

INFORMÁTICA, DIREITO DE AUTOR E PROPRIEDADE TECNODIGITAL (ABSTRACT)

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1. *Informática, Direito de Autor e Propriedade Tecnodigital*¹ corresponds to the academic dissertation that I have presented in 1998 at the Faculty of Law of the University of Coimbra. It is a deep and comprehensive analyse of the adaptation process of copyright law to the challenge of digital technologies at European level, regarding international requirements and different traditions of comparative law. In particular, the study is focused on the legal protection of computer programs, electronic databases and technical systems of protection and management of copyright objects.

Concerning the methods used, it follows a problematic approach to copyright law concerning protected interests and grounding values. It questions traditional concepts of "copyright" law such as authorship and ownership, originality, moral and economic rights, term of protection and management systems, essaying to understand how historically different conceptions of copyright law may imply different results in terms of adaptation of copyright law to the challenge of new technologies. In this sense, the method used focus mainly on community copyright directives, analysing whether these acts of community legislation are closer to a strict copyright approach or rather to a continental *droit d'auteur* concept.

Furthermore, it is also questioned whether copyright directives are establishing bridges between both traditional models and, at the same time, whether new forms of intellectual property such as the *sui generis* database right and technological adjuncts established at European level are not giving rise to a new branch of law which, although shares the conceptual code of copyright law does not ground itself however in traditional copyright values, at least in the sense of *droit d'auteur* systems.

The book is composed of preface, introduction, three parts divided in six chapters, conclusion, bibliography and index. Preface (pp. 5 to 7) describes the origins of the work ("*Promotionschrift*" at the University of Coimbra, 1998) and refers that some updates on legislation and doctrine were introduced. Then, it presents greetings to several persons and institutions whose contribution was very important to the research done.

¹ STVDIA IVRIDICA 55, Boletim da Faculdade de Direito, Universidade de Coimbra, Coimbra Editora, Coimbra, 2001, 858 pp. (Computer Science, Copyright Law and Techno-Digital Property, in Stvdia Ivridica 55, Law Faculty Bulletin, University of Coimbra, Coimbra Editora, Coimbra, 2001, 858 pp., ISBN 9723210037, Portuguese).

2. Introduction (pp. 15 to 46, §§ 1 to 2) places the general problem that is object of the dissertation as well as the specific questions that are addressed in that problem. The object of the dissertation is the process of adaptation of copyright law to the challenge of digital technologies at European and national levels, regarding international requirements and different traditions of comparative law. Some argued that copyright law could not either fit or survive to the new technological paradigm of digital computers. It would not be adequate to protect computer programs and electronic bases, and it would be ineffective protecting traditional works in electronic form, in special in what concerns the circulation of works in the digital worldwide web (www), the Internet.

This study essays to understand how copyright law has managed to survive in the new technological environment, and the title suggests that in this survival effort some modifications to copyright law traditional core code have been required giving rise to a new legal branch that we could name techno-digital property. This is particularly evident in what concerns reverse engineering of computer programs and *sui generis* protection granted to producers of databases. So, within the general problem, the study focus more specifically on the legal protection of computer programs, electronic databases and technical systems of protection and management of copyright objects. Moreover, the introduction enounces the adopted methodological approach.

Since the object is the adaptation of copyright law at the European level, a comparative law approach is followed in order to understand the different legal traditions of Member States from which the adopted directives on copyright law evolve. In this process it is very interesting to remark that in most cases directives are solutions of compromise which provide harmonization "a la carte", despite some degree of minimal standardization ends up to be achieved. On the other hand, the analysis of the legal instruments is always preceded by a balance of economic and social interests as well as by a consideration of the historical background of the law.

Accordingly, this book does not pretend to be a pure description of instruments of community, national and comparative law; it aims to understand these provisions in historical, economic and social context. In other words, this study seeks both for the teleology of the law having also into consideration its dogmatic frame. Finally, introduction provides a sequence of the work as well a line of research in order to present an overview of the main steps that will be given during the study.

