

dictions. The Proceedings of the Institute of Criminology will almost surely result in improved statistics in New South Wales. May the Institute long continue its good work.

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*Proceedings of the Institute of Criminology, University of Sydney, No. 2, 1968: Computers and the Lawyer.* University of Sydney, Faculty of Law, 1970, pp. 251. (\$5.00).

The subject of computers has been getting increasing attention from the Bar in recent years. The growing prevalence of computers in the scientific and the business world has become a matter of notoriety and has given rise to numerous impressions, many exaggerated, of both the achievements and failings of computers. It is apparent that the computer has had a widespread impact on many aspects of our industrial and business life and thus it is inevitable that lawyers should become interested and attempt to become informed in the field. The present work is the publication of about two dozen papers that were presented at a seminar on the topic "Computers and the Lawyer", sponsored by the University of Sydney. The papers comprising this collection cover most of the field of relevance to the topic although they are somewhat uneven in approach and clarity.

An exposition of the field involving computers that is relevant to the law should cover enough of the technical background to give lawyers some understanding of the technology involved and in addition explore the major areas of practical application and theoretical development. This would seem to involve particularly the following specific areas:

- (a) Law office bookkeeping and accounting;
- (b) Legal data retrieval;
- (c) Problems arising from client usage of computers;
- (d) Evidentiary problems of computer generated evidence;
- (e) Jurimetric implications of computer technology.

This collection tells virtually nothing about computer hardware and its operation. This may be the result of the fact that the papers seem to be printed as they were prepared for oral presentation with little effort made to adapt them to the somewhat differing needs of readers, as distinguished from listeners. There is one very brief paper on how a computer functions which was apparently illustrated by slides that are not reproduced. However, the book does include a brief but rather detailed and lucid exposition of computer software or programming. This is probably more important from a lawyer's viewpoint than an explanation of the hardware, although some understanding of the latter would make the limitations and requirements of software more understandable.

Strangely enough there is nothing in the collection that relates to the most immediate and practical application of computers to the practice of law, which is their utilization in law office accounting. Relatively few lawyers in the United States employ computers for more sophisticated uses, but a substantial number of large firms do use computers for bookkeeping and accounting purposes. A related practical application that is not mentioned is the use of computer controlled typewriters for specialized applications, such as writing a brief which may go through a number of drafts, or

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writing documents that may have standard or "boiler plate" language in them.

The most interesting aspect of computers for lawyers probably is in the possibility of computer retrieval of legal data. This subject is discussed in several papers and at some length. It is pointed out that the basic problem in this area is the problem of indexing so that the desired items may be retrieved from a mass of data. In dealing with indexing and retrieval problems some understanding of the hardware becomes important. Where data are (only some of the authors realize that "data" is plural) recorded on magnetic tape, it is necessary to search sequentially in order to retrieve a specific item or document. With a large body of data this may take a significant amount of time and be relatively expensive. Disc storage permits random access but involves other problems of indexing and identification. The basic problem of indexing, however, remains that of devising the intellectual analysis which will permit inquiries to be posed by unsophisticated users and items sought to be identified and retrieved from a substantial body of recorded data.

It is noted that the most successful of the systems so far developed in the United States is that of Mr. John Harty, formerly of the University of Pittsburgh and now operating a legal data retrieval system for a privately owned company in Pittsburgh. The Harty system involves full text storage of statutory law and inquiry and retrieval by use of a normalized language.

The discussions do not bring out the fact that in all of the systems relating to legal data storage and retrieval so far established, including that of Harty, the computer engages in document retrieval rather than information retrieval. No practical system has yet been established for retrieving legal information as such and the effort thus far has been to store, index and retrieve legal documents, which are statutes, case reports and similar units, rather than raw information.

The specific problems and possibilities of computer utilization with respect to particular kinds of legal information are discussed with respect to several areas of law. There is a paper on the registration of companies and the indexing and retrieval of business names, another one on the registration of land titles, a discussion of court records and a variety of the items involved in court record keeping, and a brief discussion of penal statistics. Each of these is more practical than theoretical and gives considerable information about the present practice and the problems involved in both the present practice and any conversion to a computerized system. These papers by no means exhaust the fields of legal data that are likely to be involved in computer storage and retrieval and these discussions can, presumably, be regarded as illustrative of the problems and possibilities.

Similarly the consideration of the legal problems that may be involved in clients' usage of computers is largely confined to a discussion of computer usage in a few specific fields. These fields are ones which are generally rather closely allied to law and, therefore, may have been chosen as suggestive of possible analogy to the field of law. There are somewhat detailed discussions of the possible applications of computer usage in the fields of insurance banking and accounting. These are somewhat uneven in length and detail and one who reads all of the material may end up knowing more about record keeping in the insurance business than he really is interested in. There is also a rather brief, although inclusive, discussion of copyright problems in relation to computer usage. It would seem that this subject might have warranted a rather more detailed and expansive discussion in view of the obvious and important legal problems that are involved in computer storage, processing, retrieval, and reprinting of copyrighted material.

