Can you copy maps and the facts the contain ?

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One of the oldest types of intellectual property, maps have long been protected by copyright. But advances in technology and cartography give rise to new legal problems, Belgian lawyer Jean Paul Triaille argues

Can you copy maps and the facts they contain?

The Belgian Copyright Act 1886 does not contain any special provision on the copyright character of geographical maps; it only mentions artistic and literary works in general. However, according to the law of 27 July 1953, Belgian authors may invoke the provisions of the Berne Convention in every circumstance where it is advantageous to them. The Berne Convention Article 2.1 expressly provides that the words "literary and artistic works" include illustrations, geographical maps, plans, sketches and artistic works related to geography and topography. From this one can deduce that this inclusion of maps in the Berne Convention is equivalent to an explicit mention in the Belgian national statute, so judges may directly rely on the Berne Convention in order to decide that maps are copyrightable.

In consequence, there is no impediment to copyright protection for geographical maps in Belgium. Neither the utilitarian scientific or functional character of a work nor its lack of artistic merit constitute an obstacle to its copyright protection.

This does not mean that all geographical maps are indeed protected by copyright; as any other work, they have to fulfil certain conditions. And it may be that maps are less likely to fulfil these legal requirements than other literary works.

Case-law on the protection of maps is very limited in Belgium. Our investigation reveals two decisions; in both cases, as will be explained further, copyright protection was denied to the maps. Basically, two conditions have been evolved by judges and legal scholars:

(i) the work must have been given a certain form;

(ii) the work must have a certain degree of originality.

The first condition is derived from a traditional principle, according to which copyright does not protect ideas but only the expression of these ideas. In principle, the underlying information is not protected and must remain available to the public, since copyright aims both at rewarding authors and creators (by granting them protection in order to promote arts and creation) and at safeguarding a free circulation of ideas between people.

For some works, the fact that protection is only granted to the expression but not to the underlying ideas does not constitute an important limitation to their protection; for example, musical works, which can be described as purely formal, "artificial" works. In the case of music, the whole value of the work lies in its expression.

For some other types of work, which we would call informational works, copyright protection (as limited to expression and excluding underlying information) is of much less use; for example, data compilations (*eg* stock exchange data, statistical data), telephone directories, price lists and catalogues. Contrary to musical works, one could say that in this case, the whole value of the work lies in its content. As it has been written,

> ... it is frequently the raw data itself and the fact that it can be easily retrieved and readily updated, which is of value, rather than the way in which the work was written. ... This means that in the compilation of some types of database, the form of expression of the information is of lesser importance than the substance of the information itself (Commission Green Paper 1989 p.207)

It is generally accepted that copyright protection in these cases is available to the extent that the arrangement, selection or structuring of the data show some creativity — whether the data are incorporated in an electronic database or not. However, as it has been rightly observed,

> in most cases the value of the compilation is not in its (creative) arrangement, selection or structure. The omni-present computer has rendered traditional expression-related copyright protection almost obsolete. Information users equipped with powerful computers and intelligent database software are able to do their own editing, sorting and structuring to fit their specific information needs.(P.B. Hugenholtz, *Copyright In Information*, p.7).

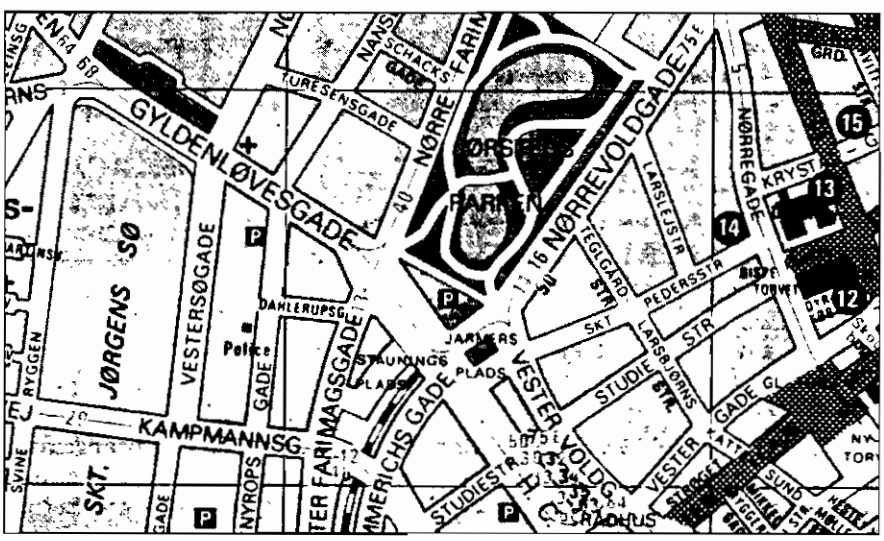
A geographical map clearly belongs to the second group of works and would be classified as an "informational work". Much of what constitutes a map is information which is in the public domain: the course of a river, the location of an airport, the altitude of a mountain village, the line of a border, the name of a city or of a street,

etc. None of these elements may be copyrightable since it constitutes information. This means that much of what constitutes a map lies out of copyright, so that anyone is free to design a map of a city's tourist area, even if such map already exists: in the second map, the names of the streets, the location of the tourist information office and of the cathedral will be identical without there being any copyright infringement.

As to the second condition, the requirement of originality, judges and scholars have progressively defined

> subjective authorship. These works are valued, and their production is encouraged, for the information they impart, not for fanciful draftmanship or personal pictorial peculiarities. J. Ginsburg "Copyright protection of works of information in the United States", in *Copyright in Information*, p.12).

