

Appendice 6

Table of contents and abstracts

The Volume is in Italian. The introduction, the abstracts and the interview content of the Chapter II of the third Section are provided also in English.

LEGAL INFORMATICS IN ITALY Fifty years of studies, research and experiences

edited by
Ginevra Peruginelli and Mario Ragona

Presentation <i>by Daniela Tiscornia</i>	11
Preface A "giusliberista", democratic and philosophical computer science <i>by Luigi Lombardi Vallauri</i>	13
Introduction	25

First Section THE DISCIPLINE

I Defining legal informatics: a history <i>by Elio Fameli</i>	35
II Notions and categories of legal informatics <i>by Giovanni Sartor</i>	59
III Legal informatics between discipline and teaching <i>by Giancarlo Taddei Elmi</i>	75
IV Teaching legal informatics: the example of the University of Bologna <i>by Cesare Maioli</i>	97
V The triennial course of legal informatics at the University of Piemonte Orientale <i>by Mario G. Losano</i>	119

Second Section THE ACTORS

I The Electronic Documentation Centre of the Supreme Court of Cassation <i>by Franco Fiandanese</i>	151
II The Institute of Legal Information Theory and Techniques (ITTIG) of CNR. From the automation of legal documentation to expert systems and legimatics <i>by Elio Fameli, Pietro Mercatali, Mario Ragona, Daniela Tiscornia</i>	169

III	The Chamber of deputies and legal informatics <i>by Elena Candia, Mario Panizza, Enrico Paradiso</i>	229
IV	The Senate and the evolution of the parliamentary information system <i>by Carlo Marchetti</i>	259
V	The CIRSIFID and legal informatics <i>by Monica Palmirani</i>	285
VI	The Institute of Interpretation Theory and of Legal Informatics of “La Sapienza” University <i>by Vittorio Frosini (with an introductory note by Tommaso Edoardo Frosini)</i>	305
VII	Implementation in historical and legal domains between legal informatics and digital humanities: the role of the Inter-university Centre for Computing Research on Roman Law (CIR) of the University of Catania <i>by Nicola Palazzolo</i>	317
VIII	Publishing initiatives and information technologies in the field of computer science and law <i>by Giovanni Pascuzzi</i>	343
IX	The “Informatica e diritto” International journal: an early publishing experience <i>by Elio Fameli</i>	361

Third Section

THE INTERNATIONAL VOICES

I	Let there be LITE: a brief history of legal information retrieval <i>by Jon Bing</i>	395
II	Conversations with foreign experts and scholars. Interviews to M. Badeva-Bright, T.R. Bruce, F. Galindo, G. Greenleaf, M. Herberger, J.A. de Oliveira Lima, Y. Matsuura, A.H. Paliwala, P. Petitcollet, D. Poulin, E. Schweighofer, P. Zhang <i>by Ginevra Peruginelli</i>	421

Fourth Section

THE DEBATE WITHIN THE ITTIG

I	Legal informatics and public administration <i>by Manola Cherubini, Francesco Romano</i>	483
II	Legal lexicography and information storage and retrieval: tools for legal language comprehension <i>by Maria-Teresa Sagri</i>	499
III	Natural language processing: models and applications in the legal domain <i>by Fabrizio Turchi</i>	521
IV	Accessing and understanding law: the role of semantic tools and expert systems <i>by Maria Angela Biasiotti</i>	535
V	Free access to law: stakeholders and trends <i>by Ginevra Peruginelli</i>	551
VI	The semantic web and legal knowledge representation <i>by Enrico Francesconi</i>	567
VII	From legal information to open legal data <i>by Tommaso Agnoloni</i>	581

VIII	Computational social science, law and legal informatics (towards computational legal science) <i>by Sebastiano Faro</i>	603
IX	ICT and law: some proposals for the new millennium <i>by Marina Pietrangelo</i>	621
	Afterword. Reflecting on legal informatics: a challenge for politics and society <i>by Rosa Maria Di Giorgi</i>	635

APPENDICES

1	A chronology of legal informatics in Italy	643
2	Bibliography of key legal informatics works published in Italy	647
3	List of acronyms	655
4	Abstracts in Italian	659
5	The Authors	673
6	Table of Contents and Abstracts	683

Abstracts

Preface.