The evidentiary problems arising from computer record keeping and the necessity or desirability of using computer generated evidence are covered

quite clearly and adequately. It appears that in England and New South Wales, unlike the United States, there is no general exception to the hearsay rule relating to business records. Thus, under the common law of evidence, most computer generated evidence would be inadmissible. However, the United Kingdom Parliament has adopted the Civil Evidence Act, 1968, containing a specific provision that computer generated evidence is admissible in civil proceedings in circumstances spelled out in some detail in the statute. The relevant parts of the statute are set out verbatim. It would appear, from the discussion in other papers as well as from general knowledge, that the adoption of similar statutory provisions is or will be necessary in all jurisdictions following the English common law on this subject.

In many respects the greatest intellectual challenge of computers is to the conceptual framework within which the various disciplines function. The general area of intersection between law and computer-related science in the United States has become known as "jurimetrics". This is mentioned in these papers and there are several discussions relevant to this area. Symbolic logic, which is basically computer language, is explained about as fully and lucidly as seems possible in the 10 pages devoted to this subject. A slightly longer paper gives an excellent review and explanation of the statistical or quantitative techniques known as scalogram and multiple factor analysis. These have been used in analyzing and attempting to predict U.S. Supreme Court decisions. The techniques are presumably applicable to the decisions of any multi-judge court of record. A good deal of work has been done in seeking to develop reliable techniques for prediction of judicial decisions by these methods. Most of this has been concerned with analysis of U. S. Supreme Court decisions because they are available, significant, and involve the reported positions of enough judges to provide a statistical basis for quantitative analysis. Only the future will tell how useful and significant these efforts will be. However, the paper on the techniques will be highly instructive to any lawyer unfamiliar with them and will certainly enable a lawyer to understand and judge reports of work in this field far better.

A paper that is not obviously relevant seems to me to be one of the most illuminating in many respects. This is a discussion by the Librarian of the University of Sydney of the problems of operating the library and of storing and retrieving books and documents. The significance of this is that the library problem is essentially the computer problem. As mentioned above, what lawyers need and seek, whether they know it or not, is not information retrieval but document retrieval. The problem of the lawyer in utilizing the computer is very similar to the problem of the librarian. In this respect it is important to be aware of the value that the librarian attaches to both browsing and serendipity. Any competent and experienced lawyer must realize that a significant part of what he has learned has come from browsing and that some of his most successful research has been the result of serendipity. To the extent that these will be eliminated or curtailed by computer storage and retrieval there will be a net loss to the legal profession. This suggests another requirement for a successful legal data retrieval system that is not mentioned. This is the necessity for feedback and conversation between the questioner and the responding system. The more advanced and sophisticated workers in this field, including Horty, are aware of the importance of this element and are seeking to build it into their systems. However, no computer system has yet been built for legal data which permits the same freedom of feedback and interaction between the lawyer and the body of data as a good law library.

On the whole this volume presents a rather comprehensive and inclusive survey of the field. It suffers from having several important lacunae and from

the fact that it is simply a reprinting of papers written to be presented orally. Some of the papers seem to be too brief to cover their subjects adequately while others are far too lengthy and detailed with respect to matters of only remote relevance to the law. In this respect the volume invites comparison with the publication of the American Bar Association entitled "Computers and the Law", the 2nd edition of which was published in 1969. This covers much the same area but is composed of papers written specifically for publication and carefully edited. With respect to some areas it is not as detailed as the University of Sydney seminar but it does cover the entire field somewhat more systematically and completely.

The present volume would have been improved if it had been subjected to rigorous editing which required some of the discussions to be expanded and others to be abbreviated. The average lawyer will probably find the volume somewhat hard going if he sits down to read through all of the papers presented here. However, if he will skim those that are pedestrian and take the trouble to study those that explain the arcane aspects of scientific and statistical methodology he will be the wiser for his efforts. The volume is certainly worth inclusion in a lawyer's library, both as an introduction to the subject and as a reference work for the topics that it does cover. However, in view of the nature of the subject matter, this is a work that should be repeated in five years, and periodically thereafter. The principal suggestion that can be made for the next seminar on this subject is that there be more strict editorial direction so that less time and space are spent on the practical details of peripherally relevant topics and more time and space are given to discussions such as the excellent discussions of evidentiary and jurimetric problems in the present volume.

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*Proceedings of the Institute of Criminology, University of Sydney, No. 3, 1968: Drug Abuse Seminar.* University of Sydney, Faculty of Law, 1969, pp. 117. (\$4.00).

The 1968 Seminar on Drug Abuse is one of a series of seminars that have been held at the University of Sydney sponsored by the Institute of Criminology. The papers presented at the Drug Abuse Seminar of 1968 have been reproduced in pamphlet form and provide an informative glance at some professional attitudes toward drug abuse as well as some indication of the direction Australia is taking to eliminate drug abuse. The authors represent the disciplines of medicine; law (including law enforcement, advocacy and decision making); and sociology. The different concerns and thought processes evident in the several papers, if brought together, could be useful in any effort to evaluate the overall problem of drug abuse and to direct available resources in the most productive ways. In fact, there remains a critical need to tie the information and ideas into a single rational whole. Someone with the training and intellect to understand the pharmacology, the physical and psychiatric effects, the social stresses and the legal format is sorely needed to clearly define the problem, develop a scheme of priorities and suggest solutions. Until a unified approach to the entire problem of drug abuse is prepared I fear that unrelated bits of information and ideas will not serve well, if at all. [See Joel Forte, "The Pleasure Seekers" (1969)—The

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