In other words, the form given to the work is closely dictated by the function it is meant to fulfil. US copyright lawyers would say that "the idea has



the notion or originality; the work must show some sign of the personality of its author.

The notion of originality is not interpreted in the same manner in all the Berne Convention's Member States. In some countries, such as the UK, a work will be original so long as it has not been copied. In other countries (*eg* Germany), works will only be protected if they show a very high degree of originality and creativity.

In Belgium, as in France, the position of case-law and doctrine is situated between these two extremes; the criterion has never been statutorily defined; it is applied on a case-by-case basis.

When designing a map, the cartographer must clearly follow — and to a certain extent, depict — reality. A map will only be useful to the reader if it conforms to reality; the more it does, the better the map.

> ... a map or a navigational chart of new territory seems a most unlikely medium for display of

merged with the expression" in which case this expression receives no protection from copyright law.

However, the act of designing of the map does require certain choices which may involve the personality of an author. The expression of these choices as embodied into elements of the map will then be eligible for copyright protection. For example, the choice and combination of colours, the explanatory legend, the symbols used, the scale, the accompanying list of places of interest, the choice of these places of interest, the manner used to indicate road width or classification, the addition of enlargements of certain parts — all these elements contribute (separately or when combined together) in giving originality to the final result, even if the maps designs nowadays show less fantasy than old maps presenting elephants, native warriors, *etc.*

Besides these "positive" choices, "negative" choices are also made to exclude other elements, considering the map's function: for tourists, for freight transporters, for children. The latter choices can also be said to express an author's personality and give originality to a map. In the same way, the selection of works for inclusion in a database or a catalogue and the exclusion of other works contribute to make the database or the catalogue original. In consequence, a database which is fully exhaustive is less likely to be regarded as original.

Raw and copied data

The collection of raw data itself, which may serve as a basis for the map and which may have been obtained by on-site measuring, by satellite or aerial photography, is in principle not copyright-protected. The raw data as such do not become copyright-protected merely because they have been accurately recorded (on tape, film or otherwise) In that respect, it was held by a French court (and the reasoning would hold true in Belgium) that a tape containing a recording of birds songs was not so protected. This statement should however be qualified on two counts:

- the collection of raw data will indeed not enjoy copyright protection, but copyright will reappear as soon as the raw data are being modified or arranged in a personal way; for example photographs of objects of the real world may give rise to copyright if done in a personal manner.

- copyright protection might not be available, but there are other legal means of protection, particularly (in this case) unfair competition and parasitic competition.

The cartographer's job is to strike a balance and try to give much accuracy and precision to the map while safeguarding its "readability". This inevitably limits the possibility of making an original map (for there are not so many ways to represent the plan of a city), but this requirement will also impose certain choices, the expression of which may possibly give rise to copyright protection.

In principle, not only copying but also adaptation of any original work is a restricted act and requires authorisation of the author. The same holds true for maps as well. Therefore, re-

producing an existing map and then making some changes to it so as to make it look different requires authorisation of the copyright holder on the first map. The fact that the second map, after all these changes and arrangements have been made, may itself be regarded as original is irrelevant in this respect. In both cases — with an "original" second map or with a not sufficiently original second map — the author of the second map must obtain authorisation of the author of the first map. According to copyright law, the seeond map will be a "derivative" work of act, although it is difficult to distinguish an independently created map from a derivative one.

In a decision of the Court of appeal of Brussels, while implicitly recognising that maps attract copyright in Belgium (on the basis of Art. 2(1) of the Berne Convention, the judges held that a map which served as a basis for a derivative work was itself not sufficiently original).

At base, there is no theoretical obstacle to copyright protection for geographical maps; however, many elements included in the map are in the public domain. Elements will only give copyright protection to it if they are expressed in an original manner.

Limited protection

Where copyright protection is granted to a map, copyright protection does not neeessarily bring about a strong scheme of proteetion. An action for infringement will be available if an original work has been eopied, but the mere use of another's information is not restricted by copyright law.

The underlying informational content of a work is in the public domain. With maps, in contrast with painting or books, the informational content puts much restraint on the author who cannot deviate from it. As a eonsequence, two maps of an identical area, because they have the same content, will necessarily have many elements in eommon regarding expression as well. Indeed, in most cases, the principle that ideas are free and that information cannot be appropriated leaves the fact that the expression can be protected unaffected. The peculiar aspect of maps is that information is very much embodied in a

Before an action for infringement can succeed, judges must find a higher degree of similarity between two maps than they would have to in the case of paintings

form (*eg* a network of streets), so that excluding information from any protection entails excluding part of its expression from protection as well. Before an action for infringement can succeed, judges must thus find a higher degree of similarity between two maps than they would have to in the case of paintings, where the choice of subject and the possibilities for personal expression is much wider. A defendant to a claim for copyright infringement of a map will morc easily eseape liability and justify similarity between two maps by sustaining that he relied on information which is generally available, that he uscd commonly accepted symbols, *etc.*

One means used to detect infringing copies of an original work is to include in it a wrong, useless or irrelevant element: if this irrelevant piece of information is found in the second work, it is clear that it is — at least partially — a copy of the first one. Such practice is used for computer programs by adding to the code a few lines which have no effect on the functioning of the program; it is also used for maps for example by mentioning a non-existent submerged reef in a marine map. This shows that, even when copyright protection is available, its effieiency is not always very great. However, another legal theory from outside copyright law could be used to protect authors of maps against third parties who "misappropriate" the results of their creative activity, *ie* unfair competition.