3. Part I (pp. 47 to 212, §§ 3 to 23) addresses the state of the art concerning technology, authorship and property. Chapter 1^o (pp. 49 to 109, §§ 3 to 11) provides a "chronic of an announced metamorphosis" of copyright law describing the latest developments at both

international and community levels, in special the new WIPO Internet Copyright Treaties (1996) and the proposal for a directive on copyright law in the information society (already adopted), and the TRIPS agreement (1994).

Then, a balance of interests of the information economy is provided, and it is addressed the issue of the nature of copyright as property law as proposed by the above mentioned draft directive. In this framework, it is questioned whether the perspective of copyright as property is present in previous instruments of community law on copyright, and to better understand these instrument a comparative analysis of both traditions of copyright law is provided: on one hand, the copyright concept of common law Member States; on the other, the *droit d'auteur* model of civil Member States.

Chapter 2^o (pp. 111 to 212, §§ 12 to 23) concerns the systematic issue of intellectual property in copyright and neighbouring rights. It addresses the *disputata* and *vexata quaestio* of the legal nature of copyright focusing on the opposition between the theory of monopoly rights and the theory of property rights. Intellectual property is a traditional figure of Portuguese law, which has expressly been received by the Portuguese Civil Code of 1966 (Art. 1303^o). This Code seems to favour a “property approach” including the application of the concept of “public property” to objects of public domain.

Moreover, it is also considered that the immaterial nature of the objects of copyright law does not exclude the qualification of this special branch of private law as “property”, because in Portuguese law the concept of corporeal or tangible object only informs the right of property regulated by the Civil Code and not the other forms of property that this same Code recognizes. This means that the Portuguese Civil Code did not receive a general concept of *res* defined by the corporeal nature of the object, as provided by the German BGB (§ 90).

It is argued moreover that the Portuguese Civil Code admitted special forms of property, particularly intellectual property (copyright and industrial property), regulated out of the Civil Code in terms more analogous to the intangible nature of their objects than in consideration of a legal concept of *res* extracted out of Roman texts by the first Pandect. This means, nevertheless, that in Portuguese law the system of property law is open and dynamic, even fragmentary, since it is not limited by a dogmatic concept of corporeal thing.

However, this leads to several questions, such as: Is there a legal pattern or concept property despite the nature of the object? Are neighbouring rights new types of intellectual property? What is the constitutional framework of these rights, which are granted criminal protection? What requirements must be satisfied so that the existence of a right of property may be affirmed? Is trade-secret protection a form of intellectual property? Finally, what is the relation between copyright and commercial undertakings

law? These questions lead to the issue of intellectual property grounds. There are mainly two conventional grounds for these rights. On one hand, the "natural rights" theory, which comes in modern times from the request for the grant of patent that Leonardo da Vinci applied to Lady of Venice, and that latterly has been elaborated in philosophical terms by John Locke and Immanuel Kant. On the other hand, the "instrumental or promotional" approach which maintains that these exclusive rights are justified on grounds of promotion of creativity and novelty, despite the negative impact that they have in terms of distortion to the freedom of competition in market economies. It is argued that a bi-dimensional approach should be followed, since both arguments more than excluding one another are complementary.

Moreover, it is also essayed to frame the neighbouring rights into the constitutional law by extensive interpretation of the provision on the freedom to cultural creation (Art. 42°). Finally, chapter 2° analyses the commercial nature of several provisions of copyright law, in order to justify the adequacy of studying copyright within the scientific field of commercial undertakings law. In fact, copyright is traditionally studied as a part of civil law, and it is argued that the mixed nature of these rights justifies that they should also, at least, be studied as part of commercial and undertakings law, as industrial property rights are. Accordingly, a general and unitary concept of intellectual property is proposed, including both copyright and neighbouring rights and industrial property rights, which only follows the systematic of the Civil Code. It is recognized that such a concept of intellectual property rights is not grounded upon the corporeal nature of their objects but upon either their required human creativity or investment and the economic imperative of promoting such creativity or investment.

4. Part II (pp. 213 to 450, §§ 24 to 38) provides an analysis of tradition and novelty in copyright law. Is it divided in two chapters which provide an analysis of the *corpus iuris auctoralis* («copyright law de-codification») and an inventory of the main questions that digital technologies place to copyright law («copyright digitalization»), respectively.