A “giusliberista”, democratic and philosophical computer science (p. 13)

by *Luigi Lombardi Vallauri*

In my 1969-1995 writings on legal informatics, that this contribution diachronically marks, three intersecting themes are represented: the *Freirecht* (“giusliberismo”), the critical reductionism, democracy as an essential value of legal informatics. Among the technical corollaries of *Freirecht*, the following are evidenced: the need for “free-law” programs due to the inevitable choice to be made among the logically and legally possible solutions within the applicable valid law; highly problematic programs due, on one side to the cultural hegemony of the axiological noncognitivism, on the other to the need (admitted even by critical reductionism) for evidential conscious experiences, so far inaccessible to computation. Among the technical corollaries of democracy: the primacy of the so far very neglected expert systems over information storage and retrieval, but also need for synergy and mutual control in integrated systems; databases including newspaper publishing; retrieval of documents starting from life situations; open competition between electronic systems and human jurists.

The intersection of the three themes finds its higher level of processing in the form-system, designed in 1975 as SIGN (Sistema di Informazione Giuridica Nazionale - National Legal Information System), with its extensive network of terminals assisted by “municipal lawyers” freely available throughout the territory, later evolved in 1995 as SEGG (Sistema Esperto Giuridico Globale - Global Legal Expert System), *informonstrum* comprehensive of the automatic legislator program.

The text ends by mentioning the competition raised between legal informatics and mediation, the first one de-humanizing, the other de-juridificating, both paradoxically converging in dismissing the human jurist, while inviting to foster roboethics, as a philosophical premise to computer law in the context of a more and more artificialized world.

FIRST SECTION - THE DISCIPLINE

Chapter I - Defining legal informatics: a history (p. 35)

by *Elio Fameli*

In order to define “legal informatics” as a scientific discipline it is necessary to identify the object on which to found its autonomy, as well as to elaborate an organic conceptual apparatus, consisting of principles and methodologies. Correspondingly, it is essential, however, also to define and to organize the technical terminology employed (the so-called specialistic lexicon), to enucleate purposes and

programs and, according to the specific methodological approach, to specify the numerous and complex relationships instituted not only within well-established scientific areas (as mathematics, physics, philosophy and logic), but also in sectors that are recent as well as in continuous and rapid evolution (as electronics, computer science, telematics, cybernetics, cognitive sciences and artificial intelligence). The strong interdisciplinary character and the substantial methodological autonomy of “legal informatics” are underlined. The process of gradual definition of the discipline is, instead, illustrated through a synthetic historical excursus that proceeds from “cybernetics” (N. Wiener) to “jurimetrics” (L. Loevinger) and to “lawtomatic” (P.S. Hoffmann) and, subsequently, from “juscypernetics” (M.G. Losano) and from “legal modellistics” to “juritechnics” (V. Frosini) and to “legal informatics” in the strict sense, as branch of knowledge distinguished by the “computer law”.

As for the methodological approach of the discipline the central role of law is highlighted, in contrast with the merely instrumental function of the informatics and telematics technologies. A remarkable example of the gradual articulation and specialization of legal informatics, in parallel with the development of the related researches, is provided thanks to the analysis of the different “dimensions” of the legal documentation as principal application sector of the new technologies: from that historical-cultural to that formal-editorial and that cognitive-interpretive.

Finally, the consideration of the potentialities inherent in the new technologies and of the problems emerging from the actual “information and communication society”, leads to identify some primary objectives of legal informatics as, in particular, the diffusion, among the citizens, of a more and more wide and deep legal knowledge and conscience.