Unfair competition

Copyright law is not always available in the case of geographical maps; even when it is available, it is not always efficient since the informational content of a map is not proteeted, traditional remedies bascd on the laws on intellectual property aiming to protect expressions but not ideas. It may, however, have taken a lot of effort, labour and investment to collect the necessary information. The effort and investment made in creating a new work is completely irrelevant to copyright law. Consequently the text of an improvised private conversation may be protected by copyright, while the time-consuming effort of searching and setting up a long alphabetical list of names might not give rise to copyright protection.

A recent decision of the Belgian Supreme Court confirms this view, holding that a catalogue may be the fruit of many years of long and difficult research but that this mere fact does not by itself give rise to eopyright protection for the catalogue.

In consequence of the functioning of copyright law, it may be easy to circumvent protection by slightly changing the form and the manner in which the information is transmitted while still benefiting from the work of the person who gathered the information or who first expressed the ideas which came to his mind. By doing so, the second person avoids the risks of infringement (if the changes are sufficiently significant), yet saves the time and money spent by the first person in collecting the information, making the nccessary tests and developing a new "product". The law of unfair competition may be useful in two situations :

■ *To give a complementary protection to what is already available under traditional intellectual property laws.* Every legislation in the field of intellectual property has its own scope of application; in consequence they all have their limits and there are some loopholes in that net or protection. Unfair competition can help fill in those gaps.

■ *To give protection where no other protection is available under intellectual property laws.* The idea is that, for example, a process which is not patentable (or for which the patent period has expired), or a text which is not copyright-protected (in our case, ele-

ments of a map) — even though in principle in the public domain — should benefit from an appropriate degree of protection.

One can immediately see the value of such theories in protecting geographical maps against misappropriation. However, the difficulty is to combine the idea of such complementary protection with the theory of intellectual property. Every scheme of protection (be it by copyright, patent, trade mark or design) requires certain conditions before granting protection. The consequence should be that, when those conditions are not fulfilled, no protection should be granted: the information and expression given to it could in principle be fully and freely appropriated. But things are not always so clear-cut.

Unfair competition case law

To the extent that the same legal theories have to a great extent been adopted in France and in Belgium, French case-law may be given as an illustration of the present situation in both countries.

One interesting French case involved the reproduction by an editor of a dictionary of Southern French dialect. The original copyright in the dictionary had expired: in principle, the text was then in the public domain. In this case, the second editor had photocopied the pages of the book and then commercialised those copies. The Court did not examine the issue of confusion but held that the editor had unduly benefited from somebody else's work.

Other cases involved the use by subcontractors of plans, drawings, research results and such like, confided to them by a main contractor and used for their own profits: such behaviour was not accepted by courts because it was held that it amounted to an undue benefit from another's work. In those cases, the courts did not rely on an implicit clause of confidentiality, or on a breach of confidence; they based their decisions on the fact that the subcontractor took advantage of the research done and of the investments by their contractor, even though the combined elements were neither new nor original.

Another example can be found in a judgment of the Tribunal de Grande Instance de Paris. Having denied the existence of copyright in a teaching method for speed reading, the Paris Tribunal found the defendant liable for unfair competition, even though the elements were not copyright protected. Unfair competition is thus useful when the proprietary right cannot give protection.

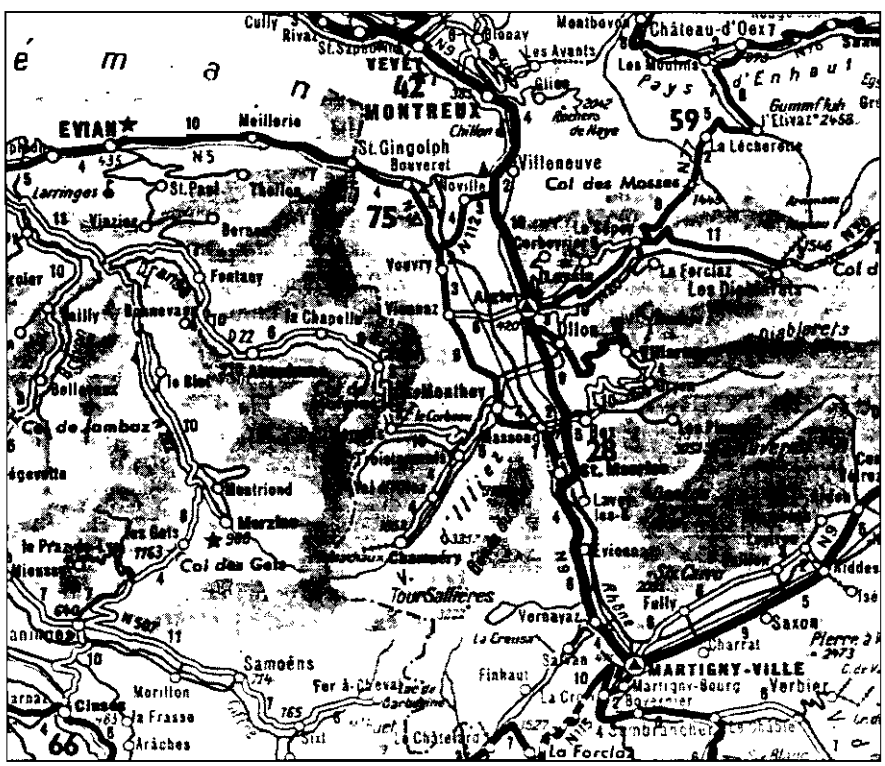
The present trend in France has not received unanimous acceptance, as can be seen from two recent decisions. In one, the Court of Appeal of Toulouse stated that it was not a legal wrong to reproduce a design which was not protected by design or copyright law; to decide otherwise, it held, would grant subsidiary proprietary protection despite the absence of originality required by those laws. In the other, the Tribunal de Compègne refused the action for unfair competition on the ground of lack of risk of confusion.

