

Studi e Ricerche

Towards Information Law*

VITTORIO FROSINI**

1. RECOLLECTION OF AN INAUGURAL LECTURE

Dante Alighieri, in his voyage exploring the hereafter, having descended into the fourth «bolgia» of hell, declared that «of a new pain I must make verses»: new or, in other words, unusual and strange. He had, in fact, come into view of the place where diviners, soothsayers and prophets are punished; or all those who wished to foresee the future; and who, through the punitive law of retaliation, are now forced to look behind as they walk backwards, because they have their heads turned facing over their shoulders:

«for the face was turned towards the loins
and they had to come backwards,
since seeing forward was denied them»¹.

* Pubblichiamo il testo della relazione tenuta il 16 marzo 1995 dal prof. Vittorio Frosini nella Ceremony Hall della Università di Oslo per la celebrazione del XXV anniversario della fondazione dello Institutt for rettsinformatik diretto dal prof. Jon Bing. In tale occasione, il Norwegian Research Center for Computer and Law (NRCCCL) ha radunato i sette pionieri dell'informatica giuridica nel mondo: oltre al prof. V. Frosini hanno partecipato i professori Colin Tapper (Oxford), Layman Allen (Michigan), Peter Seipel (Stockholm), Spiros Simitis (Frankfurt am Main), Lucien Mehl (Paris), Ejan Mackaay (Montréal): alcuni dei quali membri corrispondenti del Comitato Scientifico della nostra Rivista. Ad ognuno dei sette invitati è stata intitolata un'aula dell'Istituto d'informatica giuridica, che ha sede nell'edificio della Facoltà di Giurisprudenza: al prof. V. Frosini, Presidente del Comitato Scientifico della nostra Rivista, è stata intitolata la stanza delle riunioni (*Moterom*, n. 436) dell'Istituto. Si è reso in tal modo omaggio al contributo dato dagli studiosi italiani alla disciplina, presente ed operante con grande prestigio nella comunità accademica norvegese come in quella di altri Paesi di civiltà tecnologica avanzata; a differenza che in Italia, dove essa resta a fare da Cenerentola confusa nel gruppo di appartenenza delle discipline filosofico-giuridiche, e ciò malgrado il riconoscimento internazionale dei contributi offerti dalla dottrina e la presenza di un'articolata legislazione di diritto dell'informatica. (C.C.)

** Professor of Theory of Legal Interpretation at the University «La Sapienza» of Rome. This Lecture was presented on March 16, 1995, at the Norwegian Research Center for Computer and Law, University of Oslo.

¹ Dante Alighieri, *The Divine Comedy, I: Inferno*, Italian text with translation and commentary by J.D. Sinclair, Oxford Univ. Press, 1961; Canto XX, verses 13-15.

And this is, in fact, the destiny of those who believe they can predict the future: after a period of time has passed, they are forced to look back, so they can compare their predictions with what has actually happened and, therefore, foresight needs to be inverted and put into retrospective. It is now my turn to submit to this law.

On December 18, 1965, I gave my inaugural lecture, as the new Professor of the chair of Philosophy of law at the University of Catania, on the relationships between *Humanism and Technology in Jurisprudence*². It was, as usual in those days before the students' protest movement in 1968, a magnificent and festive ceremony, attended not only by students and colleagues, but also by political authorities and judges. I was told later that some of the judges have been cautious and doubtful in their comments, although they had all politely applauded.

In fact, the prediction made in my speech that the computer would become an aid in the administration of justice, whereby what I called «artificial law» would be created, caused some alarm. This, I must say, was justified in society as it was then, in which resorting to new, automated methods and tools still seemed to be related to science fiction. In that year, the first computer I had been able to see in operation had been installed at the Faculty of Mathematics of the University of Catania: it was an IBM computer, manufactured in 1960. But less than two years later, in 1967, a group of judges from the Massimario (the Law Reporting Office) of the Italian Supreme Court began creating an electronic documentation centre, whose initial results were presented in Rome on March 21, 1969³.