Chapter 3° (pp. 215 to 385, §§ 24 to 32) addresses the fundamental categories of copyright law according to the Portuguese Copyright Code.

First, it is studied the notion of literary or artistic work, and it is questioned whether it is capable of assimilating computer programs, computer generated works, electronic databases and, in special, the so-called multimedia creations. The Portuguese Copyright Code provides a general notion of work as the creation of any original form of literary or artistic expression by any means exteriorized. This general notion is then illustrated by an exemplificative catalogue of intellectual creations, which does not refer computer

programs etc. They could however be protected as works not nominated. Case-law has maintained this approach concerning computer programs. However, doctrine was not consensual on this issue. Nonetheless, it seems that in so far as they were original and exteriorized they could be protected by the Code. Accordingly, only protection for computer generated works could receive no protection because there was no human creation.

Secondly, it is addressed the distinction between authorship and ownership of rights. It is argued that the provisions of Portuguese Civil Code concerning this issue should be interpreted according to the principle of authorship («*Urheberschaftgrundsatz*»). It means that where the Code seems literally to admit that the author may be someone (even a legal person) but the creator such provisions should be correctively interpreted so that the meaning is that the author assigns (*cession legis*) his economic rights to the owner; however, he keeps his moral rights. This interpretation applies to several groups of cases, such as namely collective works and works made for hire. But this interpretation confronts with traditional reading according to which these situations would be cases of exceptions to the principle of authorship: moral rights simply there wouldn't be in these cases. However, higher jurisprudence is undisputed affirming that the only constituting fact of copyright is the creation of the work. It means that the right is "born" with the creation of the work by the author.

Then, the contents of copyright law are analysed. On one hand, the so-called moral rights of paternity and integrity to protect the honour and reputation of the author as artistic or literary creator. These moral rights are considered to be special forms of protection of the personality rights of the author. It means that other moral rights not expressly provided by the Code should be admitted. This interpretation is based upon the theory of rights of personality consecrated by the Portuguese Civil Code (Art. 70º). On the other hand, the economic rights are addressed in several dimensions. First, the Code provides a very large concept of right of use. It seems that every use of a protected work falls, in principle, in the exclusive rights of the owner.

Moreover, the Code regulates typical uses (by contract), such as edition, broadcasting and audiovisual production. However, this regulated uses do not exhaust all forms of use, meaning that other forms of use are also, in principle, submitted to the copyright holder authorization. The question is then what is a copyright relevant use. A negative delimitation of the right of use is essayed, in terms of excluding from the exclusive right uses of home or domestic nature. In certain situations, the authorization may not be required but it is necessary to pay a compensation for such use (i.e. public communication

of broadcasted works). This makes a distinction in terms of criminal liability, but such use is still copyright relevant.

Another question that is raised is the inexistence of a system of types of uses. The exclusive right of use seems to fragment in multiple chaotic forms without a system. Having in consideration comparative law experiences and the European copyright directives it is argued that a systematic ordination of the right of use should distinguish four main forms of use: reproduction, "derivation", communication to the public and distribution. Each of these sub-rights of use is submitted to common rules.

The same applies to limits and exceptions to the right. These limits and exceptions are analysed and the interests they promote are considered, in special in what concerns the free flow of information and media activities, education, science and research, culture and free speech. Moreover, other limits are analysed, particularly time (term of protection) and space (territoriality) limits. Finally, it is addressed the issue of copyright management, in special in what concerns the need and role of collective copyright management societies.

Chapter 4^o (pp. 387 to 450, §§ 33 to 38) questions copyright law in what concerns the new possibilities of digital technologies. Portuguese copyright law has been modulated according to the requirements of the analogue technology. It seems quite clear that it does not yet provide clear answers to the new technical problems.

