THE ITALIAN LEGAL DATA BANKS. A COMPARATIVE VIEW*

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Introduction

Many advancements have been made all over the world in the field of legal information retrieval since Lee Loewinger laid down the basis, in 1949, of what he called «Jurimetrics» 1, a new science which to a great extent relies on the use of computers applied to the science of law, and since John F. Horty at the Health Law Center of the University of Pittsburgh in the years 1956-1960 started statutory search by computers 2.

A complete census of all the operative systems in the world does not exist. However, besides the literature on the subject which devotes ample space to the description and examination of operative systems 3 it is worth consulting the provisional edition of the first number (February, 1971) of the Interdoc Bulletin (Interdoc is an international association of experts in legal information whose offices are in Brussels) which lists about a hundred research centers in more than twenty different countries — nor does this list pretend to be complete. The Anhang J «Beschreibung von Projekten zur Rechtsdokumentation » in Bundesministerium der Justiz (ed.), Das juristische Informationssystem-Analyse, Planning, Vorschläge. Bericht der Projektkommission BM/GMD/C-C-E-I-R, Januar 1972, pp. 401-443, describes thirty-five operative systems in eleven countries and mentions more than seventy other centers of legal information retrieval giving references of the sources of information. Volume 12, number 3 (March 1972) of Jurimetrics Journal the Quarterly Journal of the American Bar Association Standing Committee on Law and Technology is devoted entirely to a review of the principal systems that operate in fifteen countries excluding North America. The most recent and exhaustive review of North American systems (United States and Canada) has been edited by the publishers of Jurimetrics Journal and is called Automated Law Research. A Collection of Presentations delivered at the First National Conference on Automated Law Research, American Bar Association, 1973. This describes fifteen North American systems. Twenty-two European systems of electronic legal information retrieval are described in the Council of Europe, Replies to the Questionnaire on the Activities carried out or planned in the Field of Computerising Legal Data in Europe edited by the Committee of Experts on the Harmonisation of the Means of Programming Legal Data into Computers, doc. EXP: Ord. Jur. (71) 1 Provisional.

Historical View of Information Science Applied to Law in Italy

Research in this field was started in Italy quite early, in 1962, with the establishment in Milan of the Center for Automatic Documentation, a private, non-profit making association, which originated from the idea of studying the different methods and systems of automatic documentation which could be applied to technical and scientific disciplines. The center, under the direction of a notary, Angelo Gallizia, and thanks to the participation of other legal experts (Flora Mollame, Franco Alighiero Sala and others) and to the assistance of numerous experts in the field of electronics (Enrico Maretto and others), is almost entirely devoted to the solution of problems connected with automatic documentation in the juridical field. Various sectors of research are covered. These range from the construction of a pilot model of automatic retrieval (nearly 600 documents of fiscal law) 4 to the compilation of electronic concordances of juridical texts (full list of all the words contained in the five town-planning bills which preceded the 1967 law, followed by a brief automatically edited «context» to clarify the meaning of the words) 5.

They include efficiency tests of classification systems and in particular the comparison of the Universal Decimal Classification (UDC) applied to legal texts and the classification with key words applied to the same texts 6; experiments for a system of automatic classification of legal texts (the OROI project) 7; a study for drafting papers concerning deeds and legal transactions executed by notaries automatically (the «de' Passeggeri» project) 8; a project for the automation of land offices (the «Ipoteca» project) 9.

The public sector began to get interested in research of this kind between 1963 and 1964 when the Ufficio del Massimario e del Ruolo of the Court of Cassation began the preliminary studies for a project of electronic retrieval of jurisprudence which has now been completed (see below). In the 1960's several other studies were carried out with a view to mechanizing the public services (in the various State Departments, autonomous state concerns, economic public bodies, social welfare, municipal, provincial and regional administrations, universities and so on) or special sectors of the public administration.

A statistical survey carried out by ISTAT 10 revealed that by 31 March 1968 the electronic installations in the public administration totalled 122 computer systems

* This subject will be discussed further by the author in a paper to be presented to the IX Congress of Comparative Law, 1974.
with a total of 169 computers (14.4% of the total of the installations set up in Italy). Of these, 5 were installed prior to 1960, 18 in the two year period 1960-1961, 34 in the following two years, 28 in 1964-1965 and 37 after 1965. According to ISTAT, 24.6% of the 122 operative installations are used for scientific purposes, 9.8% for statistical purposes, 37.7% for book-keeping and administration, 23% for purposes which are not clearly defined, 4.9% for other uses which presumably include documentation activities. Among these there is the research of the Criminal Investigation Department carried out at the electronic center of the administrative offices of the Police (Ministry for Home Affairs); file control at the electronic center at the general headquarters of the Carabinieri (Ministry of Defense); automatic retrieval of legislative data (laws, decrees, circulars and so on) at the Amministrazione dei monopoli; control and up-dating of judicial conviction files at the electronic center of the Ministry of Justice; recording and control of incoming and outgoing documents and investigation of precedents at the Ministry for Foreign Affairs; the social security information system at the Istituto nazionale per la previdenza sociale (INPS), etc.

Since 1968 Italy has witnessed enormous advancements in the studies and achievements carried out in this field; the ground is now set for coordinated activity. The most significant stages are marked by Vittorio Frosini’s studies and his didactic experiences at the universities of Catania and Rome; M. G. Losano’s studies, the establishment of the Center of Juscybernetics at the University of Turin directed by Losano and his didactic experiences at the universities of Turin, 2nd Milan; the foundation of the automatic documentation department of the Istituto per la documentazione giuridica of the Consiglio nazionale delle ricerche and my own didactic experiences in this Institute and at the University of Florence; the formation of research groups at the universities of Bari and Bologna; the appearance of two specialist reviews on legal information retrieval as well as the large amount of space dedicated to these themes in more or less traditional law journals and in the newspaper; the studies undertaken by Predieri, Zampetti, Lupoi, Rodotà et al.; the numerous conferences organized by the Istituto nazionale per l’incremento della produttività (INP) and the Istituto di ricerche sullo Stato e l’Amministrazione (ISTR) on topics of administrative information retrieval and other national and international meetings devoted to legal retrieval.

In these last few years, from 1970 until now, several projects started previously have been brought to fulfillment. In the same period others were started and are now going on successfully. Among the former projects the Italgiure system for the automatic research of the massime of the Court of Cassation which was publicly inaugurated in February 1973 is of particular interest. Among the latter, there is the project Camera ’72 for the retrieval of legislative data carried out by the Chamber of Deputies; the SIL project at the Senate for the automatic documentation of legislative procedure, the procedure of the inspectorial control of the Chamber and the Senate and parliamentary precedent and practice; the « bank of bibliographic data having juridical relevance » established by the Istituto per la documentazione giuridica of the CNR, which aims at documenting electronically all publications of legal interest, wherever they may be published and in whatever form they may appear; the SIRIUS project, for filing and searching documents elaborated by the Bank of Italy’s Service for processing and information systems and applied experimentally to the Bank’s legal advice service; the prison register at the Ministry of Justice.

Some of the systems mentioned above are for processing strictly legal information (Italgiure, Camera ’72, Bank of bibliographical data, SIRIUS, the Amministrazione dei monopoli project and so on). Others process information which is only indirectly related to law either because it is connected with the issuance of certificates (registry office, penal register), or because it concerns the documentation of the law while it is still in the formation stage or particular activities of the public administration more or less closely related to the administration of justice (SIL; banks of personal data within the Ministry for Home Affairs and the Ministry of Defense, and so on).

This paper deals with documentation systems processing strictly legal information, i.e. information concerning the sources of law (bills, decrees, regulations, circulars; measures, decisions and sentences of the different ordinary and administrative jurisdictions; doctrinal works).

Systems consulted exclusively by the personnel of the administration in charge of the operation will be excluded.

The three systems which will be described in this paper — Italgiure, Camera ’72 and the Banca dei dati bibliografici — were started at different times, in 1963-1964, in 1968-1969 and 1969-1970 respectively and have now reached different stages of operation. Italgiure has been operative for several months. Research is carried out daily from 9 a.m. to 7 p.m. using 10 terminals located at the Palace of Justice in Rome and another 6 terminals located at the courts of Appeal in Turin, Milan, Florence, Naples, Bari and Palermo. Another 60 terminals will soon be installed at the more important courts.

This system enables the courts to carry out electronic search of the massime abstracted from the decisions of the Court of Cassation. The archives contain the civil law decisions pronounced by the Court during the last 11 years and the criminal law sentences pronounced during the last 6 years. Electronic retrieval of all the jurisprudence of the Constitutional Court together with complete references of the questions posed by the relevant authorities and awaiting the decision of the Court is also possible.

More than 100,000 documents have already been filed; the average length of the documents is 15 lines. About a third of the total decisions delivered by the Court of
Cassation and extracted by the Ufficio del Massimario are available for automatic retrieval. Endeavours in the field of bibliographic documentation have also been undertaken. The bibliographic data bank directed by the Istituto per la documentazione giuridica of CNR is only partially have also been undertaken. The system that is being studied by the Chamber of Deputies for the automatic retrieval of laws from 1848 onwards is still only a project (the Camera '72 project). In this report the state of the projects will not be examined. In order to facilitate the comparison the unitarian aspects of the subjects linked by logical processes in the complex flux of information from « producer » to « consumer » (data acquisition, selection, indexing, filing, etc.) will be examined. The three projects will be studied in the wider context of the problems raised by jurisprudential, legislative and doctrinal research. The present state of the projects will be left aside in that, to a certain extent, they overlap. The development and integration of the projects will be assumed as a working hypothesis.