Chapter II - Notion and categories of legal informatics (p. 59)

by Giovanni Sartor

After having briefly illustrated the importance of information technology in legal studies, legal informatics in the narrow sense and computer law are distinguished. The different sectors of the two disciplines are identified as well as their specific role in the formation of the jurists and practitioners. Finally, the historical evolution that led to this characterization of legal informatics and future developments and challenges are mentioned. The chapter states that it is appropriate to maintain the connection between legal informatics and computer law as this connection is based on the dependence of technological elements from both the disciplines, whose proficiency is a prerequisite of any legal analysis.

Chapter III - Legal informatics between discipline and teaching (p. 75)

by Giancarlo Taddei Elmi

Legal informatics was born in 1949 from an idea of Loevinger who for the first time spoke about jurimetrics. Parallel to this, a sector dealing with legal issues generated by the use of information technology starts to develop. We must therefore

distinguish a “technological” field, the legal informatics *strictu sensu* and a “legal” scope, the so-called ICT law, such as the set of special rules aiming at regulating the information technology phenomenon.

Is legal informatics an autonomous discipline or an interdisciplinary research field with many objects of knowledge as are the questionable areas to be faced? We believe that legal informatics is not an autonomous discipline. ICT law is not an independent legal discipline as well, because it lacks self-sufficiency interpretation. To fill in the gaps, we need to consider the legal principles of other disciplines such as criminal law, constitutional law, industrial law. For these reasons, teaching of these two areas of science has been slow to establish at university level. The various university reforms that have taken place over the last twenty years have considered legal informatics not so much as a discipline rather as new ICT knowledge to be achieved by jurists.

However we must remember that new technologies applied to law has aroused, from the fist very beginning a specific interest by philosophers, legal theorists and jurists. The reasons are of sociological, philosophical and logical nature. Philosophers looked at the new phenomenon in terms of the impact on society in general and in relation to the difference between man and machine, to the dichotomy thing-person and to the brain-mind problem. Jurists have resisted to this innovation for cultural reasons, but also for protecting their exclusive possession of information which represents a major power for the legal profession.

All this explains why legal informatics has been inserted, from the beginning, in the disciplinary area IUS 20 (Philosophy of Law), and it has been considered as an autonomous teaching area linked to philosophy of law in almost all Italian universities. While in the eighties and nineties this teaching was carried out by external experts, today university staff is the holder of this specific teaching pertaining to the subject area of philosophy of law.

**Chapter IV - Teaching legal informatics:
the example of the University of Bologna (p. 97)**
by Cesare Maioli

The chapter deals with the relationship between law and technology, showing how ICT, far from being a type of application or a set of tools, includes a variety of management aspects.

It illustrates how, since 1986, the CIRSIFID (Interdepartmental Centre for Research in Legal History, Philosophy and Sociology of Law and Legal Informatics) has consistently played a proactive role, creating, for some of its degree courses, teaching models of legal informatics and computer law at the Faculty of Law of the University of Bologna, together with two doctorates and a master degree in legal informatics. Meanwhile, constant connections with the most qualified international initiatives in the field have been maintained. Once teaching of legal informatics has become mandatory for all second-year students of *Laurea magistrale* in 2006, the

CIRSFID has further developed its training and has established a fruitful cooperation with traditional teaching of substantive and procedural law, thus enhancing the training offer with appropriate informatics content.

**Chapter V - The triennial course of legal informatics
at the University of Piemonte Orientale (p. 119)**

by Mario G. Losano

In 2001 the University of Piemonte Orientale “Amedeo Avogadro” based in Alessandria started the triennial course of legal informatics – the first course of this type established in Italy. Both the Law School and the Faculty of Mathematics, Physics, and Natural Sciences were involved in such a course. The chapter describes the origin, initial difficulties and curriculum of this course, specifying the subjects, their characteristics and related credits. Among the qualifying features of this course, the most relevant is perhaps the inclusion of an informatics module in the legal subjects, and of a legal module in the informatics subjects. The Law School of Alessandria – now transformed into a “Department of Law and Political, Economic and Social Sciences” by the university reform of 2011 – has decided to discontinue, in 2016, the triennial course of legal informatics.