At several international academic meetings it was questioned the ability of copyright law to cope with the challenge of the new technical developments. Some argued that copyright should be buried as soon as possible since it was an artefact of Gutenberg's printing press, providing regulations for the atom economy. Others maintained that copyright law had never been more alive, that the development of copyright was a process of adaptation to the new possibilities of technology and, finally, that digital technologies meant nothing more than just another step of the improvement of a law that would be now more important than ever. But how does digital technology challenge copyright law?

To begin with, in digital form a work loses its unity. A literary or artistic work becomes nothing more than a sequence of digits or bytes. It is not possible to distinguish a priori the literary or artistic content these digits carry since their perception is always dependent upon the use of a computer machine. Moreover, the notion of author as a human creator is challenged by the ability of artificial intelligence agents that not only are used to assist the creation of works but also are capable of "creating" literary or artistic works. What will be the future of human creation of works of authorship when computers can do it faster and better? Will there still be room left for human authors in a computerized entertainment environment of artificial creations? Thirdly, how is it possible to distinguish reproduction from communication to the public when in computer

terms it is always about reproduction? But if the reproduction right is strictly applied will that not block the functioning of electronic networks since all online service providers, be they access, mere conduit or hosting providers, would be regarded as users of copyrighted works?

How will the right of distribution apply in a networked environment? Will it apply only to distribution of tangible copies and not be considered when considering electronic deliveries? Will that mean that there is no international or community exhaustion of the right of distribution concerning direct electronic commerce? Why?

Moreover, it has been said that "the answer to the machine is in the machine". However, where will this strict techno-approach lead copyright law to? Is there a technological law in gestation? The announced "brave new world of copyright" is the brave new world of "copyright *ex machina*"? But what will happen to traditional copyright exceptions? Will they be erased by technological adjuncts in the digital environment? Is that protection justified when there is no copyright because the work is not original or did already run the term of protection? Will in such cases the *sui generis* database right provide grounds of protection against all unauthorised accesses? Does the promotion of the information and technology markets require such drastic legal measures in terms of access to the information? What will be the future of the imperative of interoperability of computer systems and electronic communications in such a legal framework? Finally, is copyright law being replaced by some sort of techno-digital property that justifies "electrifying the fence" and blocking access to the public? Chapter 4° is an inventory of these questions. After the analysis of the *corpus iuris auctoralis* in chapter 3°, it questions how and whether this body of law will be capable of providing answers to these problems.

5. Part III (pp. 451 to 780, §§ 39 to 55) seeks for the answers that have been provided to these questions at community level, having also into consideration experiences of comparative law. It addresses cyberspace intellectual property issues from a copyright community law perspective, which sets the legal patterns that Member States have to comply with. Special importance to the meaning and value of community directives is given, considering specially the case-law of the European Court of Justice.

Chapter 5° (pp. 453 to 631, § 39 50) analyses traditional copyright law issues concerning the legal protection of computer programs, databases and the protection of other works in the digital environment. First, it addresses the harmonization measures concerning the scope, object and requirements of protection by copyright law of computer programs and databases. In special, the object of protection of computer programs is controversial, since a definition of computer program is not provided by the directive.

Secondly, it analyses the provisions on authorship and ownership of copyright concerning computer programs and databases. It concludes that the database directive provides a much more rigorous framework than the software directive, which seems to be very influenced by a strict Common-Law copyright approach. Thirdly, the problem of moral rights is addressed in what concerns community provisions in this field. Despite no positive harmonization is thereby provided, it is argued that both directives require Member States to comply at least with the minimal provisions of the Berne Convention concerning moral rights. In order to support this approach even English authors are quoted. Fourthly, the harmonization of the catalogue of economic rights is analysed: the right of distribution, the right of preparing derivative works, the right of interactive communication to the public and the right of distribution.

The right of reproduction places delicate questions in the digital environment since, in technical terms, computers work upon reproduction of work. Which reproductions are deemed to be copyright relevant? Here a distinction is to be made between the software and databases directives and the directive on copyright for the information society. It seems that the first ones provide a much stricter right of reproduction than the latter one, which allows private use and other general interest exceptions, and provides exemptions for providers of access, mere conduit and hosting services.

Then, the right of transformation has a special role to play concerning computer programs and databases. It is argued that the software directive aims to promote the free competition of maintenance services, allowing users to contract these services to an independent software house.