The action for unfair competition in Belgium is governed by the law of 14 July 1971 on trade practices. It is not necessary to prove that the parties are competitors; nor is it necessary to prove an intention to harm (some fault is required, but very slight negligence will be sufficient, or a failure to respect honest trade practices). Wrongful exploitation of a work does not need to be systematic (unlike certain other countries).

In principle, copying (even slavish copying) is allowed where there is no infringement of a proprietary right. However such copying may lead to an unacceptable abuse where unfair competition plays its role as a complement to protection by intellectual property.

Unfair competition exists when copying leads to confusion. An action is also possible if the copying took place in a more general context where other acts of unfair competition occurred; in that case, an otherwise licit act may become illicit. Finally, according to case-law, even in the absence of any risk of confusion, it may be unlawful to profit from the efforts and the works of another so as to diminish one's costs of production and to offer more advantageous conditions to customers. This constitutes then an act of parasitism: for example, the copying by a distributor of the sales system of his former supplier has been considered to be unlawful.

In each case the interests of the individual have to be balanced against the public interest. In so doing, a city map, stock exchange data or commercial slogan might be found to be protected.



A recent decision must be mentioned: it concerned slavish imitation by a competitor of technical documents (pictures, drawings, graphics and numerical charts). The question of copyright protection for the documents was not raised by the plaintiff, so the whole argument turned upon reproduction of the fruits of one's work without making any effort to modify their appearanee. The Court held that such behaviour was indeed an act of unfair competition, regardless of any issue of intellectual property. While recognizing that imitation — even slavish imitation — is permitted when the product being copied is not legally proteeted by copyright or patent law, such imitation becomes illicit when it is done "without even making minimal efforts to give to the copy of another's documents a personal character".

Commentators have stated the principle that, even in the absence of confusion, "it is illicit and constitutive of unfair competition to profit from the work, from the creative power or from the reputation of another". This statement also seems to have been adopted recently by case-law.

The decision of the Brussels Court of Appeal on protection of maps refers to the notion of unfair competition without dealing with the question of confusion. Having denied copyright protection for lack of originality, the Court of Appeal held that the defendant — who had reproduced fragments of a non-original map — had thereby committed acts constituting unfair competition.

Since the Court did not justify its reasoning but expressly confirmed the first instance judgment in all its aspects, one must refer to the latter. After rejecting copyright proteetion, the tribunal did grant some protection on the basis of the law of unfair competition focusing on the efforts to product the map and on its commercial value.

Another paragraph of the judgment should be mentioned; it implies that, despite the fact that there was no intelleetual property in the maps, the defendant should have asked for authorisation to reproduce them.

In a more recent decision of the Brussels Court of Appeal, the defendant had argued that his technical drawings and eharts would necessarily be the same as those of his competitor because they reflected one and the same reality. The same reasoning could be applied to two maps of the same area. The Court expressly rejected this defence and held that other presentations of reality were available to the designer of the drawings; this would not probably be so much the case for maps, where reality imposes even more compelling requirements upon the designer.

The case law on parasitic competition demonstrates that, even in cases where the conditions for protection by intellectual property are not met, other protection may be given

The present trend in both France and Belgium is thus quite clear. Courts are more and more inclined to allow aetions against cases of slavish imitation, even when the victim does not have any proprietary right in the "information" (or in its material media) as soon as there is a risk of confusion or if a person, by misappropriating the fruits of somebody else's efforts which having to incur many costs of research or development, has not respected the rules of fair play and of commercial morale, whether or not the work could be protected by a proprietary right.

One further issue still has to be dealt within the context of the Belgian law. Article 56 of the Belgian law on trade practices excludes the possibility of an action for unfair competition against acts of infringement of a patent, trade mark or service mark, design or eopyright. This entails that intellectual property and unfair competition should in principle always be separate from each other; the idea is that when the legislature has established specific schemes of protection and has attached certain conditions to it, case law should not reorganise a subsidiary scheme of protection for cases where those conditions are not fulfilled. However, this idea has been much criticised by commentators. The case law on parasitic competition demonstrates that, even in cases where the conditions for protection by intellectual property are not met, other protection may be given. An analysis of the case law indicates that if, in the field of patents and designs, the rule of Article 56 is well respected and, in copyright cases, it is obviously not followed, Article 56 is no obstacle in our case. Indeed, Article 56 may even be said to run contrary to article 10*bis* of the Paris Convention.

Maps and databases

Where maps are loaded on to a computer database, they may be retained then for the purpose of data retrieval or they may be held for adaptation and the subsequent generation of new maps.

It is unanimously aecepted that storage of a work should be considered as a reproduction and thus requires prior authorisation by the copyright owner. This view is accepted in Belgium where the general provision of Artiele 21 of the Copyright Act is considered to cover the case of reproduction for storage in a database, as well as in other countries and at the international level. However, this position requires some qualification:

■ *Some works are excluded from copyright protection.* A distinction must be made between two categories of work excluded from copyright protection (*ie* statutes, regulations and court decisions). Maps published by a state administration, *eg* military maps, are not "offieial" acts excluded from protection. Also, Article 10 excludes some speeches given in deliberative assemblies, in public court hearings and in political meetings. For use of these works, no authorisation is required.

■ *Other works are excluded through a lack of originality, eg* if a map is not original. For these works, it is simplistic to say that no authorisation would be required; as we have seen, prior authorisation will avoid a possible action for unfair competition. However the bargaining power of the "author" will be weaker than for copyright works.

