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Editor's Note

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA
Statute on Marks and Industrial Designs (No. 0093 of May 2, 1983) Text I-001

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Notifications

WIPO Convention

Accession

VENEZUELA

The Government of Venezuela deposited, on August 23, 1984, its instrument of accession to the Convention Establishing the World Intellectual Property Organization, signed at Stockholm on July 14, 1967.

The said Convention will enter into force, with respect to Venezuela, on November 23, 1984.

WIPO Notification No. 130, of August 28, 1984.

Nairobi Treaty (Olympic Symbol)

Accessions

EL SALVADOR

The Government of El Salvador deposited, on September 14, 1984, its instrument of accession to the Nairobi Treaty on the Protection of the Olympic Symbol, adopted at Nairobi on September 26, 1981.

The said Treaty will enter into force, with respect to El Salvador, on October 14, 1984.

Nairobi Notification No. 26, of September 20, 1984.

CUBA

The Government of Cuba deposited, on September 21, 1984, its instrument of accession to the Nairobi Treaty.

The said Treaty will enter into force, with respect to Cuba, on October 21, 1984.

Nairobi Notification No. 27, of September 24, 1984.

WIPO Meetings

WIPO/CEPGL

Industrial Property

Seminar Organized by WIPO and the Economic Community of the Great Lakes Countries

(Gisenyi, May 28 to June 1, 1984)

NOTE*

An Industrial Property Seminar for the countries of the Economic Community of the Great Lakes Countries (CEPGL), organized jointly by WIPO and CEPGL, was held at Gisenyi, Rwanda, from May 28 to June 1, 1984.

Industrial property experts from the three member countries of the CEPGL, Burundi, Rwanda and Zaire, took part in the Seminar. The list of participants follows this Note.

The aim of the Seminar was to provide information on:

- the role of industrial property in development;
- WIPO and its development cooperation program;
- the international treaties in respect of industrial property;
- the possibilities of harmonizing national industrial property laws.

The Seminar heard papers on these topics presented by representatives of WIPO. The program also comprised papers by experts from Burundi, Rwanda and Zaire dealing with each country's experience in industrial property, and also a paper by an expert from CEPGL on the importance of the industrial property system in the countries of the Great Lakes.

Following this introductory Seminar, the industrial property experts of the three member countries of CEPGL adopted various recommendations and passed a vote of thanks to the organizers of the Seminar. The experts recommend in particular:

1. that the efforts undertaken by each of the three countries with a view to establishing legislation taking into account both their specific needs in the field of industrial development and the need to take decisions that are in compliance with the provisions of the Paris Convention for the Protection of Industrial Property be pursued;

2. that future work under the aegis of WIPO and CEPGL should comprise an examination of the possibilities:

- (i) of cooperation between the three countries concerning, in particular, the modernization of the national industrial property administrations, the institution within those administrations of services providing information to the public and opportunities for exchanging information among the industrial property administrations of the three countries of CEPGL;
- (ii) of harmonizing the laws and procedures relating to industrial property;
- (iii) of accession by the three countries, in particular, to the Patent Cooperation Treaty (PCT), to the Madrid Agreement Concerning the International Registration of Marks and to the Hague Agreement Concerning the International Deposit of Industrial Designs;
- (iv) of intensifying the training of officials from the three countries by taking advantage, in particular, of the possibilities offered by WIPO within the framework of its development cooperation program.

LIST OF PARTICIPANTS*

I. States

Burundi: M. Gahungu; D. Barumpozako; B. Boyayo. **Rwanda:** A. Sebudanga; T. Uzabakiliho; B. Murekezi; L. Sebantu. **Zaire:** Lukusa Kayembe Nkaya; Makiona Ma Banzuzi; Kivuath Kaj Kolokotu; W. Yaek'Olingo.

II. Observers

Banque des Etats des Grands Lacs (BDEGL): J. Ndabubaha. **Multinational Programming and Operational Centre (MULPOC):** Sinarinzi C.

III. WIPO and CEPGL

WIPO

I. Thiam (*Director, Development Cooperation and External Relations Bureau for Africa and Western Asia*); F. Balley (*Head, Industrial*

* Prepared by the International Bureau of WIPO.

* A list containing the titles of the participants may be obtained from the International Bureau.

Property Law Section, Industrial Property Division); J.-C. Petit (*Head, Regional Center of the National Institute for Industrial Property, Bordeaux*).

CEPGL

Kasasa Cinyanta Mutati (*Deputy Executive Secretary*); Ndagijimana W. (*Director, Political, Legal, Social, Cultural and Scientific Affairs*); Noutinamagara A. (*Acting Head of Division*); Nsanzumuco G. (*Acting Head of Division*); Vundji di Munongo (*Acting Head of Division*); Senyana V. (*Head of Section*); Ibambasi A. (*Head of Section*); Kalumbi Maghaniryo (*Official*).

Paris Union

Committee of Experts on the Grace Period for Public Disclosure of an Invention Before Filing an Application

First Session
(Geneva, May 7 to 11, 1984)

NOTE*

The 1984/85 program of the International (Paris) Union for the Protection of Industrial Property (see document AB/XIV/2, Annex A, item PRG.03(4)) provides that the International Bureau of WIPO prepare a study on the question—with arguments for and against—whether patent laws should provide that where an invention is publicly disclosed by the inventor before an application is filed in respect of that invention, such disclosure will not affect the invention's patentability if, within a certain period (six or 12 months) (the so-called "grace period"), an application is filed by the inventor of the said invention. The study should deal particularly with the question of the desirability of having a uniform solution to this question among all countries and the possible measures to promote or secure such uniformity.** It was also agreed that, in addition to this study, the International Bureau of WIPO proceed with the study of other questions of harmonization of patent laws. As a first step in that direction, the Director General of WIPO convened, in Geneva, from February 13 to 15, 1984, a meeting of consultants in order to obtain expert advice in the preparation of the said study, which subsequently was published as document GP/CE/1/2.

In accordance with the recommendations of the consultants, the study concludes that it is necessary and also fully justified to find a uniform solution providing

for a general grace period at the international level in order to achieve harmonization of national laws and regional conventions on the question of non-prejudicial disclosure of inventions. In the sense of the study, a "general grace period" is understood as one that would cover the following three categories of non-prejudicial disclosure: (a) a display of the invention at an exhibition by the inventor or by a third party with his agreement; (b) an unlawful disclosure of the invention by a third party, based on lawfully or unlawfully acquired information, frequently also called "disclosure in consequence of an abuse" (e.g., theft or violation of a promise to keep the invention secret); and (c) a disclosure of the invention by the inventor or lawful disclosure by a third party of a kind not covered by (a) or (b) (e.g., disclosure by publication in the form of a scientific article or a lecture or by public use, in particular, use made in order to test the invention). More succinctly, a general grace period would cover disclosures made by the inventor or by a third party based on information acquired from, or in consequence of acts performed by, the inventor. Principles of a solution that could form the basis for a text of a draft treaty were proposed by the Group of Consultants and included in the study.

The study was submitted for discussion to the Committee of Experts on the Grace Period for Public Disclosure of an Invention Before Filing an Application, which held its first session in Geneva from May 7 to 11, 1984 (hereinafter referred to as the "Committee of Experts"). Eleven States, one intergovernmental organization and eight international non-governmental organizations were represented. The list of participants follows this Note. The Delegations of each State and representatives of the organizations expressed their views on the principles of a solution proposed in the study and commented on the substance and conclusions of the study.

Several delegations and most of the organizations expressed strong support for the solution proposed in the study, militating in favor of the proposed general grace period system. Other delegations expressed reservations as to the proposed system of a general grace period.

The Committee of Experts recommended that the International Bureau of WIPO should circulate the study, where appropriate, with amendments, together with the report of the session of the Committee of Experts, to all member States of the Paris Union for the Protection of Industrial Property and to all interested intergovernmental and non-governmental organizations, giving them an opportunity to comment. The revised study is reproduced hereafter.

The Committee of Experts noted that the International Bureau of WIPO, after having examined any comments received from governments and organizations, would convene its second session with the purpose of continuing in more detail the consideration of the question under study and possibly to consider other questions of harmonization of patent laws. In

* Prepared by the International Bureau.

** The question of the period of grace for invention disclosure is discussed in several special studies published in *Industrial Property* (see *Industrial Property*, 1982, pp. 279 to 290).

addition to studying the question of the grace period, the objective of the study, in particular, would be to deal with those questions which are relevant for the introduction of automated patent procedures and for facilitating the entry into the national phase of the procedure under the Patent Cooperation Treaty.

LIST OF PARTICIPANTS*

I. States

Brazil: P.R. Franca. **Denmark:** L. Osterborg. **France:** M. Hianec. **Germany (Federal Republic of):** I. Koch; F.P. Goebel; H. Bardehle. **Italy:** S. Samperi. **Japan:** H. Tokunaga; S. Ono. **Soviet Union:** A.D. Kortchaguine. **Sweden:** E. Tersmeden. **Switzerland:** J.-M. Souche; K. Hunziker. **C. Bertschinger.** **United Kingdom:** J.P. Britton. **United States of America:** M.K. Kirk; G.L. Skillington.

II. Intergovernmental Organization

European Patent Organisation (EPO): G.D. Kollé.

III. International Non-Governmental Organizations

Asian Patent Attorneys Association (APAA): T. Yamaguchi. **Center for the International Study of Industrial Property (CEIPI):** P. Nuss. **International Association for the Advancement of Teaching and Research in Intellectual Property (ATRIP):** J. Straus. **International Association for the Protection of Industrial Property (AIPI):** A.E. Briner. **International Federation of Industrial Property Attorneys (FICPI):** J. Beier. **International Federation of Inventors' Associations (IFIA):** C.P. Feldmann; K. Lerstrup. **Union of Industries of the European Community (UNICE):** E. Fischer; J. Brulle; H.J.L. Hazelzet; H. Goldrian. **Union of European Practitioners in Industrial Property (UEPIP):** F. Antony; H.E. Böhmer.

IV. Officers

Chairman: K. Pfanner (WIPO). **Vice-Chairmen:** M.K. Kirk (United States of America); A.D. Kortchaguine (Soviet Union). **Secretary:** F. Balley (WIPO).

V. International Bureau of WIPO

K. Pfanner (Deputy Director General); L. Baeumer (Director, Industrial Property Division); **F. Balley (Head, Industrial Property Law Section, Industrial Property Division);** H. Lom (Legal Officer, Industrial Property Law Section).

* A list containing the titles of the participants may be obtained from the International Bureau.

GRACE PERIOD FOR PUBLIC DISCLOSURE OF AN INVENTION BEFORE FILING AN APPLICATION: EXISTING LEGISLATIVE PROVISIONS; ARGUMENTS FOR AND AGAINST A GRACE PERIOD; DESIRABILITY OF A UNIFORM SOLUTION*

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I. Introduction

1. The 1984/85 program of the International (Paris) Union for the Protection of Industrial Property provides that the International Bureau will prepare a study on the arguments—for and against—patent laws providing that, where an invention is publicly disclosed by the inventor before a patent application is filed in respect of that invention, such disclosure will not affect the invention's patentability if, within a certain period (six or 12 months), a patent application is filed by the inventor for the said invention. The said program indicates that the study should deal not only with patents but also with other titles of protection of inventions. Finally, it states that the said study will deal particularly with the question of the desirability of having a uniform solution to this question among all countries and the possible measures to promote or secure such uniformity (see document AB/XIV/2, Annex A, item PRG.03(4)).

2. The present document contains a study prepared by the International Bureau, taking into account the comments of the Committee of Experts on the Grace Period for Public Disclosure of an Invention Before Filing an Application (hereinafter referred to as the "Committee of Experts"), which, in the implementation of the program referred to in paragraph 1 above, met in Geneva from May 7 to 11, 1984 (see document

* This is a copy of WIPO document GP/CE/1/2 Rev., of July 27, 1984, constituting a revised version of document GP/CE/1/2 of March 21, 1984, except that the annexes of that document are not reproduced here.

GP/CE/I/3), and at that meeting discussed the draft of this study (contained in document GP/CE/I/2).

II. Scope of the Study

A. The Cases to be Covered

3. This study deals with a particular feature of the definition of the state of the art under national patent laws and international conventions, namely, an exception from the rule according to which public disclosure of an invention has the effect that the invention is included in the state of the art and thus is no longer patentable because it has lost its novelty. The exception concerns the case of the so-called "non-prejudicial" disclosure. For the purposes of this study, "non-prejudicial disclosure" means a public disclosure which is considered as not having the effect of destroying the novelty (and, therefore, the patentability) of the invention, because it originates from the inventor himself or, if it is made by a third party, is based on knowledge of the inventor's invention lawfully or unlawfully acquired by that third party. Under national patent laws and international conventions which provide for such an exception, a non-prejudicial disclosure is only recognized as such if it occurs during a certain period of time, usually six or 12 months, preceding the filing date of the patent application pertaining to the invention. This period of time is generally called "grace period." This term has been criticized sometimes as inappropriate, since the period during which disclosures do not cause any prejudice should be seen, not as a "grace" for the inventor who should be entitled to have his invention protected even if it is disclosed before filing, but as a benefit for society resulting from the inventor's disclosure of his invention. Nonetheless, the term "grace period" will be used in this study, since it is widely used and understood; it is intended to identify a period of time during which certain disclosures made are not considered prejudicial for the purpose of novelty of the invention in question, provided an application is filed within that period.

4. As stated above, the non-prejudicial disclosure can either originate from the inventor himself or from a third party.

5. The concept of a non-prejudicial disclosure originating from the inventor comprises, within the meaning of this study, also disclosures¹ originating from a successor in title of the inventor, including a successor in title by law, such as an employer who has claimed, as required under a number of national laws, an employee's invention; it also comprises, for the purpose of this study, disclosures originating from another original owner of the invention, such as an employer

who, under certain laws, is granted automatic ownership of the invention without need for a transfer or assignment of the ownership of the invention from the inventor to his employer.² In this study, the term "inventor," unless otherwise indicated, covers therefore any original owner, as explained above, of the invention other than the inventor and any successor in title of the inventor or other original owner.

6. If the non-prejudicial disclosure originates from a third party, it may be based on information about the invention which is lawfully acquired, and which is also lawfully disclosed, because it is provided by the inventor or with his authorization, without a confidentiality obligation. For instance, this may be the case where the inventor communicates his invention to a prospective licensee or purchaser of articles manufactured by the inventor in accordance with the invention and the said prospective licensee or purchaser engages in public tests leading to a disclosure. While it is the inventor who usually makes non-prejudicial disclosures himself, he can also authorize others to make such disclosures without thereby changing the character of such a disclosure to a prejudicial one. This applies, for example, where the inventor authorizes an industrial development organization to communicate the invention to a potential licensee or to test the invention publicly and where this activity leads to authorized disclosure of the invention.

7. The disclosure of the invention originating from a third party may also be based on information of the invention which is unlawfully acquired and which is then disclosed, or which is lawfully acquired, but unlawfully disclosed. The former is the case where the information is obtained by theft or fraud from the inventor or from another third party having lawfully acquired the information. The latter is the case where the information, lawfully acquired by a third party, is passed on to another third party or otherwise disclosed in breach of confidentiality.

8. A non-prejudicial disclosure of the invention by the inventor or by a third party lawfully or unlawfully disclosing information about the inventor's invention must be distinguished from the situation where the same invention has been made independently by a third party and disclosed by that party or by somebody who acquired information about the invention from that party. This latter case—that of the disclosure of an independently made invention—is of no concern for, and is not covered by, this study.

9. Attention is also to be drawn to the distinction between the concept of a grace period and that of a priority right. A priority right establishes a period after a

¹ In this study, references to disclosure are meant to refer to public disclosure, since the study deals with an exception to the rule that public disclosure forms part of the state of the art.