Legal Data Banks (I talgiure; Camera '72; Banca dei dati bibliografici)

The three systems of automatic legal documentation which will be examined keep up to date with the latest developments in the field of computers. Thus, the hypothesis of interface programmes linking the different computers of the Chamber of Deputies and the Istituto per la documentazione giuridica which use an IBM and the Court of Cassation which uses a UNIVAC is not unrealistic. The experts normally measure the progress of computers in generations (present computers belong to the fourth generation). A different subdivision into « ages » has recently been suggested 34 which is perhaps more suitable for those who are not familiar with electronics. Thus the period from 1937 to 1947 is the age of pioneers (mathematicians, physicians, and so on), from 1947 to 1957 there is the age of engineers; from 1957 to 1967 the age of programmers; from 1967 up until the present time the age of mutual and direct communication between man and machine. The three systems have all been planned and brought to completion in the age of communication between man and machine and may be regarded as real data banks.

This expression has recently been translated from the original English into most western languages where the equivalent expressions are « banche di dati » in Italian, « banques des données » in French, and « Datenbanken » in German 35. In such banks the computer is entrusted with the task of controlling the information, organizing it on magnetic files for on line processing and withdrawing on request the data stored to answer the individual questions (however complex they may be) put forward by the users of the information system who frequently know nothing about programming techniques and the basic working principles of the computers. The complexity of a question is related to the use of Boolean logical operators AND, OR, NOT, etc. These permit the crossing of the single research elements (key words, descriptors and such like) of a complex subject even without a prearranged classification of subjects. As a consequence, with such techniques, it is not necessary to pre-establish a coordination between the various subjects in a heading; this will only occur at the moment of the request. In these cases research is multi-dimensional. The expression « data bank » quite suitably recalls the image of the traditional bank where complex credit transactions are carried out, which cause capital to circulate between the owners and those who need it. In the same way, within the modern data banks, a complex organisation treats the flow of information between the « producers » and the « consumers » of the information, in the interest of the users. The bank in its most advanced form is a central bank to which many data banks, and department or interest group units are connected for on-the-spot or national activities. There is clearly a wide range of other types of data banks, according to the goals which underlie the collection and the diffusion of the data. In most cases, however, the information is intended for the community.

A data bank is above all conceived in terms of the user who must be in a position to turn to the bank directly for information, using a simple language, often at a distance, by means of a terminal connected to the computer and to obtain a quick and even immediate answer in « real time ». The system may also be used conversationally; this entails a sort of dialogue between the man and the machine. The absolute ease with which the user gains access to the data is not a good reason for disregarding the serious technical and economic problems which the organizers must face in the phase prior to the establishment as well as during the subsequent stages of the complex iter covered by the information from the « producer » to the « consumer ». The information must be collected from its source, then selected, analyzed, classified and Lastly filed until the user wants to use it, obtaining it either directly by questioning the file through practically illimited « keys » (channels) of research or indirectly through the consultation of printed papers, produced directly by the computer. The latter reproduce the file contents faithfully but have an intrinsic limitation: it is impossible to use more than one research key at the time to accede to the information.

Study of Lawyers' Use of Information: a Broken Appointment

Information scientists have drawn attention to the fact that the understanding of the users' needs and research habits is of basic importance to those who plan or im-
implement scientific information systems and services 26. This recommendation has been more or less disregarded by the people in charge of the Italian automatic systems of legal documentation. In other countries this is not the case. In Europe, and in particular in Germany, this problem has been studied 28.

No exhaustive studies have been made in Italy to discover how lawyers obtain the information which they need 29.

It is known that a lawyer needs to study the laws which regulate the case under consideration, to know the interpretation and the enforcement of these laws (the practice is followed by the courts and the theory is developed in the doctrinal writings of jurists who have studied the question), and lastly to know a large quantity of social data 30. The way the lawyer obtains the information he needs, the difficulties he encounters, the goals he reaches and the degree of his personal satisfaction, have never been thoroughly investigated. Reference has been made now and then to the inadequacy of the goals he reaches and the degree of his personal satisfaction, have never been thoroughly investigated. Reference has been made now and then to the inadequacy of the Gazzetta Ufficiale and its indexes and to the official and private collections of laws, whose promotion and financing largely depends on the whims of private publishers (in the absence of any organic plan for publication) for the exact and timely knowledge of the legislation. Attention has been called to the gaps in law inventories and to the different methods of indexing, which hamper a quick and exhaustive research of data. Complaints have been made regarding the lack of good and complete legal bibliographies. On the whole, however, little has been done and the simple complaints rest on the statement, probably too harsh, that the best system for obtaining legal information is still a good book of law.

According to this statement the lawyer who wants complete information (legislation, case-law and doctrine) on a certain subject, for example contracts of rent, should consult a good, recent monography on rents rather than follow an uncertain path in each one of the above-mentioned divisions.

In Italy the neglect of the users' research needs is particularly serious since all three systems are being developed by public bodies which, by definition, serve the public interest. Furthermore it contrasts with the policy of the bodies which, on more than one occasion, have proclaimed the usefulness both for lawyers and for the general public of the services they are developing.

It is worth mentioning that unlike some other countries such as America and West Germany, there are as yet no private legal information retrieval systems. The projects of the Ufficio del Massimario at the Court of Cassation and the Committee for Automatic Data Processing at the Chamber of Deputies 31 in particular are based on a model, found frequently in the private sector, which aims at attaining efficiency in certain services. The history of the project Italgiure is typical. It grew out of the development of a project of electronic retrieval whose scope was limited to the retrieval of massime. The Ufficio del Massimario e del Ruolo of the Court of Cassation, which developed the Italgiure system, was set up in 1924 to compile massime or extracts of the Court's sentences which set out the legal principles expressed in the decision.

The aim was to satisfy the information needs of the judges themselves with regard to precedents and consequently to guarantee the uniformity of jurisprudence which was the aim of the 1923 reform of the Court of Cassation. In a continued attempt to improve the compilation and distribution of massime the Ufficio del Massimario has experimented with various systems of manual, mechanographic and electronic information retrieval. Today the Ufficio can justly claim to be highly efficient as a business which supplies its users (the judges of the Court of Cassation) with an up to date information regarding the situation of the «ware-house» (the massime in the data bank). So far so good except perhaps that the crisis of the legal process has other more pressing problems.

What is worrying is rather the lack of correctives in the planned expansion of the information system and the plan to use the operative modules developed for the retrieval of the massime of the Court of Cassation for the retrieval of other legal data (the sentences of the lower courts, legislation, doctrine). The decree of the President of the Court of Cassation dated 30th October 1971 extends the functions of the Ufficio del Massimario e del Ruolo to cover these fields.

These points also worry some magistrates 4. With regard to the extension of jurisprudential documentation it is asked whether the decisions of the lower courts can usefully be «massimized» i.e. whether massime are any use to the magistrate or lawyer who needs to know the decisions of these courts or whether a complete version of the sentences is required. Massime only incorporate the legal principles expressed in the sentence. The other information, which makes any sentence a unique document not only of the legal aspects of society but also of social and economic life, are excluded.

Magistrates who in the everyday course of their profession must quantify damages and quantify penalties cannot ignore the social data of previous sentences even though this is not contained in the massime. There is also the risk that the exclusion of social data from legal information retrieval systems may well favour the petrification of the law 35.

Data Acquisition

Data collection includes discovering the sources and obtaining access to the information for the purposes of analysis, description and storage in machine-readable form.

Legislation

If the State, or rather the whole apparatus of government, is considered, as Predieri has recently suggested, a «regulator and producer of information» 36, it is necessary to distinguish between regulatory messages and messages that are not connected with regulations. The
former are characterized by the particular procedure used for their publication (« messaggi a emissione proceduralizzata ») 38. The general rule is that regulatory messages must be issued in accordance with the established procedure which, in modern democracies, usually consists in the promulgation and publication in the appropriate bulletin (the Gazzetta Ufficiale, etc.). In addition, the institute of publication usually provides for compilation of official collections of regulations. These are ordered according to criteria of practicability so that the text can be found and consulted easily even a long time after the regulation has been issued.

However, the technical means used for obligatory publication does not entirely fulfill its purpose which is to inform the general public of the issuance of new regulations. It is thus necessary to presume that the public is aware of the law — ignorantia legis non excusat.

From the point of view of setting up a data bank the proceduralized publication of regulatory messages facilitates even if it does not completely resolve the problem of collecting legislative data. In other words, the data collectors know where to find legislative data and are aware of the authority of the sources. Those responsible for the Camera '72 project have decided to select the documents for storage from the 700 volumes (about 670,000 pages) of the Raccolta Ufficiale delle Leggi e dei Decreti. The application of selective criteria (dealt with in the next paragraph) will reduce the material by about half, i.e. to 300,000 pages, 67,000 acts, etc., 600 million characters. All this material will have to be translated into machine-readable form and modern technology has not yet discovered an easy way round this problem.

When the technology of optical readers is sufficiently developed this method will be able to be applied to the Gazzetta Ufficiale. At this point the problem of collecting legislative data will be resolved. Otherwise, if the Gazzetta Ufficiale were printed using the technique of photocomposition then the magnetic tapes or punched paper tapes which are used by the photocomposing machine could be fed into the computer without the extra work and expense of transcribing the data onto punched cards.

The collection of non-legislative data (dealt with below) requires a lot of work and care on the part of the collector.

It is important not to underestimate the legal problems 36 which derive from the collection and organization of data, such as the responsibility of the data bank for the diffusion of erroneous information, the relationship between data banks and the public bodies which currently preserve the original texts of the laws and which provide for the publication of laws, regulations, etc.

