COMMITTEE ON ENERGY RESEARCH AND TECHNOLOGY

OPINION

for the Committee on Legal Affairs and Citizens' Rights
(COM(88) 816 final - SYN 183)
on the legal protection of computer programmes

Draftsman: Mr TURNER

-------------------
15 November 1989
OPINION
(Rule 120 of the Rules of Procedure)
of the Committee on Energy, Research and Technology

Draftsman: Mr A. TURNER

At its meeting of 30 August 1989, the Committee on Energy, Research and Technology appointed Mr TURNER draftsman.

The committee considered the draft opinion at its meetings of 26 October 1989 and 8 November 1989.

It adopted the conclusions contained therein on 8 November 1989 by six votes for, three against and seven abstentions.

The following took part in the vote: Mr SÄLZER, Vice-Chairman and acting Chairman; Mr LannoYE, Vice-Chairman; Mr ADAM, Vice-Chairman; Mr TURNER, draftsman (deputizing for Mr SELIGMAN); Mr ANGER, Mr BETTINI, Mrs Breyer, Mr Gasoliba i BöHM, Mr Görlach (deputizing for Mr LAGORIO), Mr LINKOHr, Mr PierROS, Mr Pompidou, Mr PorrazZini, Mrs Quisthoudt-ROWohL, Mr Regge, Mr RohSING, Mr SChlee, Mr VerwaERDe and Mr West.
INTRODUCTION

1. The proposal for a Directive submitted to the European Parliament aims to strengthen and make uniform throughout the Member States of the European Community legal protection for computer programmes.

The proposal in its present form will not help to create a legal environment capable of eliminating any disparities with regard to the free movement of computer programmes within the Community and will certainly not create conditions favourable to the establishment of a strong European industry in this field.

2. A remarkable feature of the present proposed Draft Directive is that copyright protection would be given to a computer programme as a 'literary work' (which is in fact exactly what it is when first created) but that this 'work' is something which the public can neither read, appreciate or understand. This is a remarkable departure from principle. The basic rule of copyright is that copyright protection is only given to the actual literary 'form of expression' which an author of a work, for instance a novel, has created but that the ideas (for instance, the plot underlying the 'work') are not. Thus for instance a literary work describing a new solution to some problem (which might for instance be a political, social, economic or technical problem) is only protected in so far as the actual 'literary form of expression' is concerned, while the ideas and solutions or principles which the author is putting forward are not protected.

3. For this reason the Draft Directive under Article 1.3 quite correctly excludes protection from the ideas, principles, logic algorithms or programming languages underlying a software programme. However, in the case of computer software programmes the public cannot find out what these ideas, principles, logic, algorithms or programming languages underlying the programme are except by decompiling the 'object code' (that is the machine code comprising an apparently meaningless, immensely long series of zeros and ones) by means of a decompiler which is capable of analyzing the 'object code' and investigating and interrogating it in order to discover the 'source code' which lies behind the 'object code'. The originator of the programme will have written his novel programme in source code and it will have been translated into object code. A member of the public who is attempting to study the programme will decompile or translate the object code into a source code which he will be able to study to see what the ideas, principles and logic of the original source code are. The source code into which the member of the public translates the object code will not be identical to the original source code which the originator wrote, but it will be very similar. The process is rather like translating an original novel from French into English and then re-translating the English back into French. The English version and the second French version will infringe the copyright of the first version but the last will not be identical to the first.

4. The critical fact to recognize is that because of the terms of Article 4, all the above steps undertaken by a person who has bought a copy of the original programme (in object code) from the originator will be infringement, and each of the above acts will be forbidden acts. This would be a novel development in copyright law, because it would be
analogous to saying that copyright protection of a book prevented the purchaser of a book from reading it. It would have, of course, a serious restrictive effect on innovation and competition within the EC because protection given to programmes would be such that others entering or developing in the same field would be in the dark as to the state of the art. In the case of patent protection a protective monopoly is given preventing use of an invention but the invention itself is published so that competitors and the public in general gain knowledge of it. It would seem proper, if possible, to obtain a similar balance between the rights of industrial property on the one hand and the public on the other in the field of copyright relating to computers as exists in other industrial fields.