² This is the case, for example, in France (Section 1ter of the Patent Law as last amended on July 13, 1978) and in the United Kingdom (Section 39 of the Patents Act 1977). The French law (Section 1ter(3)) obliges the employee and the employer to "refrain from making any disclosure which would compromise, in whole or in part, the exercise of the rights afforded under this Law."

given event, during which any subsequent disclosure, even if independent of the invention concerned, no longer can destroy the novelty of the invention. The grace period, which is the only subject of this study, removes merely certain disclosures, originating from the inventor, or from a third party based on information acquired from the inventor, from the prior art and renders them "non-prejudicial" to the novelty (and, therefore, the patentability) of the invention in relation to which the said disclosure was made.

10. A few national laws, in fact, grant, either in addition to or instead of providing for a grace period, an internal right of priority³ based on a prior disclosure made by the inventor. In other words, the inventor, under such laws, is not only protected against a loss of novelty caused by a non-prejudicial disclosure, but he also has a right to backdate the priority date of the application for the protection of his invention to the time at which the non-prejudicial disclosure was made. This leads to protecting him additionally against applications for independently made inventions filed during the time between the prior non-prejudicial disclosure of the invention and the filing date of his application.

11. A different approach to the question of non-prejudicial disclosure is taken by the law of the United States of America. That law, as set out in its Section 102(b), defines kinds of disclosures to be included in the state of the art, and therefore as a bar to novelty, namely, patents and other printed publications in the United States of America or abroad and public use and sale in the United States of America, if they have been issued or have occurred more than one year prior to the date of the application for patent in the United States of America. That definition has the effect that certain disclosures are not included in the state of the art, namely, patents and printed publications issued anywhere in the world and public use and sale occurring in the United States of America not more than one year prior to the date of application for patent in the United States of America, as well as public use and sale abroad without any time limits. To the extent that the said disclosures originate from the inventor and do not relate to public use or sale abroad (which could not be considered as a case of a grace period since the latter acts are never relevant for the state of the art), they can be understood as benefiting from a grace period. To the extent, however, that the said disclosures do not originate from the inventor but originate from a third party who independently has made the same invention, the terms "non-prejudicial disclosure" and "grace period" are not appropriate because there is no question of granting a "grace." Moreover, in these latter cases the provision of Section 102(a) must also be taken into

account where such disclosures occurred before the date of invention (as distinct from the date of application for a patent); this means that the grant of a patent is prevented when the invention is known or used in the United States of America by persons other than the inventor or when it has been patented⁴ or described in a printed publication anywhere in the world (in the other case, where a disclosure originates from the inventor, it logically could only occur after the date of invention); thus, the date of invention could be understood as a date of priority after which disclosures of the invention are irrelevant for the patentability of the invention unless Section 102(b) applies. It should be noted, however, that although the aforementioned system represents a particular approach, it is not in conflict, and therefore would be compatible at the national level, with the concept of a general grace period, as proposed in this study (see below, paragraphs 37 to 48).

12. However, the usual solution applied by national laws containing provisions on non-prejudicial disclosure by the inventor, or by a third party, is to provide for a grace period before the filing or priority date of the application for a title of protection during which, depending on the national law, a restricted or a rather large number of kinds of cases of disclosure is considered non-prejudicial. Many national laws provide only for a very limited concept of non-prejudicial disclosure for which a grace period is granted. Some provide for a broader concept. The following are characteristic categories of non-prejudicial disclosures for which national laws grant a grace period:

(a) The first category is that of a display of the invention at an exhibition by the inventor or by a third party with his agreement (non-prejudicial disclosure at an exhibition).

(b) The second category is that of an unlawful disclosure of the invention by a third party, based on lawfully or unlawfully acquired information (unlawful non-prejudicial disclosure). This category is frequently called "disclosure in consequence of an abuse." Examples are theft or violation of a promise to keep the invention secret.

(c) The third category is that of a disclosure of the invention by the inventor or lawful disclosure by a third party of a kind not covered by (a) or (b) (lawful non-prejudicial disclosure other than at an exhibition). Examples are disclosure by publication in the form of a scientific article or a lecture or by public use (in particular, use made in order to test the invention).

13. The objective of this study is firstly to analyze the existing situation concerning the granting of a grace period with respect to all three categories of non-prejudicial disclosure and secondly to make recommendations for possible solutions on the national and interna-

³ The term "internal right of priority" is used herein to distinguish it from the (international) right of priority established by Article 4 of the Paris Convention for the Protection of Industrial Property. As regards examples of laws granting an internal right of priority, see paragraph 17, below.

⁴ The term "patented" is further modified by Section 102(e) to include certain patents, even though issued later than the date of invention, resulting from an application filed prior to the date of invention.

tional levels. It is to be noted, however, that, while most national laws provide for a grace period in all or some of the cases of categories (a) and (b), only very few laws provide for a solution in the case of category (c). In recent international discussions of the question of the grace period, this situation has been found to be unsatisfactory. It is, therefore, natural that the study puts particular emphasis on the question whether and to what extent the grace period should cover not only the non-prejudicial disclosure at an exhibition (category (a)) and the unlawful non-prejudicial disclosure (category (b)), but also any lawful non-prejudicial disclosure other than at an exhibition (category (c)). This would lead to a grace period which would cover all three categories of non-prejudicial disclosure referred to above and would therefore be independent of the circumstances or the purpose of the disclosure, but, naturally, would not cover disclosures on the basis of independently made inventions. This kind of grace period, for the purposes of this study, will be called a "general grace period." Consequently, the study will concentrate on analyzing the main arguments for and against a general grace period and on making recommendations for possible solutions on the national and international levels with respect to that form of grace period.

B. Information Used for This Study

14. This study is only based on legislative provisions (laws; not regulations). It does not take into account court decisions. Although this means that the information used for the study is not complete for every country, the relevant legislative provisions are generally precise and may be safely interpreted without reference to any court decision. Annex I to this study contains a comparative table showing the essential substantive features of the relevant legislative provisions (procedural features, such as conditions of claiming the grace period, and questions of proof are not covered at this stage). It is to be noted that the information on legislative provisions supplied in this document has not been verified by the authorities of the countries concerned. Annex II reproduces the relevant provisions and the commentary thereto of the *WIPO Model Law for Developing Countries on Inventions*.

C. Countries Covered

15. This study covers the laws of the countries in which the number of titles of protection granted for inventions was more than 3,000 in 1982, namely: Argentina, Australia, Austria, Belgium, Brazil, Canada, Czechoslovakia, France, German Democratic Republic, Germany (Federal Republic of), Italy, Japan, Mexico, Netherlands, Poland, Soviet Union, Spain, Sweden, Switzerland, United Kingdom, United States of America. In addition, the provisions of the European Patent Convention have been taken into account.

III. Existing Legislative Provisions⁵

A. Non-prejudicial Disclosure at an Exhibition

16. The laws of practically all countries covered by this study recognize—either expressly, or implicitly in the framework of a general grace period—that disclosure of an invention at an exhibition, to the extent and under the conditions defined by the applicable national law, does not destroy its novelty. The national laws are based on Article 11 of the Paris Convention for the Protection of Industrial Property, which prescribes that the countries party to that Convention are obliged to grant "in conformity with their domestic legislation,...temporary protection to patentable inventions, utility models,...in respect of goods exhibited at official or officially recognized international exhibitions held in the territory of any of them." The wording of Article 11 is very vague, however. For this reason, an attempt was made at the Lisbon Diplomatic Conference in 1958 to revise Article 11, but without success, and it does not appear promising to try a further attempt to revise it. The vague wording of Article 11 has led to widely different national legislation offering a wide range of solutions, going from effective protection to practically inexistent protection. This is due, in particular, to the different ways in which the various concepts of Article 11 are interpreted.

(a) The obligation to grant temporary protection is qualified by the words "in conformity with their national legislation." This leaves complete freedom to the national legislator in implementing the principle of temporary protection in its national law and is even interpreted by some countries as permitting no protection at all.

(b) The concept of "temporary protection" is not defined. The Paris Convention for the Protection of Industrial Property is silent on the nature of the temporary protection to be granted. Basically, two concepts are applied under national law. One is to grant a special right of priority, starting from the date of the opening of the exhibition or from the date of the introduction of the invention at the exhibition and requiring the filing of an application for protection within a certain period of time thereafter. Another, and the most common form of temporary protection, is to provide for a grace period, preceding the filing or priority date of the application for a title of protection for which the disclosure is non-prejudicial.

(c) Article 11 speaks of exhibition at official or officially recognized international exhibitions, but it does not define these notions and, in particular, does not specify the conditions under which an exhibition is to be considered official and which authority is to recognize

⁵ For Part III of the study, the terminology and in particular the definitions of "non-prejudicial disclosure" and "inventor" are, when national law is described or referred to, those used in the relevant national law and not those referred to in paragraphs 3 and 5, above.

an international exhibition as official. Some laws, in particular the European Patent Convention and the laws of those of its member countries considered for this study (except Austria and Belgium), follow the restrictive approach of the Strasbourg Convention on the Harmonization of Certain Points of Substantive Patent Law of 1963, which defines "official or officially recognized international exhibitions" as meaning only exhibitions which are registered under the Convention relating to International Exhibitions of November 22, 1928, as revised by the Protocol relating to International Exhibitions of November 30, 1972, by the International Exhibitions Bureau, established under that Convention.⁶

(d) Interpretations also differ on the question of whether the obligation to grant temporary protection is limited to exhibitions held on the country's own territory (e.g., Czechoslovakia, Soviet Union) or whether it applies to exhibitions held on the territory of any country of the Union. It is evident that the former limitation of the said kind of protection would largely eliminate its practical usefulness at the international level.

(e) The length of the period for which the temporary protection must be granted is not specified in Article 11.

17. As to the nature of the "temporary protection" (see paragraph 16(b), above), six countries among those covered by this study provide for the solution of granting a priority right (see paragraph 10, above), four of them (Austria, Brazil, Czechoslovakia and Poland) instead of a grace period, and two of them (German Democratic Republic and Spain) in addition to a grace period. Austria provides for a priority right which starts

on the date on which the invention reached the premises of the exhibition and which expires three months after the closing of the exhibition. Brazil provides for a one-year priority right as of the filing of a priority claim with the industrial property office before the actual display of the invention. In Czechoslovakia, the priority right starts on the date the article was displayed at the exhibition and an application must be filed within three months from the close of the exhibition. The German Democratic Republic and Poland provide for a priority period of six months from the date of the first display. Spain provides for a priority right which starts on the date on which the invention was admitted to the exhibition and expires one year after that date. The other countries dealt with in this study provide for a grace period and do not grant a priority right.

18. As to the question of what kind of exhibition qualifies for "temporary protection," a great diversity of approaches exist under national law. As stated above, the European Patent Convention and the laws of seven of those of its member countries included in this survey limit the kinds of exhibition to those registered under the Convention relating to International Exhibitions of 1928 (France, Germany (Federal Republic of), Italy, Netherlands, Sweden, Switzerland and the United Kingdom). Other countries follow a broader approach. For example, Brazil and Japan admit any official or officially recognized exhibition and Australia any officially recognized exhibition, whether national or international. The German Democratic Republic admits any (national or international) exhibition without requiring it to be official or officially recognized.

19. As to the length of the grace period, as one of the forms of "temporary protection," and the date on which it expires (i.e., the date from which it is calculated back), there are considerable differences among the countries surveyed in this study. A six-month grace period expiring on the filing date of the application is provided for by the European Patent Convention and the national laws of the member States of that Convention which have adapted their laws to the said Convention, except Switzerland. Switzerland also grants a six-month grace period which, however, expires on the priority date, when priority is claimed, and on the filing date, when no priority is claimed. Countries with a general grace period (such as Canada and the United States of America: as to the meaning of "general," see paragraph 23, below) provide for longer periods, which expire on the filing date (for example, in Canada it is two years, and in the United States of America it is one year). In both countries, however, this grace period applies only to disclosures at exhibitions held in the country, since public use or sale at foreign exhibitions is not a disclosure included in the state of the art and, therefore, does not require an exception in the form of a grace period. The German Democratic Republic and Spain go even further and provide the "grace" without any period; in other words, a disclosure at an exhibition

⁶ See publication of the Protocol, with the annexed revised Convention, issued by the International Exhibitions Bureau (*Bureau international des expositions*), Paris.

Only universal (general as to fields) and specialized exhibitions which are organized by States and in which other States participate qualify. Minimum intervals of 10 to 20 years must be respected between universal exhibitions; for specialized exhibitions, minimum intervals of five to 10 years apply. A number of other very strict conditions (invitation through diplomatic channels, a minimum duration of three weeks, exclusion of exhibitions of an essentially commercial nature, an elaborate registration procedure, etc.) ensures that very few exhibitions qualify for acceptance and registration. From 1928 to 1981, only eight universal exhibitions and less than 50 specialized exhibitions were registered, which means an average of less than two international exhibitions a year for the entire world. For the period 1980-1983, only four exhibitions have been registered with the International Exhibitions Bureau: Specialized Exhibition on Hunting (Plovdiv, Bulgaria, June 14 to July 12, 1981); Floriade (Amsterdam, Netherlands, April 8 to October 10, 1982); Specialized Exhibition on Energy (Knoxville, Tennessee, U.S.A., May 1 to October 31, 1982); International Horticultural Exhibition (Munich, Federal Republic of Germany, April 28 to October 9, 1983) (see *Official Journal EPO*, April 1979, July 1981, and January 1983). For the period 1984-1986, only four exhibitions have been registered so far by the International Exhibitions Bureau: The International Garden Festival (Liverpool, U.K., May 2 to October 21, 1984); The World of Rivers—Freshwater, the Fount of Life (New Orleans, Louisiana, U.S.A., May 12 to November 11, 1984); Home and the Environment—Science and Technology in the Service of Man in His Home (Tsukuba, Japan, March 17 to September 16, 1985); and Transport—Man on the Move (Vancouver, Canada, May 2 to October 13, 1986) (see *Official Journal EPO*, January, 1984).

meeting the requirements of the law is non-prejudicial, regardless of the time when it occurred.

B. Unlawful Non-Prejudicial Disclosure

20. The case where an invention is disclosed by a third party on the basis of unlawfully acquired information is covered—either expressly or implicitly—by the majority of the laws considered in this study. It is frequently called a disclosure in consequence of an abuse. Thus, the European Patent Convention and the laws of those member countries of the European Patent Convention which are covered by this study and which have followed, for this category of non-prejudicial disclosure, the approach of the European Patent Convention (France, Germany (Federal Republic of), Italy, Netherlands, Sweden, Switzerland and the United Kingdom) contain express provisions to the effect that a disclosure which is due to or in consequence of an abuse in relation to the applicant or his legal predecessor does not destroy the novelty of the invention if it occurred within the six months preceding the filing date (Switzerland: six months preceding the priority date). Most of those laws do not define the term “abuse”; however, the law of the United Kingdom expressly mentions several cases, such as when the disclosure was due to or in consequence of the invention having been obtained unlawfully or in breach of confidence. Similar specific provisions are contained in the law of Australia (for example, inventions published without the applicant’s knowledge and consent).

21. The laws of the United States of America and Canada do not expressly mention the case of abuse because they provide for a general grace period (see paragraph 23, below). On the other hand, Austria and Belgium do not have a provision dealing with the case of abuse.

22. Japan has essentially the same provision in this regard as the European Patent Convention.

C. Lawful Non-Prejudicial Disclosure Other Than at an Exhibition

23. The United States of America and Canada provide for what in essence is a “general grace period,” including also the cases of lawful non-prejudicial disclosure. In the law of the United States of America, any patent or other printed publication describing the invention, whether published in the country or abroad, and any public use or sale of the invention in the country not more than one year prior to the date of the application for patent in the United States of America, constitutes a non-prejudicial disclosure; public use or sale abroad is not relevant for the state of the art regardless of when it occurs. In other words, the one-year grace period is general, since both patenting or description in a printed publication inside and outside the country and public use or sale in the

country benefit from the grace period. As regards acts of public use or sale performed abroad, they need not benefit from a grace period because they never form part of the state of the art. In Canada, the situation is largely the same, except for the duration of the grace period, which is two years. Under the law of Belgium, only use by the inventor, or by a third party for non-commercial purposes or outside Belgium, qualifies as disclosure not destroying novelty but not printed publications or commercial use by third parties inside Belgium. This means that non-prejudicial disclosures at an exhibition (category (a)) are largely covered. Unlawful non-prejudicial disclosures (category (b)) are only covered where made in the form of use for non-commercial purposes or outside Belgium, whereas lawful non-prejudicial disclosures other than at an exhibition (category (c)) are only covered if made in the form of use by the inventor or use by a third party for non-commercial purposes or outside Belgium. Thus, the Belgian law recognizes cases of non-prejudicial disclosure from all three categories, but it does not recognize all of the cases that could fall under the three categories.