Some reproductions of copyright works are allowed. These reproductions include:

■ *Quotations from a work.* Article 13 allows quotation from literary works, but only for purposes of critic, discussion or education, while Article 11*bis* allows quotation of literary and artistic works under certain conditions (mainly for purposes of information on current events). It is uncertain whether a map would qualify as a literary work for the purpose of Article 13. The applicability of these provisions to a geographical database seems limited.

■ *Reproduction for private use.* Such reproduction of a copyright work is generally accepted in Belgium. But this exception is not likely to be of any use for database producers; in some cases it could be invoked by users.

■ *Adaptation of an existing work* requires the authorisation of its author; it is considered as a derivative work. On the other hand, another principle of copyright law is that ideas should circulate freely. The difficult task is then to distinguish the results of a work of adaptation (for which authorisation is required) and the works which are only inspired from pre-existing works (where no authorisation is necessary).

In principle, an adaptation contains certain elements taken from the form of a pre-existing work; but this form covers both expression and composition, and composition should be understood as the development of an idea, so that the scope of copyright stretches a bit beyond the work's "form". Consequently the criterion may be hard to use.

This is all the more true in the case of maps, where the structure of the work is to a great extent imposed upon the author; maps can be compared with scientific works or historical books about which the following has been written:

> Not only do facts impose their tyranny upon scientists, but also their chronological order limits the freedom of the author.

Cartographers, much like historians, have to respect facts and reality. The judge is thus obliged to limit its analysis to the expression and to the details rather than to the composition and structure of the work; as a result, the protection is lowered: account will be taken of the fact that the second comer did (not) use sources other than the pre-existing work.

Summaries and abstracts. This question led to the *Microfor* decisions in France; it has not given rise to any decision in Belgium. The criterion used has been that of "substitutability": if a summary makes it unnecessary for the reader to consult the full work, then the summary requires authorisation of the author of the complete text before it can be published. This approach has been criticised as dealing with the content of a work rather than with its expression, contrary to traditional copyright law; it is uncertain whether a similar approach would be adopted in Belgium. It is also uncertain whether a simplified map (which highlights only certain relevant elements) would be considered as a "summary" of a more complete one. Arguably, a very simple map only contains raw information and would probably not be sufficiently original.

When is authorisation required for storage of a work in the database? In the case of reproduction of an unchanged work:

■ if the work is copyright protected, reproduction without authorisation would obviously constitute infringement.

■ if the work is not protected by copyright (*eg* for lack of originality), it might still be advisable to obtain authorisation of its "author" (or producer) in order to avoid an action on the basis of unfair competition (especially if the creation of the work required "skill and labour"). In the case of adaptation of an existing work :

■ if the work is copyright protected, authorisation of its author is required for the adaptation of the work:

■ if the work is not copyright protected, no authorisation should be required.

How do you digitise a map?

There are at present two main technologies for digitising a map and integrating it into a database.

The scanning process: One introduces the document into an optical image scanner and the document is duplicated on the screen in a similar form to the original, the precision of the result depending upon the scanning software technical characteristics of the monitor. This technique frequently used for texts (in which case, a "picture" of the text and of its characters is made by an OCR (optical character reader); it is however also useful for designs, drawings and maps.

The vectorisation process: Instead of obtaining the whole document on the screen at once, one deals with one element at a time. Once an element has been selected from the document on paper, it is then introduced in the database in the following way: An operator uses a computer's "mouse" and precisely follows with his mouse the design of the element (*eg* the curve of a highway) on the paper which he has in front of him. Every time the operator clocks on the mouse, the point of impact is duplicated on the screen. By precisely following the curve on the map and clocking every two or three millimetres along the line, the trajectory of the mouse on the paper is imitated as a sequence of points which can then be transformed in order to appear on the screen as a continuous line. More sophisticated computer graphics are now available which enable the vectorisation process to be performed by an electronic 'scratch pad' across which a stylus is drawn.

When will the resulting work benefit from copyright protection? In the case of reproduction: no copyright is granted to the person who merely reproduces the work. In the case of adaptation: the resulting work may benefit from copyright protection (to the advantage of the second author) if such work is sufficiently original.

Retrieval of Maps

Retrieval of works from a database may be done in different ways: display of the work on the computer screen, print-out of the document on paper, recording on a magnetic tape on a CD ROM or on other media.

Printing or recording works retrieved from the database by the user is an act of reproduction which requires the prior authorisation of the copyright holder. In some cases, users might invoke the right to make a copy for private use. The scope of this exception is the subject of some discussion.

If consultation of the database only takes place through a display of documents (*eg* texts, figures, maps) on the screen, it is debatable whether this is an act of reproduction (despite its very volatile nature), or of communication (in French, *représentation*) which only requires authorisation if it is made to the public, or both, or whether it is neither of the two.

Since the question of screen display is not resolved, it is advisable that producers of literary or geographical databases containing copyright works obtain authorisation of authors not only to store the work in the database (first reproduction) but also to organise retrieval, display and print-outs by users.

Even the assignee of a database may find that he has not done enough to protect his position. Since it is a principle of copyright law that assignments of rights by authors have to be strictly interpreted, the author retains all rights which have not been explicitly assigned. Secondly, another principle of Belgian copyright law (*droit de destination*) entails that the author has the right to control the use and destination of copies reproducing his work: since he authorises reproduction for storage, he should be able to control the destination of this reproduction which is made for the purpose of retrieval by the public. Thus, for more certainty's sake, both the right of reproduction and the right of communication to the public (*droit de représentation*) should be explicitly assigned to the producer of the database and defined according to the context of databases.