The Minister of Justice is responsible for the publication of laws in the Raccolta Ufficiale and in the Gazzetta Ufficiale. At the Ministry of Justice there is a special office for the publication of laws and decrees. Under the direction of the Minister a department of this office examines government acts for inclusion in the Raccolta Ufficiale, supervises the printing and the distribution of copies to those offices that have a right to receive them, compiles indexes and draws up titles. The Minister receives the original text of the law and a copy authenticated, by order of the Minister who proposed the bill, by one of the divisional heads of the Ministry concerned. The Minister of Justice is also responsible for the timely publication of laws in the Gazzetta Ufficiale. The printing of the Gazzetta, however, is the responsibility of the Minister for Home Affairs.

This being so, when the legislative data bank at the Chamber of Deputies becomes operative and offers the most technologically advanced and efficient means of « knowing the law » the present provision regarding the publication of laws regulations etc. will have to be revised. A similar example is offered by the conformity of publication to technological development. In the past the laws were publicized by means of engraved bronze plates posted in appropriate places. They were also read aloud in public places and at public assemblies. Some centuries after the invention of the printing press it was established that the publication of the law would consist of printing the laws in appropriate bulletins. Thus, printed publication look the place of the anacronistic oral publication. In the same way, with the development of computers and the new technology, magnetic archives may substitute the Raccolta Ufficiale, and the Gazzetta Ufficiale may be produced by printers connected to the computer 37.

**Jurisprudence**

With reference to the terminology used above for legislative data, sentences can be considered as « messages whose transmission and reception is subject to a particular procedure » (« messaggi a trasmissione e ricezione proceduralizzata » 38). (Laws were defined as « messages whose publication is subject to a particular procedure »). Definitive sentences apply to the parties, to their heirs and successors (art. 2909 c.c.). Unlike regulatory messages which are directed to the general public, sentences are directed to specific and easily identifiable people.

The publication of the law is for the information of the general public. The publication of sentences (in practice this consists of depositing the sentence in the Registrars’ office of the Court which pronounced the sentence (art. 133 c.p.c.)) is the first step of a complicated procedure for notifying the parties of the judges’ decision. For this reason sentences can be referred to as « messages whose transmission and reception is subject to a particular procedure ». The procedure established in articles 133 and 136 c.p.c. and article 45 disp. att. guarantee that the addressees of the sentence know the judges’ decision.

The problem is how to inform those who are not party to the judgement. The articles 58 and 744 of the Code of Civil Procedure require Registrars to send copies and extracts of the judicial acts deposited with them to whoever asks for them. Registrars who fail to comply with these requests are liable to damages and expenses.
There are certain exceptions to this rule, and special regulations for tax and registration laws. This system only guarantees the theoretical publicity of the sentences. In practice, collections of sentences are published by private enterprise. These collections, however, do not include all sentences and those which are published are frequently cut. Sentences are also published, together with a commentary, in legal journals.

Since 1966 a public office, the Ufficio del Massimario, edits two journals, the Massimario delle decisioni penali and the Massimario delle decisioni civili, both published by the Istituto Poligrafico dello Stato which contain the massime of the sentences pronounced by the Court of Cassation. The Istituto Poligrafico dello Stato also publishes the Raccolta ufficiale delle sentenze e ordinanze della Corte Costituzionale containing the decisions of the Constitutional Court.

The private publication of sentences, which in practice assures that the sentences become known, applies subjective and haphazard criteria of selection. Frequently the whole sentences are not published; either passages are selected (and the criteria used for their selection is somewhat dubious) or massime are extracted by legal experts who advertently or inadvertently «interpret» the sentence. The sentences which are distributed through the normal channels (only a small percentage of the total passed by the courts) are always the same; for some reason or another the others are not considered. Furthermore the indexing system used by the various publications is not uniform.

Whoever thought of storing the decisions of the Italian courts would first have to tackle the difficulties of collecting the data. Data collection would be too time-consuming and expensive if carried out at the source (the Registrars’ Offices) and too hazardous, partial, and misleading through the intermediary of the traditional channels (journals and privately compiled collections).

It is desirable that a public body assumes the responsibility for the collection and storage of jurisprudence. A private body would be unlikely to overcome the difficulties of the data collection or support the cost entailed. Thus hopes are focussed on l’italgiurista and the Ufficio del Massimario at the Court of Cassation. Not only does this office have the advantage of establishing relatively easily a direct or indirect organic relationship with the other courts but also it produces a considerable quantity of jurisprudential documentation itself.

This initiative which has required a great deal of courage is exceptional for the new methodology. For all this, it cannot be backed without reserve: the criteria for the collection of data from the lower courts are vague, uncertain and not entirely satisfying. These criteria were set out in the President of the Court of Cassation’s decree dated 30th October 1971 which reads: «The Ufficio del Massimario is required to... (omissis)... 11) Identify, either by direct inquiry or by notification received from the heads of the various courts, the most noteworthy decisions either dealing with new problems not yet examined by the Supreme Court or in contrast with the decisions of the Court of Cassation. The aim is to bring to the notice of other magistrates and lawyers the new tendencies and the reasons used to justify the dissent with the stand taken by this Court and thus make a thorough study of the problems possible » 49.

Doctrine

In order to collect information for a bibliographical data bank it is necessary to gain access to the publications. This is no easy task for various reasons including the geographic dispersion of the publishers. Unlike some other countries, such as France, where almost all the publishers are concentrated in the capital. In Italy the publishing industry is broken up and scattered all over the country (this is partly due to the relatively recent unification of Italy).

The task of keeping abreast of recent publications is all the more arduous because of the lack of an integrated publicity system. In general the distribution of books and of bibliographical information leaves much to be desired and causes complaint even among the directors of such services. The situation is made worse by the quantity of material written with a view to passing a competitive examination (for this purpose publications are considered as supplementary qualifications); relatively few copies of each work are printed which does not facilitate the circulation.

The multiplication of legal journals which has overtaken Italy since the second World war is disturbing 40. There are more than 350 legal journals in a country which is well known for the low percentage of the population that regularly subscribes to newspapers and periodicals 41. In France and Germany, countries with a legal tradition, there are respectively 250 and 120 legal journals. In Italy more legal journals are published than in the whole of the United States. Fortunately this negative phenomenon, which is enough to confuse any reader, is offset by a high degree of concentration which, from a certain point of view, can be considered positive: one publisher, Giuffrè in Milan, publishes 60 of the most important and widely distributed of these journals. A brief review of the other negative aspects must also include the isolation of «legal culture». Law books are generally sold by specialist bookshops; the average bookshop does not keep law books. Who, but a lawyer, ever buys a book on law? A doctor may read an essay on aesthetics or figurative art but only lawyers read law. In an attempt to overcome these difficulties the organizers of the bibliographical data bank have set up an autonomous search project. In collaboration with the Istituto per la documentazione giuridica, promoter of the project, 13 centers, 11 of which are at Italian universities (Rome, Florence, Naples, Turin, Genoa, Camerino, etc.), review the entire national production of books, miscellaneous publications, pamphlets and articles dealing with law, legal history, philosophy of law, legal sociology and legal policy.

In order to identify the periodicals and other publications the Institute cooperates with the centers in searching publishers’ catalogues and bibliographies and tapping
other sources. In this way 1,200 periodicals have been identified which merit searching; of these, 350 are strictly legal journals. It is reckoned that 2,500-3,000 autonomous publications and more than 40,000 articles (published in the 1,200 periodicals) will be added annually to the archive of the data bank.

Data Selection

The selection of data is closely related to the objectives assigned to the data bank. A study of the problems which arise at the selection stage requires a preliminary analysis of the objectives of the documentation system.

Legislation

The organizers of the Camera '72 project first had to establish the specific objectives of the documentation system; «The automatic documentation of Italian legislation from 1848 to the present day» is much too vague. Preliminary decisions had to be made with regard to the following points:

«a) should the term "legislation" be intended in a formal sense, that is, acts approved by Parliament according to the methods provided for, first by the Statute of the Kingdom and subsequently by the Republican Constitution, or in a substantial sense, that is, general, abstract and imperative prescriptions?

b) should the adjective “Italian” be referred to the source of ruling production, that is Italian State, or to the territorial sphere of application (in Italy), thus requiring the acquisition of the international law ruling generally recognized, of the European Communities’ ruling applicable in Italy and of those enacted by the Regions?

c) should they store all the legislation produced from 1848 on or only that still in force? » 42.

The answers to these questions have attributed precise objectives to the project and in so doing have influenced the selection of material to be included. This can be illustrated with an example: if it had been decided (which it has not) to limit the scope of the documentation to legislation which is in force today (in fact it is impossible to say with certainty what is and what is not in force) this would have entailed an enormous amount of extremely complicated selecting. Both explicit abrogation — including instances of suppression, substitution and modification — and implicit abrogation — which is far more complex and has rightly been called a «monstrosity» of Italian legislation — would need to be identified. However it is to be hoped that appropriate automatic or semiautomatic procedures 43 will separate — in the archive of the data bank — the legislation still in force from that which has been superceded.

This will facilitate consultation of the data bank; the practicing lawyer and magistrate are not interested in the history of the various laws and regulations although legislators, legal historians and linguists may consider this important 44.

Jurisprudence

Traditionally lawyers acquired their jurisprudential information primarily, if not exclusively, from collections of massime of the Court of Cassation. The limitations of this have been recognized by jurists and lawyers aware of present-day cultural values. The proposals outlined by these men of law become more realistic thanks to the development of modern technology. These jurists consider that jurisprudential experience based exclusively on the massime of the Court of Cassation is inadequate; a much wider range of experience is required. This should include the sentences of all the courts, from the highest to the lowest; furthermore it should originate in a study of the sentence as a whole, complete with all its elements, and not just of the logical and legal principles on which the sentence is based. The second point will be discussed later but let us examine the first point now.