24. The following other countries grant a grace period for cases of lawful non-prejudicial disclosure other than at an exhibition:

Australia: (a) six months before filing, in case of publication in a paper prepared by the actual inventor and read before a learned society or published with his consent by or on behalf of such a society; (b) one year before the priority date, in case of necessary public testing by the applicant, patentee or predecessor in title or by another with his consent; (c) without time limit, in case of publications to the Commonwealth or a State or an authority thereof, or a person authorized by the Commonwealth or a State to investigate the invention;

Japan: six months before filing, if the invention is first disclosed by the person with the right to the patent in connection with an experiment or the presentation of a dissertation in a printed publication or a paper to a study meeting held by a scientific body; it has been decided that publication in the Patent Gazette is not a case of printed publication of a dissertation; under the practice of the Japanese Patent Office, in respect of prior disclosures in printed publications and in communications to a scientific body, the matter disclosed before filing must be identical to the invention claimed in the patent application; in respect of those disclosures, it is also required that they be made by the

inventor and not by other persons; at the time of filing the patent application, a statement to that effect has to be made, followed, within a short time limit, by evidence as to compliance with those requirements:

Soviet Union: public use within four months before the inventor files an application for an inventor's certificate.

25. Brazil grants a priority right for certain cases of lawful non-prejudicial disclosure other than at an exhibition, if such disclosure is made by the inventor. Under the Brazilian law, before a patent is requested, a claim to priority may be safeguarded where the author intends to demonstrate his invention or to communicate it to scientific organizations, and the certificate which is issued of the filing of such a priority claim is valid for one year.

IV. Arguments For and Against a General Grace Period

26. Whereas in respect of the cases of non-prejudicial disclosure at an exhibition (category (a)) and of unlawful non-prejudicial disclosure (category (b)) the existing legislative provisions do not seem to present many basic differences but largely (though not unimportant) differences only in questions of relative detail, fundamental differences exist in respect of the cases of lawful non-prejudicial disclosure other than that at an exhibition (category (c)). Should there also be a grace period for public use by the inventor (for example, in order to test the invention) and for oral and written disclosure by the inventor (for example, in a communication for scientific purposes)? Since, in the ongoing international discussion, usually no distinction is made between the various cases of category (c) and the desire is expressed to combine all three categories referred to above under a "general" grace period, the question can be put in the following way: should there be a general grace period for any disclosure by the inventor or by a third party, that is, for any disclosure falling under any of the said three categories?

27. If it is agreed that there should be a general grace period, in principle, then the next question that arises is whether its advantages and objectives can be realized in any other way than through a uniform and internationally applicable solution.

28. These questions have been discussed during recent years in international associations concerned with industrial property, in particular, the International Association for the Protection of Industrial Property (AIPPI) and the International Federation of Patent Agents (FICPI); those associations have passed favorable resolutions in support of a general grace

period which is uniform and internationally applicable.

29. The following arguments have been presented in favor of a general grace period:

(a) Because of lack of knowledge of patent laws not providing for a general grace period, inventors may disclose their inventions without being aware that, under such laws, such a disclosure destroys the novelty of the invention. In the usual case where such disclosure occurs a few months before filing, the general grace period would preserve the novelty of the invention. Although in large enterprises, management can take appropriate steps to inform staff about possible risks resulting from disclosure of technical achievements, lack of knowledge of patent law is a particular problem for independent inventors and for young employees especially in small and medium-sized enterprises. Inventions are also frequently made by people who do not have a high level technical education. In fact, inventions are not only made in research laboratories but also as the result of the practical implementation of technical activities. Therefore, not all inventors can be expected to have sufficient knowledge of patent law. Scientists constitute another group of inventors who make inventions in the course of their work but frequently do not have the knowledge of patent law. In fact, employers of scientists, such as universities and research institutes financed from public funds, frequently do not even have an interest in the patenting of inventions made by employed scientists and thus do not take any measures in order to disseminate information about possibilities regarding patenting and the risk resulting from early disclosure. To the contrary, early publication of the results of research is frequently encouraged. Although it can be argued that lack of knowledge of the law has never been recognized as an excuse for not complying with it and that each enterprise or institution has an interest in ensuring appropriate education of its staff, patent protection should not be refused to inventions just for the sake of maintaining principles for which exceptions have already been granted anyway. Particularly in view of the importance of technical innovation under the present economic circumstances, it is important to keep the patent system open to all inventions which have been made, thus encouraging inventors and promoting technical progress and innovation. Of course, even under the laws which have adopted a grace period, the problem of lack of knowledge of the patent law exists. Under these laws, it can happen that an inventor discloses his invention and files a patent application after the expiration of the grace period (six or 12 months), thus destroying the patentability of the invention even if he were to invoke the grace period. However, in this respect, although the grace period cannot be an absolute guarantee that inadvertent disclosure by the inventor will not have any prejudicial effect, it can, nevertheless, prevent such effects in the great majority of cases. Typically, only a

few months pass between the first disclosure of an invention by the inventor and the filing of the patent application. The system should be so designed as to cover the greatest possible number of cases.

(b) Inventors may have to disclose their inventions, without being able to insist on confidentiality, in order to seek financial or technical assistance before they are able to apply for protection. In particular, inventors lacking sufficient financial means face such a problem. Of course, patent laws should encourage inventors to file patent applications as soon as possible and to keep inventions confidential until the filing of an application. Confidentiality is important in order to prove unlawful disclosure by third parties, a case recognized by many laws as giving rise to a grace period. Inventors should also be encouraged to file an application for an invention in the form in which it first appears and subsequently to file further applications, if, as the result of testing, the invention has been improved. However, high costs are involved in filing several applications for the same invention; not only patent office fees but also patent agent fees have to be paid, although, in some countries, needy inventors can receive assistance with respect to such fees. Furthermore, filing patent applications for half-ready inventions should not be encouraged. Finally, there can exist a situation where an application cannot yet be filed and nevertheless the invention has to be disclosed without a confidentiality agreement, but not because the inventor lacks the financial means for filing the application and thus has to disclose the invention in order to obtain financial assistance from other sources. For example, the development of an invention can require that certain devices be supplied by other persons or entities, and those devices can be described only if the invention is disclosed.

(c) Frequently, an inventor must disclose his invention to an enterprise when submitting an offer or a response to an inquiry or invitation to supply. Under those circumstances, the inventor runs the risk that the disclosure may reach the public because, in his disclosure to the enterprise, he probably cannot oblige the enterprise to keep the invention secret, as large enterprises usually do not accept confidentiality clauses. A disclosure to the public may in particular occur where the enterprise, having obtained the information on the invention, uses this information for competitive tenders. Without a general grace period, such a disclosure destroys the patentability of the invention. Frequently, large corporations which buy components for their products ask several prospective suppliers of such components (typically small or medium-sized enterprises) for offers, and such offers usually have to be made with full disclosure of the inventions incorporated in the component. In such a case, the disclosure to the large corporation amounts to a public disclosure, because, typically, such a corporation will not be ready or able to guarantee confidentiality and sometimes even discloses the invention to competing suppliers. The

components offered by the prospective suppliers usually still have to be adapted to the particular needs of the large corporation, which change in the course of the negotiations, so that it is not worthwhile to file patent applications at each stage of the development of an invention incorporated in a component. In such a case, without a grace period, the prospective supplier cannot avail himself of patent protection which he will need in particular where the invention is used—whether by himself or by a competitor—for the production of the component. On the other hand, it is true that, even under such circumstances, certain suppliers of components have the habit of filing patent applications at each stage of an invention which might possibly be used for a component. Moreover, confidentiality agreements should be sought. However, it is doubtful whether, in view of the usually weaker negotiating power of the supplier, this is realistic.

(d) In order to optimize and then to be able to describe an invention fully, it may be necessary to test it first. Certain inventions, such as inventions relating to machines to produce certain products, frequently cannot be tested in the enterprise which produces the machine but only in the enterprise which will use the machine. Thus, prototypes of such machines will be put at the disposal of other enterprises for testing purposes, with the consequence that inventions incorporated in such machines will be disclosed. Similar problems arise with the testing of inventions which necessarily have to take place in public, such as with agricultural machines, surf boards, transportation equipment and certain consumer goods. Precautions to keep tests secret will attract attention, and even disclosure to persons who are not technical experts may destroy novelty. Nevertheless, it may not be practical—and sometimes not even possible—to file a patent application before the invention has reached the required degree of technical maturity after the necessary testing.

(e) An inventor may disclose a technical idea before he realizes that the idea is an invention. Moreover, the development of an invention frequently is an operation involving several steps; intermediate steps may already constitute inventions and may lead to disclosures, although, under the circumstances, the inventor may prefer, or may be obliged, to file an application for a title of protection only once his invention has reached a mature stage. Of course, if the making of the invention involves several steps, some of which already constitute inventions, immediate filing of patent applications at each step should be encouraged. Nonetheless, in many cases, filing is justified only where the invention appears to be technically mature, and patent offices should not be burdened with applications concerning inventions which technically are not mature. Sometimes, an inventor does not even realize that he has made an invention before he discloses it and discusses it with others. In those cases, the invention can be clearly identified only as a result of the feedback from the disclosure.

(f) There is a tendency among inventors to communicate an invention in a publication or a public presentation to scientific circles before filing an application for a title of protection. Scientists not only have the habit, but also frequently are obliged, to publish their discoveries and inventions as soon as possible. The grace period thus is of particular importance to scientists, especially those involved in rapidly developing high technology research, such as in genetic engineering, and for scientific institutions and universities where the number of inventions is rapidly increasing.

30. When examining those arguments, it is to be borne in mind that for inventors seeking protection in more than one country a general grace period can only produce its full advantages if the system is truly international in the sense that a uniform rule is adopted in all those countries and, in particular, that the grace period, where a priority is invoked, does not expire on the filing date (which would help only in the country of first filing) but on the priority date. However, progress will be achieved already if, in addition to those countries which at present have a general grace period, some more countries were to adopt such a grace period, provided that, for all countries with a general grace period, that period were to expire at the priority date.

31. It is to be noted that the arguments presented above in favor of a general grace period for the inventor equally apply with respect to enterprises owning inventions made by their employees and that, in particular, small enterprises cannot avoid public disclosure of inventions for testing purposes because—in contrast to large enterprises—they normally do not have the facilities to do the testing within their own premises and thus to keep the inventions secret. Moreover, small enterprises normally are more in need of financial or technical assistance and may have to disclose inventions for obtaining such assistance. Finally, it is to be noted that inventors and enterprises in developing countries typically face the same difficulties but to an even greater extent and thus have a particular interest in a general grace period. An inventor in a developing country typically lacks financial means, requires assistance for the testing of an invention and has to disclose the invention in order to test it and to seek assistance. This has been taken into account by the *WIPO Model Law for Developing Countries on Inventions*, which recommends the adoption of a general grace period of one year, covering any disclosure forming part of the prior art under that Law, provided it is “by reason or in consequence of acts committed by the applicant or his predecessor in title” (Article 114(3)) or “by reason or in consequence of an abuse committed with regard to the applicant or his predecessor in title” (Article 114(4)). For the text of the relevant provisions of that Law and the commentary thereto, see Annex II. Moreover, inventors in developing countries are in particular need of an internationally applicable grace period system, as the local market is generally not sufficient for their inventions.

32. The following arguments have been presented against a general grace period.

(a) The rule that public disclosure of an invention has the effect that the invention is included in the state of the art (and, therefore, must be held also against the inventor himself if he has publicly disclosed his own invention) represents a legal principle which is clear and easy to apply and thus should be maintained to the largest extent. The exceptions—achieved through a legal presumption—in cases of non-prejudicial disclosure at an exhibition and of unlawful non-prejudicial disclosure are fully sufficient.

In answer to this argument, it could be said that, although the clarity and easy applicability of a legal principle is an important factor to be considered in formulating a legal solution, the principal consideration should always be whether the law effectively responds, and, if not, how it can best respond, to the needs created by an existing practical situation. As the cases mentioned in the arguments outlined in paragraph 29 show, a general grace period is not only useful to correct the prejudicial consequences of inadvertance or ignorance on the part of the inventor; it is also necessary to prevent what otherwise would be an obvious injustice, namely, the loss of the novelty of an invention by reason of the inventor having to disclose his invention as a result of technological, economic and business requirements and practices in connection with the testing, financing and selling of an invention.

Furthermore, the concept of the state of the art is not the same in all national laws and, even in those countries which apply the principle of absolute novelty in the strictest sense, certain exceptions are made from that principle; thus, one cannot object against the grace period because it constitutes an exception to the standard of novelty; since an exception is generally admitted for unlawful disclosure, disclosure of an invention by the inventor or with his authorization should be dealt with in the same way; the public does not notice whether a disclosure was lawful or unlawful.

(b) Whereas the application of a grace period in the cases of non-prejudicial disclosure at an exhibition and of unlawful non-prejudicial disclosure already creates problems of proof, such problems would increase considerably if a general grace period were established. In this respect, concern is sometimes voiced that the adoption of a general grace period could give rise to more frequent and complex problems of evidence, since not only the fact and time of a disclosure but also its history (e.g., how knowledge of an invention was acquired from the inventor) might become an issue when invoking the benefits of the grace period. Moreover, if many countries adopt a general grace

period, then prior disclosures would increase considerably in number.

In answer to this argument, it should be noted that, although application of a general grace period may present problems of evidence, experience indicates that these would be infrequent and not dissimilar from the problems of evidence already encountered when the disclosure of an invention, and, in particular, its date, become an issue in cases where no grace period is invoked. Besides, most inventions are made by employees, and employers can exercise a certain control as regards the disclosure of inventions by employees. It can be anticipated that the use of the general grace period will be made only in exceptional cases. Furthermore, any problems of evidence that the general grace period might present would be outweighed by its benefits, in particular, in terms of the legal security it would offer to inventors. It is also noted, in this context, that the burden of proof as to the facts justifying the benefits of a grace period would be with the person invoking the grace period.

(c) Inventors should be educated to know the patent laws; ignorance should not be an excuse.

In answer to this argument, it should be noted that, frequently, and probably in the greater number of cases, inventions are disclosed prematurely not due to ignorance but due to the necessities of a particular situation (e.g., a necessary non-confidential disclosure to an interested party or for purposes of testing). Furthermore, it should be noted that the inventors who are likely to disclose their inventions prematurely through ignorance, thus destroying their novelty, are mostly individual inventors who have had little experience with the patent system or inventors who do not have much contact with the patent system, such as field engineers. Principles of fairness and equity call for providing all such inventors at least with a remedy such as a grace period which is limited in time, in order to be able to correct their mistake and save the patentability of their invention.

(d) There is some concern that a grace period system may encourage hasty, incomplete and not easily accessible disclosures of inventions outside a patent application, which, without such a system, would have been disclosed fully in a patent application but which, under such a system, may never be disclosed and publicized in that more widely accessible form if they do not prove commercially valuable.

In answer to this concern, it should be noted that a grace period establishes a limited period of time within which the inventor must apply for protection and make a full disclosure in order to obtain a title of protection and that therefore the prior disclosure by the inventor is replaced, for documentation

purposes, by the disclosure in the application. Furthermore, if the inventor concludes that the invention is not commercially valuable and, therefore, does not apply for a patent before expiration of the grace period, it could be argued that this also has its advantages for the patent system and for the public at large as it reduces the burden on the patent offices of processing, and on competitors of opposing, patent applications for inventions which do not deserve commercial exploitation and as it avoids the cluttering of patent documentation with such inventions.

(e) Difficulties have been encountered under those national laws which require a complete identity between the matter disclosed and the invention claimed in order to benefit from the grace period.