New technologies offer enhanced possibilities for modifying the form of a work, be it a text, a painting, a piece of music or a map

Digitisation

New technologies offer enhanced possibilities for modifying the form of a work, be it a text, a painting, a piece of music or a map. As a result a few operations on the work by using appropriate software, while taking little time and effort, may result in a new work, the appearance and feel of which could be sufficiently different from the pre-existing work as not to be considered as a derivative work which would require authorisation of the copyright holder of the first work), also being sufficiently original to receive copyright protection. In this sense, these new technologies render informational works such as a map highly vulnerable and illustrate the limit to the utility of copyright protection. However, time and efforts spent in creating a new work are totally irrelevant in Belgian copyright law; what only matters is the expression and form of the final work. This is not the case for unfair competition law.

Digitisation techniques (see inset) now enable existing works to be fed easily into a computer.

Scanning is clearly a reproduction: it corresponds to a form of storage. Storage of a work in a database corresponds to a reproduction and therefore requires prior authorisation of the copyright holder.

It may well be that the map, once scanned and put on the screen, is modified by an operator using appropriate software. If these modifications are not very important, the new map is to be considered as a derivative work; if they are very substantial, it can be considered as a new work which will then enjoy copyright protection. The copyright holder of this second map is its producer (the employee who worked on it or his employer); but even if the final product differs greatly from the original map, it is nevertheless necessary to obtain authorisation for the primary reproduction (the only exception would be a private use).

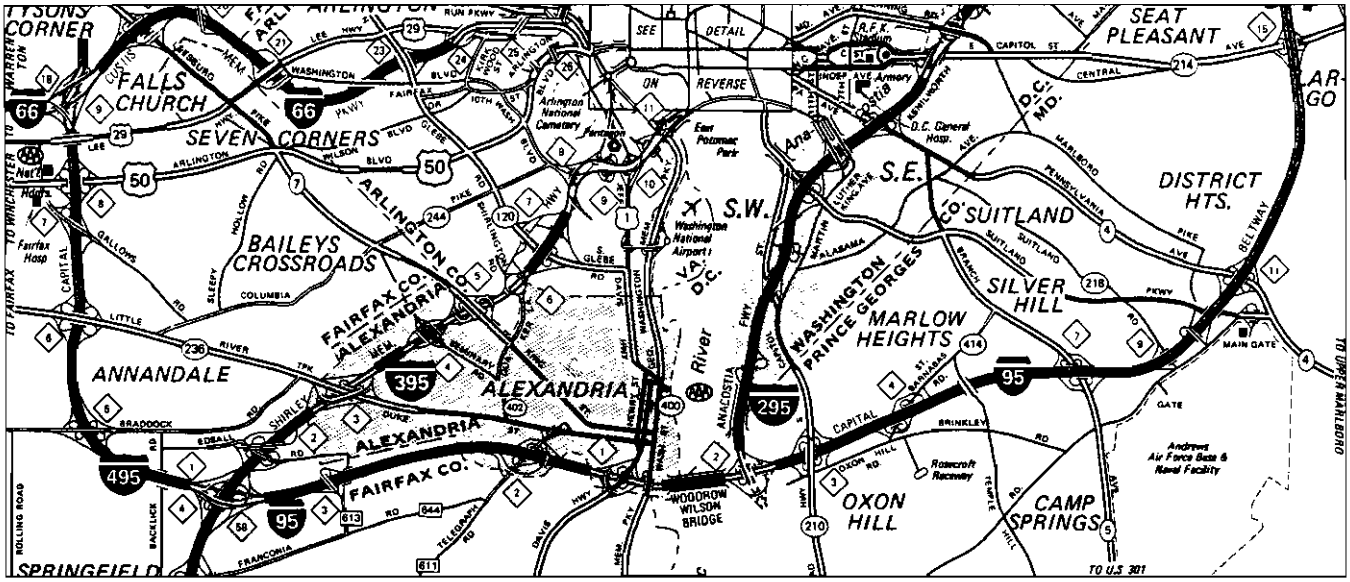
Where vectorisation is concerned, the problem is more complicated: the nature and function of this process entails that it may be useful for a drawing or a map, but not so much for literary works (for which the normal way of taking one element at a time would be to have the whole text typed normally using a word processor). It could be said that vectorising a text is equivalent to typing it, whereas scanning a text is equivalent to photocopying it or to taking a photograph of it.

In the case of a text, both photocopying and re-typing can be considered as reproductions in copyright terms; in both cases the final text is in principle the same, except for possible typing errors in re-typing and except that the characters might differ (which in the case of a normal text would be irrelevant).

What about drawings and maps? Could one also say that not only scanning but also vectorising are equivalent to reproductions? The answer depends upon whether the final result (the map in the database) is identical to the original work (the map on a paper). It does not depend upon the time and efforts spent to produce the final result.

In this respect the fact that vectorization is very much manual work (clocking one-by-one on so many points) can be disregarded. In the same way, one who spends three weeks in an art museum painting a copy of a masterpiece will still have to obtain prior authorisation from the copyright holder, because he is "reproducing" the painting.