2. PAST AND PRESENT IN THE RELATIONSHIP BETWEEN INFORMATICS AND LAW

I will not retrace here the mental itinerary that, initially in the USA and later in Europe, led lawyers, from the date of publication of Lee Loewinger's article "*Jurimetrics. The Next Step Forward*" in 1949 up to 1965 when I gave my inaugural lecture, to become interested in the possible applications

² The text of this lecture was published in the *Rivista Internazionale di Filosofia del diritto*, XLIII, 1966, pp. 151-168; transl. in Spanish, in *Ciencia Juridica - Simposio*, Vol. I, Buenos Aires, 1970, pp. 473-494.

³ See my paper *Il cittadino e il calcolatore nell'esperienza giuridica italiana*, in *Atti del colloquio internazionale su «Informatica e diritto»* (Pavia 1972), Roma, 1974, pp. 29-39; trans. in German, in *Datenverarbeitung im Recht*, Band 2, Heft 2/3, pp. 195-206, and in Spanish, in *Anuario de Filosofia del Derecho*, Madrid, 1974-XVII, pp. 350-366.

of the computer to their specific field of competence. I prefer, instead, to measure the mental distance that separates us from those days and expectations, by noting that in the space of thirty years the problems of computer law, not only with respect to the techniques for computer management, but also regarding the informatics «property» they produce, have been added to the problems of legal informatics, or to the use of the computer's operational methodology and tools for legal research. From «computer in the law» to the «law of the computer».

These new problems are, therefore, strictly legal problems, related to the different aspects of that concept of property in the various branches of the law: civil, commercial, criminal, administrative, procedural and even constitutional and international law. These thin limbs are joined to a single body, in a new scientific legal discipline which is acknowledged to have a uniform centre corresponding to its original nucleus: or, in other words, to use an old but still vivid metaphor, a soul has been breathed in the body represented by the automated information. It is a new kind of information, adopted in our era of technological civilisation, after early times: when information passed on by word of mouth or by gestures, by symbolic designs and by the written word and then by printing and by means of electric transmission, up until today's electronic «reification»: that is, the information has been made a «res», a thing, an object, which can be stored, manipulated, sold or stolen.

Discoveries in technology, that opened the way to the new epoch in which we are living, have been mentioned because they appear in a new world in a new form and with new legal problems: that makes the difference between the time when I delivered my inaugural lecture in Catania and these days when I am speaking in Oslo.

It should be mentioned with respect to the invention of printing that a newspaper with its electronically stored files, electronic editing and publishing and remote transmission, has now become an informatics and telematics product. The telegraph has evolved into links via telex and then telefax: a widespread and private communication network that has done away with the telegraph pylons and wires and is no longer the monopoly of public offices. The telephone, now also free of cables, has become the mobile telephone, which is also a form of private radio transmission through radial air waves. The television picture is also transmitted now through computerised data signals and is received on a worldwide scale via artificial satellites. It is, therefore, an application of telematics, which is the new dimension of informatics. The telematics message is defined as information transmitted in the fourth dimension, that of pure knowledge, similar to

that of the human memory and thought, because electronic data processing is carried out at a speed measured in millionths of a second, and its transmission in real time cancels the distance of space and time.

These examples are perhaps sufficient to justify the definition «information society» as the dominating feature of our civilisation, as a way of living together in an advanced industrial society, but our attention must be focused here on the pre-eminent feature of the information itself. It has become an autonomous social, economic and legal asset, in so far as its form has been detached from its content from which previously it had been inseparable. In itself, it has become the raw material of computer production. At the same time, the information sector has been divided from the ternary economics services sector and is acknowledged as a quaternary sector: because value-added information has been created due to its electronic processing, and an additional value has been added through its telematic transmission. We can see from these considerations, even if they have only been touched on briefly, that there is a need to radically revise the prejudices and models that still exist in the legal world – both in the legal academia and in the judiciary – in order to construct a methodology framework that covers all the problems relating to information.