In answer to this argument, it should be noted that, first, the identity requirement cannot apply in cases of unlawful disclosure and, second, this potential problem could be avoided in its entirety by not including such a complete identity requirement in the solution proposed for a general grace period.

(f) The fact that some countries grant a general grace period and others do not is in itself considered an argument against a general grace period. Even if the establishment of a general grace period were justified in the interest of inventors and small enterprises, such a measure is disadvantageous if not taken by all countries at the same time because an inventor would not be able to rely on the law of his country alone but would be subject to the laws of each of the other countries in which he might be interested in protecting his invention as regards the determination of whether in each of those countries a disclosure is prejudicial or not. As long as many laws provide for a very restrictive recognition of which non-prejudicial disclosures fall within the grace period and some do not provide for a grace period at all, it is highly risky for the applicant to rely on a general grace period.

In answer to these arguments, it should be noted that such arguments do not address themselves to the disadvantages of the system of a general grace period considered in this study; rather, they point out the disadvantages of a solution to the grace period that is not uniform and internationally applicable, at least among a larger number of countries with an important foreign filing activity.

(g) A grace period which expires on the filing date of the application for a title of protection of the invention helps only in the country of the first application. It can effectively protect the inventor as regards subsequent applications in other countries only if it expires on the priority date. As long as the latter method of calculating the grace period (so far only applied by Switzerland) is not more generally recognized, the applicant, in relying

on a grace period in his own country, runs a considerable risk of losing the patentability of his invention in other countries. even in those with a system of grace period similar to that of his country.

In answer to this argument, it should be noted that, like the preceding argument, this one also does not address itself to the disadvantages of a general grace period, as considered in this study; instead, it demonstrates why, if and to the extent a uniform international solution can be achieved, it should provide for a grace period that expires on the priority date and not on the filing date of the application, where a priority is claimed.

(h) A disclosure prior to filing by the inventor might have the effect that third parties learn about the invention and can then use it and thus establish a right of prior use against which the inventor who files an application after such right has been established cannot exercise the exclusive right conferred by the subsequently granted patent. Thus, the general grace period, although it solves certain problems, might at the same time entail certain risks, in particular for those inventors who are not sufficiently familiar with the patent law. Such risks result in particular from the fact that the existence of the grace period can influence inventors to delay the filing of applications and first make a disclosure (possibly with the purpose of preventing other persons from obtaining a valid patent for the invention); however, such inventors frequently will not realize that the disclosure nevertheless can have the consequence that third parties will establish rights based on prior use of the invention.

In answer to this argument, it should be noted that the period of time during which and the type of non-prejudicial disclosure for which it will be possible to invoke a grace period normally will not enable third parties to work the invention. There is an important difference between such a disclosure and the disclosure of an invention in a patent application. Moreover, even where an inventor rapidly files his application and then discloses his invention, it can still occur that third parties use the invention for some time without a possibility of preventing such use, since an exclusive right can only be exercised after the grant of the patent. Finally, while the institution of a general grace period entails certain risks, such risks are outweighed by the advantage that appropriate use of the grace period saves the patentability of inventions which otherwise would have been lost, thus allowing the general public to obtain, in due course, the precise disclosure of the invention in a patent document, which would not have been made without a grace period and which is usually superior in quality to other disclosures. In any event, even with a wider, international solution as now proposed, use of the grace period, in view of possible risks entailed, will remain limited to exceptional

cases where it is unavoidable or the only salvation.

V. Desirability of a Uniform Solution

33. Among the arguments against a general grace period, certainly the strongest is the one based on the existing diversity of national laws. As already noted, undoubtedly, not all opponents to a general grace period are opposed to it because of any inherent disadvantages. To a large extent, the opposition rather seems to be based on the consideration that too many obstacles have to be overcome in order to achieve a uniform solution in all countries of the world and that it is therefore preferable to avoid the possible risks a general grace period may entail if it is not accepted by all countries, or at least by a sufficient number of countries from which originate important numbers of filings of patent applications in other countries.

34. Thus, it is clear that a solution to the problems which a general grace period is intended to resolve can only be found through international cooperation. If, on the basis of the arguments referred to in paragraph 29, and taking into account the need to assist inventors in all countries of the world, in particular also those in developing countries, preference is given to the establishment of a general grace period, then action at the international level is called for in order to achieve harmonization of national laws and regional conventions. Such action could take the form either of an international treaty which could be a special agreement within the framework of the Paris Convention for the Protection of Industrial Property (in accordance with Article 19 of that Convention) or of a recommendation adopted by a competent body, such as the Assembly of the Paris Union for the Protection of Industrial Property. While a recommendation might have the advantage that it can be adopted relatively easily, it has the disadvantage that it probably would not create sufficient momentum for changing national laws. Therefore, the adoption of an international treaty appears to be preferable.

35. As regards the contents of an international treaty, its provisions should oblige member States to comply with its requirements concerning a general grace period, either in their national laws or in a regional treaty by which they are bound. In this connection, it would have to be examined whether the treaty should stipulate that all Contracting States would have to adopt the same uniform standard of a general grace period or whether it should only establish a basic standard, a minimum rule, beyond which certain differences would be allowed. In the latter case, the treaty could limit the cases of non-prejudicial disclosure which must be covered, thus introducing as a minimum rule a more restricted concept than that of a general grace period, but leaving to the Contracting States the freedom to provide either

for a general grace period or for a grace period for some additional specific cases of non-prejudicial disclosure; or the treaty could establish a minimum time limit (e.g., six months), leaving the Contracting States the freedom to adopt a longer time limit; or it could establish a maximum time limit (e.g., 12 months), allowing the Contracting States to shorten the time limit but to not less than six months. The solution to provide, as a minimum, that Contracting States are bound only by a more limitative list of cases of non-prejudicial disclosure that fall under a grace period should only be envisaged if agreement on a general grace period appears to be unlikely. The solution to provide for a general grace period subject to only a basic minimum or maximum time limit, with the possibility of adopting a longer or shorter fixed time limit, respectively, is certainly easier to achieve than that of a uniform time limit. Both of these solutions would have the advantage that an international treaty providing for the possibility of adopting wider or alternative standards could be more easily adopted and implemented; however, they would have the disadvantage that inventors could not rely on a given international standard, so that the problem which exists at present (namely, legal insecurity for inventors) would continue to exist, albeit to a lesser extent. Thus, the ideal solution, but the more difficult one to achieve, would be the adoption of a uniform standard. If that cannot be achieved, an intermediate solution would be the adoption of a basically uniform standard, permitting a reservation for Contracting States wishing to exclude certain cases of non-prejudicial disclosure or to adopt a general grace period whose length would be, for example, twice or half the length, as the case may be, of the uniform standard. Such a reservation clause, however undesirable it might be in view of the needs for a uniform solution demonstrated above, could still be worthwhile considering, as it might greatly facilitate the adoption of the treaty in question and would still allow countries to achieve more uniformity at a later stage by adapting national law to the uniform standard and withdrawing the reservation, without any need for a change in the treaty.

36. Several possibilities exist with respect to a uniform standard. One of the solutions, probably the simplest and most adequate to meet the objective, appears to be one inspired by the approach taken by the *WIPO Model Law for Developing Countries on Inventions*, which, as stated above (see paragraph 31), provides in its Article 114(3) and (4) a general grace period for disclosure by reason or in consequence of acts committed by the applicant or his predecessor in title or of an abuse committed with regard to the applicant or his predecessor in title. To make such a solution viable at the international level, the grace period should, where priority is claimed, expire on the priority date rather than on the filing date; otherwise, inventors who rely on the priority period for subsequent applications in other countries would hardly have the benefit of the grace

period in those other countries. As regards the length of the grace period, the Group of Consultants recommended that the proposal to be submitted in this study should provide, alternatively, for a period of 12 months, as in the *Model Law*, and for a period of six months (see document GP/GC/I/3, paragraph 23). Evidently, the period ultimately to be chosen will have to be the one with respect to which general agreement is easier to obtain.

VI. Conclusions

37. In full agreement with the recommendations made by the Group of Consultants (see its conclusions in paragraph 24 of document GP/GC/I/3), the International Bureau has, as a result of its study, drawn a certain number of conclusions which should be taken into account for further work concerning the question of a grace period. Those conclusions are reproduced in the following paragraphs. Thereafter, based on those conclusions, a draft of principles of a solution to be considered is presented in paragraphs 46 to 48.

38. It is considered necessary and also fully justified to find a uniform and internationally viable solution providing for a general grace period at the international level in order to achieve harmonization, of national laws and regional conventions, on the question of non-prejudicial disclosure of inventions.

39. The most desirable form for achieving such harmonization is the conclusion of an international treaty which should be a special agreement within the framework of the Paris Convention for the Protection of Industrial Property, in accordance with its Article 19.

40. Such a treaty should stipulate that all Contracting States would have to adopt uniform rules providing for a general grace period, with the possible exception that, with respect to the length of the grace period, a limited flexibility could be allowed as indicated below, although uniformity even in that respect would be highly desirable.

41. In order to make the system of a general grace period viable at the international level, it is essential to provide for a solution under which the grace period would expire, where priority is claimed, on the priority date rather than on the filing date of the application for the title of protection.

42. The solution to be proposed should provide for a general grace period in the sense of this study. In other words, all three categories of non-prejudicial disclosure dealt with in this study should be covered by the treaty, namely:

- (i) non-prejudicial disclosure at an exhibition by the inventor or by a third party authorized to that effect by the inventor;
- (ii) unlawful non-prejudicial disclosure by a third party, based on information lawfully or unlawfully

acquired from, or in consequence of acts performed by, the inventor;⁷ and

- (iii) lawful non-prejudicial disclosure other than at an exhibition by the inventor or by a third party based on information acquired from, or in consequence of acts performed by, the inventor.⁸

Another way of presenting the categories of non-prejudicial disclosure but still covering the same cases would be to distinguish between non-prejudicial disclosures by the inventor and lawful and unlawful non-prejudicial disclosures by third parties, as follows:

- (i) non-prejudicial disclosure by the inventor;
- (ii) lawful non-prejudicial disclosure by a third party based on information lawfully acquired from, or in consequence of acts performed by, the inventor; and
- (iii) unlawful non-prejudicial disclosure by a third party based on information lawfully or unlawfully acquired from, or in consequence of acts performed by, the inventor.

43. It is important to make clear that the inventor should be protected by the grace period, not only in case of a full disclosure of his invention, identical with the subject of his patent application, but that he should also be protected in the case of any disclosure which, though not identical, was relevant for the consideration of his application. Thus, any disclosure falling under the three categories referred to above, which would otherwise constitute relevant state of the art to be taken into account for the examination of the invention, e.g., in a procedure for the grant of a title of protection, should be disregarded, even if it pertains only to certain elements of the invention concerned.

44. There is also the case of disclosure of an invention by reason of the Patent Office publishing a prior application of the same applicant concerning the same or a similar invention—i.e., the case where the invention is the subject of an initial patent application and is later followed by a further patent application by the same applicant, possibly in an improved form. This case consists of several subcases: first, a distinction should be made between the subcase where the first application (or a patent granted upon it) has been published before the filing of the second application, and the subcase where such publication takes place after the filing of the

second application; whereas in the first subcase the publication has the effect that the invention thus disclosed becomes part of the state of the art, so that the question of a grace period would arise, in the second subcase the contents of the later published application become state of the art only by means of a fiction established under certain national laws (“whole contents approach”); in respect of that latter subcase, the question arises whether the institution of a grace period should apply or whether a solution should be found by other methods, in particular, the possibility of providing for an internal right of priority, as is the case under some patent laws. Under the first subcase, the situation under which the second application might have been filed in another country than the first application, deserves special attention. For the time being, it would seem advisable that the categories referred to in paragraph 42 under both subparagraphs (iii) include the first subcase but not the second one.

45. The proposal should leave open the question whether the length of the general grace period would be six or 12 months and should provide for a reservation clause which, in the case of a six-month period, would allow for a longer period of 12 months and, in the case of a 12-month period, would permit a reduced period of six months.

Principles of a Solution

46. Based on the conclusions referred to above and in conformity with the draft principles agreed by the Group of Consultants (see paragraph 24(H) of document GP/GC/1/3), the International Bureau recommends considering the principles of a solution reproduced in the subsequent paragraph. While the proposal does not restate the three categories of non-prejudicial disclosure referred to above, it intends to achieve exactly the same coverage and is therefore in full compliance with the conclusions reached above.

47. The proposed principles of a solution are as follows:

(a) The Contracting States agree to provide that any disclosure relevant for the invention shall not be taken into consideration when determining the state of the art relevant for that invention, provided that the disclosure was made

- (i) by the inventor, or
- (ii) by a third party based on information acquired from, or in consequence of acts performed by, the inventor,

and provided furthermore that the said disclosure occurred not more than [six] [12] months before the filing date or, where priority is claimed, the priority date of the application.

(b) [*Six-Month Alternative*] Each Contracting State may, when joining the Agreement, reserve the right to adopt, instead of the period of six months provided for in paragraph (a), a period of 12 months.

⁷ For the purposes of this study, any disclosure made in good faith by a third party to whom the invention was communicated by another third party having unlawfully acquired information about the invention is considered as an unlawful disclosure.

⁸ For the purposes of this study, the references in this paragraph and in paragraph 47 (subparagraph (a)(ii)), “...information acquired... in consequence of acts performed by...the inventor,” are meant to include any information acquired not necessarily directly and intentionally from the inventor (e.g., through disclosure to a potential purchaser of the invention or to an employer), which is understood to be included under “...information acquired from ...the inventor,” but information acquired as a reasonable and foreseeable result of acts or statements made by the inventor (e.g., presence at the site where the invention was tested or sharing a laboratory where the invention was developed by the inventor).

(b) [*12-Month Alternative*] Each Contracting State may, when joining the Agreement, reserve the right to adopt, instead of the period of 12 months provided for in paragraph (a), a period of six months.

(c) For the purpose of paragraphs (a) and (d), "inventor" also means the original owner of the invention other than the inventor and any successor in title of the inventor or such original owner.

(d) For the purposes of paragraph (a), "third party" means any person other than the inventor.

48. It is to be noted that the foregoing proposal states principles and is not drafted in the form of an international treaty. Once agreement on the principles of the solution to be retained has been reached, the text of a draft treaty would have to be prepared.

General Studies

The Swedish Patent Office — a Patent Office in a Market Economy Country

G. BORGGÅRD*

1. The Country and its Market Economy

Definitions of market economy may well vary. When in this article Sweden is characterized as a market economy country it is because its market is open to private business initiatives and industrial undertakings and because consumer demand is a natural regulator in respect of the marketing of products, pricing, etc.

By tradition consumer interests are regarded as being best favored through efficient competition between enterprises. Governmental interference, e.g., price control, is only for short-term effects. In the long-term perspective Swedish consumers have to rely on general legislation for the safeguarding of their interests and on the two Ombudsmen who are specifically entrusted with the tasks of keeping a watchful eye on business practices and consumer rights.

Private corporations account for 85 percent of Swedish industry, with cooperatives and public enterprises sharing the rest.

Looking at the public administration of the market economy it should be noticed as a basic characteristic that the Swedish civil service is organized at two separate levels—ministries and agencies or boards. The ministries are small units mainly concerned with policy planning and with preparing new government bills for submission to Parliament. The actual enforcement of the laws is handled by the central administrative agencies or boards, which are relatively independent.

To complete the picture of the Swedish administration it is worth mentioning that, beside the central government sector, there is a regional government sector consisting of 24 counties, each with a county administration. Finally there are about 280 municipal districts with a council and an element of local autonomy. This article will to some extent reflect the interaction between the Swedish Patent and Registration Office (SPO) and various sectors of the Swedish administration.

2. Industrial and Technological Infrastructure

In 100 years Sweden has evolved from a largely agrarian country to one where only four percent of the labor force is in agriculture.

Large-scale industrialization began around 1870, stimulated by foreign capital and the construction of a State-owned railway network. Today about 50 percent of the country's industrial production is exported. At first, raw materials and semi-manufactures dominated the export picture but finished goods, mainly based on Swedish technical innovations, have assumed an increasing role. Engineering products, such as cars, trucks, ships, machinery and electric and communication equipment, have rapidly gained new markets.