Firstly, in recent years, the judges of the lower courts, and in particular the pretori, have acquired increasing importance with respect to the extensive functions which the law assigns them. In particular the extensive powers which article 28 of the Statuto dei lavoratori (repressive action against the trades unions on the part of employers) confers on the pretori comes to mind. Another example is offered by article 36 of the Constitution which grants the judge the power to give a sentence modifying one of the elements of the reciprocal obligation, namely the retribution, in order to ensure the practical application of the constitutional principles expressed in this article and in the second part of article 3.

There are also numerous cases of legal liability where the judge is called on to quantify the damage caused persons or things. Again there are cautionary measures (among these, the emergency measures of ex article 700 c.p.c.) which are instrumental in achieving other actions, either informative or executory. The judge has extensive discretionary powers when dealing with copyrights, trademarks and patents, the protection of certain personal rights and proceedings in the field of voluntary jurisdiction.

Lastly, in criminal law the judge has disceritional powers with regard to the quantification of the penalty. In order to ensure uniformity of judgement all over the country and equality before the law it is necessary to see that the magistrates’ discerional powers are self-limiting. This calls for communal experience which is possible on condition that this experience circulates without prejudice at all levels. The present one-way flow of information downwards from the Court of Cassation to the lower courts in which decisions frequently do not reach the Supreme Court or in any event the factors which have influenced the discerional eva-
Once it has been established that from a synchronistic point of view there is no need to disregard any of the decisions of the tribunals since they all help to make up the jurisprudential experience that is so highly rated when complete, the problem arises of the criteria to apply to the selection of data from a dyacronic point of view. The problem is complex. Is it better to start the collection of jurisprudential material with a single piece of information or a plurality, one for each branch of the law? If the second hypothesis is accepted, as would seem logical, would it be better to choose the term a quo for each sector in correspondence with a turning point in the legislation of that sector (the date on which a new code, consolidation act or law came into force)? Or is it necessary to bear in mind other factors connected with changing habits, opinions or jurisprudential policy? With regard to the ascertainment of users' needs, should the « average life span » of jurisprudential precedents quoted by magistrates and legal scholars be taken into consideration? 45.

These and other questions must be posed with regard to the selection of out of date material. The Ufficio del Massimario at the Court of Cassation has had to tackle some of these problems. However, the selection which, according to the press, has been carried out so far, does not seem to be adequately motivated nor clearly defined. The director of the Ufficio del Massimario Dr. Enrico Laporta announced during a congress in February 1973 that the civil law sentences contained in the archive go back 11 years and the penal law sentences go back 6 years. Dr. Laporta explained that earlier jurisprudence would be subject to selection but he did not specify the selective criteria that would be applied 46.

**Doctrine**

The complete documentation of legal doctrine requires careful selection of the material published in the legal field so as to exclude legislation and jurisprudence in whatever form it appears (bulletins, codes, collections of laws, regulations, massime, jurisprudence and so forth). In addition it is necessary to have an exact typology of the works to be stored. The Istituto per la documentazione giuridica proposes to try out the following scheme:

1) independent documents of legal doctrine; 2) papers prepared for congresses, conventions, seminars, tours, etc.; 3) commentaries on legislation, jurisprudence and doctrine; 4) reviews; 5) obituaries; 6) news (of congresses, conventions, meetings, etc.).

Unlike other bibliographical projects, the Institute stores this information regardless of its length. In other words, the Institute does not consider it necessary to exclude articles of less than two pages or even less than one page from the data bank 47.

The selective criteria which determine what material comes within the scope of the objectives set for the data bank and what does not are very flexible so that loosely related material is also included. The bibliographical archive which is being formed by the Institute contains material published since 1970; it is continuously updated as new publications become known.

**Structure of Data**

A data collection, however large, can be managed easily, if it is rigidly structured and can be analysed according to fixed categories. Administrative files, archives such as the registers of births, deaths and marriages ordered numerically, by surname, name, profession, status, place of residence, etc. are an example. Data banks comprising a variety of textual or narrative material, such as legal data banks, have a more complex structure. The aim of the following considerations is to point out some of the difficulties and some of the solutions which have been suggested for overcoming the problem of a heterogeneous data structure.

**Legislation**

Many documentation systems have problems of « reducing » the documents so as not to overburden the archives. Extremely large archives have higher running costs. They also create serious and sometimes insoluble technical problems for other, secondary reasons including the need, not purely economic, to save the users' time and therefore to reduce the intellectual work required to them. Those who have studied the reduction of legal documents say that although the art of reducing texts to the essential core is as old as the law itself the interaction between the legal documents and the summary is still unclear 48.

This « reduction » has nothing to do with the material reduction of the documents' format which can be micro-filmed or photographically reduced and mounted on a very small support. The reduction referred to here is conceptual; it expresses the content of the document in fewer words. There are two kinds of conceptual reduction: the first implies the modification of certain linguistic elements in the original text and the inclusion in the summary of elements not present in the original text.

The second type consists of the elimination of certain parts of the original text and the retention of the other elements 49. The conceptual reduction of legislative data, whether the first or the second method is used, strikes us as strange and unnatural. Perhaps this is a traditional attitude which has been passed down through the centuries and which dates back to the time of Justinian when it was forbidden to paraphrase the Digest 50. Thus, in an electronic information retrieval system the analysis and description of legislative data corresponds with an exact transcription of the entire text onto the computers' magnetic memories.51.
The whole text of the law is of course supplemented with traditional bibliographical lists. For this reason Camera '72 proposes to store the whole text of the laws. Both recent and less recent studies have drawn attention to the lack of homogeneity in the language used by legislators. This is considered the major obstacle in computerising legislation.

**Jurisprudence**

The analysis of the style and structure of the sentences of Italian courts has been undertaken by Gorla. According to Gorla the dominant characteristic of Italian sentences is their obscurity. This is mainly due to two factors. Firstly, the fact that the sentence is practically a dialogue between magistrate and lawyer. The sentence is inadequate for use as the text of a legal precedent. It refers either explicitly or implicitly, which is worse, to the sentence which is being appealed against (in the case of appeal), to the written defence presented by the parties and to the documents produced. This kind of sentence can only be understood by the lawyers acting for the parties or by someone who has all the documents relating to the case. However it is necessary to distinguish between the interpretation of the sentence considered as the Courts' ruling in a case of litigation between the parties and the sentence considered as a jurisprudential precedent. The sentence which is comprehensible to the parties cannot be easily understood by outsiders.

Secondly, the style used for drafting the sentences has certain negative characteristics: it is prolific, excessively doctrinal and gives a plurality of rationes decidendi. These two characteristics complicate the analysis and description of sentences to be inserted into an information system. In the past there was far less jurisprudence and it was possible to collect and preserve the whole text of sentences and even the relevant documents, the pro memoria of the defence and the Public Prosecutor's statement of charges brought against the accused. Today, the difficulties created by the quantity of judgments passed and the type of sentences, offers the information specialist the easy alternative of substituting the original document (i.e. the massima) with the conceptual reduction (i.e. the massima). What precisely is relationship between the massima and the sentence? Perhaps it is worth-while examining very briefly the typical structure of an Italian sentence. This is made up of three parts: the first describes the «fact», and gives an account of the case with references to the questions asked, the exceptions raised, and the claims made by the parties. The second part gives the reason for the courts' decision, the «legal» reasons and, in the case of the lower courts, the verification of the «fact». The third part contains the judgement of the specific case brought before the court. The massima is the nucleus of the ratio decidendi, a summary of the motivation of the decision which condenses the legal principles on which the judgement is founded and which, therefore, can be considered the result of the sentence from the point of view of the interpretation of the law. Massime can be either official or unofficial depending on the status of the authors who extracted them from the sentences. The former are compiled by specially created public offices at the law courts and published as collections or massimari. The latter are compiled privately by experts and published in legal journals, repertori and collections of jurisprudence by independent publishers.

A further distinction can be made between massime compiled by the authors of the sentence and those compiled by professional editors; magistrates other than those responsible for the sentence, lawyers and legal experts. This distinction has a certain importance as it has been proved that the art of compiling massime is neither easily nor quickly acquired. The Court of Cassations' experiment, which lasted from 1942 to 1949, and which assigned the authors of the sentences with the task of compiling the respective massime was unsuccessful. The magistrates did not have a clear idea of the needs and objectives of the Ufficio del Massimario and tended, therefore, to include a summary of the peculiarities of the specific case and to state legal principles so abstract that any future application would be doubtful. The opinion that many massime do not reproduce the sentence faithfully or are completely erroneous is widespread. This phenomenon has both a physiological and a pathological basis. From a physiological point of view massime, in that they are an interpretation, run the risk of failing to reproduce the informative content of the sentences faithfully. In addition they may reflect the ideological opinions of the editor. From a pathological point of view the negligence or lack of skill of the editor affect the quality of the massime. Nor is it unknown that the editor's partiality leads him to emphasize those principles which serve a particular interest. The phenomena are more frequent among private editors.

The phenomenon of misleading, erroneous and partial massime, also called pseudomassime, is all the more serious because of the widespread practice of considering the massima an exact substitute for the sentence. This is helped by the style of the massime: the brevity, concision and abstract formulation lend them a «legal» quality. Thus lawyers and magistrates alike are led to extend the application of the massima beyond the limits which exactitude allows.