The right of communication to the public has been defined in terms of including online interactive transmissions. It was very questioned in which right this use should be included. Diverging opinions balanced from the right of communication to the right of distribution. Some even proposed the construction of a new type of right. However, the final solution has been to include it in the family of the right of communication. But this solution is controversial, since it means that electronic deliveries are excluded from the right of distribution, which appears restricted to corporeal objects or tangible copies. It means also that electronic deliveries of works will not be subject to the principle of community exhaustion that is provided for the right of distribution. This solution may be justified by practical reasons but it means a restriction to users' rights and free trade.

Finally, the instruments of community copyright harmonization also provide limits and exceptions to the exclusive rights of intellectual property. Concerning computer programs these restrictions are very limited. Concerning works in general the community directive provides a menu of limits of exceptions that each Member State may adopt in order to

adequate its copyright law to its cultural, education, research, information policies. The solution may turn out to be some how fuzzy, since a harmonization will only be achieved in negative terms, because Member States cannot adopt other exceptions.

Chapter 6^o (pp. 633 to 780, §§ 51 to 55) analyses the *sui generis* exclusive rights that community legislation has created to protect computer software, multimedia databases and the use of works in the Internet. It is an analysis in the “borders of copyright law” because the construction of these rights is made upon the concepts of copyright law but traditional categories of value of copyright law are no longer required. This chapter is about strict “techno-digital” property. Solutions that were provided under unfair competition rules in civil law countries are integrated into a Common law type system of intellectual property rights.

To begin with, it analyses the regulation of software reverse engineering. The software directive exempted reverse engineering operations for purposes of interoperability among computer programs. However, at the same time, it has provided that the use of information obtained by reverse engineering is not lawful if it is used for other purposes, even if it does not infringe copyright law. It means that a new exclusive right is created, which is a form of legal protection of secrets. At the same time, the regulation of reverse engineering as little to do with copyright over traditional literary works. Does it make sense to regulate the “deconstruction” of a romance?

Then it also addresses the *sui generis* right that community legislation has granted to database producers to in order to promote the establishment of these undertaking in the European market. However, this right raises a number of concerns, since it is only designed to protect investment as such and most of the traditional exceptions to copyright simply don't apply to this enigmatic right. A important public policy concern is raised since this new IP right allows the appropriation of public information and does not allow general interest uses that are traditionally justified under copyright law.

Another issue is the legal protection of technical systems of protection and management of copyright (and other rights) objects. As mentioned above, these technical protection systems seem to establish a technical copyright, a kind of copyright ex machine, which grants more powers than copyright law. In the end, it may turn copyright to be completely unnecessary. However, copyright legislation is called to prohibit the circumventing of technical protection systems, establishing at the same time another circle of protection around informational contents that information traders wish to explore. Copyright become a normative chapter of a system of protection of conditional access services. The logic of these systems is pre-payment and consequently legitimate users become only pay-per-view users. Artistic and literary works become pure trade

commodities. The EU directive on copyright in the information society leaves up to Member States the establishment of derogations to the protection of technical systems, and, consequently, the adequacy of their copyright legislation to their cultural and educational policies. The result is unpredictable, but a mosaic of exceptions may be anticipated since Member States depart from such different traditions. If the construction of a single market of information electronic services was the desired goal than it will be needed to wait and see how lobbies will conform the legislation making in each Member State.

This chapter closes with the study of a group of cases concerning special measures of protection against any act of putting into circulation, or the possession for commercial purposes of, any means the sole intended purpose of which is to facilitate the unauthorized removal or circumvention of any technical device which may have been applied to protect a computer program against decompilation («reverse engineering»). This section aims to clarify whether and how the imperative of interoperability justifies acts of circumvention of technical devices which have been used to protect computer programs against decompilation.

Accordingly, it is a practical review of the legal protection of computer programs, addressing specifically in which cases and for what purposes shall decompilation be deemed lawful and therefore in which situations shall such “circumventing” activity prevail over those special measures of protection. Moreover, the reasoning applied to this group of cases intends to serve as model to the resolution of analogue situations, namely in what concerns the lawfulness of “circumventing” activities of anti-access technical devices of database protection.

