The Protection of Software by means of Copyright Belgian and Dutch Law

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Published in:
Report of the conference on the International Legal Protection of Computer Software

Publication date:
1986

Document Version
Publisher's PDF, also known as Version of record

II.

THE PROTECTION OF SOFTWARE PROGRAMS BY MEANS OF COPYRIGHT IN BELGIAN AN DUTCH LAW

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24/26 July 1986

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APPENDICE

1. The most notable feature of this review of the Belgian and Dutch law is the field of software protection is the absence of any specific legal provisions providing for protection of software programs by copyright.

As a consequence, Belgian and Dutch legal doctrine developpement some basic principes in present interest. This paper summarizes these developments.

I .Legal Basis

2. Copyright protection has a similar basis in both countries (1). The essential principles of the Belgian Act of March 22, 1886 and and the Dutch Act of 1912 are similar :
There are identify five discernable principles common to both legal systems :

a. No formalities are required to obtain copyright protection (2) ;

b. Authors' right arise upon the creation of the work and last 50 years after the death of the copyright owner.

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* authors' rights.

c. In addition to economic aspects (publishing rights, marketing rights, publicity rights), authors' rights include privileges of a moral nature which are not assignable : "dissemination rights (the author does not offer his work to the public until he is satisfied with it) signature rights (the autor is entitled to present his work to the public under own name); right to have the work respected in its form and in its spirit;and finally right of withdrawl (the author regrets to have delivered his work to the public and decides to withdraw it).

d. Protection by copyright allows the author to take rapid action against infringement by obtaining a court order for a seizure of the infringing article. In Belgium, it is called "saisie-description"(3) ; and in the Netherlands "Auteursrechtsbeslag"(4). At the same time, it autorizes the application of penal sanctions(5) against infringers.

e. The copyright owner is normally a physical person. However, in case of an employment contract, there is nothing against transferring the rights over to the company. This action can be done in advance and relate to all rights whether economic or moral (6).

3. Before dealing with the specific question of the application of copyright legislation to computer programs, other methods of legal protection, namely patent and unfair competition, should be mentioned.

For example, the patent law applies to inventions relating to technical processes.In Belgium, the Act of March 28, 1884 is consistent with the European Patent Convention od October 5, 1973 and excludes the patentability of computer programs "as such" (7). In the Netherlands, a recent decision of the patent office (8) is, on the contrary, in favour of the patentability of programs as processes, so long as these programs are incorporated in a computer, are directly accessible and determine the operation of the computer. Furthermore, the unfair competition law enables the victim to oppose by a rapid process (unfair) practices undertaken by competitors (9).On this basis, several Belgian decisions were taken regarding the protection of computer programs (10).

II. Discussion of the principle of Applying Property Rights to Computer Programs

4. Whereas the majority of Belgian and Dutch authors and the Dutch courts are in favour of protecting computer programs by property rights (11), the recent thesis of Professor Guy Vandenberghe (12) raised three objections of principle :

- In their essence, authors' rights are not available to computer programs. They have a different final aim, which is the protection of literary and artistic works, but not the protection of innovations, which often are of an industrial nature and aim at improving productivity, an area covered by patentable achievements (13) : authors' right cover the area of art, patent rights cover the area of industry (13bis).

- Some legal provisions specific to authors' rights are unsuitable for software, in particular, the duration of protection can be a major obstacle to technical progress in an area where innovation has a very limited life span (14).

- The moral rights of the author are explained by the necessity to communicate the work to the public, that is, to human beings : However, this condition that protection should be given by copyright does not exist in computer programs. While they can be made intelligible to human senses, the instructions they contain are for the machine (14 bis).

5. These basic objections lead some authors to aigue in favour of specific legislations (15) while others object to each objection by various arguments (16).

- Belgian and Dutch law of did not exclude from its scope the protection of works of art which have industrial applications (17). "The lack of aesthetic function is insignificant since authors' rights protect not only the search for beauty but also works which have mainly scientific value, such as treatises and articles in periodicals, or which are of a technical and utiliterian nature, such as architectural plans or drawings and novels" (18).

- The long duration of protection accorded by authors' rights does not seem to be a decisive argument for rejecting the protection given by this legal means of protection. Gotzen compares the short life span of a program to that of light music which dissapears rapidly by natural death, without impeding artistic creation (19).