Precedents are based directly on the massime and not on conflicting interests nor on the essence of the judgement because of this faulty process, massime constitute precedents which are cut off from reality. Redenti, Calamandrei, Satta, Andrioli, Gorla and others have drawn attention to this state of affairs. In other countries there is a tendency to store the entire judgement. This may be due to the clarity and brevity of the judgement and the value of stare decisis attributed to precedents. The considerations outline above raise the questions of the desirability of recording the entire sentence in Italy as well as elsewhere. This is essential for drawing attention to the new ethic values and rela-
tionships brought about by social and economic change which are reflected in the motivation of the sentence. Otherwise the relative case of automatic retrieval of *massimis* may accentuate the negative aspects of the use of *massimis* which are the cause of complaint with the present system of traditional searching. The evolution of jurisprudence can only be ensured on this condition. Without this jurisprudence will not be able to play an important part in the legislative process. On the other hand it is possible to discover from properly documented jurisprudence to what extent the law is actually applied and hence the need to strengthen or modify the sanctions to ensure the enforcement of it. Properly documented jurisprudence also shows up the errors and defects of the legislation. In enforcing the law the judge draws attention to these; otherwise they appear indirectly from the remedies with which consciously or unconsciously he tries to correct the defects. It is to be hoped that a study of complete jurisprudence will help to eliminate or at least reduce the difference that exists between the law as it appears in the official texts (*legal law*) and the law applied by the Courts (*effectual law*). Otherwise the principle aim of the Ufficio del Mas­simario is to document *massimis*. The proposal to re­gister the jurisprudence using whole text should be supported by an attempt to change the style of judicial decisions. A *metalaw* has recently been passed in Bavaria which establishes the criteria to be used in drafting future laws of the land so as to facilitate elec­tronic processing. A similar measure is called for in Italy. Thus, it would be both timely and realistic to consider regulations which would oblige magistrates to draft their decisions in a different way so that they could easily be translated into machine-analysable form.

Doctrine

The structure of legal bibliographical data does not differ greatly from that of other bibliographical data. There are a few problems which stem from the diversity of rules for cataloguing description but all the aspects that are worthy of notice have already been identified by a centuries long tradition of library science. The adaptation of cataloguing description to data processing needs reached its zenith with the MARC project (MA­chine Readable Catalog) elaborated by the Library of Congress in the 1960's for the distribution of catalogical data on magnetic tape.

The organizers of the data bank have chosen a type of bibliographical description which is complete, accurate and simple and thus in keeping with the objectives of the bank. For financial and technical reasons the idea of recording the whole-text of the publications was rejected in favour of a synthetic summary of the content. Several decades of successful experience in the tech­niques of abstracting supported this decision. In keeping with this experience the abstracts for the data bank consist of a brief description of the content of the document to be filed; the interpretation and criticism of the editor of the abstract are not allowed. The editors are experts in the various fields of law and work with the thirteen research centers which collaborate with the Institute. The data bank abstracts are informative as well as descriptive or indicative i.e. they do not merely indicate the relevant documents but also contain ade­quate and autonomous information on the content of the documents. The abstracts are not normally compiled by the author of the original document and although they may be based on the author's summary or on the table of contents they are independent of the descriptive notes that are sometimes published with an article. The abstracts are as concise as possible and use simple, easily understood language that is precise but not technical. They treat the problems and solutions examined by the author of the document, the methodology used and the aims of the study. In order to reduce the cost of electronic data processing the abstracts must not exceed 300 words (30 punched cards - 10 words for each card of 80 columns).

The following outline has been provisionally adopted for the abstracts:

a) translated title, if the document is in a foreign language;

b) subject, identified by a code number on the basis of a classification outline drawn up in accordance with the techniques of Universal Decimal Classification (UDC);

c) aim, as it appears objectively from the text;

d) methodology used by the author;

e) content of the document expressed in terms of problems and solutions.

Indexing Procedures

The user who is confronted with a mass of data referring to a variety of subjects comes up against the problem of obtaining the information that is relevant to his needs. He thus requires some method of breaking down the total quantity of information into smaller, more manage­able parts. A method of this kind enables the user to find the information he requires in a reasonable amount of time.

The method that meets this purpose is indexing. Law­yers who have had fifteen centuries experience of studying the *Corpus Iuris* and have tried out the various methods of indexing are well aware that this facilitates the consultation of the massive Justinian compilation.

In the computer age there are two basic methods of indexing. The first consists in the manual or automatic description of texts using key words, descriptors, etc. The latter, when arranged alphabeticaHy, form an index which can be consulted automatically.

The second technique is known as full-text. With the first technique each document in the data bank is described with one or more key words drawn from a list compiled by experts. The user in quest of inform­ation must formulate his request using the terms included in the list. By matching the language used in the request and the language used in the file, the computer is able to retrieve the relevant documents.

With the technique of full text each document is indexed using all the words present in the text. In other words
a concordance is prepared automatically. This is a list of all the words that occur in the text of the documents; each entry is followed by the number of the document, or documents, in which it appears and by another number which indicates the position of the word in the document. The computer is programmed so as to eliminate automatically words with a low information quota (articles, conjunctions, prepositions, etc.). The user of a full text system must formulate his request using the terms present in the concordance.

Both of the systems have advantages and disadvantages which have been fully discussed by Fraenkel. It is, however, worth stressing that the nature of legal documents favours full text indexing. This is certainly the conclusion reached by the organizers of the Camera '72 project and the Banca dei dati bibliografici. On the contrary the promoters of Italgierre have opted for the technique using key words. They have, however, introduced certain variations but it is too early to say how successful these are.

Legislation

If the idea of conceptual reduction is rejected and it is decided to store the complete text of legislative documents it is desirable to avoid classifying the documents. Classification raises the problem of reduction all over again. In order to classify a text it is necessary to translate it into the language of documentation which is essentially reductive in that it tends to eliminate the superfluity and ambiguity of natural language.

It has been proved that whatever technique is used (the addition of descriptors to the original text, the underlining of keywords contained in the text, the compilation of abstracts, etc.) two different people will rarely use the same key words to classify a text. It has even been shown that the same person will frequently classify the same text in different ways at different times. Is classification not basically the same as interpretation? In the field of legislation the risk of heterogeneous and erroneous classification is all the more serious in that the interpretation of the ambiguities and redundancy of the language used by the legislator is the task of the legal expert. If the legal expert were to trust the uncertainties of classification he would be giving up the most skilful part of his work — the interpretation of the law.

The assemblage of the laws in codes and consolidation acts which gives them an explicit structure (books, sections, chapters, articles, etc.) is a form of classification. Despite the authoritative source, this is nevertheless the cause of considerable disagreement when it comes to interpretation. The interpreter has the right to use what is known as systematic criteria to attach to or dissociate from the law a particular value on the grounds of his agreement with or opposition to the position of the article in question in the text (incivile est nist tota lege perspecta una aliqua particula eius propisita indicare vel respondere. D.1.3.24). What would the reaction be to classification carried out by information experts who certainly do not have the same authority as legislators? Once the risk inherent in the classification of legislative texts and the lack of an alternative solution are recognized it might seem that full text storage of legislative documents does not provide the user with adequate « keys » for access to the information.

Any system of data storage that has rejected the use of key words or other forms of classification accepts that the user is only informed of the occurrence of the word specified in the text. This can only satisfy the needs of the philologist, the legal lexicographer or the legislator who is interested in the use of words and hence wishes to know the contexts in which a particular word has been used. It does not meet the needs of the practicing lawyer or magistrate who wants all the documents that deal with a particular legal problem or concept independently of the terms used by the author (legislator, magistrate, legal scholar). To overcome the problem of « silence » (which occurs when the system states that the word being searched for is not present in the texts contained in the file) a technique is required which will automatically « extend » the keywords used spontaneously by the searcher to express the object of the search. It cannot be expected that the user will specify all the possible morphological, syntactical and semantic variations of the expression each time he searches. This technique consists in establishing once and for all the correspondence between all the words that might be used by searcher and the words related to them through synonymy, equivalence, correlation from genus to species and vice versa or generic association. In other words, in information systems which resort to classification the original language is translated by experts into a documentation language. The searcher must use the artificial documentation language to formulate his search requests. In information systems using full text, without classification, the language of the original document is respected. On the contrary, the spontaneous, natural language of the searcher is brought, by means of a thesaurus, to coincide with the language used in the original document. The diagrams (fig. 1 and 2) taken from Gardin show the key words and full text techniques.

Jurisprudence

If the full text technique is applied to jurisprudential documents, either complete sentences or massime, the considerations set out above with regard to legislation are equally valid. It is desirable not to classify the documents but to index them using all the words that appear in the text with the exclusion only of those words that have little information value. It is generally considered, although arguable, that the technique of full text indexing disclaims classification. It is contrasted with the manual or automatic classification of documents according to a list of key words, descriptors, etc. drawn up in advance. Full text indexing, however, must not be confused with the possibility that certain information systems have of providing copies of the
complete text of the documents retrieved: the former concerns the «keys» or «channels» that give access to the information, the latter refers to the type of information distributed to the users. Thus, with the various combinations of these two aspects four different types of information systems are possible. 1) Document searching is carried out by consulting the words or symbols listed in the classification layout (subject index,thesaurus of key words, UDC, etc.). These words or symbols identify the content of the document but, generally, do not correspond with the terms used in the text. The user may receive either a) the complete text of the document stored electronically in a separate file or b) bibliographical references, also stored in a separate file, which enable him to look for the document elsewhere. 2) Document searching is carried out by consulting directly all the words in the text which have been recorded, excluding words with a low information quota (full text indexing technique). According to the different types of system the user may receive either a) the complete text (see above a) or b) bibliographical references (see above b).