Imports of machinery and mechanical equipment account for about 27 percent of total imports. Fuels account for nearly 25 percent of all imports.

Exports and imports each account for about 30 percent of Sweden's GNP. Roughly 70 percent of the trade is with Western Europe, 15 percent with the Third World (the oil-producing nations are especially assuming a growing role), eight percent with North America and five percent with Eastern Europe. Swedish multinational companies have sizeable overseas investments.

The serious recession in the mid-1970s led to renewed emphasis on technological innovation and export marketing, extensive overseas borrowing, devaluation of the Swedish crown and major new public programs. The overall economic strategy has been complemented by industrial and labor market measures. Structural problems in several of the traditional important sectors of Swedish industry—shipyards, forestry and steel—are judged to be so serious that they cannot be solved by means of general economic policy measures.

To plot the infrastructure map the starting point should be the seven technical universities of Lulea, Umea, Uppsala, Stockholm (Royal Institute of Technology), Linköping, Gothenburg (Chalmers University of Technology) and Lund.

The Swedish National Board for Technical Development (STU) is the central government body in Sweden uniquely charged with taking initiatives in and supporting, as well as planning and advising on, technical research and the development of new products, methods and systems.

If the tasks of STU are related more to technological development, then the tasks of the National Industrial Board (usually known by its acronym SIND) relate

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more to industrial development. SIND is a central agency for the promotion of industrial, technical and economic development, especially among small and medium-sized companies.

Cooperating with both STU and SIND are Regional Development Funds which were set up in each of the 24 counties in 1978.

One of the objectives of these funds is to finance industrial innovation in its later stages, from the prototype through to further preparations for regular production, including pilot plant or test production and market evaluation.

In principle a development fund finances 60 percent of the budgeted development costs, the company or individual carrying the other 40 percent.

Besides the regional funds the Swedish Industrial Development Fund was started in 1979 by the Government. The Fund gives financial support to large high-risk development projects either within Swedish industry or in Swedish companies which are collaborating with overseas firms.

In this context one should also briefly mention the banking system comprising, *inter alia*, the Investment Bank, which is specifically required to give high priority to investments in development, and the 14 commercial banks with some 1,700 offices that provide an extensive range of services for industry and commerce.

3. Patent Administration and the State Policy on Industry and Technology

The Patent Office

The Patent Office is the central agency for the administration of the legislation concerning industrial property. The Patent Office is headed by a Director General, appointed by the Government for a period of six years at a time. The Board of the Patent Office consists of the Director General as chairman and members representing the interested circles, including industry, technical universities, the Swedish Association of Inventors and the Association of Swedish Patent Attorneys. It is one of the public authorities which applies program budgeting. The total expenditure for fiscal year 1982/83 amounted to 128 million Swedish crowns. The Office's activities in the field of industrial property are divided among the following three program areas:

1. patents;
2. trademarks and designs;
3. commissions.

The expenditures for each different program are to be covered by income in the form of fees received from those who utilize the services of the program.

The functions related to industrial property are divided between two departments, the Patent Department and the Trademark Department, the latter comprising also a Designs Section.

Although trademarks and designs are growing sectors of the Office this article will primarily focus on the patent field. The reason is that until now the development regarding patent administration has produced the most spectacular changes with respect both to international cooperation and to the expansion of the service side. However, some introductory information concerning the totality of the Office's activities may well be worthwhile.

The Patent Department

The Patent Department has nine technical divisions, one legal office, a documentation division and an information center. Two of the technical divisions deal with the field of electrical engineering, three with chemistry and four with mechanical engineering.

The total number of personnel in the Patent Department is around 300, including 165 engineers and six lawyers.

The Trademark Department

The examination of the applications for the registration of trademarks is based on a thorough examination carried out with the help of a computerized similarity search.

The Trademark Department has for many years been able to note a continual increase in the number of applications for trademark registration. Thus 8,816 applications were received in 1983, compared with 7,926 applications during 1982. Since 1982 Swedish applications have surpassed the number of applications from foreign countries.

The registration of designs is preceded by an examination in order to ascertain whether the design substantially differs from what was known before the date of the application for registration.

The number of applications for the registration of designs amounted to 3,443 during 1983. Swedish applications made up nearly 80 percent of the total.

Documentation

In a certain respect the library comprising the patent documentation is the body of a patent office. The SPO has during nearly a century built up a collection of patent documentation that is second to none in the world.

In all, the collection consists of around 35 million patent documents. Of these, more than 13 million are included in the classified search files. The rest are available in numerical order.

The composition of the search material is as follows:

Origin	As from
United States of America	1885
United Kingdom	1885
Germany	1895
France	1920
Switzerland	1927
European Patent Office	1978
Patent Cooperation Treaty	1978
Sweden	1885
Norway	1886
Denmark	1894
Finland	1944
Soviet Union	1962
Austria	1971
Australia	1976
Canada	1976
Japan	1979

As auxiliary means in their search work the examiners use a number of data bases and systems in Europe and in the United States, the following being the most important:

- INPADOC (Vienna, Austria);
- ESA-IRS (European Space Agency Information Retrieval Service) (Frascati, Italy);
- Dialog (California, United States of America);
- SDC (System Development Corporation) (California, United States of America);
- Derwent (United Kingdom);
- Pergamon-Infoline (United Kingdom).

Of great importance for the development of the search work of the SPO is the cooperation with the European Patent Office (EPO), which enables the SPO to exploit the data bases developed within the EPO or in cooperation with that Office. The high degree of harmonization of search methods between the SPO and the EPO will open further possibilities for the SPO to profit from computerized search systems developed by the EPO.

The Information Center (INTERPAT)

The Information Center, now operating under the trademark INTERPAT SWEDEN, is a division of the Patent Department.

INTERPAT administers commissions in the field of patents, trademarks and designs. The services of INTERPAT have gradually been extended and its functions play an increasing role in the planning of the future of the SPO.

Other Functions

In addition to its activities in the field of industrial property, the SPO keeps a nationwide Register of Limited Companies. This Register is administered by the Companies Department located at Sundsvall, some 400 kilometers north of Stockholm.

Furthermore, a special Names Section deals with applications regarding changes of names, the legal

procedures for which are regulated in the Names Act of 1982.

The Administrative Department

The Administrative Department is responsible for personnel administration, information, finance, long-range planning, EDP and administrative rationalization.

There are two features of the Office's administration which, I believe, are of special interest to the readers of this journal, namely, staff training and staff participation in decision making.

The Office's personnel training program is primarily directed towards the following areas:

basic training: this includes both a general introduction as well as special training for certain job assignments;

language training: international cooperation has meant an increased need for staff with an active command of English, French and German;

management and supervisor training: what is most important in the demands on supervisors varies, and therefore continued training and development are needed;

adaptation of computer training: this means basic EDP training, keeping pace with the increased computerization of the Office.

The participation of the staff in the Office's decision making is broadly defined in the Co-determination Act, which primarily concerns staff matters and organization questions. During 1983 approximately 45 local negotiations between the management of the Office and the trade unions were held in accordance with this Act.

The Co-determination Act also obliges the management of the Office to hold information meetings in order to keep the staff well familiar with the economy, the development of the activities and the planning of the Office. Such meetings are held on the average of 10 times a year.

In addition to those meetings, information is disseminated among the staff through the Patent Office's staff journal *Patentverksnytt*, with 10 issues per year, and through the weekly issues of *Väggtidningen*, i.e., sheets containing short notices of current nature and displayed on the Patent Office's notice boards.

In order to disseminate to the staff information on developments in the international domain, reports by participants in international meetings are compiled in an *International Bulletin*.

The organizational structure of the SPO is reproduced in the chart which appears on page 336.

Patent Law and Patent Policy

The national patent system is part and parcel of the overall government policy on industry and technology. Sweden is a technology importing country. The annual payment of royalties by Swedish industry for licenses

exceeds one billion Swedish crowns, while the revenues of Swedish enterprises from licensing abroad are at a level of 500 million Swedish crowns. Research for new advanced technology has to be concentrated in strategic sectors where Swedish research institutions already have an advanced position or where conditions are specifically favorable. Generally speaking the Swedish policy on industry must stimulate an inflow of new technology covering all fields of interest, be it in the form of licensing, joint ventures or the establishment of manufacturing subsidiaries or branch enterprises. In order to fulfill its function within the framework of this policy the patent system must provide strong and viable protection. This is also one of the features of Swedish patent legislation.

As far as the patentable field is concerned there are no restrictions other than those inherent in the fact that an invention must apply to technology and be capable of industrial application, the word industrial being taken in its widest sense. Foods and medicines are consequently not excepted from patentability. Chemical compounds are patentable as such.

The Swedish Patent Office applies a full examination system based on a comprehensive patent documentation. This system is—compared with other systems for granting patents—capable of producing strong patents and also thought to offer the best guarantee of legal security both to the applicants and the general public.

The Swedish membership in the European Patent Organisation was also to a significant extent motivated by the policy of facilitating the protection of new technology in Sweden and thus furthering industrial development.

The Swedish Patents Act¹ is based on a concept developed in close cooperation among the Nordic countries. Consequently, the Nordic patent laws and decrees have identical texts with only very few exceptions. Furthermore, the instructions to the examiners are essentially the same, which means that the Nordic patent offices by and large stand for a common jurisprudence in patent matters. Any change in the legal practice of the offices is subject to deliberations between the offices and dependent on consensus. No doubt the SPO profits considerably from the cooperation with its Nordic neighbor offices.

Also of significant importance for the further development of the Office is the wider cooperation at the international level especially in the fields of standardization of patent documents, classification and search systems.

A brief presentation of Swedish patent policy must emphasize the responsibility of the Patent Office for the dissemination of patent information and other service functions in addition to the processing of patent appli-

cations. I will revert to this trend of development later in this article.

Employee Inventors

The patent system in Sweden attaches special importance to the employee inventor and questions relating to inventions made by employees are governed by a separate Act of 1949 concerning the right to employees' inventions. The Act is based on the notion that an employee who makes an invention should in principle be placed on an equal footing with a non-employed inventor. Consequently, the employed inventor is given a rather independent position vis-a-vis the employer. However, under certain conditions, the employer is entitled to acquire, wholly or in part, the employee's legal right to the invention. When the employer acquires such a right the employee is entitled to equitable compensation.

It should be noted that it is in principle permissible to deviate from the Act, either by individual agreement between the employer and the employee or by a collective bargaining agreement. The strong position held by employed inventors in the Swedish patent system is one of the reasons why the patent system in general is firmly backed by the trade unions.

Certain criticisms of the 1949 Act both by employers and trade unions led in the 1970s to a review of the Act by a governmental committee. The report of this committee (SOU 1980:42) received rather negative comments from interested authorities and organizations and did not lead to any amendments of the Act.

The National Board for Technical Development (STU)

A description of the patent administration in a market economy would not be meaningful if it were not surveyed against the background of the government policy for support to research and industrial development.

In 1983 some 12 billion Swedish crowns was spent on research and development in Sweden. This is equivalent to approximately two percent of GNP, as compared to one and a half percent in the beginning of the 1970s.

Industry accounts for roughly 60 percent of the total Swedish expenditure on R & D, and the State for the rest.

The State R & D grants are awarded in the first instance to universities and institutes of technology, as well as to public sector institutions. Apart from State grants for R & D in the military sector, the most important share of other R & D support to industry falls within the responsibility of STU. STU distributes some 20 percent of the public R & D support, equaling 700 million Swedish crowns in the fiscal year 1982/83.

The most important recipients of STU funds are small and medium-sized companies, individual

¹ For the text of the Swedish Patents Act, see *Industrial Property Laws and Treaties, SWEDEN — Text 2-001*.

inventors, universities and institutes of higher learning and cooperative research institutes.

In its dealings with industry, it devolves upon STU to promote industrial competitive ability by supporting technical research, both cooperative as well as that executed in individual firms, innovative activities and technical rejuvenation. STU's role is to enrich the variety of technical ideas being worked on by accelerating the pace of development or permitting a program to start earlier than it otherwise would. STU provides support especially in the early risky development stages for advanced technology projects that are deemed to have commercial potential if the results prove technically successful.

In addition to financial backing, STU provides services to companies and inventors, e.g., evaluation and advice, licensing negotiations concerning new products and new technology (even from other countries), finding backers for industrial production and new inventions, etc.

It is in these latter tasks that the strongest links of cooperation are to be found between STU and the Swedish Patent Office. Before a development project is entered into by STU the SPO regularly is requested to carry out a search in order to assess the state of the art within the sector of technology concerned. Such an investigation can be dispensed with in cases where a patent search has already been made.

Regional Development Funds

Working for the development of small and medium-sized companies is the aim and task of the development funds. The services of the funds are rendered to companies that have no more than 200 employees, that are engaged in manufacturing or serve manufacturing industries and that are profitable or are expected to be so in the long run. The funds assist in the development of products and business ideas; they also serve in matters of patents, licensing or marketing.

The funds work in close cooperation with SIND, which has a supervising and directing function, and with STU.

The cooperation between the funds and the Swedish Patent Office concerns courses and training programs in patents, trademarks and design protection tailored to meet the needs of small and medium-sized companies. The funds are also assisted by the SPO with regard to patent information for the assessment of development projects.

4. The Role of the Swedish Patent Office

There is no doubt that the world we live in has an urgent need for rapid technical development. Industrialization is now a century old and the first technical achievements, unsatisfactory as they are, call for further development. Practically all sectors of modern tech-

nology are afflicted by serious defects in respect of environmental protection, security, economy or general efficiency. The patent system can be an instrument for the promotion of technical development and the advancement of industry.

The administration of the patent legislation and services are the traditional tasks of all patent offices. In recent years the service side has been emphasized, and the Swedish Patent Office has, during the last 10 years, made great efforts in order to develop and render more efficient a number of services to inventors, researchers and industry.

The future will bring more cooperation between the Swedish Patent Office and the authorities charged with the task of further technical and industrial development in Sweden, especially with STU, SIND and the regional funds. The prime purpose of this cooperation is to make industry aware of the usefulness of the patent system, to teach people involved in innovative activities about the services of the Patent Office and, last but not least, to provide the Patent Office with information from its users that could indicate ways and means by which its services could be improved. This cooperation, which at present takes place on an *ad hoc* basis, needs a strategy which remains to be elaborated. The main features for such a strategy should be an analysis of the information needs of industrial enterprises of various categories, the definition of targets for coordinated activities, the choice of steps to be taken in order to make potential users of the services of the Patent Office aware of existing possibilities, and the establishment of a plan for the execution and coordination of programmed activities in order to give industry, researchers and inventors more insight into the patent system and the service facilities of the Patent Office. Particular attention should be paid to the necessity of changing the general suspicious and neglectful attitude of many small and medium-sized enterprises towards information from the outside, especially technical information comprised in patent specifications.

Administration of the Patent Legislation

The interest of society at large in the patent system is closely linked to the function of the patent as a title by which technology can be traded. The virtue of this function is dependent on the respect enjoyed by granted patents in commercial negotiations and court litigation. This respect, in turn, is due to the quality of the search and examination procedure and to the absolute objectivity in the judgments and final decisions of the Office.

The quality of the search and examination is safeguarded by the fact that the Swedish Patent Office is one of the International Searching and Examining Authorities under the Patent Cooperation Treaty (PCT). The Swedish PCT searches are equivalent to the searches of the EPO and, consequently, a Swedish PCT search of an international application replaces the European search

when the international application is completed in the EPO.

The quality of the processing work is upheld not least by the very firm demand of Swedish industry for first-class service from the national patent institution.

More difficult and complex is the responsibility of the Office for the economy of the patent system. There is an immediate danger that patent procedures may become so expensive that the system will acquire an undesired exclusivity to the benefit only of applicants with solid financial resources.

The planning of the Swedish Patent Office therefore has, as one of its most important goals, to keep the costs as low as possible and consequently the fees at a reasonable level. The means to achieve this goal comprise modern management techniques aimed at improved productivity together with high quality. Further means consist in the efficient administration of search files and other documentation, for example, through carefully selected computerization.