- The third argument advanced against protection by authors' rights; i.e. the lack of "communication to human beings" should also be rejected. This criterion cannot be derived from any legal text (20) and "music recorded on a record is not any more readable and yet does not lose its protection by authors' rights (21). In addition the program can always be translated in a form readable by specialists (22). Gotzen (23) finally adds that such a criterion, the communicability to human beings, would lead to the conclusion that the documentation (24) but not the software itself, which conflicts with the functional unity of the various stages of programming (infra, n° 16).

III. Scope of protection by copyright

6. Four issues have captured the attention of belgian and dutch legal authors :

- Copyright law protects the form but not the substance. But with respect to a computer program, where is the form and where is the substance?

- Protection by the copyright law is based upton the originality of the work. With respect to a computer program, how is originality determined?

- There may be several phases in the development of a program,i.e. documentation, programs in source code, in object code. At what phase(s) does the protection apply?

- Finally, is it necessary to provide special protection complementary for electronic video-games?

A. Computer program : Where is the form? Where is the Substance?

7. Traditionally, the distinction between form and substance applies to the computer program in the following manner :

"The substance of the program, the algorithm, is not protected by copyright law (25). The latter covers only the form of the program as well as its structure and the organization of its steps : the flow chart" (26). Thus, Gotzen (27) maintains that to change a few details would not be sufficient to fall outside the scope of copyright protection in the program. As long as the essential structure of the original remains, the modified program will be only an adaptation whose use is subject to the authorization of the author".

8. All authors recognize the difficulty of distinguishing between form and substance : "In theory, it is possible that a certain algorithm, in certain circumstances, may be considered as a 'work' within the meaning of the copyright law, especially when it concerns an algorithm adapted to one application, to be translated in a definite form" (28).

9. One of the first Dutch case concerning the protection of programs merely states : "It is obvious that an idea can in no way enjoy protection by copyright. However, a computer program can be considered as a work within the meaning of the copyright law" (29).

A second decision of the same Court (30) leads one to believe that in any case the "form" does not designate the purely external form : "To design the inclusion and files, creativity was certainly necessary, and since the inclusions and files of the defendant appear to have a high degree of similarity to those of the plaintiff, which cannot be purely coincidental, there has been copyright infringement".

An examination of the second condition requirement of protection by copyright law, that is, the originality of the work, also shows that it is difficult to distinguish form and substance.

B. The Originality of the Computer Program

10. In a recent article, Vandenberghe (31) stated, in the conclusion of a comparative law study on this point, that the case law distinguishes between two levels of originality :

"The first level is what I have called statistical originality. The fact that one knows with (statistical) certainty that if two programmers write a program (of minimal length) for the same application, these programs will be different, is considered sufficient for originality. Other courts require a higher degree of originality : an individual expression, a certain creativity. An important decision in that respect is the inkassoprogram decision of May 9, 1985, of the German Supreme Court. The Court decided that in order to qualify for copyrightability, a program should be original compared with other programs, better than the work of an average programmer, and should not be the result of pure "handicraft", that is, mechanical or technical programming work. Irrelevant in deciding upon the originality of a program is its length, its function, or the investment it represents. What we have called 'statistical originality' is insufficient".

11. In Belgium and the Netherlands most legal authors and judges support the first conception of originality. Thus, Berenboom writes, with regard to the need for the Software to "express the personality" of its author : "If it appears that to solve the problem, a large number of programmers use an identical program, it can be considered as ordinary and without personality. It would be the same if the result obtained is purely fortuitous, the computer having the instruction to work at random. But usually, the problem to be solved is intricate and the programmer has several choices. The way that he follows will then be personal and the solution sufficiently original to benefit from the law" (32).

12. An examination of the Dutch jurisprudence on this criteria of protection by the copyright law is useful.
Thus, a first decision of the court of Assen, dated july 28, 1981 (33), does not seem to accept a mere statistical originality. This decision is all the more interesting because it affirms that the program of the plaintiff meets "... a minimum of creative activity in such way that it can be said to be a new and original creation" (34). In the circumstances, the criteria used for evaluation were the following :

- the infringer could have, lacking the requirements of clarity and efficiency, used another approach when writing the program;

- the costs of the original producer and the infringer were incomparable;

- the program in question was of such a nature and conception that it was distinguishable from the programs of other producers;

- the infringer used the program, that is, the trade secrets he came to known during a former employment contract or bought from a non-authorized third party.