Those responsible for the Italgiure project operating at the Court of Cassation have opted not only for massime but also for the automatic classification of the texts by means of a thesaurus. This makes it possible to
translate all the words used in the massime (excluding those with little information value) into suitable combinations of some 2,500 terms of the documentation language. (These are called « semi del linguaggio » — « seeds of the language »). This means that the text of a jurisprudential document (sentence, decision, etc.) is subject to two different processes which reduce the original information content. Firstly, the massima is manually extracted. Secondly, the massima is automatically « reduced » to a small number of terms. At the present stage of development it is impossible to say whether this double reduction of the content of jurisprudential documents has a decisive negative effect on the general efficacy of the system. However, various advantages and disadvantages stand out. A list of the former includes: the relatively small amount of space needed in the memory, the short access time required and the system’s high recall potential. The more serious disadvantages include: the impossibility of searching for a term as it appears in the text; the low level of precision due to the indexing coupling of terms; the lack of possibility for concluding syntactic research. Traditional indexing techniques have been introduced in an attempt to overcome the low level of precision.

Doctrine

Those responsible for the Banca dei dati bibliografici have decided to apply the full text technique to the abstracts in the data bank. Every word in the abstract and in the bibliographical references (author, publisher, place of publication, etc.) becomes an entry in the index which is consulted automatically. Techniques similar to those used by the legislative data bank have been introduced in the hopes of overcoming the phenomena of «silence» and «noise». Besides this somewhat unsophisticated but purely automatic indexing technique a traditional form of manual classification has been adopted to counteract the defects of full indexing. For traditional reasons the Institute has opted for a system that is structurally similar to the Universal Decimal Classification (UDC). The latter is an encyclopaedic and hierarchical form of classification which was developed at the end of the last century and brought up to date and popularized by the Fédération Internationale de Documentation (FID) in Brussels.

The basic principle of UDC is the division of a specific field of knowledge into ten sectors (numbered from 0 to 9). Continuing to move from the general to the specific each of these sectors is subdivided into ten subsectors and so ad infinitum. The decimal classification used by the Banca dei dati bibliografici does not go beyond the fifth level of specification.

1st level . . . . . . . . . . . . Categorie = (0 - 9).
2nd level . . . . . . . . . . . . Classi = (0 - 9). (0 - 9).
3rd level . . . . . . . . . . . . Sottoclassi = (0 - 9). (0 - 9). (0 - 9).
4th level . . . . . . . . . . . . Voci = (0 - 9). (0 - 9). (0 - 9). (0 - 9).
5th level . . . . . . . . . . . . Sottovoci = (0 - 9). (0 - 9). (0 - 9). (0 - 9).

The subjects are grouped together into three sections:

HISTORY OF LAW (S)
LAW (D)
PHILOSOPHY OF LAW (F)

This classification makes it possible to extend the research to a wider range of subjects very rapidly when the specific subjects being searched for are not dealt with in the documents. It also aims at facilitating the exchange of information between legal information centres abroad since the system of Universal Decimal Classification is an internationally recognized « language » and the layout used by the Banca dei dati bibliografici and the official UDC layout can easily be converted one into the other.

Organization of Information Stores.
The Hardware of the Systems

There are numerous problems but these can only be mentioned briefly. Which of the various magnetic supports that are available should be used? The choice should be based on technical and economic reasons. With magnetic tape serial access is relatively slow; it is not compatible with on-line processing. On the other hand it is economical. Magnetic drums, disks and cards all allow fairly rapid direct access and their storage capacity can be increased but they are expensive and require powerful computers. Difficult technical problems also arise when the quantity of information is such that it cannot all be held on-line and it has to be stored on interchangeable magnetic supports. In this case the magnetic supports have to be mounted and dismounted manually on the peripheral units. Other technical problems are caused by the need to organize information in tables and matrices. The problems concerning the organization of information on magnetic supports are closely related to the type of computer used. For this reason it is worth reviewing the computers used by the three systems which have been described above.

The Chamber of Deputies will use an IBM 370/158 which belongs to the latest IBM series.

Local and remote batch and conversational processing mode, real time and multiprogramming are all possible with the virtual memory characteristic of this series. The virtual memory makes it possible to operate programmes which require a greater memory capacity than that which is available. The basic principle of the virtual
memory is relatively simple; the programmes are not recorded in the central memory but in the virtual memory i.e. in an appropriate position on a disk unit. As the computer only operates on the instructions and data contained in the main memory the instructions and data stored in the virtual memory must be transferred to the main memory. The operation is controlled by the operating system which keeps account of the parts of the programme (called «pages») which are held in the main memory and of their exact position and controls an addressing table of the pages held in the virtual memory. These operations are carried out automatically by the computer by means of reference tables. A special device translates the virtual address into the main memory address. Magnetic tape units, 3330 disk units and IBM videos are connected to the 370/158. The 3330 disk units have an exceptionally large storage capacity. Each unit is equipped with a pair of independent drives: each drive has a capacity of over 100 million bytes which means a total of 200 million bytes per unit.

The Court of Cassation uses two UNIVAC computers. The UNIVAC 9300 with a memory capacity of 16 K and 4 magnetic tape units for auxiliary storage is used for data storage procedures, index preparation i.e. the transfer of data from punched cards to magnetic tape, the break down of the texts into separate words, the comparison of these words with appropriate tables already contained in the file, the elimination of words with a low information content, the translation of the other words into the «seeds» of the language. The procedures for information retrieval and index consultation are operated by a more powerful computer, the UNIVAC 1106. This has a main memory with expandable storage capacity for up to 262 K words of 36 bits and a secondary memory with expandable storage for up to 1,048 KB. The auxiliary memory used is a FASTRAND magnetic drum. The operating system EXEC 8 controls the work-flow, operates in real-time making conversational research possible and controls the network of local and remote terminals and OLIVETTI TCV 260 and SV 40 high speed printers.

The Istituto per la documentazione giuridica uses an IBM 360/20, the smallest of the IBM 360 series. With the present arrangement there is the computer’s central unit with a storage capacity of 12 K bytes, a printer which prints 300 lines per minute and a multifunction unit which reads 300 punched cards per minute and punches 100 columns per second. There is also a modern, modulator/demodulator, which enables data to be transmitted and received and thus makes it possible to take advantage of the larger and more powerful IBM 360/67 and the IBM 370/155 at the Centro Nazionale Universitario di Calcolo Elettronico (CNUCE) at Pisa. An IBM 2741 keyboard terminal enables the Institute to query the remote files and carry out longdistance conversational information retrieval.

Question, Handling, and Search Procedures

With all three systems a conversation between man and machine is possible. The mode of procedure differs because of the differences in the computers used, the operating systems, the formation of the archives and the structure of the data. During the conversation the man types the natural language words used to express his search query on the keyboard of the terminal. The machine supplies the answer or else asks for further specifications using the terminal’s cathode ray screen or high speed printer. The words used by the man are not joined together by the prepositions, articles conjunctions, etc. typical of natural language but by the Boolean logical operators AND, OR, NOT. AND indicates that all the terms listed in the search instruction must be present in the documents retrieved. OR expresses a series of alternatives one of which must be present. NOT means that the term which follows the negation must not occur in the documents. The search language used by each of the three systems has its own grammar and syntax. Although each one is different they can all three be picked up easily in just a few hours. Another characteristic which is common to all three systems is that the man can ask the machine to supply either the full text of the documents retrieved or just the bibliographical references. The machine supplies the information requested in a few seconds or at the most a few minutes. This may be documents or references but it may also be details of the number of documents in the file which answer to the search specifications. Various systems have been invented to make the language used to formulate the query and the language used to index the documents correspond as the documents are retrieved on the basis of word identity. With the Italgiure system the thesaurus is consulted automatically. By means of special tables whose «input» are the words of the Italian language and whose «output» are the «seeds» of the language, the words used by the searcher (which are part of the Italian language) are translated into the indexing language (one or an appropriate combination of more than one of the 2,500 «seeds» of the language). In the systems developed by the Chamber of Deputies and the Istituto per la documentazione giuridica, which use a full text indexing technique the searcher’s words are not translated into an indexing language as the indexing language used by these two systems corresponds with the natural language used by the authors of the documents held in the file. However, since the natural language used by the authors is neither homogeneous nor exact and furthermore is complicated by such phenomena as synonyms, homonyms, equivalent meanings and other interword relationships that make it anything but taxonomic (i.e. every «name» corresponds to a «concept» and vice versa), the language used by the searcher is automatically referred to tables of synonymy, equivalence, etc. These tables which have been compiled previously by experts «amplify» the expressive potential of the words used by the searcher. This process can best be illustrated by an example.
The searchers, who have been fired by the municipality that he worked for, consults the data bank to find out whether he has the right to any indemnity. He formulates his query INDENNITÀ - LICENZIAMENTO - DIPENDENTE - COMUNE (indemnity - dismissal - employer - municipality) joined together with the operator AND. If the searcher does not ask the systems to consult the tables of synonyms, equivalents, etc. only those documents which contain the words listed are retrieved. If, on the contrary, the user instructs the system to consult them (and if they have been properly drawn up) he can be sure of getting all the relevant documents even if they speak of indemnizio instead of indemnità and dipendente comunale instead of dipendente del comune and impiegato instead of dipendente. Finally it must be pointed out that the user, in addition to natural language, may exploit single units of the traditional classification language employed in the indexing by the systems responsible as searching channels.

Italian users can query the files by means of a list of headings and subheadings prepared by the Ufficio del Massimario or a list of law references.

NOTES


7. OROI project, which originated in 1965 as OROI-1, aimed at assessing the automatic analysis of natural legal language. The processing device used in the experiment was IBM 7090. COMIT Programming language implemented by Prof. Inge, Massachusetts Institute of Technology (Boston), was employed. The research study was carried on with OROI-II project and later with OROI-III project, supported by the Italian National Research Council (research contract no. 69.01222.14-129.3). Cfr. A. GALLIZIA, E. MARETTI and F. MOLLAME, Analisi automatica di testi giuridici, in La ricerca scientifica (CNR), XXXVI, 1966, 8, p. 785 ff.; Primi contributi per una classificazione automatica di testi giuridici, in Scienza e tecnica nell'organizzazione della P.A., 1966 December, p. 526 ff.; Diritto ed automazione cit.