SECOND SECTION - THE ACTORS

**Chapter I - The Electronic Documentation Centre
of the Supreme Court of Cassation (p. 151)**

by Franco Fiandanese

The chapter illustrates the Electronic Documentation Centre of the Supreme Court of Cassation (Centro Elettronico di Documentazione della Corte Suprema di Cassazione – C.E.D.), focusing on its history along with the evolution of information technology over the last forty years. In particular, it analyses the technological developments in relation to legal documentation as well as to trial management in courts. The relevant contribution made by C.E.D. to legal information through the creation of a documentation service is highlighted. The service has been at the forefront since the late Sixties for its quantitative and qualitative relevance of databases and for its sophisticated information retrieval and access features; it has also confirmed such role with the release in 2006 of the new Italgireweb system. It is illustrated how C.E.D., by the end of the Eighties, has used informatics as a tool for trial management. A project has been carried out that has evolved, to date, to cover all procedural stages and activities not only those pertaining to records of offices, but also to magistrates’ activities. This involves the overall judicial and related assets, thus developing all functionalities related to the interconnection with other systems.

Chapter II - The Institute of Legal Information Theory and Techniques (ITTIG) of CNR. From the automation of legal documentation to expert systems and legimatics (p. 169)

by Elio Fameli, Pietro Mercatali, Mario Ragona, Daniela Tiscornia

The chapter is an overview of the main projects of ITTIG in the field of legal informatics, starting with legal automatic documentation at the end of the Sixties: the Legal Italian Dictionary and DoGi, the legal articles data base. It continues with the presentation of “Automa infortunistico” a prototype considered as the first of a sequence of successful projects in the field of expert systems and artificial intelligence and law that culminated in the international conferences “Logica, Informatica e Diritto”. The third part of the chapter is dedicated to legimatics a new discipline that collocated ITTIG in an international context with the participation in important European projects. In the last decade Legimatics has played an important role in the Institute’s research: from the project “Norme in rete” sponsored by the Italian Ministry of Justice to the software for drafting legislative and administrative texts.

Chapter III - The Chamber of deputies and legal informatics (p. 229)

by Elena Candia, Mario Panizza, Enrico Paradiso

This chapter focuses on the activities undertaken over time by the Chamber of deputies, also thanks to the engagement of the members of Parliament and to a network of relations linking the national Parliament, regional legislatures, the academic world and researchers. It is divided into an introduction and four paragraphs. The first paragraph describes the project for the full-text digitalisation of Italian legislation, which was launched in the late Sixties as a ground-breaking initiative. The second paragraph deals with the IT treatment of pre-legislative activities. The third pertains to the digitization of the parliamentary records of the Subalpine Parliament and the Kingdom of Italy. The fourth paragraph focuses on the latest technological innovations introduced by the Chamber of deputies, also as a tool to ensure administrative transparency, and notably on the open-format publication of data on the website.

Chapter IV - The Senate and the evolution of the parliamentary information system (p. 259)

by Carlo Marchetti

This chapter summarizes forty years of the Senate IT information system, with a particular focus on those public access services that have contributed to the history of Italian legal informatics. An account is provided of the development of data bases on Senate business since the early 1970s, both in terms of managed contents (legislative and non legislative records, texts of bills and classification by subject

matter, etc.) and in terms of interfaces (from punched cards and terminals or terminal emulators to the Internet site and ebooks). A description follows of landmark events in the development of the Senate website, from its inception in 1996 to its rapid growth into an invaluable resource for searches on the various stages of bills and parliamentary business, both current and past. An *ad hoc* section deals with applied research projects conducted by the Senate in cooperation with several domestic and international research centres, aimed at creating innovative services with a high added value for end user. The final passages focus on the latest applications implemented and some possible future developments of the Senate parliamentary information system.