Of great importance for the procedural costs of the Office is the standard of quality of the patent attorneys. The Swedish Patent Office cooperates with patent attorneys concerning the training of their staff, and the service program comprises training courses tailored for this purpose.

A special problem relates to the costs for the preparation of a patent application. Financial support may be received from STU or regional development funds, however, when applicants and their inventions meet certain requirements.

The most important step for the rationalization of the patent administration was taken through Sweden's ratification of the EPC and the PCT. The rationalization through the EPC has meant a considerable reduction in the costs for applicants seeking protection in three or more countries of the EPO. Within a somewhat longer perspective the PCT will have a corresponding effect in a wider international framework.

The expertise and the experience of the Office is widely used by the Government in its delegations at international meetings and for the administration of the European and PCT systems.

Service Functions

The value of consulting patent specifications for technical information has been recognized since the appearance of the first printed patent documents. Most patent offices have public reading rooms, where the documents are available for study by visitors. Of a more recent date is the awareness which patent offices have developed that they need to be much more active if the patent documentation is really to become a productive asset to the benefit of industry, researchers and inventors.

The SPO regards it as an additional responsibility to see to it that its resources in the form of patent documents and expertise in information retrieval are, to the

largest possible extent, put at the disposal of those who are involved in innovative activities or for whom patent information could be of great help for other reasons.

For this purpose a special unit has been set up, the Information Service Center (INTERPAT), which carries out its services at cost price.

The program of INTERPAT comprises three main tasks:

1. search services;
2. consultative services;
3. information and education.

The *search services* are the most important and exacting and cover a broad spectrum. The searches are commonly of two standard types:

- the client presents a specified technical problem and the Office carries out an investigation as to whether there are any known technical solutions to it;
- the client specifies a technical subject or an invention and the Office carries out an investigation as to what is previously known—the state of the art.

INTERPAT also performs a number of bibliographic services. In this activity the Office is assisted by a number of different indexes, both national and international.

Additionally, INTERPAT undertakes a number of "alerting" tasks, e.g., notifying when Swedish patent applications within a certain technical sector are filed or made available to the public.

The prime responsibility of INTERPAT is the marketing and the administration of the services of the Patent Office. The requests and inquiries are received by INTERPAT, which is also responsible for the delivery of the search results and the invoicing of clients.

The technical searches are carried out by the patent examiners of the Office. In this way each search is carried out by an expert in a specific technical field who is particularly familiar with the relevant documentation. The bibliographic searches, for example, the patent family searches, are in general carried out by the staff of INTERPAT.

It goes without saying that all search requests, as well as the search reports, are strictly confidential and can in no way interfere with a later patent application. Nothing in the request is disclosed to people not involved in the search.

The object of the technical and bibliographic search services is mere information retrieval. This means that INTERPAT never gives any judgment or advice concerning the patentability of a technical solution presented in a request. Nor does INTERPAT deliver any opinion on questions of infringement, industrial applicability, market conditions or profitability.

The services of the SPO are not restricted to residents of Sweden. As a matter of fact, requests from abroad are a growing part of the activity and the Office takes

pleasure in having regular clients in most of the industrialized countries.

The *consultative service* has been set up in order to assist clients in analyzing their need for information and in formulating their requests so as to correspond to the information gap to be filled. Furthermore, a client may avail himself of the consultative service in order to obtain assistance in the technical interpretation of the documents referred to in the search report.

It must also be stressed that the consultative service applies only to patent information questions and does not touch upon questions of patentability, infringements, marketing or similar problems. Nor does it cover advice concerning industrial application, economy, licensing or the like. For such questions a client is advised to turn to a patent attorney or the STU.

In a market economy the actual or expected demand of consumers is the first incentive leading to the production of goods and services. This principle is also valid for the production of services within the SPO. The Office produces what industry asks for. No request—no service. This is also so for the very practical reason that all services are delivered against a payment covering all costs for the production of the service. And, by the way, services not requested are seldom welcome and will most probably fail to do the good intended by them.

If, consequently, we don't force our services upon the potential consumer, we nonetheless do what we can to stimulate the market and thus create within industry and research institutions and among individual inventors a consciousness of the importance of the patent system and of patent documentation and its eminent qualities as a technical information source.

This activation of the market is a long-term undertaking and is effected in a number of ways. Four main groups of activities can be identified:

1. production of brochures and pamphlets;
2. training courses and seminars;
3. lecturing at information meetings with industry, etc.;
4. production of films and slides for hire.

International Cooperation

The protection of industrial property has wide international implications. The legal and administrative systems for the protection of inventions, trademarks, trade names and designs are interlocked across national boundaries by a number of international treaties and similar agreements. This network of mutual commitments serves the purpose of harmonization of national legislation and promotes further international cooperation in legal, administrative and technical matters.

Sweden has by long tradition favored international cooperation, and few fields of such cooperation have proved to be as productive to the same high degree as the field of industrial property.

This is not the place to enumerate the various treaties of importance for the further development of

the SPO. However, the two administrative cooperation treaties, the PCT and the EPC, have in a fundamental way integrated the Office in a wider and more efficient international cooperation scheme. Both systems are revolutionary steps towards a cost-saving and more simple way of obtaining patent protection. Thereby the systems also contribute to stimulating and facilitating the process of transfer of technology.

Simplification and saving costs are the purposes of a great number of cooperation projects in the field of industrial property; most of those projects are administered by WIPO and relate to legal and procedural problems, documentation and classification matters and technical development for more efficient processing of applications for industrial property protection. The SPO attaches special importance to the international classification systems, which embody a key factor for future harmonization of information retrieval tools and shared use of technical achievements in this area among patent offices. International cooperation and harmonization are prerequisites for the economy of national patent administrations. Not least, the patent offices of developing countries are dependent on a development that enables them to profit efficaciously from the progress made in respect of, for instance, classification and information carriers. This calls for international cooperation whereby reforms and changes are developed with due consideration for the interests of both the biggest offices and the smaller ones.

Nobody can deny the risk that the patent system may go in a direction which would, because of the increasing costs involved, discriminate against individual inventors and other applicants with modest financial resources or put patent offices in smaller countries in such difficulties that they would find it impossible to maintain meaningful administrations. Therefore, a mandatory responsibility for all States participating in the international reform work should be to find ways and means to satisfy the needs of the various parties interested in industrial property, by considering the problems and difficulties of the weaker parties without hampering, in an unreasonable way, the progress that could constructively serve the majority of the present beneficiaries of industrial property protection.

Although the SPO could be counted among those offices provided with relatively solid resources, the degree of international cooperation and the productivity of such cooperation will be of decisive importance for the future overall cost/benefit picture of the Office.

Cooperation with Developing Countries

Patents, licensing, technical information retrieval, manufacturing, marketing, importing and export are all elements of the machinery for the transfer of technology. The SPO has early on engaged in cooperation with developing countries with the view to promoting the transfer process to those countries.

Today this cooperation is supported by a cooperation agreement between WIPO, the Swedish International Development Authority (SIDA) and the SPO. The cooperation includes:

1. individual training at the SPO (fellowship courses);
2. group training in developing countries (seminars, etc.);
3. expert advisory services;
4. state-of-the-art searches, monographs on technical areas of particular interest and other specialized information services;
5. contributions to the International Cooperation in the Search and Examination of Inventions (ICSEI).

The SPO attaches great importance to the systematic planning and programming of its cooperation activities in order to meet as accurately as possible the needs expressed by the developing countries concerned. The coordination and interaction of its service activities are necessary for the achievement of optimal results. With this in mind the SPO will, wherever possible, follow up individual training at the SPO by group training in the developing region through seminars and workshops. Thus the main speakers at such seminars or workshops are assisted by officials who have already received comprehensive training in Sweden, for instance, in the fields of classification, searching and examination of patents.

Similarly, the effects on the developing countries concerned of expert missions are reinforced and enlarged by the fact that the offices of such countries already employ officials who have previously been trained in Sweden or who have participated in group training.

Where possible, training and expert advisory services are focused on the users of the specialized technical services, thereby increasing the efficiency of those services for the benefit of developing countries.

In a market economy country most of the technology available for commercial transfer is in the hands of private owners. Therefore, cooperation with developing countries for the purpose of facilitating the acquisition by those countries of new technology must recognize the fact of private ownership and aim at solutions that can activate and stimulate the possessors of technology, in their trade with the Third World, to eliminate the obstacles that now hamper the flow of technology between industrialized and developing countries.

No doubt some of those problems are of such a nature that they can hardly be solved other than in a long-term perspective. Others are related to legal and administrative procedures and to the lack of insight into the mechanisms by which reliable and lasting commercial links are established with enterprises in industrialized countries. Practical training and case-oriented workshops should be useful here in order to familiarize both representatives of developing countries and responsible representatives of private firms with

the existing difficulties and the ways and means to overcome them. The cooperation between the SPO and regional organizations of developing countries, such as the African Intellectual Property Organization (OAPI) and the Industrial Property Organization for English-Speaking Africa (ESARIPO), in the fields of patent information, documentation, administrative and organizational questions should contribute to the development of a more efficient transfer of technology

5. Some Development Trends

Internationalization and cross-border cooperation are key words in an analysis of the future trends of development.

No doubt, WIPO will have the dominant role in the monitoring of the activities to make the systems for the protection of industrial property more aimed at promoting the transfer of technology, initiating manufacture and facilitating trade in goods and services. At the core of those activities are the legal development of the various conventions for the protection of industrial property and the continued work on the existing classification systems.

Although it may be said that the latest technology related to information retrieval systems tends to some extent to diminish the importance of intellectual classification, there can be no question that the governing principles hitherto applied for classification and information retrieval will still, in the foreseeable future, remain the dominant tools for the organization of document collections and search files of the patent offices.

The activities of WIPO in these and other areas are all the more important as only worldwide cooperation will lead to the degree of harmonization and unification that allows countries with limited resources also to exploit systems and methods developed elsewhere in the world. Should WIPO lose its leading position with respect to classification and patent information systems, the risk is that developments in this area would be conducted by a few major offices outside the field of international cooperation. And this, in turn, would make it difficult reasonably to share the results of such developments between countries. At the same time it should be recognized that international cooperation can produce valid results only if the experiences of the offices of the major industrialized countries are taken into account and if cooperation is pursued with determination.

The growing importance of regional cooperation in the field of industrial property will certainly characterize the future of many patent offices. For the SPO, the stepwise integration of the national patent system into the European patent administration within the framework of the European Patent Organisation will be of utmost importance. This integration will follow two main avenues: *harmonization* of formalities, legal

practice and administrative routines; and *technical cooperation*, especially in the field of patent documentation and information retrieval.

It is easy to trace a general trend towards patent offices widening their scope of activities to comprise, besides the granting of patents, a *comprehensive service sector*.

The SPO is in the forefront of this development and foresees further progress along a number of lines. The following measures are of special importance:

1. the marketing of search and consultative services with a view especially to familiarizing small and medium-sized innovative enterprises with the functions of the patent system and the activities of the SPO; this activity will be effectuated, *inter alia*, by direct contacts with enterprises in order systematically to analyze their general needs for industrial property protection and for improved technical information;

2. designing new services—watch services, technology assessment studies, trend analyses, etc.—in order better to meet industry's needs for advanced technical information;

3. cooperation between the SPO and other agencies and boards entrusted with the promotion of industry and technical research and development in order to improve the conditions for innovative activities and stimulate the patent consciousness of small and medium-sized enterprises and—not least—governmental and semigovernmental research institutions.

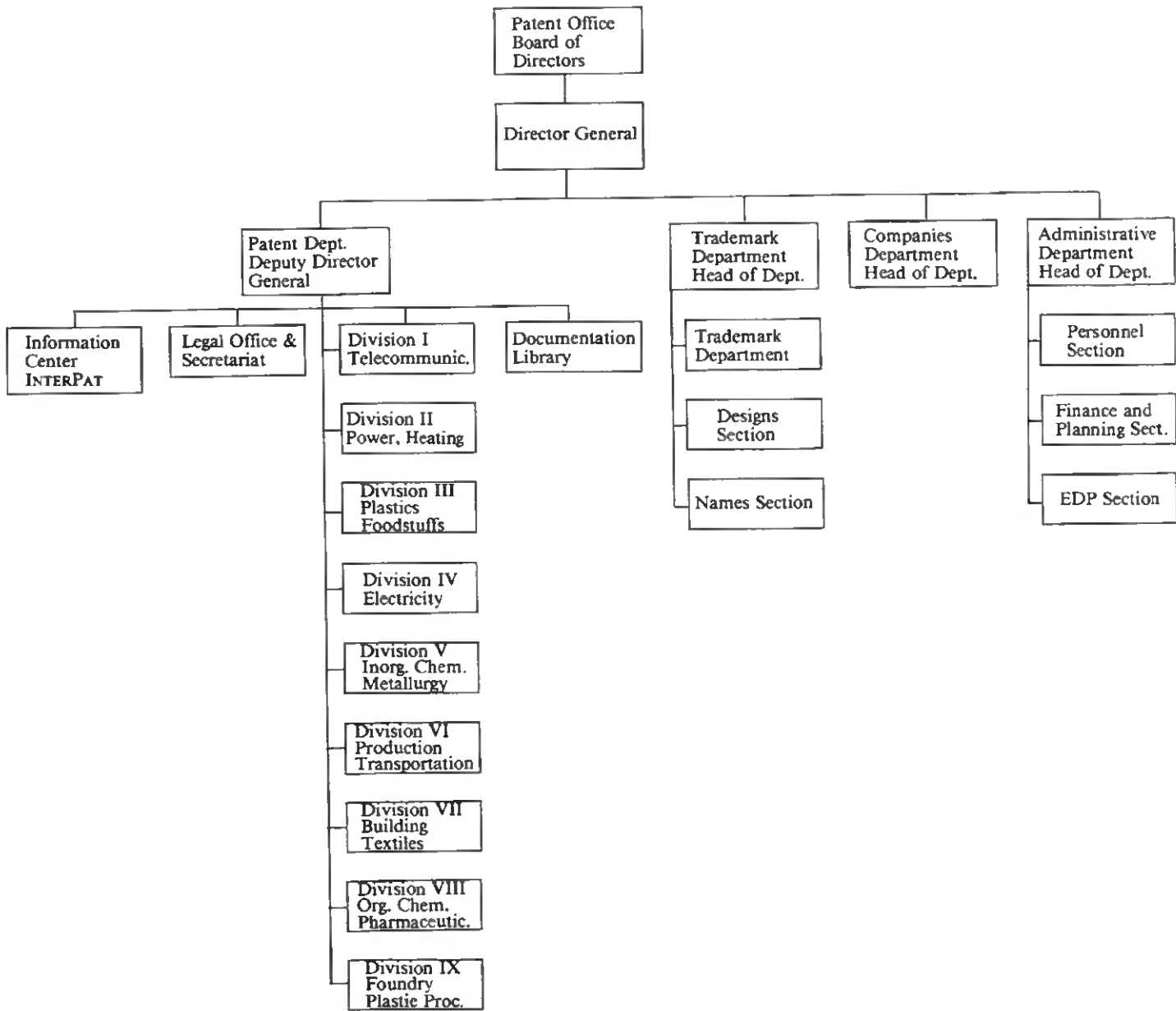
The expanding service sector raises questions of an organizational nature. Would it not be desirable to transfer the marketing work on a commission basis to a separate body, a State-owned company established exclusively for that purpose? It would appear that such a body, separated from the patent administration, would be able to act more freely and therefore also more efficiently in its marketing efforts and in its other commercial undertakings. Questions concerning the remuneration of the staff could also be solved without the strains imposed by the salary system related to the public administration.

Until now, however, this question has been answered negatively. There are a number of reasons for the negative reply. One is that the service sector and its further development must be closely adapted to the other activities of the Office and therefore must be submitted to the same conduct and control. A second argument is that the service activities will, in the future, also be almost totally dependent on the staff resources of the Patent Office and the services consequently will be produced by the staff of the Office. What could be transferred to a separate company is therefore only the commercial activities while the production of the services must, with only minor exceptions, remain with the Patent Office. It is disputable that anything positive could be gained by dividing the marketing and administration of services and the production thereof between a company and the Office. It is evident, however, that the organization of the service activities in the future has to be reviewed in the light of the practical experiences gathered during the years to come.