10. The results related by Istituto Centrale di Statistica are quoted in E. ZAMPETTI, Lo stato verso l'autonoma, offprint from Concretex, June 1971, p. 16 ff.

11. For a review of Italian research studies on the subject see: V. FROSINI, Il cittadino e i calcolatori nell'esperienza giuridica italiana, paper presented to the International Seminar on « Informatica e diritto. Efficienza dei sistemi automatici di informazione nella difesa sociale e garanzie dei diritti individuali », held in Pavia, September 15-17, 1972 by Centro nazionale di prevenzione e difesa sociale and by Societè Internationale de Defense Sociale. A quick survey of Italian literature shows that nothing or very little has been done in Italy either in the field of computer application to normative calculus and to the simulation of social systems on which the law should act or in the field of the automatic compilation of administrative acts and judicial decisions. Nor has anything been done in the field of decision and law prediction. Sophisticated foreign contributions on these subjects can, on the contrary, be cited: M. SÁNCHEZ-MAZAS, Cálculo de las normas, Barcelona, Ariel, 1973; K. H. HOPT, Simulation und Planspiel in Recht und Gesetzgebung, in Datenverarbeitung im Recht, 1, 1972, 1, p. 1 ff.; L. REISINGER, Möglichkeiten der Ge-
ment, 1, 1972, 2, p. 109 ff.; etc.

12 V. FROSINI, Giubernetica diritto e società, Milano, Ed. di Comun-

13 M. G. LOSANO, Giubernetica. Macchine e modelli cicibernetici
dello Stato, Torino, Einaudi, 1969; Corso d'informatica giuridica,

14 P. FIORELLI, Istituto per la documentazione giuridica, Firenze.
Alcune attività scientifiche nel 1970, in: La ricerca scientifica (CRN),
XXII, 1972, 1, p. 102 ff; C. CIAMPI, Les projets de recherche
automatique des informations juridiques dans l'Institut pour la
documentation juridique du Consiglio nazionale dei ricercatori, in:
A. ZAMPELLI, (ed.) Calcolo, matematica e calcolatori, Atti del
Conseguo e della I Scuola internazionale (Pisa 16 agosto - 6 set-
tembre 1970), Firenze, Olchini, 1973, p. 249 ff.; P. MINOLETTI,
op. cit.

15 The journal Systema, International Review for Cybernetics, In-
formatics and Law (Edizioni del Poligramma, Torino), edited by
the Center of Juscybernetics (University of Turin) and Bollettino
bibliografico d'informatica generale e applicata al diritto, edited
and issued by Istituto per la documentazione giuridica del Con-
siglio nazionale delle ricerche, Firenze.

16 A. PRENIERI, Gli elaboratori elettronici nell'amministrazione
dello Stato, Bologna, Il Mulino, 1971 (Quaderni dell'IIRSTA 1);
L'informatica nell'amministrazione pubblica, in Il diritto dell'econo-
mia, XVIII, 1970, 3, p. 293 ff; A. ZAMPELLI (ed.) Linguistica mathe-
matica e calcolatori, Atti del Convegno e della I Scuola internazionale
(Pisa 16 agosto - 6 settembre 1970), Firenze, Olchini, 1973, p. 249 ff.; P. MINOLETTI,
op. cit.

17 E. LAPORTA, R. BORRUSO, A. FALCONE and V. NOVELLI, Siste-
ma of ricerca elettronica della giurisprudenza. Descrizione ed ex-
perimento, with an Appendix by L. Bosio, Roma, Stamperia Na-
zionale, 1969; S. RODOTÀ, review of »ricerca elettronica della gia-
risprudenza, 6 voll., Roma, Stamperia Nazionale, 1972, edited by
the Research Group of the «Ufficio del Massimario» of the
»Corte Suprema di Cassazione».

18 Il progetto »Camera '72«. Ricerca automatica della legisla-
tura italiana, edited by the Comitato per l'Elaborazione Automatica
del Diritto (CEAD) appointed by the Camera dei deputati, January
1973 (unpublished); Appunto del CEAD per il Presidente della
Camera circa le prime risultanze dell'analisi del Progetto Cam-
era '72 con riferimento alla tecnica di produzione legislativa,
edited by the above mentioned Committee (undated and unpub-
lished).

19 L. RUSSI, IL SIL cit.

20 P. FIORELLI, op. cit.; C. CIAMPI, op. cit.; P. MINOLETTI, op. cit.

21 A. IMPERATORI (ed.), Il progetto S.I.R.U.S. della Banca d'Ita-
lia. La classificazione automatica e la ricerca delle informazioni,

22 G. DI Gennaro and R. BREA, I calcolatori nel settore della
diffesa sociale. Efficienza di servizio e garanzia individuale, paper
presented to the International Seminar held in Pavia, September
1972, on the subject »Informatica e diritto cit.«, which is in
course of publication in the Seminar Proceedings and has already
appeared in L'indice penale, VI, 1972, 3, p. 393 ff.; D. CORTE-
LESSA, Il centro elettronico per i servizi dell'Amministrazione pe-
nitutaria, a report at the above Seminar, which is in course of
publication in the Seminar Proceedings; D. CORTELESSA, Infor-
matica in the Penitentiary Administration, in Working Papers of
the First World Conference on Informatics in Government Held
in Florence, Italy, 1972, p. 794 ff, Rome, International Bureau for Informatics, IBI-ICC.

23 The concept of »legal information« has not been precisely
defined but the general orientation favours the distinction outlined
in the text. Cfr. Department of Justice (ed.) Operation Com-
pales: Information Needs of the Practicing Lawyer, Ottawa,
April 1972, pp. 7 and 35, here a distinction is made between »le-
gal information« and »legally-related information«.

24 The new »ages« are quoted by W. L. FISCHER, Die automa-
tisierte Datenverarbeitung in Wissenschaft und Forschung, in:
K. KARLBERGLAND (ed.), Elaborazione e Istruzione, Workshop in
Forchung und Praxis, Ludwigshafen (Rhein), F. Kiehl Verlag

25 German students tried to distinguish the concept of »Daten-
bank« from that of »Dokumentationssystem«; the former would
refer to »structured data« and the latter to »non-structured data« (see: H. MERTEN, Datenbankorganisation. Arbeitsweise, Entwicklungs- und Einsatz von Datenbanksystemen, Verlag-
sellschaft R. Müller, Köln 1972 (DY - Praxis 13), p. 18 f), but
the distinction has not been generally accepted (see: Das Infor-
mationsbanksystem. Vorschläge für die Planung und den Aufbau
eines allgemeinen arbeitsetzfligen Informationssystems für die
Bundesrepublik Deutschland, Band 1: Bericht der Intermini-
steriellen Arbeitsgruppe beim Bundesministerium des Innern an
die Bundesregierung, C. Heymanns Verlag KG, Köln-Berlin-Bonn-
München, 1971 (ed. W. BRANDS), Zur Diskussion gestellt: »Was
ist eine Datenbank?«, in Öffentliche Verwaltung und Datenver-
arbeitung, 2, 1972, 5, p. 198 ff.

26 Cfr. E. B. PARKER and W. J. PAISLEY, Research of Psychologists
at the Interface of the Scientist and His Information System, in:
T. SARCEVIC (ed.), Introduction to Information Science, New
contained therein.

27 M. L. COHEN, Research Habits of Lawyers, in Jurimetrics
and the Legal Profession, Part I and II, in Law and Computer
Technology, 3, 1970, 3, p. 38 ff. and 4, p. 97 ff.; P. S. HOFFMAN,


29 A. PREDIERI, Nuove tecnologie cit., p. 1.

30 This terminology is used by A. GALLIZIA, Calcolatori e granzie giuridiche, in Rivista di informatica, 2, 1971, 2, p. 340 ff.

31 Some of these problems have been discussed in the pamphlet Die Informationsmaschinen. Zur Frage der Gültigkeit einer Datenbank für Rechtsdokumentation – die Firma JURADAT, Berlin 1970, edited by the Arbeitsgruppe «EDV und Recht» in Fachbereich Rechtswissenschaft an der Freien Universität Berlin.


33 For studies of other European countries, besides the research studies promoted by the Danish Lawyers Association (Juristforbund) [Informationssøgningsudvalget (ed.), Vorléseserien vedrørende informationssøgningsbehovet blandt jurister i Danmark Notat 8, Kopenhagen, Juristforbundets Forlag, (undated and unpublished); Foreløbige resultater af afdelingslovsforøg, Notat 9, Kopenhagen, Juristforbundets Forlag, (undated and unpublished)], one can see: W. ALTENBURG, C. M. CAMPBELL and R. S. MORGAN, Computers for Lawyers. A Report to the Scottish Legal Computer Research Trust, November 1972 (unpublished).

34 The statistical survey promoted by M. G. Losano does not seem to have this aim either. The report is outlined in a short article by Losano, «Première enquête européenne sur les avocats et l'automatisme», in Systems, 1972, 2, p. 85 ff. Until the results are published the only thing that can be said with certainty is that it is not the first European inquiry. See, in fact, the previous notes and note 31.