3. INFORMATICS AND THE MODERN LAW OF INFORMATION

In 1965, when I gave my inaugural lecture, although the term «informatique» had already been coined by Philippe Dreyfus in 1962 and published in the dictionary of the Académie Française, it was not yet widely known in Europe. «Cybernetics», the original term invented by Norbert Wiener, was still being used, as I myself used it in the title of my book, *Cibernetica, diritto e società*, published in 1968. The term «Jurimetrics», the name Lee Loevinger gave to the new discipline combining *jus* or law and the measurement (*metrics*), did not meet with success and neither did my proposal to call it «juritechnics». With the beginning of the sixties, «legal informatics» gained full citizenship in the Continental European legal lexicon; just as in English-speaking (common law) countries the formula «computer and law» caught on. This has recently been substituted by the term «information technology law», the name given to the first academic chair on the subject set up at the University of London in 1960.

The beginning of the seventies saw another and far greater innovation: the upcoming of special legislation on data banks and privacy protection or, in other words, on the protection of personal information. Based on

the example given by the United States, this kind of legislation spread to all industrially advanced countries during that decade and was consecrated, as the protection of a new fundamental right, in the European Convention of January 28, 1981. I have analysed the history of this legislation in other articles and papers of mine, to which I refer those who may be interested⁴, and, therefore, I would only like to mention briefly here that legal informatics, or the use of computers for automating legal data (storing, matching, retrieving) generates computer law: or the legislation aimed at regulating the use, and suppressing the abuse, of the new informatics power to be found in the possession and marketing of information. This power was counteracted by a new, subjective right of personal protection, «informatics freedom»... or the right to know and decide about one's own personal data. This has, therefore, been called, by using the perhaps somewhat bold metaphor, the right of *habeas data*.

During the eighties, some important changes and innovations in information technology occurred. The huge mainframes of the early fifties, which are considered today to be a species of extinct dinosaurs, became small and personal computers, which are thought of now like some kind of new household appliance, made their appearance with the discovery of silicon microchips. Telematics, the term used to describe the new dimension of informatics brought about by remote communications networks, began to spread. The process of standardising electronic equipment (computers, switchboards, cryptography machines, frequency converters, etc.) also began and created a common basis for considering information research and retrieval as the fundamental constituent elements of the various data processing procedures in the new data processing equipment.

It seemed, therefore, consistent at the beginning of this complex technological transformation, directed towards a single destination, to ask the question: is there such a thing as «*Information Law?*», as the Norwegian expert, Jon Bing, did in 1981. We can see how the new term «information law» was followed by a question mark, since the process we have been describing was only just beginning. Bing pointed out that the computer set the information free: whereas, previously, it was bound to its paper medium, it had now become an invisible copy of the traditional paper document

⁴ See my essay on *Informatics and the protection of individual liberties*, published by Det Juridiske Fakultets, Universitetet i Bergen, 1984, pp. 24. My essays have been collected in two books, *Informatica, diritto e società*, Milan, 1988, 2nd edition 1992 (transl. in Spanish, *Informatica y derecho*, Santa Fé de Bogotá, 1988) and *Contributi a un diritto dell'informazione*, Napoli, 1991.

and had become independent of its material support without losing its identity or role⁵.

A couple of years later, the French expert, Pierre Catala, sketched his outline of a legal theory of information by making some interesting observations: he argued that information had to be considered not simply from the point of view of its communication or, in other words, as a relationship between people, as a service; but its content also had to be considered as a product or, in other words, as property in its own right with its economic and social value. So information is thought of as the object of a real property right, in so far as it is intangible property. It has been suggested, in Italian words, that the evolution of automated machines has created a new product, the «bene giuridico informatico», a new kind of immaterial asset to be protected by the law⁶.

We can, therefore, say that there is something called «information law» that includes all the rules, definitions and legal principles referring to the mass media and to technological procedures for the electronic processing of data on which information transmission (and dissemination) is based; it includes, of course, legal norms on telematic services or telecommunications.