So the process which is being used is irrelevant, and the mere fact that one vectorises a work (and does not



scan it) cannot be used as a defence in case of a copyright infringement; only the final result matters. Therefore, in order to decide if a copyright infringement took place in the context of digitisation of maps, one has to compare the two versions and see if there are elements of the original work which can be found in the final product. Three different possibilities have then to be distinguished:

(i) *The map in the database is exactly the same as the original map on paper.* Then it is clear than an infringement of copyright took place unless authorisation was obtained;

(ii) *Only one part of the original map has been fully reproduced.* There, the reasoning of (i) still applies. Reproduction of one part of a work is a copyright infringement, subject to any special defences which may be available;

(iii) *Only certain elements of the original map have been integrated in the database as part of the new map.* Then one has to analyse which these elements are and whether the elements, when taken separately, are subject to copyright (we may here refer to what was said above about copyright protection for geographical maps, where examples were given of elements which are not copyright protected. In situation (iii), one may again distinguish two possibilities:

■ First, if special (original) symbols have been copied, or if the manner in which *eg* the roads and highways are represented is copied (as the case may be, along with the map's legend), so that the final result may remind one of the original map, it may be that copyright infringement has taken place. Since the two maps are not identical, the second could be an adaptation of the first, thus requiring authorisation.

■ Second, no copyright infringement occurs even though some elements of the first map may be found in the second. Some elements of a map are not copyright protected and may be "appropriated" by others. Examples given included the curve of a street, the shape of a lake, the location of a museum, the name of a street. All this information is in the public domain; these data are "raw data" in which there can be no copyright. The representation on a map of all the streets of a city is a reflection of reality which cannot be original if one represents the streets in a uniform manner. Even if one relies on existing copyright materials to do so, one only extracts from the map elements that are not protected and which could also have been obtained from other sources such as satellite photographs or on-site measuring (it would run against the very objective of intellectual property law to oblige competitors to go through the same work again; their objective is both to reward authors but also to ensure a wide circulation of ideas and information for the benefit of society).

It was previously noted that copyright protection did not offer a very strong scheme of protection for maps; this is a perfect illustration of that fact. To a certain extent, the law of unfair competition will offer some additional protection as will be explained further.

When dealing with the issues of copyright protection of databases as such, we mentioned that the structure of a work could obtain protection if it was sufficiently original, regardless of whether the separate elements were copyright protected; judges too have sometimes accepted protection of the "development" of an author's idea throughout a novel. Could this reasoning be used to contend that by reproducing the skeleton of the map (*ie* the outline of the streets), one copies its structure and therefore infringes the first author's rights? No — the "structure" of the map and the network of streets is itself in the public domain. There are no two ways accurately to design the shape of a square; to hold otherwise is to seek monopoly that is equivalent to looking for protection over information and over ideas — for which copyright is not intended.

If limited to the network of streets of a city or of highways of a country, reproduction is licit in copyright terms: no choice is being exercised and no originality may be found because accuracy requirements completely restrain the possibilities for personal arrangement at this level. The same would be said of a list of names put in alphabetical order.

Moving now to unfair competition laws, such a remedy may be useful in cases where the work is not copyright

protected and also when copyright is not raised. There will be parasitic competition either if the similarity between two works results in risks of confusion or if the newcomer took undue advantage of the first author's efforts and investments.

In the case of undue advantage, the judge will take into consideration the efforts required to create the first work, the ease with which the newcomer could imitate the original work and the possible efforts made by him to differentiate his product from the original one.

Since scanning reproduces the whole work at once, risks of confusion are obvious, unless sufficient modifications are made to the computerised map (*eg* by withdrawing or adding many elements).

The argument that the high degree of similarity between the two maps is sufficiently justified by the fact that they reflect the same reality would not necessarily be accepted as a defence by the judges. Indeed, even if the argument is correct for certain elements of the map (*eg* a network of streets), it is not a valid defence to justify full reproduction of every of its elements. Further, since scanning is a relatively easy process requiring little efforts, it is likely that a judge would accept a claim against this undue advantage.

So far as vectorisation is concerned, risks of confusion would only appear if most or all elements were produced, which is more unlikely than in the case of scanning; indeed, by scanning, everything is reproduced at once whereas, by vectorising, only the selected elements are reproduced, one by one.

The process of vectorisation is in fact quite intricate and time-consuming; it necessarily requires the selection and elimination of elements. It permits corrections and modifications to the original map more easily than in the case of scanning, as well as combinations with other maps. Consequently it usually takes much time, effort and investment, so that the notion of undue benefits (*enrichissement sans cause*) would not normally apply here.

While under the obligation to respect copyright protection for works that he wants to introduce into his database, the database producer may in turn benefit from copyright protection; it is indeed logical that the same rules prevail all along the line. One must distinguish, however, between the protection available for the elements included in the database and the protection for the database as such.

Vectorising a text is equivalent to typing it, whereas scanning a text is equivalent to photocopying it or to taking a photograph of it

Maps can be protected by copyright if they are sufficiently original. If the original map has been introduced in the database without any modification, all rights remain with the first author. If the map has been modified in a certain extent, new copyrights may exist for the benefit of the second author (prior authorisation will have been obtained from the first author). Additional elements, once annexed to the maps, such as lists of addresses or tourist information, raise now-familiar questions: have these elements been created by third parties (other than employees of the database producer)? If so, are they protected by copyright? Have the adequate authorisations been obtained for storage, modification, retrieval, display, printouts, *etc*?

It is generally accepted that computer programs are protected by copyright in Belgium, provided that they are sufficiently original. As with other programs, any software which facilitates search or investigation of the database may be protected by copyright; commentators in Belgium generally favour a broad conception of originality here: as soon as the programmer is faced with a choice, his personality comes into play, and the result of his choices (*ie* the program) may be granted protection.

