will not contain errors other than those made by the system. The costs of processing each file could well be substantially diminished and the financial losses reduced accordingly. Finally, but not insignificantly, the time needed to process any file would be substantially reduced.

Of course, from the perspective of the persons involved, the perception might be different. However, they could receive almost immediate answers to their claims and, in many cases, the need to resort to lawyers to sort things out could be eliminated. When the decision rendered by the system is negative, it would also be more informative about the reasons for the refusal and, therefore, what is missing in order to become positive. In fact, the whole decision-making process would probably become more efficient, uniform, and predictable. One of the interesting spin-offs of such systems is that the automatic, initial decision making would necessarily force a "manual" determination on appeal, because the system obviously cannot review its own decisions and produce a different conclusion.

However, one of the effects of automatic adjudication could be that, in cases where the system is wrong, a mistake is multiplied in a great number of files. It explains why, from the perspectives of both the

---

[10] See M. Schauss, *supra* note 6 at 47.

administration and the individuals, it would be essential to regularly audit the system to identify such errors as early as possible.[11] To my knowledge, no such audit procedures have yet been conceived, as far as legal systems are concerned. In any case, I would submit that audit processes would be justifiable in many sectors of the legal world today. The introduction of legal expert systems will at last force the application of elements of methodology that are familiar in many sectors, including environment and accounting, to our legal universe. It should also force the legal community, as well as the State, to question in a systematic way how adequately the legal system functions with legal normativity once it escapes its authors. Finally, it could lead to a more open attitude toward questioning the approaches related to the statement of legal rules, in comparison with the effects they produce in action. But the process might be of secondary importance to the individual; what really counts is the quality of the decision made.

C. The Impact on the Quality of Decisions

The quality of the decisions that would be generated by, or with, the aid of expert systems is of crucial importance. Generally speaking, it is legitimate to think that expert systems will improve the quality of the decisions made. The future of expert systems will indeed be bleak if they cannot improve the quality of administrative decisions.

First, expert systems should ensure a more equal treatment before the law of all persons involved. In other words, all similar cases will be treated alike, which in turn will guarantee a uniform application of the law everywhere it applies. In itself, such uniformity would certainly answer many of the concerns that managers of administrative systems have when decisions are different from one region to another, and from one province to another. But the question of whether such regional administrative subcultures are a good or bad thing must also be asked. Would the improved uniformity of treatment constitute an improvement, or would the actual variations not only be acceptable, but also desirable to a certain extent, for claimants and the equality rights guaranteed by section 15 of the *Canadian Charter of Rights and Freedoms*?[12] Although this is probably not the place to answer this difficult question, it is clear that expert systems will be a very powerful

---

11 See Bing, *supra* note 7 at 237; and Bing, *supra* note 8 at 234.

12 Part I of the *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (U.K.), 1982, c. 11.

tool for creating uniformity.

Expert systems will also help improve the quality of administrative decisions in many cases by forcing the decision maker to identify and subsequently consider all the facts that are relevant before a decision is made. The importance of this aspect of decision making is often underestimated and the decisions resulting from an incomplete knowledge of facts can often be wrong.[13] In most cases, the vast knowledge base of the expert system will identify all of the relevant information that it must possess before reaching a decision. Another spin-off from automatic decision making involving expert systems could be to force the making of decisions that have better rational foundations. It is indeed a requirement of the rule of law that administrative decisions should not be based on arbitrary or irrational foundations. Reality shows that this sometimes happens, and any properly programmed expert system will guarantee that decisions are rational and based exclusively on relevant facts, because it cannot derogate from its own way of reasoning.

Expert systems should also favour the rendering of decisions that are justified in light of all the provisions and precedents that have been used to reach the conclusion. The reasoning adopted by the system will be transparent and will therefore be easier, if need be, to subsequently challenge. On this point, any appeal from such a decision will constitute a "test case" of the expert system, since it will challenge the uniform understanding which the system has of its own universe.

Of course, the quality of the decisions will also greatly depend on the level of sophistication of the system itself. A system should, in an ideal world, be able to not only deal with the rules of its domain of competence, but also to replicate the use of what can be termed the "tools of the trade." For instance, the rules of interpretation and common sense can be considered a lawyer's "tools of the trade." Some prototypes of systems are now conceived which would allow the management of diverging, if not conflicting, visions of legal rules in any given case.[14] But these attempts are especially difficult to conceptualize, and there is very little consensus in the legal profession as to the exact

---

[13] See R.J. Vernengo, "Decision Forms and Expert Systems in Law" (1991) 4 Ratio Juris 245 at 251.