36 On the contrary, the Istituto per la documentazione giuridica has tried, from the beginning of its activities, to assess the Italian lawyers' information needs, by preparing and distributing an adequate questionnaire. The results are waiting to be integrated with other data and to be publicized [see: C. CIAMPI, L'impegno del Consiglio nazionale delle ricerche per l'informatica giuridica, paper presented to the Seminar on the subject «Diritto e cibernetica: l'uso degli elaboratori elettronici nella teoria e nella pratica del diritto», held at the Istituto di applicazione forense «E. Redenti», University of Bologna, May 18, 1971 (unpublished)]. The research financed by Italian National Research Council and carried out by Emily Rawless, a foreign student at the Institute, is also indirectly related to this subject. She has described her first results in From Latin to Assembler. A Study of the Prospects of Information Retrieval and the Legal Professions in Italy Today, in Bolletino bibliografico d'informatica cit., 1, 1972, 2, p. 317 ff. Anyway much must still be studied in this field and it would be desirable in the future for the Institute to dedicate more resources to it.


44 It is not clear why the organizers of the project have decided to exclude part of the material because of its irrelevance today.

45 The «duration» of the validity of the precedent in Italy has been studied by G. GORLA, «La durata periodica di un precedente in Italia», in Archives de droit comparé, 1965, 48, p. 35 ff.; and implicit references to other laws) are defined and the possibility of their documentation is discussed; for explicit citations algorithms are recommended by use of which these citations can be stored automatically by EDV and kept up to date. See also: H. E. DEHLINGER, Verweisungsbezogene Textdokumentation von gesetzlichen Vorschriften, in American Bar Association Standing Committee on Law and Technology (ed.), Automated Law Research cit., p. 125 ff.; Groupo di ricerca dell’Ufficio del Massimario della Corte Suprema di Cassazione (ed.), Sistema «Italgia» cit., vol. 3, p. 33, which cites the experience of the Danish Lawyers Association (Juristforbund).

47 See: A. GALIZIA, Calcolatori cit.


42 Il progetto «Camera '72» cit., p. 3 f.

43 Cfr. A. BERGER, Entwurf eines Systems zur Dokumentation von expliziten Verweisungen in gesetzlichen Vorschriften, dargestellt am Projekt «Entwicklung eines Dokumentationssystems» in der Abteilung Wissenschaftliche Dokumentation des Deutschen Bundesbundesates>, Studiengruppe für Systemforschung e.V., Heidelberg, Bericht Nr. 105, München-Pullach und Berlin, Verlag Dokumentation, 1971: in this report various types of legal citations (explicit and implicit references to other laws) are defined and the possibility of their documentation is discussed; for explicit citations algorithms are recommended by use of which these citations can be stored automatically by EDV and kept up to date. See also: H. E. DEHLINGER, Verweisungsbezogene Textdokumentation von gesetzlichen Vorschriften, in American Bar Association Standing Committee on Law and Technology (ed.), Automated Law Research cit., p. 125 ff.; Groupo di ricerca dell’Ufficio del Massimario della Corte Suprema di Cassazione (ed.), Sistema «Italgia» cit., vol. 3, p. 33, which cites the experience of the Danish Lawyers Association (Juristforbund).

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47 On the contrary, other bibliographies such as Index to Foreign Legal Periodicals, published by the Institute of Advanced Legal
Studies (London) and Index to Legal Periodicals, published by H. W. Wilson Co. (Bronx, New York) select the material according to the length of the articles.


49 A. Gallizia, La riduzione cit., p. 3.

50 Cost. Deo auctore, 12; Tanta, 21.

51 Most legal information scientists draw the same conclusion. The need for precision in storing the tables, which are often included in legislative texts, is the cause of various technical problems.

52 The most thorough analysis of bibliographic references seems to be that reported in Bundesministerium der Justiz (ed.), Das juristische Informationssystem cit., p. 50 ff. and p. 336 ff. (especially, pp. 339-331).


55 Cf. L. Persico, Elettronica cit., p. 1759 f.


58 The text of the Bavarian law (Vorläufige Grundsätze für das automationsgerechte Abfassen von Vorschriften, in Bayerischer Staatsanzeiger, 5, September 1969, Nr. 36) has been translated into Italian, in the appendix of the article by M. G. Losano, Per un diritto compatibile con l’elaborazione elettronica, in Rivista trimestrale di diritto pubblico, XXI, 1971, 4, p. 1823 ff.


62 A. S. Fraenkel, Legal Information cit.


L'Autore introduce il tema, dedicato ai sistemi di ricerca elettronica delle informazioni giuridiche, elencando le fonti di consultazione più importanti per la conoscenza dei sistemi operativi funzionanti nel mondo. Passa poi in rapida rassegna gli studi e le esperienze compiute in Italia in tale campo, a partire dai primi esperimenti pioneristici del 1962. L'Autore rileva che la ricerca pura (teorica) e le sperimentazioni su limitate "basi di dati" sono state svolte in Italia indifferentemente da privati e da enti pubblici; la ricerca applicata su larga scala e soprattutto l'"implementazione" di completi sistemi di ricerca automatica sono state invece condotte solo da enti pubblici, a differenza di quanto è accaduto negli Stati Uniti e in Germania, nazioni nelle quali la presenza degli operatori privati ha avuto un ruolo determinante.

L'Autore tralascia l'esame dei sistemi che interessano il diritto solo indirettamente, o perché attengono alla gestione certificata dello Stato (anagrafi, casellario giudiziario), o perché attengono alla documentazione del diritto ancora in via di formazione o alla documentazione di alcune attività delle amministrazioni pubbliche in collegamento più o meno stretto con l'amministrazione della giustizia o con la difesa dello Stato (documentazione parlamentare; ricerche di polizia giudiziaria; gestioni di schedari di varia natura presso i servizi di sicurezza; anagrafe penitenziaria; ecc.) e dedica la propria attenzione ai sistemi che documentano le informazioni giuridiche in senso stretto, attinenti cioè alle fonti del diritto (leggi, decreti, regolamenti, ecc.; sentenze e provvedimenti dei giudici ordinari e amministrativi; opere dottrinari).

L'Autore specificamente analizza con metodo comparativo tre sistemi:

1. Il sistema "Italgiure", progettato e messo in opera dall'Ufficio del Massimario e del Ruolo della Corte di Cassazione. Il sistema per ora permette ai soli componenti degli uffici giudiziari, la ricerca elettronica delle massime estratte dalle sentenze pronunciate dalla Corte di Cassazione negli ultimi 11 anni in materia civile e negli ultimi 6 anni in materia penale, e la ricerca di tutta la giurisprudenza della Corte Costituzionale, integrata dal completo riferimento alle questioni sollevate dagli organi giurisdizionali competenti e ancora in attesa del giudizio della stessa Corte Costituzionale. In totale i documenti archiviati sono oltre 100 mila, ciascuno composto in media di quindici righe. Esperimenti sono stati anche costruiti nel campo della documentazione bibliografica.

2. Il sistema "Banca dei dati bibliografici d'interesse giuridico", organizzato e gestito dall'Istituto per la documentazione giuridica del Consiglio nazionale delle ricerche. La banca è operativa solo parzialmente per circa 100 mila informazioni bibliografiche relative a pubblicazioni edite negli anni 1970-1971.

3. Il sistema allo studio presso la Camera dei deputati, per la ricerca automatica delle leggi dal 1848 ad oggi. Il sistema è ancora in fase di progettazione ed è conosciuto come "Progetto Camera '72".

Prescindendo dallo stato attuale d'implementazione dei tre sistemi, l'Autore li analizza sotto vari aspetti e tenta delle considerazioni critiche volte a porre in evidenza, da un lato, ciò che manca ai tre progetti per la loro completa integrazione, dall'altro, ciò che loro difetta per soddisfare pienamente le esigenze di documentazione di tutti i cittadini nei rispettivi campi della legislazione, della giurisprudenza e della dottrina giuridica.
judiciaire) soit parce qu'ils ont trait à la documentation du droit encore en voie de formation ou à la documentation de certaines formes spécifiques d'activité des administrations publiques en liaison plus ou moins étroite avec l'administration de la justice ou la défense de l'Etat (documentation parlementaire; recherches de police judiciaire; gestion de fichiers divers auprès des services de sûreté; fichiers pénitentiaires etc.). Trois systèmes sont plus spécialement analysés par la méthode comparative.

1. Le système Italgure, projeté et mis en fonction auprès du Bureau du « Massimario » et du « Ruolo » de la Cour de Cassation. Le système, à l'heure actuelle, permet aux bureaux judiciaires la recherche électronique des « massime » tirées des arrêts de la Cour de Cassation prononcés au cours des onze dernières années pour la juridiction civile et au cours des six dernières années pour la juridiction pénale. Ce même système consent la recherche électronique de toute la jurisprudence de la Cour Constitutionnelle, intégrée par toutes les références aux questions soulevées par les organes juridictionnels compétents et encore en attente de jugements de la part de la Cour Constitutionnelle même. Au total, les documents mémorisés sont plus de 100.000 d'environ 15 lignes en moyenne chacun. Des expériences ont été aussi réalisées dans le domaine de la documentation bibliographique.

2. La Banque des données bibliographiques d'intérêt juridique, organisée et gérée auprès de l'Institut pour la documentation juridique du Conseil national des recherches. La Banque n'est opérationnelle que partiellement pour environ 10.000 renseignements bibliographiques concernant la production éditoriale de 1970 et une partie de la production de 1971.

3. Le système qui est à l'étude auprès de la Chambre des Députés, pour la recherche automatique des lois depuis 1848 jusqu'aujourd'hui. Ce système est encore à la phase de projet et il est connu sous le nom de « Progetto Camera '72 ».

L'auteur analyse les trois systèmes, laissant de côté leur état actuel d'accomplissement et essaie des considération critiques visant à mettre en évidence d'un côté ce qui manque aux trois projets pour leur parfaite intégration, de l'autre côté ce qui manque pour satisfaire complètement aux exigences de documentation de tous les citoyens dans les domaines respectifs de la législation, de la jurisprudence et de la doctrine.