It is, above all, essential in the legal regulation of information law to explain one of its main components, which is the right to information, that has now become automated information. This is recognised today as a citizen's right in a democratic society and, indeed, as one of the new human rights in the age of technology.

4. INFORMATICS: CIVIL LAW, CRIMINAL LAW AND THE ADMINISTRATION OF JUSTICE

The right to information is interpreted in two ways, like a double-headed Janus, with two adjoining faces: one is the active right to inform, in the sense the other of searching for and furnishing information; the other is the passive right to have access to information of a third meaning

⁵ J. Bing, *Information Law?*, in *Media Law and Practice*, 1981, n. 2, pp. 173-185; see on it my paper *Il diritto dell'informatica negli Anni Ottanta*, in *Rivista trimestrale di diritto pubblico*, 1984, pp. 390-400; trans. in French, in *Informatica e diritto*, X, 1984, pp. 63-72, and in English, in *Computer Law and Practice*, vol. 2, n. 6, 1986, pp. 196-198.

⁶ P. Catala, *Ebauche d'une théorie juridique de l'information*, in *Informatica e diritto*, vol. IX, 1983, pp. 15-32; V. Frosini, *La tutela giuridica del bene informatico*, in *Informatica e Documentazione*, A. IX, 1991, pp. 201-219; *Privacy Protection: from Informatic Freedom to the Legal Informatics Asset*, in *Law and Computers*, Milan, 1991.

of public interest. There is, however, a third meaning of the same right, that I have defined as «reflexive» and which is the right of the citizen to have access to information about himself: that is, to check, correct or refuse to propagate his own personal data loaded in a data bank. The problems involved are very complicated and varied, precisely because of the tension sometimes created between one form of this right, such as freedom of the press, and another, such as the right to one's privacy. This does not only involve so-called sensitive data or, in other words, information regarding one's private life, but may also cover public personal data. This occurred in Italy when a weekly magazine published the real names, addresses and telephone numbers (which are all public data) of actresses and well-known television personalities; thus creating, as you can easily imagine, havoc in the lives of these celebrities, besieged by their fans.

The problems created in the legal world with the new formulation of a right to privacy in terms of «informatics freedom», as far as it belongs to the subjective rights related to freedom and to social relationships, are those that have interested public opinion the most and have been, and still are, the cause of impassioned debate. Other problems, apart from these, have also arisen. Information, as legal informatics property, may relate: *a*) to the party who is its owner or addressee; but it may also relate *b*) to its creation or transformation within the technological cycle of its storage, processing and transmission, carried on by the computer (the machine or hardware) and its programs (the software).

This, in fact, means protecting not only the subjective moral integrity, but also the objective physical integrity of the data, which make up the so-called «informatics profile». It also means protecting data of another kind, those that have been personalised: namely those related to a data subjects specific activities or objectives, which he keeps and uses for his own purposes: for example, a data base built by a doctor, containing the names and clinical characteristics of his patients. And, finally, it means guaranteeing the proper use of tools that make data available and usable: or, in other words, the exercise of real rights that are inherent in information property. Therefore, issues regarding computer contracts and the protection of software emerged, initially in commercial practice and then in case law, and finally in legislation.

With regard to the former legal question, although this seemed to fall within the usual classification of contract law, there have, instead, been numerous new models, new standard forms, new liability clauses and computer warranties as their functionality is connected with the use and exploitation of information systems. As far as the latter legal question is concerned,

regarding software protection, a specific problem has arisen, related to copyright and patent law. It is not possible here to discuss the intricate issues involved in recent laws for protecting exclusive rights and property in computer programs; in the new forms of commercial relationships created by video-television information (namely the offer of goods and services through television advertising); in the current regulation of labour relations in computer-aided manufacturing and services; and still more generally, in the new kinds of civil liability and ways for obtaining compensation in relation to data protection. These are all issues that require and receive more careful attention by lawyers, because legal disputes are constantly increasing and legislation has difficulty in keeping pace with the growing development (both quantitatively and technologically) in information, nowadays informed, in a society which lives on it as the basis of its social fabric.