Notwithstanding these criteria, the court concluded that the infringement was one of an exclusive right, that is, according to the court, an exclusive right contractually determined and not the "exclusive right" that certain people thought could be based upon copyright law.

This decision can be distinguished from that of the President of the Court of Assen from january 10, 1984 (35). In the case, the plaintiff claimed that the defendant had copied and commercialized a computer program intented to calculate the optimum composition of livestock feeding stuffs. The defendant based its argument mainly on the fact that the claim was without merit and that the development process therefore depended on only a limited number of choices. The court granted protection by copyright law to the plaintif on two grounds :

- The problems raised by the development of the program could be met and solved in various way;

- The creation of the program required one year and a half to two years of work from a highly qualified programmer. In contrats, the allegedly infringing program was developed in less than six months.

13. Always in respect to the requirement of originality a recent decision of the Court of Arnhem from frebuary 21, 1985 (36) adds a second thought. This decision dealt with word processing programs, of which certain functions differed and for which the programming language was different. The court considered that the program of the plaintiff could be protected by the copyright law. "The new and original nature of the programs concerned lies not in the use of elements to which a form was given, but in the fact of giving a form itself (the implementation).
In this sense, ... the programs are new and original by the fact that the programmers must have made a certain number of choices, taking into account the functions to be produced and the implementation of the programs, and therefore taking into consideration contraints such as the execution speed, the capacities of the memory of the micro-computer and the abilities of the employees".

With respect to the alleged infringing program, the decision adds that the fact of using another programming language and another display on the screen, insofar as it does not show the personal nature of the implementation.

14. Thus, the Dutch jurisprudence leads to distinction between the writing in the sense of the action of writing from the writing as a result. The originality of the form must be understood in the first meaning of the word. It is not the substance, the conception or the function of the program in themselves which are protected, neither its mere form, that is the written representation of the program, but the development of an idea to its tangible expression; that is, the expression conceived as the action to express (37). This way of thinking allows, in our view, a way to solve the "form substance" debate, as it is abstractly presented as a dichotomy in legal doctrine (38).

C. Documentation, Source Code/Object Code : At What Stage of Programming Does Protection Apply?

15. There are various stage of programming wich are included in the notion of software, according to the draft international Treaty on software protection prepared by W.I.P.O. (39) :

"i) "computer program", that is, a set of instructions which, after transfer into a machine-readable form, bring about the indication, carrying out or achievement of a particular function, job, or result by a machine capable of processing data;

ii) "program description", that is a full description of operations in a verbal, schematic, or other form with enough details to determine a set of instructions creating a corresponding computer program;

iii) "supplementary documentation", that is any documentation other than a computer program or a program description created in order to facilitate the understanding or implementation of a computer program, for example, descriptions of problems and instruction for the user.

The concept of a computer programs makes a distinction betwen the source code, that is, the language in which a program is initially written and the object code, that is, the version directly or indirectly usable by the machine (40).

16. All the authors including Vandenberghe (41) agree with copyright protection for documentation : it meets without any doubt the criterion of communicability stressed by Vandenberghe as a criterion of copyright protection.

Most authors (42) consider that the criterion is also met as regards the source code where the software is intelligible to the experts.

However, some authors hesitate to extend copyright protection to the object code (43).

In particular, Van Hoecke (44) is opposed to its extension precisely because of the criterion of communicability. He adds : "whereas the source code can be understood as a series of instructions explaining how a particular problem can be solved, object code, on the contrary, is intented to solve the problem. The program has also become a technical process (45). Finally, he would like it to be treated as a translation whereas "the final object code differs significantly according to the compiler used" (46).

17. Two answers (47) are, as a rule, given to these arguments. The first maintains that the programming activity is unique and aims at a unique object; it is therefore, artificial to reserve copyright protection to a programming stage(48). The second answer considers that "even object code is a form of expression of human creativity. Machines do not understand the meaning of O and 1, contrary to human beings. Instructions in object code can be compared by humans. They can be decompiled by "reverse engineering". The software in object code is therefore understandable by a human being" (49).