Chapter V - The CIRSFID and legal informatics (p. 285)

by Monica Palmirani

The chapter outlines the birth and development of legal informatics at the University of Bologna, and consequently also the various phases of the evolution of CIRSFID, which has taken on a role as promoter of this discipline at local, national, and international level. The account is based on two historical sources: (i) archival records held at the University of Bologna, which document the birth of this research centre, offering a snapshot of the initiatives launched by the centre itself in the effort to make a place for legal informatics as a university discipline, and (ii) numerous interviews with the founder of CIRSFID, Prof. Enrico Pattaro, and with Prof. Giovanni Sartor as sources of oral history on which to rely in rounding out the narrative where the records are gappy. After this historical account, the contribution shifts focus to the present, outlining the method, characteristics, and activities of legal informatics in Bologna, such as its cross-disciplinary and international emphasis and its stress on the practical application of theoretical investigation. Finally, the contribution turns to the future of legal informatics as a discipline that proceeds on an analytical and philosophical approach to see how new technologies — the ones now in use as well as those in development — can be put to use so as to fully exploit their potential consistently with the legal and ethical principles by which that use is framed.

Chapter VI - The Institute of Interpretation Theory and of Legal Informatics of “La Sapienza” University (p. 305)

by Vittorio Frosini (with an introductory note of Tommaso Edoardo Frosini)

The chapter reproduces an essay by Vittorio Frosini (passed away in 2001) entitled *La teoria dell'interpretazione giuridica e del diritto informatico: uno sguardo sul presente* / *The legal interpretation theory and computer law: a look on the present* published in the volume “Esperienze giuridiche del '900 / Legal experiences of XX century” (Milano, Giuffrè, 2000, pp. 1-13) edited by F. Modugno. The contribution is preceded by an introductory note of his son Tommaso Edoardo Frosini.

**Chapter VII - Implementations in historical and legal domains
between legal informatics and digital humanities: the role
of the Inter-University Centre for Computing Research
on Roman Law (CIR) of the University of Catania (p. 317)**

by Nicola Palazzolo

The chapter provides a brief outline of the studies and computer applications in the historical-legal domain, in particular in Roman law. After a few hints on the origin of informatics applied to Roman law and early experimental products, the scientific activity of the “Centro interuniversitario per l’informatica romanistica” and its main products (BIA on CD-Rom, BD-ROM, BIA-Net) are illustrated. The theoretical and practical problems encountered, and the solutions found are discussed, with the aim of producing a critical edition of the Roman legal sources archive, starting from the second edition of BIA on CD-Rom, and especially in the online edition (BIA-Net). The common elements of historical-legal informatics and of the computer applications to the humanities are the digitization of sources, the related need for shared standards and the evaluation of philological correctness of the texts. It is also emphasized that the recent birth of the “Associazione per l’informatica umanistica e la cultura digitale” has given the opportunity to start a dialogue between philologists and historians of law that is already bearing some interesting results.

**Chapter VIII - Publishing initiatives and information technologies
in the field of computer science and law (p. 343)**

by Giovanni Pascuzzi

The editorial products are the tools through which legal thinking is represented, stored and transmitted. Moving from the notion of literary genre (in the legal field) the essay is divided into three directions.

First, it highlights the publications that have explored in a systematic way the issue of information technology and law (consider, for example, the Series “Informatica e ordinamento giuridico” published by Giuffrè; “Informatica giuridica” published by Giappichelli; “Digitalica. Collana di Informatica giuridica” edited by Pagallo; “Diritto dell’informatica” published by Giuffrè and edited by Guido Alpa. For the reviews consider: “Informatica e diritto”; “Diritto dell’informazione e dell’informatica”; “Cyberspazio e diritto”).