Questions may arise concerning the screen display set up by the database producer for the presentation of his information: the screen may present menus, icons, symbols, commands and so on. These elements are usually referred to as the user interface. In Belgium, the protection of user interfaces has only been dealt with in the context of protection of computer games where the courts have accepted protection for the elements and figures appearing on the screen (independently of any protection available for the underlying program), provided that they were sufficiently original. What applies for video games should also be true for screen displays of other computer programs as well as for screen displays used with databases.

Is the database protected?

Even though there is no case law or statutory provision on this issue, a database is in principle protected by copyright law in Belgium. Support for this view may be found in Article 2(3) of the Berne Convention (Brussels version), which provides that copyright protection should be granted to collections of literary or artistic works such as encyclopaedias and anthologies which, by reason of the selection and arrangement of their contents, constitute intellectual creations, without prejudice to the rights of authors of the works introduced in the encyclopaedia or compilation. It is generally considered that a database fits in this category of compilation of works.

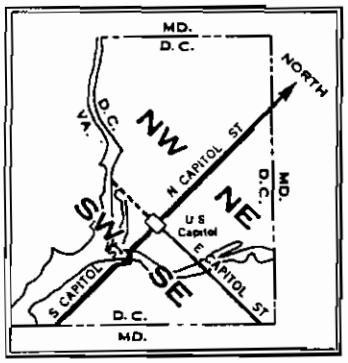
The protection available for the database is independent of that of its elements; the value of the whole work is much greater than the value of the sum of all its components. Consequently, it may happen that a database enjoys protection while its elements taken separately do not, either because they lack originality or because they are in the public domain. A geographic database can thus be protected even though the maps would not be.

For that reason, a recent decision of the Belgian Supreme Court cannot be followed: it held that a catalogue should be denied copyright protection for lack of originality on the ground that it only contained information

which could be obtained elsewhere, be it even after long and difficult research.

The originality of the catalogue or of the database can be found in the selection and arrangement of data (Article 2.3 of the Berne Convention), but not in the original (or non-available) character of these data.

When a database is to be considered as protected by copyright law, the copyright owner may prohibit acts of users of the database and acts of competitors or third parties which



entail some kind of reproduction: this includes reproduction (on paper or otherwise) of all or part of the "document" (texts, maps, pictures, figures) contained in the database, downloading in one's computer (as it is a kind of reproduction) and copying of the structural elements of the database (to a certain extent).

The limit to the producer's rights lies in the principle that ideas should circulate freely, so that methods used by one may be copied by another; the difficult is of course to separate the "structure" (which is protected) from the "method" (which is not).

When a database cannot be considered as protected by copyright, (eg due to a lack of originality), a logical consequence could be that its whole content may be appropriated by others (*eg* by downloading) without there being any illicit action.

However, it can be argued that in such case an action for unfair competition could offer to the producer of the non-original database an alternative means of protection against this "misappropriation".

One last point should be mentioned: the creation of a database is generally the result of a collective work made by employees. In Belgian law, when the author is an employee, there is a conflict between copyright law and labour law: according to the former, the employee should be the author; according to the latter, the fruits of the work of the employee belong to the employer.

It is generally accepted that the employee retains moral rights to his work, except if otherwise agreed. But there is some controversy about economic rights: some say that there is a tacit assignment of rights as a result of the employment contract; others say that there can only be an assignment for those patrimonial rights that the parties had in mind when the work was created, *ie* that which corresponds to the normal activity of the enterprise. Since the position is uncertain, it is very important that the employment agreement details explicitly with this question. If the employee's rights have not been assigned, the database could be considered as a work of collaboration (where it is not possible to distinguish each person's contribution); copyright in works of collaboration are exercised by common consent of their authors unless an agreement provides otherwise.

EC initiatives

In 1988, the Commission of the European Communities issued its "Green Paper on Copyright and the Challenge of Technology — Copyright Issues Requiring Immediate Action". Chapter 6 dealt with databases. Its purpose was to invite comments from informed circles on certain matters.

The Commission first confirmed that, in all Member States of the Community, incorporation of a work in a database constitutes a reproduction and presupposes the consent of the copyright holder. It suggested that issues can only be settled by general legislation and case-by-case application by courts; consequently, the Commission was of the opinion that no action seems to be required on this point. The Commission then explained the existing controversy about retrieval of works by visual display (Is it a reproduction or a non-restricted act comparable to the reading of a book in a library?) but it recognised that printouts are considered a copy everywhere. By stating that the differences in the Member States appear to have "relatively limited practical impact", the Commission again suggested that no action appeared to be necessary either.

On the question of protection of databases as such, there appears to be some confusion in the Green Paper. The Commission started by stating that:

> the protection accorded to databases relates under existing national legislations and international conventions to the characteristics of the works stored therein, rather than to the database itself as a collection of information.

Such statement does not appear to be correct. In most cases, the distinction is made between the database as such and its elements, so that the confusion made by the Commission is generally not found elsewhere.

In this article we have indicated that both issues are to be treated independently. A database may enjoy protection while its elements do not, when taken separately; *vice versa*, a database might be found not original while containing elements that are copyright protected (*eg* non-original compilation of existing literature). The whole analysis by the Commission is blurred by this confusion; and so are its conclusions to the analysis.

The interesting part of this document is that the Commission suggests that a short of neighbouring right could be introduced, as it exists in Denmark, where a short-lived protection (10 years) is accorded to compilations, catalogues and similar works even if they are not sufficiently original to attract genuine copyright protection.

To the extent that such a scheme of protection would not prejudice existing copyright law, it has been said that the solutions should be welcome. As a result, all databases would benefit from the specific short-lived protection; only original databases would be accorded fully copyright protection.

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