D. Special Problems in the Protection of Video-games

18. The distinctive feature in the protection of videogames derives from the fact that the protection by the copyright law relates not only to the program, but also and separately to the visual image of the video-game. With regard to this second subject, some authors have argued that "...the play sequence, as opposed to the fixed sequence (fixed and repetitive sequence of the game appearing on the screen when the machine is connected) could on no account be subject to this protection on the ground that the images derive from the instructions given by the player and are ephemeral" (50).

This argument is rejected. Van Hoecke (51) speaks of a "pre-programmed motion-picture cartoon". "When one says that a person can influence the progress of the game, he asserts that although the images appear on the screen according to the skill and the speed of the reaction of the player, each of these images is in fact already programmed in advance in the programmed game".

19. The belgian and Dutch jurisprudence have adopted the same position, in Belgium indirectly by orders to seize infringing articles ("saisie-description" (cf. supra n° 2) (52), in the Netherlands, by a decision in a case by Namco and Atari against Philips, in which the latter was claimed to have put on the market a fraudulent imitation of the game "Pacman" called "Happelaar" (53).

After having established that the game must be seen as a whole, distinct from the equipment used to make it work, and ascertained that the game "Pacman" was original , the court considered that this game was subject to the copyright belonging to Namco.

It also concurred with the position of the criminal court of Paris, saying that the characteristic of programmed video-gammes is that the player can do nothing which has not been first foreseen by the person who conceived the game, and that one cannot affirm that the players are those who determine the sequence of appearance of the images which form the progress of the game. Furthermore, after having noted that the features used by Namco for "Pacman" could be found it the "Happelaar" and that the differences were not significant, it ordered the termination of the production and sale, ... of the "Happelaar" games under a penalty of 500.000 Dutch guilders per infringement of this order.

IV. ANALYSIS OF SOME CONSEQUENCES OF THE PROTECTION OF PROGRAMS BY THE COPYRIGHT LAW

20. It is obvious that the protection of programs by the copyright law has numerous consequences. In this report, we limited ourselves to an analysis of two specific problems :

- The first one deals with the limits of the scope of the author's protection, particularly use for private purposes by the firm which rents or buys the programmed data-carrier;

- The second deals with the contractual implications of protection by the copyright law.

A. The Scope of the Protection (54) and the Private-Use Exception

21."The protection of the author of the program covers any use of the latter, and especially its reproduction. One cannot copy a program, have it printed, or proceed with its reading on a screen except in the case of private use" (55).

Some authors even consider that "... the simple fact of introducing the software in a computer constitutes unlawful reproduction as soon as this reproduction is not made for the strictly private use of the copyist " (56).

Thus, the general principle of the prohibition of reproduction is subject to exception whose extent must be analyzed : that of private use.

Dutch law expresses this important derogation - Article 16b of the copyright law (57) allows "... use, when limited to a few copies and intended exclusively for private purposes, the study or the work of the person who obtained the right of use".

In Belgium, notwithstanding the provision of article 1 of the law of Authors' Right (57bis), the legal doctrine has always admitted that one can copy a work provided that the copy is for strictly personal use (58).

22.The notion of private use of software raises some problems of interpretation.

- A first question is linked to the technique itself of the use of software by the computer. In computers programmed with high-level languages, the conversion of the source code in an object code is not sufficient. The object-code must then, before being executed, be coupled with a large number of standards located in the software library used by the system. The executing version of the object code is usually not stored in the memory, but decompiled, and can be found in various places of the memory of the computer (archives, back up copy, dead memory, etc...). Should this use by the machine and the internal copies be considered as private use of the software, when there is, at least technically, a transformation of the software (59)?

- Likewise, any execution of a program involves the reading of the program by the computer. Could one then talk of copies, their number then limited since the law mentions "a few copies"? Some authors (60) , following the German author Haberstumpf (61), consider that the reading of the program does not amount to a copy of the program because of the temporary character of this reading and especially in present systems, the program in its executing version is not read in whole but element by element. It amounts, according to these authors, to a mere use of the program and not to its reproduction. Vandenberghe (62) considers that a reading of the program, even element

by element, leads necessarily to the use of the whole and therefore to a copy of the program. Borking (63) offers a pragmatic solution to these uncertainties. According to him, protection of software by the copyright law, would be unaccesstable if the two above-mentionned uses of the program were not allowed.