6. Finally, the conclusion (pp. 781 to 788, § 56) of the book outlines the main steps that were given during the work, and summarily presents the research results. It is argued that in the process of adaptation to the new paradigm of digital technologies copyright law (*rectius*, “authors’ rights”) has given rise to a new form of intellectual property rights named as “techno-digital property”. The legal regulation of software decompilation, database *sui generis* protection, and protection of technical devices under copyright law makes it clear, it is argued, that a new form of property over information has been established using certain conceptual categories of copyright law but, in essence, creating a different set of rules. Moreover, it is argued that this “brave new property” raises several public policy issues that should be consciously addressed by legislators. In special, it should be noted that the creator of works of authorship seems to be gradually eclipsed by the interests of producers, and that the free flow of information and the public interest it

promotes may be severely restricted by a new property that grants monopolies over information regardless of its cultural value and significance. This should be without surprise at community level since directives are essentially orientated by an economic logic of the market and free competition. Finally, notwithstanding, it is argued that the Portuguese legislator should implement those directives in time and provide the Courts with a set of rules that could enable them to face the challenges of digital technologies concerning copyright law. However, the enactment of such legislation should consider the above mentioned public policy concerns, instead of being strictly limited to the market and competition concerns addressed by the community directives.

7. Bibliography (pp. 789 to 847) is divided in section 1 concerning books and collective works (pp. 791 to 824) and section 2 for journal and review articles (pp. 824 to 847). A brief index (pp. 851 to 853) is provided at the end of the book.

Main Legislation: Portuguese Copyright Code and special copyright acts; Council Directive of 14 May 1991 on the legal protection of computer programs (91/250/EEC); Council Directive 92/100/EEC of 19 November 1992 on rental right and lending right and on certain rights related to copyright in the field of intellectual property; Council Directive 93/83/EEC of 27 September 1993 on the coordination of certain rules concerning copyright and rights related to copyright applicable to satellite broadcasting and cable retransmission; Council Directive 93/98/EEC of 29 October 1993 harmonizing the term of protection of copyright and certain related rights; Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases; Amended proposal for a European Parliament and Council Directive on the harmonisation of certain aspects of copyright and related rights in the Information Society (now Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society); Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (Directive on electronic commerce); Directive 98/84/EC of the European Parliament and of the Council of 20 November 1998 on the legal protection of services based on, or consisting of, conditional access.

8. As for appraisal by community, the academic dissertation this book is based upon has achieved the top mark at the University of Coimbra Law Faculty. The members of the evaluation committee were Professor Antonio Pinto Monteiro (Scientific Supervisor and President) and Rui de Figueiredo Marcos, from the University of Coimbra, and, from the

University of Lisbon, the Professor José de Oliveira Ascensão (main arguer and Portugal's most influential author on copyright law and new technologies). The book has the privilege to be published as number 55 of the famous collection of the Faculty of Law STVDIA IVRIDICA.

As far as where the findings of the book have produced new elements in regard to the current state of research it is reasonable to say that it is a deep and comprehensive analyse of the adaptation process of copyright law to the challenge of digital technologies at European level, regarding international requirements and different traditions of comparative law and focusing particularly on the legal protection of computer programs, electronic databases and technical systems of protection and management of copyright objects.

This work had a strong impact in the Portuguese legal science and it is commonly quoted as a reference book on the issue. Moreover, because of this book I have been continuously invited to present communications at post-graduate courses of law as well as at national and international conferences, seminars and other scientific meetings. Furthermore, I have also been invited by the Portuguese Copyright Office to take part of the preparatory work of the implementing legislation of the copyright directive in the information society, and the Portuguese Bar has also invited me to join the Committee for New Technologies which discusses national legislation concerning namely electronic commerce, copyright and data protection law.

Finally, because of this book, I was invited to collaborate in a study on European copyright contract law, as well as in the internet portal on electronic commerce law commissioned and sponsored by the European Commission.

Portuguese Index:

Introdução - § 1. Moldura do Problema. § 2. Linha de Análise.