The ways in which Italian publishers have dealt with the digital revolution are then highlighted, with particular reference to: the modification of the notion of editorial product and related business models (think, for example, the season of the cdrom attached to books); the preparation of electronic versions of paper products (namely the repertoires of caselaw); the birth of electronic publishing initiatives (for example: Altalex eBook; the Series “Informatica giuridica” edited by Michele Iaselli). Finally, the essay focuses on the attempts to create new editorial products by exploiting the potentiality of information technologies.

**Chapter IX - The “Informatica e diritto” International journal:
an early publishing experience (p. 361)**
by Elio Fameli

The “Informatica e diritto” journal was founded in 1975, as a periodical review edited by IDG (Institute for Legal Documentation, from 2001 known as ITTIG, Institute of Legal Information Theory and Techniques).

The journal had the specific aim to fill a serious gap in the Italian cultural and scientific context. At that time, indeed, no critical analysis had been developed yet, neither about the applications of informatics to law (the so called “legal informatics”, in its strict sense), nor about the several legal problems which are determined by new information technologies and by their application to the various fields of individual and social life (the so called “computer law”).

The journal was published first by Le Monnier in Florence (1975-1991) and then by ESI (Edizioni Scientifiche Italiane) in Naples (from 1992 to now). It inherited from its predecessor (the “Bollettino bibliografico d’informatica generale e applicata al diritto”, published by the Institute from 1971 to 1973) the goal to publish a complete bibliography of these branches of knowledge.

A particular attention was and is still dedicated both to the new subjects coming to light in the principal fields of computer application to law, and to the developments of legal informatics and computer law. Since the beginning, the review has been organized in three sectors. One is dedicated to a wide and articulated bibliographic documentation, whereas the “Sistemi e applicazioni” and “Studi e ricerche” sections concern computer applications to law as well as to the legal, political and sociological aspects of the new information and communication technologies. Theoretical problems of information and data processing are also considered.

In this chapter, the beginnings and the motivations of this significant initiative, its scientific aims and structural features, as well as its fields of interest and evolutionary steps are illustrated in a synthetic manner. Furthermore, the Author focuses his attention on the importance and the variety of the topics illustrated in the numerous monographic issues published within the “Informatica e diritto” journal. They truly reflect the technological innovations and the legal revolutions that have deeply marked these forty years of the journal history.

THIRD SECTION - THE INTERNATIONAL VOICES

**Chapter I - Let there be LITE:
a brief history of legal information retrieval (p. 395)**
by Jon Bing

This chapter charts the growth of national and global legal information systems including both commercial systems such as LEXIS, state funded national systems and free access systems such as those represented under the WorldLII umbrella.

It suggests that the vision of an integrated national electronic information system was always likely to remain unfulfilled because of changes in technology and complexity of jurisdictions. In the circumstances it suggests both pluralism and the development of global cooperation.

Chapter II - Conversations with foreign experts and scholars (p. 421)
by Ginevra Peruginelli

The chapter collects the thoughts, experiences, projects by leading experts around the world (M. Badeva-Bright, T.R. Bruce, F. Galindo, G. Greenleaf, M. Herberger, J.A. de Oliveira Lima, Y. Matsuura, A.H. Paliwala, P. Petitcollot, D. Poulin, E. Schweighofer, P. Zhang) who have worked actively at the development of legal informatics, following the historical evolution of this discipline. The discussion of the various topics has mainly an historical perspective, focusing on new challenges and opportunities that the relationship between law and information technology implies, while providing evidence to personal experiences that the authors intended to highlight.

FOURTH SECTION - THE DEBATE AT ITTIG

Chapter I - Legal informatics and public administration (p. 483)
by Manola Cherubini, Francesco Romano

The emanation of the Legislative Decree No. 82 of 7 March 2005, Digital Administration Code, has completed the first step of the Public Administration innovation process, which begun in the Nineties. Hereafter the ever growing technological innovations, and the need to revive some institutions designed to digitize the PA (but proved to be not very incisive), have induced the legislator to intervene again on the matter. Therefore starting by examining these new regulations and their reform goals, we analysed some topics that legal informatics and specially ITTIG will provide for the future of a PA increasingly using new technologies not only in its interaction with users but also in data exchange with other PAs.