23. To resolve these two problems one must, in our opinion, distinguish two meanings of the word "reproduction" : firstly, the duplication , the material element, that is, the use under one or another form of the software; and secondly, its communication to the public, that is, the possibility for third parties to use the software as a final element (64).

The duplication, as long as it remains internal to the computer, and the use of the various versions of the software must be allowed (65)as long as the person responsible for the configuration does not make the use of the program accessible to third parties, in particular through telecommunication devices.

If this was the case, there would be a "reproduction" in the second meaning of the work, that is, a communication to the public, and a need for the user to obtain then a licence for the right to reproduce, which is a priviledge of the author. One therefore, exhausts the criteria usually adopted by the legal doctrine : "It seems to us that what must be considered is the destination of the execution combined with the intimacy which binds those who are present to it. If there is a particular family affection or working link, the execution remains private" (66).

24. Thus, use for purely private purposes, that is study, research including reverse engineering (67) or simply for internal use (68), is free without any authorization from the author or from the assignee of the copyright, without prejudice to the limitations or financial conditions of use that tey could impose by virtue of the author's right of "intented use" (cf. infra n° 26).

B. The Contractual Consequences of the Copyright

25. Recognition of the protection of the program by Copyright law allows the classification of software contracts to be clarified. The rights of an end-user in a copy of the work and the copyright in the work itself, that a distributor or a licence could have must be distinguished. A copy of the work is an "informed disket", that is a disket containing software and as such distinct from a blank data carrier insofar as it is able to process data. This first distinction allows another one (69). A transfer of the data carrier does not necessarily involve a transfer of the intellectual rights. There will be a transfer of the intellectual rights when the contract allows the "exploitation" of the software by the contracting party (e.g. by contract for packaging and distributing software), or more when the contract has the object of transferring some or all the intellectual rights in the work, for example, the rights of adaptation and reproduction.

On the contrary, and it is more often the case, the software contract relates only on the use of one copy of the work, the supplying of an "informed disket".

Whether this supply is made by the delivery of the data carrier or by teletransmission, the contract will be considered a sale or a lease of an "informed disket", depending on whether the contract complies with the traditional definition of the sale or lease (70).

In these cases, the user cannot in principle, except for a private use, copy the program appearing on the diskette because such a copy would constitute a representation or exploitation of a right which has not been transferred to him, that is, the copyright on the software.

26. In addition to these classification on the classification of contracts, the recognition ty a certain Belgian legal doctrine of a "right of intended use" belonging to the author of the work calls for some further remarks (71).

The notion of "right of intended use" (Bestemmingsrecht) as a fondamental right of the author, was made evident by the Professor Gotzen following a famous Belgian judgment (72). It concern the right for the author "to determine which use corresponds to the goal for which the author allowed the reproduction of his work (73).

Recognition of the right of intended use to the author of a program allows him, even without a direct contractual relationship, for example, the end user of the program, to set the conditions of use. The author can also determine the method of calculating the royalties to be paid by the end-user, for example, in reference to the size of the configuration on which the program will be used, to the number of terminals connected, etc.

"The one who has the power to prohibit any reproduction, must, in principle, have the power to subject the right of reproduction that he transfers to conditions relating to the intented of the copies made by the licensee by virtue of the exploitation right" .

27. In conclusion, in my opinion, the debate on the copyrightability of computer programs is now closed, but discussion of the real issues as to the exact meaming scope and consequences of copyright of protection, had only begin.

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FOOTNOTES (*)

(1) For a more detailed account of these two Acts : in Belgium, F. Gotzen, Het Bestemmingsrecht van de auteur, Larcier, Bruxelles, 1975.
In Netherlands, D.W.F. Verkade, Softwarebescherming, Samson, Alphen a/d Rijn, 1972.

(2) Deposit of published works at the national library has nothing to do with the protection by authors' rights of the deposited work. This lack of formality is regretted by some people. It would easily prove the precedence of the work, X. Thunis, La protection des programmes d'ordinateur, p. 22.

(3) Or "saisie contrefaçon" (art. 1481 to 1488 of the Civil Procedure Code). About this procedure and its advantages (de Keersmacker, 35 and the two appended "ordonnances." See also Judge des Saisies, Leuven, March 19, 1985, Computerrecht, 1986, n° 1, 48 and those which are unpublished, by Ph. Peters, 24.

(4) Provided for in Art. 28 of the Auteurswet.