The importance of the new legal meaning given to automated information as property, which has the unquestionable commercial value of goods, has emphasised the fact that, while this property may be sold or leased, it may also be stolen or damaged or tampered with, resulting in moral or property damage that is at times extremely high. Loading a computer virus into an informatic system, making it unfit for use, can even send a company bankrupt, as has already actually happened. The fraudulent misappropriation of data and its unlawful manipulation can cause huge financial losses in an electronic funds transfer system. Piracy of computer software, its clandestine sale and its illegal use are recurrent episodes. There is, therefore, a new kind of crime, called computer crime, covering any illegal act or fact contravening criminal law where the computer has been involved as the object or instrument or symbol of the illegal act (when it has been used as a symbol of certainty and correctness as a means for taking advantage of the good faith of others).

The evolution from legal information to judicial information should also be emphasised. The electronic service of furnishing a global legal datum, that is, a datum including all the elements found in legislation, case law (of the upper and lower courts) and legal authority (bibliographical data), supplied to a judge by the Centre of Electronic Documentation of the Italian Supreme Court, has been supplemented by additional informatic services regarding the creation of court files, the dates when proceedings begin or expire, the procedures involved in the relationships with the parties and their legal representatives, thus giving the court an overall view of the proceedings as they are unfolding, as they progress. We have, therefore, moved from a static phase, like that of the earlier legal data banks, to a

dynamic phase in which the temporal dimension has made its entry. We have moved on from a kind of pure knowledge about the use of the computer to a form of operational activity, as the computer itself forms a network of links between facts and persons.

The computer's role in the administration of justice, however, only represents one aspect of the greater revolution in information technology occurring in the public administration where data processing has already pervaded some sectors, such as the registry offices and the taxation department, and is extending to others, such as social security, health and so on. A complete analysis would be out of place here, because my aim is to limit myself to those aspects of information technology that affect legal science more directly. I have, however, examined some of the difficulties involved in the automation of the public administration elsewhere and have also pointed out the new demands and applications made possible by informatics placed at the citizen's service, which need to be considered against the background of social change and as the consequences produced by the technological revolution⁷.

5. SOCIETY AND INFORMATION LAW

Information law extends everywhere that information technology is applied as far as legal conditions and consequences in social relationships are concerned; and if the problems relating to data banks and to transmission via telematics networks (with the inclusion today of television) have been its focal point of interest, other perspectives are opening up with the latest inventions. By way of example, all we need to do is think of the new system for photography, using a floppy disk that has eliminated light exposure film and substituted it with a digital picture that can be projected on a video or a television screen. Therefore, thousands of images, which would previously have required kilometres of film, can now be stored and enclosed in a video cassette and, when required, transmitted. Even in this case, information has become informatics property and a collection of computerised images is a modern form of image instead of semantic data banks, which will pose further questions about the legal protection of these

⁷ V. Frosini, *The social implications of the computer revolution*, in *Informatica e diritto*, XIII, 1987, 3, pp. 7-23; transl. in Spanish, in *Tecnolegis*, n. 1, pp. 3-11; Id., *Il nuovo diritto del cittadino*, in *Nuovi diritti dell'età tecnologica*, ed. by F. Riccobono, Milan, 1991, pp. 75-88.

images which are also symbolised in the informatics dimension and their integrity exposed to the risks of manipulation. Each new step that science and technology take down the path along which the post-industrial society is marching confirms, therefore, the view that information society will increasingly become a uniform technological universe.

In the present historical stage of social development, it is necessary for the legal order to provide the lawyer, and the citizen in general, with the clearest and most exact picture possible of his rights and duties in the society in which he lives and works. New demands and needs in society must be met with a new legal morphology appropriate to it. Information law should be understood as the law of the information society; but, in order to pave the way for this new law, the contribution of legal authority is required, because it will serve to point out the new structure of law.