5. If this balance were achieved so that the public knew the subject of the copyrighted programme, the fact that the public had this knowledge would not mean that they were entitled to obtain economic benefit by copying the programme, because the whole purpose of the protection is to give commercial protection to copyrighted programmes against copying. Protection of the form of expression of a programme should not require that the public should be kept from seeing what the subject matter protected is and be prevented from appreciating the principles, ideas, logic and algorithms underlying it (which are not protected) so long as they do not copy the subject matter when designing their own programmes. As the draft now stands, under Article 4 the operating of a computer programme so as to show it on the screen or to print out the programme would be an infringement, as would be the operation of the computer in such a way as to use the programme to direct the actions of the computer such as by loading the programme, viewing, running, transmitting or storing it. As will be seen, the present proposal would not only keep knowledge of the protected form of expression of the programme from the public, but would prevent them knowing its unprotected features, ie the underlying principles, ideas, logic and algorithms.

6. If the Directive provided that the public could 'read' the programme by decompiling it without committing infringement it could be difficult for a member of the public who had read and studied it to claim he had actually written a similar programme, that he had not in fact copied it. In order to prove that he had not copied he would have to show that his programme was substantially different in its 'form of expression' from the original, although, of course, he would be entitled to use the ideas, principles, logic, algorithms or programming languages underlying the original programme as these are not protected by copyright. There have been methods developed in industry making it quite clear that copying of the 'form of expression' has not taken place, such as the so-called 'clean room' procedure whereby a company divides its operations which are directed towards studying a competitor's programmes, from its creative operations in making its own programmes. The ideas, principles, logic, algorithms or programming languages discovered by studying a competitor's programme can be freely used in the creative operations of the company, but the latter employees will have these passed on to them by the employees who have decompiled the original programme without any information as to the form of expression used by the originators. In this way the chain of information is broken proving that copying of the form of expression has not taken place. From a technical and economic point of view it is essential that computer programmes should not be kept secret for the public in Europe, more especially as in American law decompiling has not been prevented by
Statute or by the Courts, and in a number of cases the fact that
decompilation has taken place has not given rise to any legal objection.
Decompilation for the purposes of research and study is also permitted, and
in Japan a right of private study is recognised. In both cases, of course,
it is a condition of the law that no copies of a programme are reproduced
for commercial use or sale and no commercial use may be made of the
programme to help in the design of the form of expression of another
programme. Nor, of course, can a copy made for the purposes of
decompilation be reproduced for any purpose other than research or study.
Thus, for instance, it could not be published free as this would be highly
damaging to the copyright owner. As a consequence the Directive should
provide for fair use of the subject matter of the copyright for the
purposes only of study and research.

If in Europe decompilation were not permitted, US and Japanese industrial
competitors could decompile European companies' programmes in their own
country, but European companies could not decompile US or Japanese (or
other European) programmes in Europe. This would quite obviously have a
very serious effect on European competitiveness, and a European law which set
up such a situation could only be regarded with very considerable concern
and surprise.

Explanatory Note on the Nature of Interfaces

7. Programme interfaces are programmes or parts of programmes which enable one
computer to operate with another or with some other facility or with a
piece of exterior software, or to enable two pieces of independent software
to operate together. Thus interfaces may be the connection between a
piece of hardware and a piece of software, or between two pieces of
hardware connected by a piece of software, or between two pieces of
software. Programmes whether they are 'interface' programmes or not should
be and are protected by copyright. When a user of a computer or software
wishes to connect a piece of his own hardware or software to another piece
of hardware or software he will need to know sufficient details of the
interface programmes involved to be able to make the connection. It is
normal for suppliers of software to provide a written 'specification' of
the interfaces so that the customer can do this. Indeed IBM gave an
undertaking to the Commission (1984) to provide such information to
companies in the EC in the celebrated action. Such specifications are
written literary works and as such are protected by copyright just like any
written literary work. Needless to say, any ideas, principles, logic or
algorithms underlying such specifications are not protected by copyright
any more than they would be for any other literary work.

If written specifications of interfaces are not provided by the seller of a
piece of hardware or software, or if the written specification provided is
insufficient, it will be necessary for the purchaser or a person wishing to
design an independent piece of soft- or hard-ware to interact with the
programme to study the software of the interface. To do this he will need
to decompile the original programme, and to be entitled to do so as
explained, in relation to software programmes in general, in paragraph 6
and following, above. There should be no distinction in this respect
between interface programmes and other software programmes.
The proposals suggested above, therefore, and the amendments proposed below for dealing with the problems of paragraph 6 will equally deal with the problems of interface programmes.