(5) In Belgium, Art. 22, paragraph 2 of the Act of 1884; In the Netherlands, Art. 31 of the Act of 1912. In the Netherlands, application by the courts is to be noted : particularly, Netherlands, Trib. Arnhem, Feb. 21, 1985, Computerrecht, 1985, n° 5, 26 and of the same Court , Oct. 27, 1983, Computerrecht, 1984, n° 1, 31.

(6) B. Hubo, La titularité des droits d'auteur sur des logiciels écrits par un salarié, Situation en France, en Belgique et aux Pays-Bas, to be published. The author brings some light changes to the principle. In Belgium, the transfer may be done by implication but only for those rights which are transfered with certainty.

In the Netherlands the employer is considered by law (art. 7 of Auteurswet) to be the author of the works created by the employees on duty.

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* For complete references, see the appended bibliography.

(7) This does not exclude the patentability of software introduced into the manufacture process (see comments in the excellent thesis of M. Flamée). According to this author, the protection given by patent supplements that provided by copyright.

(8) Sept. 12, 1985 (Computerrecht, 1986/1, 32) and on this decision, the nota by Hanneman . The decision applied to computer controlled Rontgen equipment. The decision is based on the criterion of "direct addressability" that is, the introduction of the program into the central memory of the computer. Indeed, with this introduction, the logical structure of this computer is determined according to the program instructions.

(9) Art. 54 of the Act of 1971 on commercial practices and Art. 1401 on Dutch Civil Code.

(10) Prés. Trib. Comm. Bruxelles, Sept. 17, 1982, J.C.B., 1983, 646-649, note G. Vandenberghe (action en cessation) in the same case at the penal level, Trib. Brux., Jan. 31, 1986, unpublished. See also, Prés. Trib. Comm. Anvers, Nov. 29, 1984, unpublished and, on appeal, Anvers, June 29, 1984, unpublished and, on appeal, Antwerp, June 24, 1985, unpublished. It is to be noted that in principle, action brought to terminate infringement which was the subject of the first decision, is not possible when the claim is based on some right protected by authors' rights (Art. 56 of Act of 1971).

(11) Van Hoecke, (op. cit., 1660) summarizes the Duch and Belgian positions as follows : "the legal doctrine is split and those who state that software is protected by authors' rights most of the time add that this protection is not well-suited.

(12) G. Vandenberghe, Bescherming van Computersoftware, Kluwer, 1985.

(13) "Progress is a concept foreign to culture : there is no cultural progress on the creative level" (X. Thunis).
Again on this point, see a statement by Mr . Van Hoecke on the economic finality of legal protection of computer programs (op. cit., 1682) and the statement of J. Spoor, Aspects of copyright protection of computer software, A.I.D.A. Seminar Amsterdam, June 29, 1984, 14).

(13bis) G. Vandenberghe, op. cit., 94-95.

(14) C. Van Hoecke, op. cit., 1671, P. Buch, op. cit., 1178; M. Flamée, op. cit., 21; etc.

(14bis) Similarly, C. Van Hoecke, op. cit., 1672; X. Thunis, op. cit., 23, T. Borking, op. cit., Informatie, avril 1983, 28. Prof. G. Vandenberghe (op. cit., 54, n° 19) makes, in this respect a distinction between the documentation on software, which is protectable and the software itself which is not.

(15) See in particular, proposals made by Van Hoecke (op. cit., 1681) regarding :

The provision for a deposit requirement;

- Examination of the novelty of the "work". In the absence of new algorithms, the work would only obtain protection of its form;

The duration of the protection (five or ten years);

The structuring of a licence of exploitation.

(16) In particular the criticism of Gotzen, Boekbespreking over het werk van Vandenberghe, Computerrecht, 1984, 3, 39-42; M. Flamée, Aspects actuels de la protection juridique du logiciel au regard du droit belge, I.C., 1985, 325 et s.

(17) F. Gotzen, op. cit., 1981, 245; A. Berenboom, op. cit., n° 146-152.

(18) F. Gotzen, see by the same author, based on article 21 of the Act of 1886, Intellectuele eigendom, 2385. Verkade (Bescherming, 301) speaks of a romantic objection whit respect to this first argument against protection by property rights.