**Chapter II - Legal lexicography and information storage and retrieval:
 tools for legal language comprehension (p. 499)**
by Maria-Teresa Sagri

The archives of the Italian legal vocabulary have been created by ITTIG over more than thirty years, through the selection of almost two thousand lexical legal texts choosing the original editions. These databases cover the entire span of history in which the Italian legal language has been formed from the first legal document dated 960. Initially this resources intended to provide the documentary basis for the preparation of "legal vocabulary of the Italian language" now, the archives are accessible on-line databases. These resources are an indispensable product for exploring diachronic linguistic scene, and represent an enormous cultural heritage, known and appreciated by the entire scientific community, otherwise subject to the risk

of deterioration. The very strong awareness of the importance and rarity of preserved documents induces a profound rethinking of technical support of resources in order to develop an instrument more in tune with the changing needs of sharing knowledge. This implies a methodological revolution, where a system of integrated information can more easily make documents accessible, interpretable, and also provide the basis for the development of further studies and research. This may be an alternative incentive to facilitate initiatives aimed at bringing together existing digital content and access to support and facilitate the sharing of European culture-scientific heritage and opening the field to interdisciplinarity and cooperation between scientific knowledge. This project hopes that the new and strong changes of language aren't a view to break with the past, but rather that these changes can find a deeper connotation and their reason for being in the legacies of the past.

**Chapter III - Natural Language Processing:
models and applications in the legal domain (p. 521)**

by Fabrizio Turchi

Natural Language Processing (NLP) in a broad meaning concerns any kind of computer treatment of human language. It may be as simple as extracting words to analyze and spot specific writing patterns, or it may involve understanding tasks such as part of speech tagging and parsing human utterances. The kinds of NLP applications in the legal field range from automatic texts classification, finding and classifying named entities to automatic building up of domain ontologies.

**Chapter IV - Accessing and understanding the law:
the role of semantic tools and expert systems (p. 535)**

by Maria Angela Biasiotti

Understanding law implies getting knowledge of and understanding the rules that regulate concretely a case. The idea guiding the drafting of this chapter arises from the matter of fact that a systematic gap does exist in the web between available and accessible legal information and chances offered to users to catch and understand its real meaning (effectiveness, context, time validity, etc.). This gap is equally spread among experts and no experts users, independently from their background. Concretely, exercising a right implies knowing the existence of such right and acquiring all necessary information relating to it. This implies, from one side, searching and retrieving documents where rights and duties are duly listed and regulated (source approach), and from the other side, understanding these sources of law by contextualising and reading them together with other sources of law in order to clarify the effectiveness and the context (content approach). Therefore, this chapter aims at analysing, even if not in details, what has been realized up to now by legal informatics research in order to pave and enhance the retrieval of relevant legal information on the Web and its real understanding. Among others, the attention is devoted to explore the role played by expert systems within this context and to analyze implemented applications in the legal field. By doing this, critical issues are

highlighted also with the final aim to propose possible and future perspectives in line with the semantic web approach.

Chapter V - Free access to law: stakeholders and trends (p. 551)

by Ginevra Peruginelli

The main forces that have led to sensitive changes in our society are represented by the Internet and its globalization process. They (both analysed separately) form a *unicum* when considered in their specific implications on the process of retrieving and accessing legal information.

Starting from 1990, the web has provided the key element required for free public access to legal information: a low or no cost distribution mechanism. In many countries the first attempts to exploit the advantages of the web for providing legal information have originated within the academic sector rather than government, and did so with an explicit ideology of free access provision. In this context a group of organizations, known as “legal information institutes” or “LIIs” is working together for widespread free access to law. These institutions publish legal information from more than one source (not just “their own” information) for free access via the Internet and mutually collaborate both politically and technically through membership of the “Free Access to Law Movement” (FALM), a loose affiliation of 40 members from countries all over the world.