[14] See D. Poulin *et al.*, "Legal Interpretation in Expert Systems" in *Proceedings of the Fourth International Conference on Artificial Intelligence and Law* (New York: ACM Press, 1993) at 90-99; and P. St-Vincent, D. Poulin & P. Bratley, "Vagueness, Open Texture and Computational Dialectics" in *Proceedings of the Computational Dialectics Workshop of the Twelfth National Conference on Artificial Intelligence* (Seattle: Washington University, 1994) at 92-102.

role of the interpretation process and the *de facto* hierarchies that exist between the various interpretation rules. The elaboration of expert systems might help us to gain a better understanding of the role and limits of the interpretative process as well as the notions of common sense that are often present in various decision-making processes, but which do not usually form an official part of this process.

One of the extreme limits of decision making by expert systems is the exercise of discretion by the expert system. It is one thing to formalize the functioning of a legal mind with the help of rules and precedents, but it becomes extremely difficult to teach a computer to exercise a discretion. (Discretion is defined by the *Oxford Companion to Law* as "[t]he faculty of deciding or determining in accordance with circumstances what seems just, fair, right, equitable, and reasonable in those circumstances").[15] However far-fetched it might appear, one wonders if it would not be technically possible at some point in the future to replicate such capacities within an expert system. In that case, one can also ask how such a system could be prevented from exercising an unfettered jurisdiction, or whether such a power exercised by a system still amounts to the exercise of discretion.

Fortunately, we still have some time to think about many of these difficult questions. The preceding discussion shows, however, that the introduction of expert systems into administrative decision-making will have an impact and will raise many issues and difficulties. Considering these systems to be inherently dangerous is probably overly alarmist. Expert systems cannot, as HAL attempted to do with the spaceship, take over the administrative system, precisely because such information systems are basically stupid—they can only accomplish what they are told to do. The main dangers associated with the introduction of these new information technologies at the decision-making level will flow not from the technologies themselves, but from the use that is made of them. In this respect, the key to escaping any Orwellian reality is to be as frank as possible not only about the existence and use of such systems, but also about the way they are conceived. Full access to these systems must also be guaranteed to everyone. It is crucial that the logic of the access to information legislation be extended to these new informational systems. Openness and subsequent administrative or judicial control will remain a key to the protection of all those to whom expert systems would apply.

---

[15] D.M. Walker, *The Oxford Companion to Law* (Oxford: Clarendon Press, 1980) at 363.

V. CONCLUSION

Many of you might be tempted to ask whether it can really be done, whether expert systems will one day be elaborate enough to effectively replace humans within the decision-making process. This is probably the wrong question to ask. You should rather inquire about *when* these systems will be conceived and used. Multidisciplinary research has barely started in the field of law and expert systems, and it will likely take some time before "mature" expert systems emerge. The first results show that the realization of expert systems in the legal domain is made particularly difficult because of the complexity of the law and its underlying concepts, and because we know very little about the functioning of the law.[16] The next few decades will lead to a fascinating elaboration of the various elements of the law and legal reasoning. The logic of the law, legal knowledge, legal reasoning, and the other elements that we use as jurists will be examined for the purpose of formalization. Many approaches will be put forward, various understandings attempted. Many will undoubtedly fail. This dimension of the research leading to the conception of expert systems in the law might lead to a major change in the way the law, as a discipline, is understood in its functioning. It is at this level that the impact of the emerging research on new information technologies will likely be most important and fascinating.

It will also carry some major implications about the way law-in-action functions. In administrative matters, the introduction of these technologies will have a major impact on both the process leading up to the making of decisions and the quality of the decisions themselves. It would undoubtedly be a good idea to examine with the greatest care whether legislative protection is needed in this regard, or whether the general principles of administrative and constitutional law are sufficient to guarantee that some of the problems associated with the introduction of these new technologies will not degenerate. France, the European Union, and the Council of Europe are already moving in that direction.[17]

The introduction of expert systems into the law will likely have

---

[16] See R.E. Susskind, *Expert Systems in Law: A Jurisprudential Inquiry* (Oxford: Clarendon Press, 1987) at 250.

[17] France: Loi No. 78-17 du 6 Janvier 1978 relative à l'informatique, aux fichiers et aux libertés, J.O., 7 January 1978, 227, ss. 2, 3; Council of Europe, *Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data*, Strasbourg, January 28 1981, ILM 1981, at 371ff. (European Treaty Series No. 108).

an impact on the legal profession by allowing access to everyone (including the legal profession, of course, but also the general public) to the system and to the expertise it contains. The legal profession's monopoly over legal knowledge could finally be broken and this could force a readjustment of its role. Lawyers' skills will have to extend beyond simply getting the information and offering a basic manipulation of that information.

If jumbo jets can in theory fly and land without pilots or co-pilots, I fail to see why law is so inherently complicated as to prevent effective automation. Law's empire and lawyers must not be so arrogant as to think that "it cannot be done." Rather, we should keep an open mind to the development of tools that are already effective and useful in many sectors of human activity. Of course, it does remain a very wise choice to fly jumbo jets with humans in command!