The SPO expects a significant development in the field of *cooperation with developing countries*. This expansion will be based both on multilateral agreements, such as the Patent Cooperation Treaty or the ICSEI project, and bilateral agreements between the SPO and industrial property offices in developing countries. The activities of the SPO will be an offshoot of the SIDA program and will form an integral part of the SIDA cooperation policy. The cooperative efforts will to a large extent focus the need for minor offices to profit from the resources of the major and well-equipped offices. The coming years will bring about a rapid technical development in the field of patent documentation and information retrieval. The only possibility for offices that lack sufficient resources to take advantage of this development will be through close international cooperation.

It is one of the prime tasks of WIPO to plan, initiate and coordinate such cooperative efforts with a view to obtaining the broadest possible exploitation of new tools for technical information retrieval and thus to promoting the international transfer of technology.

(Organizational chart follows)



The Transfer of Technology: Extent and Constraints

B. de PASSEMAR*

Whether we like it or not, the transfer of our own knowledge to someone else is not usually a spontaneous act, or indeed even a natural one.

We should in this connection mention the argument that has often been put forward against it—quite apart from the mere retention, voluntary or otherwise, of information—invoking the risk of a “boomerang” effect that such transfers would be bound to cause on the assignor’s markets, with the result that the assignor’s goods are competed against by those manufactured by the purchaser of the knowledge. Such an effect could indeed go as far as to jeopardize the assignor’s production potential, with all the attendant social or other consequences that might result.

Admittedly, this has sometimes happened; however, an objective analysis should be made of its exact causes. Be that as it may, we have to acknowledge that such transfers represent a serious decision for an enterprise which cannot and must not be taken lightly.

Let us therefore consider (i) why, (ii) when and (iii) how an enterprise may be induced to make a transfer.

1. *Why Is an Enterprise Sometimes Led to Transfer Its Technology (Know-How)?*

It is obvious that the technological strategy of an enterprise represents an essential element of its medium and long-term policy and should enable the enterprise to maintain the initiative in its own markets. In fact, its very future will depend on the choices and results of its research and development (R & D).

In order to avoid being placed under the “yoke” of the law of competition, without any real freedom of action, an enterprise must at least:

- have at its disposal as many competitive means of production of goods responding to market demands as it does efficient trade networks; and
- also hold the industrial property rights that protect, and therefore control, those goods, their manufacturing processes and even their applications.

It is no less obvious that the often considerable expenditures incurred by an enterprise in its R & D efforts have as far as possible to be profitable in the medium and long terms.

It is well known that no enterprise can reasonably hope to see all the R & D work that it decides to undertake crowned with success, either technically or economically. The decision always embodies a considerable element of risk, regardless of the care taken in the preliminary study and in the choice that the enterprise initially had to make between either carrying out the necessary investigations, acquiring the essential technical knowledge from a third party or, quite simply, doing nothing at all.¹

Added to the first technical gamble that an enterprise makes by taking the risk of carrying out an R & D project is a second, economic one. For there is nothing to assure the enterprise that the product, when fully developed technically, will be capable of being marketed competitively in comparison with products already on the market, either as a result of R & D carried out in parallel by third parties or indeed already existing when the enterprise took its decision to initiate the corresponding studies.

A mention should perhaps be made here of the well-known term used by Joseph Schumpeter to describe innovation, namely “creative destruction,” as it forces obsolescence on capital goods and investments, with the result that the more an economy progresses, the more it has need of capital.

The question may therefore arise whether, and if so how, the constitution of capital will be sufficient to pay the costs of the future, the cost of staying alive, the cost of “creative destruction.”

It is consequently clear that, for an enterprise, the capital in question has to be constituted partly by the profitability of its R & D efforts, which under normal circumstances cannot be ensured other than by the maximum development of the results of R & D, through the optimum synergic effect of:

- production within the national market of the enterprise (for our European enterprises, this generally means the whole of the European Economic Community (EEC)) and sale of the goods thus manufactured both on that market and on export markets;
- establishment of production units, either independently or jointly owned, in countries outside the national market, so that significant market shares may be won, synergistically with the exports made to those markets from the national units;
- finally, the transfer of the corresponding manufacturing technology to third parties, with the establishment of production units in other territories, understanding fully that the third parties of course eventually become competitors, but also that they become allies in the conquest of

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¹ See B. de Passemar, “*Innovation et Protection de la Propriété Industrielle dans la Recherche et Développement*,” AIPPI-MIE Conference, Budapest, September 10 to 14, 1979, published by Hungarian Central Technical Library and Documentation Center, Budapest (1980), vol. 1/A, pp. 29-54.

potential markets that may not be directly accessible to the enterprise itself from its own production units.

In this respect it has now been acknowledged that the smooth development of an enterprise through the realization of the intrinsic value of its knowledge according to the pattern described above will, under normal circumstances, lead to a strengthening of the enterprise's trading position in territories where it establishes production units, either directly, in accordance with the second factor in the pattern, or even indirectly, in accordance with the third factor. As a result, the generation of exports by goods directly manufactured and sold on that market will be noted, provided of course that the quality of the exported goods and those directly manufactured and sold is equally appreciated by the corresponding market—thus benefiting mutually from each other's goodwill—and in addition that the market in question is not virtually saturated by the production unit created in that country.

Experience also quite often shows that, simply at the time of negotiations with partners to whom an enterprise may be considering a transfer of technology, requests are spontaneously addressed by those partners for the purchase of goods directly manufactured by the enterprise; the reasons prompting the request are that the enterprise has had the opportunity to publicize its technological competence and has given a demonstration of its competitiveness.

Moreover, an enterprise may often be able to derive certain definite advantages, in commercial terms, in the form of the often valuable information it obtains on its competitors in the course of the relevant negotiations; those advantages are derived quite apart from the direct financial profit that the enterprise is obliged to secure for itself not only in exchange for its contribution of know-how, engineering or technical assistance (provided more or less on a long-term basis) and, where appropriate, for the provision of specific equipment, but also in exchange for the license that it may grant in respect of its industrial property rights that probably protect the technological field concerned.

It should also be borne in mind that an enterprise can often derive a definite profit, in technological terms, from the actual study of projects for production units involving the transfer of the corresponding technology, and, where applicable, from the establishment and starting up of such units; that is particularly true in the case of complex and/or sophisticated technology or even simply where the corresponding investment is relatively heavy. Such projects, particularly when they culminate in operations in industrialized countries such as the United States of America, Japan, etc., can provide the enterprise with a practical opportunity of actually implementing innovations that, for technical reasons, are unlikely to be implemented in the enterprise's own production units; those innovations can thus be tested and even perfected.

For the enterprise this opportunity can also represent an area for experimentation with a view to better knowledge and, under some circumstances, mastery of newly emerging technology; furthermore, that new technology could well become key technology concerning which it is essential that the enterprise acquire practical knowledge sufficiently rapidly, even if the enterprise itself may be unable, in practical terms, to carry out concurrent experimentation in its own production units. One could think of the development of robotics as an example of such a technology.

How many enterprises today are really capable of investigating, on their own and for themselves, all the promising areas of research, particularly when the technology being developed is, as we have just said, complex, sophisticated and/or capital intensive?

We have to acknowledge that it is only if an enterprise is capable of establishing production units on the territory of its most serious competitors that it can really be sure of possessing the most efficient and, therefore, profitable technology. We know, in fact that an enterprise operating within the protection of its national frontiers or agreements is bound to see its R & D effort, which remains essential for it to stand up to the competition, gradually lose its economic *raison d'être*, and its creative potential consequently become sterile within a relatively short time.

If one recognizes that an enterprise can only hope to survive by progressing through innovation, it must be ensured that it is capable of providing for its future by generating profits, which create the capital essential for financing the "creative destruction."

In this respect, as Schumpeter, unlike John Maynard Keynes, clearly understood a century ago, profit—contrary to the contention of Marx—is not a "*Mehrwert*," or surplus value stolen from the workers, in an economy of change and innovation; on the contrary, it is the only source of employment and revenue from labor.

2. *When May an Enterprise Be Induced to Transfer Its Technology (Know-How)?*

Although the question "when?" may seem simple, it is in fact complex as it can often be answered in a number of different, but equally reasonable ways; at the extreme, it is even possible to consider that several specific solutions could be found for each case. Only a thoroughgoing analysis of the real position of an enterprise, in itself, and of the exact place of the product and/or process involved in a possible transfer of technology in the corresponding market or market sector, together with a precise study of the previous question, "why?," will enable the enterprise to set out along the difficult path of technology transfer in full knowledge of the facts.

Indeed, when one considers technology transfer, which is the third panel (factor) in the triptych presented earlier to explain the development of an enterprise's

R & D, it seems clear that the enterprise should not set out along the path of technology transfer until it considers itself reasonably capable of directly and/or indirectly deriving a satisfactory profit therefrom; such profit can be added to that normally expected from the other two panels of the same triptych, at least partly through the synergic effect between and among them.

It should be mentioned that, through the cumulative effect of experience, the cost to an enterprise of manufacturing a product is likely to diminish in proportion to the quantity produced, and the same is normally true of the cost of its services, including sales.

But should not technology transfer be considered a means of development available, in fact, only to major enterprises?

This question, which is indeed quite reasonable to ask, seems to be very validly answered by the statement recently made by the director of a highly-specialized, medium-sized enterprise in Lyons when he was asked whether his company had sufficient funds to develop new products:

"It is my view that our policy should be adapted to our means.... I believe that we should build on mountain paths and not in the plains, that is to say, our enterprises have important fields to exploit but only in limited sectors...; in certain areas a technological and marketing approach is somewhat difficult and we can only have a hand to play in those narrow fields if they are developed globally."

Schumpeter referred to the problem of the formation of the necessary capital to finance the future. The director mentioned above replied that if innovations were developed globally, an enterprise would find the necessary funds to continue in existence.

While the transfer of technology should not be considered a universal remedy, it would seem that the third panel of the triptych on the development of an enterprise's R & D nevertheless constitutes an important element in the global development of an enterprise.

In this respect it is interesting to quote from a book² recently published (*S'implanter à l'étranger, pour maîtriser le développement international de l'entreprise*), several paragraphs of which are as follows:

— On the one hand, with regard to "The Approach to Foreign Markets—First Stage: Export":

Firstly:

"To export is a necessary experience. The exporting enterprise adapts its national structures so as to export but does not intervene overseas."

Nevertheless:

"Such a technique for distributing products or services cannot always be implemented."

However:

"Excessive development of an export policy may weaken the exporting enterprise. If the geographical risks are not harmoniously

distributed, the exporter bears an increased financial risk... Therefore, the industrialist or his partner, taking into consideration the lowest costs as well as the political and economic conditions is led to consider becoming established in the target country."

In respect of "the analysis of the economic and social environment—the potential market and the political conditions," the following should be pointed out:

"An analysis of the size of a market comes before any decision on establishment... A country's political conditions, or rather its attitude towards foreign investment, also constitute a prerequisite to any decision concerning establishment, simultaneously with the study of the size of a market... The major western countries with stable political systems offer such guarantees. Developing countries are frequently subject to abrupt changes that can modify policy towards foreign investment..."

With reference to "methods of penetrating overseas markets":

"Apart from exporting, the most usual method of penetration is through the establishment of a commercial or industrial entity. Such establishment formalizes the enterprise's policy and its desire to become integrated in the domestic market. Contrary to exporting, in which the enterprise does not legally intervene overseas, the establishment phase takes place within an *ad hoc* legal framework dependent on the legislative system in the host State."

— On the other hand, with regard to "setting up an establishment,"

Firstly,

"The setting-up of a commercial establishment, at least in developed countries, constitutes an excellent approach to the local socio-economic milieu. The head company controls the entity's development. The foreign structure can gradually become responsible for:

- conditioning products;
- adapting to local advertising;
- supervising delivery dates;
- after-sales service and guarantees.

"The primary obstacle to setting up such an establishment is the financial cost.... For example, the CFCE (the French Center for Foreign Trade) calculated that the cost of such a structure would be between US dollars 191,000 and 313,000 only for fixed costs. Therefore, the minimum turnover goal should be set very carefully..."

Furthermore:

"An industrial establishment is very often set up as a result of a commercial entity's growth. The industrial unit can limit its activity to assembly or can carry out the manufacturing process as a whole. The first solution is adopted by companies that are unable to manufacture the basic elements of their products on the spot for reasons of cost, prestige or industrial property (for example, perfumes sent from France and conditioned in the United States of America). The second solution is to be preferred if the company has no constraints preventing it from transferring abroad the production process as a whole. It is thus able to benefit from a better economic situation with regard to customs tariffs, employment costs and expenditure on transport. In addition, it will better be able to adapt to the exigencies and fluctuations of the local market."

How very true.

The above shows very clearly that transfer of technology is bound to be at the very heart of the international development of an enterprise; this is sometimes true, moreover, from the first phase of the exploitation itself, for example, in the form of franchising or licenses.

Experience has shown that establishment abroad:

- directly, either through setting up a subsidiary or by investing in a foreign enterprise; or

² by Georges Athénosy, Norman Benzaquen, Alain Chevalier, Françoise Grenèche-Chevalier, Jyoti Gupta, Georges Hirsch, "Techniques Economiques d'Aujourd'hui," *Entreprise Moderne* d'Édition, of November 1983.

- indirectly, by transferring technology to an independent enterprise, quite clearly requires the ability to put the most appropriate solutions into operation.

In this respect, it should be noted that creating a foreign subsidiary usually means having to solve many more problems, delicate or otherwise, than simply investing.

The main obstacles facing an enterprise when becoming established abroad are concretely and generally the following:

- the problems of the financing (both in volume and cost) needed not only for investment related to establishing the production unit, but also for its balanced exploitation and, in certain countries, restrictions on the movement of capital and exchange risks;
- the human resources available to the enterprise (principally at the management level) and, in particular, in developing countries, the lack of local qualified workers;
- protectionist barriers, whether legal or not, in host countries: legislation, rules, standards, etc., compulsory sub-contracting and/or the use of local raw materials, compensation, or others;
- without also forgetting, where applicable, political risks.

It is reasonable to state, however, that medium-size enterprises would not encounter many more difficulties than large enterprises.

3. *How Can an Enterprise Transfer Its Technology (Know-How)?*

In order to safeguard its future, an enterprise not only requires the means for a dynamic technological policy, but must also have a coherent industrial development strategy at the international level, which will lead it to transfer its knowledge, at least in part, to other legally independent enterprises that are controlled to a greater or lesser extent, or not at all, as the case may be, by the enterprise.

To do so, an enterprise should draw up such a strategy taking into account, on the one hand, the specificity of its field and, on the other, the obstacles mentioned above which it will have to overcome when becoming established abroad.

The enterprise will first of all have to define what element within its business should actually constitute the element on which it wishes to base its development strategy, for example: concrete patent(s), filed abroad, protecting a process and/or a product, with the complementary know-how; or, on the contrary, mainly technical know-how concerning a process and/or product, possibly protected by associated patents; trademark(s) or service mark(s), designating a product, a process, a service; model(s) registered abroad, protecting a

product; expertise of various sorts, commercial, management, financial or others, etc.

The resulting transfers are therefore likely to be operations of widely differing scale, from the simplest to the most complex. In some cases transfer will, in practice, even take place as from the most classical stage of straight-forward exportation, at the time of the setting up of a purely commercial establishment responsible, among other things, for conditioning products or for after-sales service and guarantees, which would, for example, be created in the form of a franchise or licensing arrangement.

It is not our intention to discuss possible solutions to problems raised by the financial conditions for an overseas establishment project, whatever they might be. Other people have already dealt competently with this question, among them the authors of the book mentioned above. We shall consider this basic problem for the enterprise that will have to manage the new exploitation as already being solved, insofar as the financing of the new investment to be established, in respect of either its capital or balanced exploitation, is concerned.