(19) F. Gotzen, Boekbespreking, p. 41; Hugenholtz, Softwarebescherming - Een tussenstand voor thuisblijvers, Auteursrecht, 1984, 4, 90; J. Spoor, op. cit., 22.

(20) In this respect, A. Berenboom, Le droit d'auteur, 1984, n° 150; F. Gotzen, Intellectuele eigendom, 2384-2385.

(21) M. Flamée, Aspects actuels, 329.

(22) See in this respect, the developments by Verkade, op. cit.

(23) F. Gotzen, Boekbespreking, 41.

(24) On this subject, refere to remarks made above, note 15.

(25) "Thus, to the representation in algorithm or in flow chart (add the author) of software could not be accorded protection by the copyright law because it expresses the solution of the problem, concerned, which is the idea self and therefore cannot be monopolized", M. Flamée, Aspects actuels, pp. 333-334.

(26) X. Thunis, op. cxit., n° 50, Com. P. Buch op. cit., "Therefore one must look for the originality of the work, not in the concept but in its representation, that is, in the case of programs, at the level of the text of the program written in a certain language or of the design of the flow chart... On a strictly formal ground, it must be admitted that the freedom of expression is relatively small in the case of the writing of a program or a flow chart".

(27) F. Gotzen, L'ordinateur et la propriété intellectuelle.

(28) Discussienota, p. 11, for this reason, Van Hoecke (op. cit., 1684) asks for a system protecting clearly ideas and not simply the form of the program.

(29) Rb. Hertogenbosch, 30 jan. 1981, G.R.U.R., Int., 1983, 669-674. A decision of Appeals Court of Amsterdam, dated march 31, 1983, (Auteursrecht, 1983, 56-58), goes even further. The case dealt with video-games. The Court of Amsterdam considered two games to be "virtually similar" and that the copyright law was applicable insofar as "no move nor situation could occur without it having been antipated by the author and included in the program". Although the two programs differed and were even written for different micro-processors, the court considered that there was a infringement because only the "protectable result" matters and not the "technical means".

(30) Rb. Hertogenbosch, 14 mai 1982, B.I.E., 1983, 323.

(31) G. Vandenberghe, Current developments in protection Computer Programs, Europe, to be published.On the tendency of the doctrine and the jurisprudence to be content with the "statistical" originality, see the objections of the author, in Software bescherming in de U.S.A., B.I.E., 1985, p. 53.

(32) A Berenboom, op. cit., 169; cf. également, D.W.F. Verkade, Bescherming, B.I.E., 1983, 300; C. Van Hoecke, op. cit, 1649; P. Buch, op. cit., et H. Bauer-Bernet (op. cit., p. 8) : "... There is, for every programming problem, a choice between several modes of expression. The same problem can be solved in a way more or less efficient, more or less clear, more or less esthetic, ...".

(33) Rb. Assen, July 28, 1981, 1982, 262-263.

(34) Note the use of the term "new" borrowed from the field of patent law, but theoretically not appropriate to subject matter of copyright law.

(35) Rb. Assen, jan. 10, 1984, Droit et Inform., 1984, 25.

(36) Rb. Arnhem, feb. 21, 1985, Computerrecht, 1985, n° 5, 27.

(37) Comp. X. Thunis (op. cit.), "It seems that the personality of the analyst expresses itself in the path followed to reach the result, that is, at the level of the method" and P. Buch, op. cit., p. 178.

(38) Cf. supra, n° 7.

(39) W.I.P.O., Draft Treaty on software protection, quoted in particular in D.S.T.I./I.C.C.P./83-30.

(40)It should be added that in computers using high level programming languages independent from the operating system, the transfer from source code to object code requires a translation by a preprogrammed system (called "loader or linker") comprising one or more compilers and assemblers before it can be executed.

(41) Vandenberghe, op. cit., 54, n° 19. Note the decision of the president of the Dutch court of Roermond (Aug. 20, 1984, Droit de l'Informatique, 1985, n° 5, p. 34). In this case, Apple accused the defendent of having copied its system software and selling user manuals entirely copied. One must add that the allegation based on copyright applied both to thef system software and user manual, but confirmed by the president of the court only for the user manual.

(42) On this matter, see Gotzen and Verkade.

(43)The same argument is used for CHIPS.

(44) Van Hoecke (op. cit., 1661-1662), see his regret concerning the first court case relating to object code, which unfortunately ended by settlement approved by the court of the Hague (April, 23, 1982). In this case, the subject was the C.P./M. operating system, translator for the Microsoft compiler and C basic.