Furthermore, the provision of an interface programme to mesh in with the interface of an existing piece of hard- or soft-ware will not normally infringe the copyright in the first interface programme, because it will be the "mate" of the first - in the same way that the male plug of a domestic electric appliance is not the "same design" as the female plug in the wall, the one meshing in with the other but being of different shape. Thus copyright in interface programmes will not prevent those wishing to design interfaces to them from doing so, so long as there is no bar on decompiling to enable the first programme to be understood.

Relationship to Community law on competition

It has been said that elements of Community competition law should not be included in this Directive and that the Directive should be confined to copyright law per se. This is correct. However, it is a misleading and elementary error of Community law to suggest (as has indeed been done) that the setting out of the exclusive rights in Article 4 to reproduce by "loading, viewing (or more correctly 'displaying'), running, transmission and storage of the complete programme" or "adaptation" of it do not in any way limit the power of the competition Directorate of the Commission in carrying out its responsibilities in the field of competition law. If such exclusive rights are to be given by Article 4, it is within the monopoly of the copyright owner to grant or withhold simpliciter any one or more of these rights. Against such a limited licence, granting some but withholding other of these rights by the copyright owner to the purchaser, the competition Directorate would have no jurisdiction to act because it is not possible for the Directorate to allege that the simple withholding of a portion of a monopoly right is contrary to the EEC competition law. Thus if the copyright owner gave the right to the purchaser only of the "loading, viewing (more properly 'displaying'), running, transmission or storage" for the purpose of operating his computer (thus excluding the right to do so for the purpose of reading, studying or researching a programme or the ideas, principles, algorithms, logic or programming languages underlying them) the Commission would be powerless to object. Competition law cannot therefore protect the public right to see and study a programme and the ideas, principles, algorithms, logic or programming languages lying behind it unless specific conditions are inserted in this Directive along the lines proposed below.

Specific reference to ideas, principles, logic, algorithms, and programming languages underlying a programme

It has been suggested that a specific reference to the ideas, principles, logic, algorithms, and programming languages underlying a programme is unnecessary because it is inherent in part of copyright law. It would be unwise not to make this specific reference because such a specific reference is made by a Statute in Japan specifically with regard to computer programmes and this was done to accord with the effect of US case law. If in Europe we did not include specific reference in the context of computer programmes to these exclusions, it would be possible to argue that
European law gave greater protection against the study and research into the uncopyrighted characteristics of a computer programme than is accorded in the US or in Japan which would of course have the same deleterious effect on European competitors vis-a-vis the US and Japan on exactly the same lines as set out above with regard to the question of decompilation and interfaces.

**Necessary amendments to meet the above issues include**

**Article 1. paragraph 1.** add at the end.
"The exclusive rights shall not include the right to prevent any act done exclusively and necessarily for the study and research of the expression in any form of a computer programme, or any act necessary to study or research the ideas, principles, logic, algorithms, or programming language underlying a programme.

**Article 4(a).** delete.
"Viewing".

Add, after "reproduction", the words "other than temporary copying, moving and storage operations which leave no trace once the operation has terminated."

**Article 5.** add new paragraph 3.
"The reproduction of a computer programme by any means and in any form, and the adaptation of a computer programme, shall be permitted for the purposes of study and research of the form of expression of the programme and of the ideas, principles, logic, algorithms, and programming languages underlying the programme, provided that no use is made of such reproduction which conflicts with a normal exploitation of the work by the author or unreasonably prejudices the interests of the author."

**Article 6(2).** add at end.
"... except for the sole purpose of studying or researching the expression of the programme or the ideas, principles, logic, algorithms or programming language underlying it."

**Alternatively, in accordance with the Berne Convention we could replace all amendments to Articles 1, 5 and 6 by**

**5 (new).**
Subject to contractual arrangements to the contrary, the rights enumerated in Articles 4a and 2 above shall not be exercised to prevent any act done exclusively and for no other purpose than for the study and research of the expression in any form of a computer program or any act necessary solely for the study and research of the ideas and principles underlying a program. If the results of such studies and research are used in a way which prejudices the rightholders' legitimate economic interests, such analyses will still be deemed to be an infringement.  

---

1 Note the Berne Convention refers to "private study and research". The word "private" could be retained so long as it is made clear expressly that this does not preclude study and research by companies so long as this does not conflict with the normal exploitation of the work by the author or unnecessarily prejudice the interests of the author.