Parte I. Estado Actual da Questão: Tecnologia, Autoria e Propriedade.

Capítulo 1.º - Crónica de uma Metamorfose Anunciada: § 3. Genebra, Dezembro de 1996: os Novos Tratados OMPI. § 4. Bruxelas, Dezembro de 1997: Proposta de Directiva. § 5. Marrakesh, Abril de 1994: Acordo ADPIC (Revisitado). § 6. Economia da Informação: Balanço de Interesses. § 7. Propriedade e Direito de Autor na Sociedade da Informação. § 8. Acervo Comunitário em Direito de Autor e Direitos Conexos. § 9. Convenção de Berna (Paris 1971): "Magna Carta do Direito de Autor". § 10. Harmonização e Tradições Nacionais: *Droit d'auteur v. Copyright*. § 11. Resumo e Sequência.

Capítulo 2.º - Da Propriedade Intelectual em Direito de Autor e Direitos Conexos: § 12. Natureza Jurídica do Direito de Autor: *vexata quæstio*. § 13. Monopólio *versus* Propriedade. § 14. A Propriedade Intelectual no Código Civil. § 15. Propriedade e Domínio Público. § 16. Da Coisa e sua Incorporalidade. § 17. Analogias e Natureza da Coisa. § 18. Unidade e Fragmentariedade do Sistema Jurídico. § 19. Enquadramento Sistemático dos Direitos Conexos. § 20. Alguns Problemas. § 21. Fundamentos da Propriedade Intelectual. § 22. Empresa e Direito de Autor. § 23. *Post Scriptum I* - Resultados e Perspectivas.

Parte II. Tradição e Novidade em Direito de Autor.

Capítulo 3.º - Descodificação do Direito de Autor: § 24. Rumo e Referência aos Direitos Conexos. § 25. Da Obra Literária e Artística. § 26. Criações Multimedia. § 27. Autoria e Titularidade. § 28. Traços do Conteúdo do Direito de Autor. § 29. Patrimonialidade e Direito de Utilização. § 30. Pessoalidade e Direito Moral. § 31. Temporalidade (Domínio Público Cultural) e Territorialidade. § 32. Gestão (Colectiva) do Direito de Autor.

Capítulo 4.º - Digitalização do Direito de Autor: § 33. "Lacuna" e Tecnologia Digital. § 34. Obra e Sequências de Dígitos. § 35. Autor e Criações Artificiais. § 36. Distribuição e Mercado Virtual. § 37. Tecnologia e Direito Tecnológico. § 38. *Post Scriptum II* — Direito de Autor *ex machina* (?).

Parte III. Da Propriedade Intelectual no Ciberespaço (WWW).

Capítulo 5.º - Programas de Computador, Bases de Dados Electrónicas e Direito de Autor Europeu: § 39. Significado e Valor das Directivas. § 40. Impulsos e Opções. § 41. Âmbito, Objecto e Requisitos de Protecção. § 42. Autores e Titulares de Direitos. § 43. O Silêncio dos Direitos Morais. § 44. Catálogo de Direitos Patrimoniais. § 45. Reprodução e Cópia Digital. § 46. Transformação e Derivados. § 47. Comunicação ao Público e Interactividade. § 48. Distribuição e Esgotamento (Comunitário). § 49. Excepções, Limites e Arquivos Digitais. § 50. Temporalidades.

Capítulo 6.º - *Software, Multimedia, Internet*, e Direitos de Exclusivo *sui generis*. § 51. Nas Margens do Direito de Autor. § 52. Descompilação e Interoperabilidade (Algoritmos e Dados). § 53. Informação e Direito do Produtor de Bases de Dados. § 54. Tutela Jurídica de Sistemas Técnicos de Protecção e Identificação: Criptografia, Estenografia e *Secondary Infringements*. § 55. *Post Scriptum III* - Análise de um Caso Prático: Apreensão de Dispositivos de Contornamento ou Supressão de Medidas Tecnológicas de Protecção de Programas de Computador.

Conclusão - § 56. A Propriedade Tecnodigital.

Bibliografia.