The chapter is devoted to a discussion on the issues concerning the provision of free access to law in the global society, analysing the worldwide activity of LIIs. In particular it investigates open access policies and economic models, which can contribute to make law fully understandable while enhancing each State’s fundamental interaction with its citizens.

Chapter VI - Semantic web and legal knowledge representation (p. 567)

by Enrico Francesconi

Nowadays the Internet is the main source of knowledge of law for both professionals and citizens: in this context the development of the semantic web in the legal domain may represent an effective instrument for creating advanced access services to legal information. In this chapter Italian and International initiatives for the development of the semantic web in the legal domain, carried on in the last few years, are shown. Similarly the virtuous relationships that can be established with the initiatives aimed at fostering an open data approach and free access to public sector information are discussed.

Chapter VII - From legal information to legal open data (p. 581)

by Tommaso Agnoloni

The recent evolution in web technologies and their increasing impact in social life are determining a growing importance of public information on the web,

pushed by the “Open Government” and “Open Data” movements that reclaim for transparency and freedom of access. Among public sector information, legal information, for its countless implications, plays a central role. The applicative potential of the “Linked Open Data” model lies in the possibility to create innovative services able to integrate heterogeneous data coming from different and distributed sources. Legal data are indeed characterized by an extreme fragmentation, variety of typologies, richness of connections and availability in a variety of sources. The free and open publication on the web of primary legal information in open and interoperable formats is therefore an essential requisite to imagine new modalities of integrated access exploiting the potentialities of this new model and allowing to overcome existing barriers. Starting from the “Linked Data Principles” and the “5 stars model”, which describe the steps to be taken to build an infrastructure of mashable data of increasing quality, this chapter analyzes how these principles can be implemented in the legal domain and the potentialities offered by the “Linked Data Model” in order to design innovative information services fed by a network of public domain legal data of increasing quality, reliability and timeliness.

**Chapter VIII - Computational social science, law, legal informatics
(towards computational legal science) (p. 603)**

by Sebastiano Faro

Legal informatics has been developed on the basis of the idea that the world of law could not ignore the profound changes in society brought about by the development of computer science and, in more general terms, of information and communication technologies; from this conviction the legal scholars' interest in computing and new technologies was born as a set of tools, techniques, methodologies and approaches able to propose a new way of understanding and dealing with legal phenomena and also for supporting the activities of the lawyer. Among the possible future evolutions of legal informatics, this chapter emphasizes how this discipline, thanks to its method and interdisciplinary research program, can play a key role in mediating the encounter between law and the emerging research area called “computational social science”. This is an intersection between social sciences, informatics and the sciences of complexity, with which law will come inevitably into contact.

**Chapter IX - ICT and the law:
some proposals for the new millennium (p. 621)**

by Marina Pietrangelo

This chapter is about the relation between ICT and law, with special attention paid to the key features of computer law. Considering the main literature on the topic, it purports to delineate the time course of this relation, in order to understand its prospects in a foreseeable future.

The author offers a compilation of topics which are to be studied in depth, in the hope that those topics may in the future be examined by ‘jurists who know

what ICT is'. That is to say: legal scholars who are fully aware of the relevance of ICT in a transformed society and therefore of the necessary maintenance of the law regulating the matter.

**Afterword. Reflecting on legal informatics:
a challenge for politics and society (p. 635)**
by Rosa Maria Di Giorgi

The contribution represents the view of one who is actively working for the simplification of the normative and administrative work flow. A new approach must be established on the relationship between citizens and the Public Administration, a relationship that should be based on a new perception of the State. In this context, legal informatics plays an essential role in achieving the three key factors of a modern State: simplicity, culture and democracy in the cyberspace era.