(45) And consequently likely to be protected by patent law.

(46) In this matter, see the comments by Borking (Informatie, avril 1983) and those included in Discussienota, Computerrecht, 1984, n° 3, 13.

(47) For more detailed arguments, see Borking, Third Party Protection of Software and Firmware, Amsterdam, 1985.

(48) F. Gotzen, Boekbespreking, 41

(49) L. De Schrijver, Apple V. Franklin, R.W., 1983-1984, 2880; cf. également Verkade op. cit.

(50) Ph. Peters, La protection des jeux vidéo électroniques, Droit de l'Informatique,1984, n° 2, p. 10. It is the proposition held by the district court of Amsterdam on december 2, Auteursrecht, 1983, p. 2, 17), reversed by the court of Appeal of Amsterdam, quoted infra note (53).

(51) K. Van Hoecke, op. cit., 1663; Ph. Peters, op. cit., 11.

(52) Juge. Saisies, Brux., septemb. 6, 1982, Atari v. GAA, not published; Juge Saisies Gand, septemb., 10, 1982, Atari v. D.V., not published.

(53) Amsterdam, march 31, 1983, Ars Aequi, 6 juin 1983, 467.

(54) We shall not deal here with the questions of adaptation and translation, moreover analyzed in the debate on originality (supra n° 10 and s.).

(55) A. Berenboom, op. cit., p. 171

(56) M. Flamée, Aspects actuels, n° 31, p. 330; cf. in the same sense F. Gotzen, Intellectuele eigendom, 2386, n° 18 and the many references indicated.

(57) Article 16b has been introducted by the law of october 17, 1972.

(57bis) Law of March 22, 1886 (art. 1) : " The author of a literary or artistic work has only the right of reproduction or of authorizing reproduction in any manner and any form".

(58) A. Berenboom, op. cit., p. 105 and numerous references.

(59) B. Hugenholtz, Computerprogramma's : een nieuwe categorie werken, Auteursrecht, 1985, n° 2, 32-33; J. Woltring, Computerprogrammatuur, vrijheid van kopie als (voor) recht, Computerrecht, 1986, n° 1, 27.

(60) J. Woltring, op. cit., 30; B. Hugenholtz, op. cit., 32-33; J.J. Borking, Third party Protection of Software and Firmware, Amsterdam, 1985.

(61) H. Haberstumpf, Zur urheberrechtliche Beurteilung von Programmen, G.R.U.R., 1982, 148.

(62) G. Vandenberghe, op. cit., 102, F. Gotzen, Ing. Cons., 1981, 246.

(63) J. Borking, Resultaten van een rechtssociologisch onderzoek naar de juridische bescherming van programmatuur, Informatie, 1985, n° 27, 874-883.

(64) Comp. J. Woltring, op. cit., 30.

(65) According to the potential intensity of private use, impose lower of higher royalties.

(66) A. Berenboom, op. cit., 109, The Dutch legal doctrine speaks of a use occuring necessarily "in a private and closed circle" (on this point, D.W.F., Verkade, Softwarebescherming, p. 30). This doctrine follows also the american criterion of the fair-use.

(67) It is not sure whether in Belgian private use extends to the first two cases. In Holland, article 16b describes explicitely private use as including study and research.

(68) This goes beyond the back-up copy (comp. the french law of july 3, 1985).

(69) On these distinctions, compare the remarkable analysis of Ph. Gaudrat, "Les contrats de fournitures de logiciel - Conséquences contractuelles" to be published in Droit de l'Informatique n° 8, and the remarks of J. Huet, Sommaires commentés, Chron. Droit de l'Informatique, D. 1985, p. 46.

(70) In this sense, P. Poullet, Le contrat de logiciel, Droit des contrats informatiques, Namur, 1983, p. 341.

(71) The notion of the "right of intented use" is also accepted in France, but it is unknown in anglo-saxon and german law.

(72) Cass., janv. 19, 1956, Pas. 1956, I, 484 : " The owner of the copyright, the author or the licensee of these rights can allow reproduction only to the extent that he lays down or submit it to the conditions that he determines".

(73) F Gotzen, Het Bestemmingsrecht van de auteur. Bruxelles, 1975.

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