It is no less true that the attendant limitations will, in practice, condition the strategic decisions of the enterprise, not only with regard to the country (or countries) in which a commercial and/or industrial establishment is projected, but also with regard to the form of legal structure relating thereto, for example, a wholly or majority controlled foreign corporation, or a minority share in a foreign enterprise, or a pure and simple transfer of knowledge to a totally independent enterprise.

Although it is not our task to deal with the question here, it is nevertheless worthwhile to recall the often delicate problems raised by taxation in countries involved in such transfers. They occur with such frequency that it seems to us primordial to be fully aware of them since an unsatisfactory solution in this field can sometimes lead to fundamental changes in the financial balance of such operations.

For example: whether or not there is an agreement against double taxation between the country providing the technology and/or granting a patent license and/or trademark, etc., and the country of the beneficiary; taxation at often widely differing rates in one or the other country on payments made or collected either under the granting of a license, whether exclusive or not, or the assignment of industrial property rights—in patents, trademarks, etc.—or the transfer of know-how, purely technical or otherwise, or the provision of services such as engineering work, personnel training, technical assistance in establishing or starting up a production unit, in the medium or long term, etc.

As an example, let us mention here the legislation or taxation rules of certain developing countries, India among others, which are very different from those in market-economy industrialized countries and where complete understanding is thus called for.

We shall limit our study solely to the most important legal aspects of contracts for the various types of transfer mentioned above, in particular, where they involve industrial property rights, especially patents or marks. This article is not intended to be a thesis on a specific problem at present on the agenda for the work being carried out by WIPO within the framework of the Diplomatic Conference for the Revision of the Paris Convention, or by UNCTAD for the negotiation of an international code of conduct for the transfer of technology, or yet again by the Brussels Commission of the EEC for drafting a rule of exception concerning the granting of patent licenses.

Patents

The first question that needs to be raised regarding patent rights is possibly that of their true economic scope seen from the concrete aspect of their exploitation within the framework of contracts for the transfer of technology.

It would seem to be particularly important to analyze this problem objectively since many false concepts have been disseminated during recent decades, apparently due to theoretical and sometimes even biased exploitation of investigations of a purely statistical nature. Is it not difficult and even dangerous hastily to draw peremptory conclusions from purely statistical data, particularly in such a delicate field as that of interpreting the percentages of the number of patents worked—and in any case what exactly does worked mean?—in comparison with the number of patent applications filed or patents granted? In this particular field it would perhaps be wise to recall what Disraeli said on the subject of statistics: "We have to consider in order of importance the lie, the deadly lie and the statistic." We would not go so far, at least in a general sense, but let us nevertheless be circumspect in the case we are discussing.

Perhaps it should simply be borne in mind that those specialists who have studied carefully the problem of R & D's profitability for an enterprise and, in order to do so, have sometimes drawn up fairly sophisticated procedures and models, have often concluded their work by a simple "act of faith." However, they have clearly shown the existence of a positive correlation between industrial development and an enterprise's global R & D effort, at least when the enterprise knows how to obtain maximum benefit from the results of R & D, as has previously been shown, and vice versa.

As we stated at the beginning of this article, however much care is taken during the preliminary study on undertaking a research project, such a decision always represents a considerable risk for the enterprise which thereby undertakes a double wager, both technical and economic.

Furthermore, the decision taken by the enterprise to try to protect any result of such research in a greater or

lesser number of countries both increases considerably the cost of the research project itself and also constitutes an additional wager with regard to whether or not it can, in the end, directly or indirectly conquer sufficiently profitable sectors of the market in the selected countries according to the development process described above. What is more, in order to do so, patent applications generally have to be filed within time limits that are too short to evaluate accurately the value of the potential markets likely to be protected by the patents eventually granted, often after several years.³

In this respect mention should be made of the significant increase in the costs of filing, processing and, as the case may be, granting and maintaining in force such patent applications and patents as a result of the notable increase in various relevant expenses, both administrative fees and for the services of patent attorneys, representatives who are usually indispensable to the applicant.

Is this not truly then an act of faith by the enterprise?

Moreover, it is to be regretted that the quasi general erosion of industrial property rights during recent decades—which is unfortunately widely known—does not constitute an encouragement for an enterprise to take the corresponding risks. This erosion is due to the uncertainty that too often characterizes not only the procedures to obtain valid rights within reasonable time limits, but also any action to terminate the infringement of such rights. In a certain number of countries—even industrialized countries like France, for example—by assimilating the patent, in practice, to a simple right to royalties the infringer is unjustly encouraged since the concept itself of a temporary monopoly allowing for the prevention of competition would appear as backward and even a sacrilege in the eyes of some people

All things considered, the infringer will, usually after a certain number of years, become liable for the payment of royalties just like an ordinary compulsory licensee. In practice this amounts to stealing from the patentee, particularly since it is not unusual *in fine* for the infringer to be unable to indemnify the patentee due to the liquidation of his enterprise, for example.

It must be added that the sometimes violent attacks on industrial property rights, which are generally not seriously justified in our view, have frequently directly resulted in those in charge of enterprises casting doubt on the practical advantages of having such industrial property rights; consequently, they have avoided taking the financial risks and possibly also the corresponding legal risks in such a specific field which in their eyes often seems difficult to circumscribe and ultimately even suspect.

It is self-evident that any unjustified attack on industrial property rights, on patents in particular, directly affects R & D itself, which those rights must defend, and

³ See "Time Limits for Working" (WIPO document PR/S/7 of May 1976), B. de Passemar, in the series *Studies on Questions Concerning the Revision of the Paris Convention*.

consequently constitutes an obstacle to the transfer of technology.

This leads to a quasi general recognition that the patent can only constitute the principal element in transfer of technology if it is able adequately to protect its primary objective; in such a case the other elements of the transfer—including the relevant know-how—can be considered as complementary, at least within the legal framework of the corresponding operation, although they are frequently extremely important and even indispensable. On the other hand, if such were not the case the patent would usually become simply complementary, although of value and useful, and the technological know-how would then often become the principal element of the legal framework.

Having set out these general considerations, let us now try to define clearly the practical importance of the patent in the corresponding transfer of technology, taking into account the various objects of invention to be protected, on the one hand, and the principal relevant forms of legislation on the other.

Honor to whom honor is due First of all, let us consider the patent for a product *per se*; such a patent protects the product in itself, whatever the process implemented to obtain it and whatever its industrial applications. Is this not the true “king of patents” since any infringement is relatively easy to discover and define because material proof is usually quite easily obtained?

Undoubtedly. But what product are we talking about?

Without going into the question of the patentability of products themselves and/or certain of their applications—which is not the subject of the present article—the relevant problems of transfer of technology will be totally different according to whether the legislation of the country receiving the technology recognizes the patentability, where appropriate, or not.

For instance, in a considerable number of countries (this was—and still is—the case in certain industrialized countries), the following are not patentable *per se*: chemical products and/or alloys; pharmaceutical and/or food products; likewise, nuclear products or applications; even new plant varieties.

It must also be noted here that even when such products are in the end patentable in themselves, there sometimes exist wide differences in the jurisprudence of the various countries regarding their patentability. For example, delicate problems are raised by the patentability of products constituting one family, particularly in the field of chemistry, or, on the contrary, by the patentability by selection of a specific product *per se* within a family of generally known products.

In such cases it is easy to see the significance of fields of industry finding themselves outside the scope of patent protection and consequently the important economic effects that this might have on agreements on transfers in the corresponding technical fields.

As an example let us here consider: in chemicals

and/or in biology, pesticides, pharmaceutical products, currently the remarkable development of biotechnology—cell or other cultures—or even the agricultural food industry; polymers, conductors or otherwise; ceramic products whether specialized or not; alloys of all sorts and their various applications—for memory, nuclear use, etc.

In countries where such products are not patentable we see the elements that could have created these “kings of patents,” as we stated above, turning against their inventors, that is to say, the quasi disclosure by publication, among other things, of patent applications in countries where they have been filed, as well as the appearance elsewhere of such products on the market. The products therefore *de facto* fall within the public domain in countries that do not recognize their patentability.

The same applies *mutatis mutandis* to a patent for a new application of a product whether it is already known or not. This is often the case in the fine chemical industry, for example, in the pharmaceutical, veterinary, agricultural (crop treatment, for instance) and pesticide fields, etc.

Now what about a patent for a process?

For the inventor and the industrialist working the invention the problem is raised of proving any eventual infringement of the corresponding patent. In view of the almost insurmountable difficulties encountered, one has to recognize that the frequently serious reservations expressed by industrialists concerning the practical effectiveness of such patents are justified, which explains the noticeable lack of enthusiasm by industrialists for such patents, especially when the marketing of the product resulting from the invention is not likely to divulge the (possibly patentable) process used for its manufacture; this is of course at the expense of acquiring know-how to be kept as secret as possible.

By and large the same is true in countries which, while recognizing at least in principle the patentability of products and/or processes and/or their application, in practice only grant a very brief even ephemeral life to such patents. In this connection we should mention the study on “Time Limits for Working,” mentioned above, which was based on a fairly large number of concrete cases and showed that an invention required from seven to 10 years (on average, of course) to reach a level of technical development that made it sufficiently profitable economically so that it could eventually be transferable.

It is obvious that reducing the life of a patent to 10 years, or even less, constitutes in practice a sizeable obstacle to the transfer of technology to countries thereby lacking the minimum indispensable protection for industrial property, in particular, in important industrial fields where obsolescence is slow, for example, in basic chemistry, metallurgy, etc. Such an obstacle is less important in technical fields where obsolescence is more rapid, in electronics for example, in particular when applied to consumer goods.

I have no doubt that such a statement might appear too hasty or even suspect in the eyes of some people, particularly since in recent decades a certain number of countries have decided either not to allow the patentability of products in certain technical fields (chemical, pharmaceutical and/or food products, among others), or simply to reduce considerably the length of validity of such patents, or to impose forfeiture or a compulsory license after an extremely short space of time.

It was the absolute right of those countries to do so given the independence that exists—justifiably so—among the various national patents, but was it really in their interests in practical terms?

As was stated above, a patent cannot constitute the main element in the transfer of technology, within the legal framework of the corresponding operation, unless it is able validly to protect its primary objective.

At this stage it is interesting to define succinctly the practical economic scope of know-how taking into account the various constraints briefly referred to above, that could seriously limit the scope of the patent in certain technical fields.

In this connection let us see whether there is not perhaps a correlation between the speed of technological obsolescence and the size of industrial investment in the various fields under consideration. Also, what is the case in respect of know-how and the patents relating thereto?

If we first of all consider so-called "heavy" industries, such as basic chemicals, oil, petrochemicals, metallurgy, basic transformation of metals, for instance, it would seem that almost systematically there is a certain parallelism between the size of industrial investment and the speed of obsolescence of the corresponding technologies.

It must also be noted that in these technical fields know-how is often of very special interest because, in addition to the heavy burden of repayments in industry, their markets are very competitive and usually only allow for a very low profit margin—and even that is not always possible, as can be seen during the current crisis. It is a well-known fact that such know-how can only be acquired over a number of years, even decades, through R & D efforts and through patient and painstaking accumulation of experience.

It is therefore obvious that it is the duty of enterprises possessing such knowledge, which is so valuable both technically and economically, to promote and to obtain maximum advantage from it, as we have already said. In order to do so, they must keep control of its direct or indirect working and consequently of its transmission and *a fortiori* of its disclosure.

Here it must be said that the unjustified attacks that have been made, particularly during the last two decades, against the legitimate right of enterprises to keep direct or indirect control of their know-how when it represents one of the principal elements, if not the principal element, of their business can only harm the very concept of transfer of technology. In our view, the

provisions adopted in a number of countries to this effect constitute a sometimes serious obstacle to the transfer of technology from industrialized countries and, in the long run, are probably not to the advantage of countries wishing to receive such transfers.

It must be said, however, that the complexity of the technology normally used in heavy industry generally ensures a certain measure of security to enterprises possessing know-how with regard to the danger of losing their technical knowledge. In order to be carried out correctly, transfers usually involve the training of personnel from the recipient enterprise in the workshops of the supplier, on the one hand and, on the other, entail technical assistance from the supplier when starting up the unit that will exploit the know-how or even for a longer period of time.

However, it appears to be against an enterprise's interests that those who have acquired the technology should no longer be compelled to secrecy after a certain time and thus become free to indulge in competition—practically unfair competition—with the supplier of the technology either by transmitting it to a third party or by disclosing it, although the said technology has not become part of the public domain nor obsolete. The same is true when an enterprise acquiring technology is able, without any restriction whatsoever, to indulge in competition with the enterprise providing the technology. Such provisions, in fact, are the kind that prevent the establishment of a spirit of trust between responsible partners, which is so indispensable to good relations and is the basis of cooperation between the enterprise supplying the technology and that receiving it.

We should ask ourselves whether the provisions adopted by a number of countries, when added to those that directly or indirectly affect subsidiaries or investments in enterprises creating or possessing such technology, do not run the risk of encouraging the possessors of technology to become withdrawn, especially during an economic crisis such as that of the current decade. Is it not to be feared that, in the end, the most tangible result will be an intensification, to a greater or lesser degree, of the crisis in the fields under consideration? Enterprises in industrialized countries that possess such technology will, in fact be severely restricted in their capacity to take advantage of their knowledge according to the process outlined above, and will no longer have at their disposal all the "capital" normally required to finance innovation—"creative destruction"—which will affect their capital goods and previous investments, as has already been stated.

This appears to us to be the situation in heavy industry, which is more creative and innovative in new processes than in new products.

What about enterprises whose manufactures require relatively less capital to finance their production machinery, but whose rate of obsolescence is generally higher? Firstly, it should be noted that such enterprises are usually more creative and innovative in new

products or new applications of products. This is the case, for example, in fine chemicals, for biochemicals, pharmaceuticals, pesticides and the food and agricultural sectors; in fine metallurgy for alloys; in electronics for consumer goods; and in ceramics.

A patent for a product or for the new application of a product is obviously of greater economic interest in those fields than in heavy industry, but only to the extent that the rapidity of obtaining patents—when it is possible to do so—affording valid protection, compared with the speed with which such products are introduced into the market and/or their obsolescence, do not make such patents *de facto* inoperative. This is unfortunately often the case in electronics, particularly for consumer goods.

However, the manufacturing processes used to obtain such products are often difficult to patent, sometimes because of lack of novelty but more frequently because of the inventive level. Moreover, since they are technically somewhat less complex, it is difficult to ensure that industries of this type can maintain direct or indirect control of the corresponding know-how, at least in general. This is particularly so since a simple disclosure of the product or the application can usually permit an expert quite easily either to detect and reproduce the corresponding manufacturing process or to find a more or less equivalent alternative process.

It must be emphasized that, in practice, enterprises are not able to discover and perfect such products or applications unless they are able to invest considerable amounts of money in research and development.

For instance, how many products have to be discovered, synthesized and tested before only one can be identified as presenting potentially useful characteristics for a pharmaceutical product, a pesticide or for treating crops, etc.?

It is a well-known fact that on average only a small percentage of products at most will present such characteristics in practical terms.

But among those products how many will finally be retained for industrial manufacture and marketing and after how many years of study and development? For pharmaceutical products, for example, taking into account *in vitro*, *in vivo*, clinical and other tests, which are quite rightly indispensable, scarcely several percent. For pesticides and products for treating crops, in the order of perhaps a few dozen percent at most.

As for alloys and ceramics used in the space, aeronautical, nuclear and electronic fields, how many years of effort, research and development have to be spent in studying, finalizing and testing of every sort before being able to put industrially reliable and competitive products on the market: five, 10 and perhaps more? And in the end what is the probability of success? Once more a small percentage.

For how many years has industry in the major free-market industrialized countries (United States of America, Japan and Europe) been trying to perfect photo-voltaic cells in silicone, mono or polycrystalline,

or amorphous? It is the same for super-alloys or special ceramics for space and aeronautics or even simply for turbo engines. In the sixties alone how much was invested in research and development in aluminium alloys and titanium alloys, without mentioning niobium and its alloys?

No doubt unaware of the fact that there can be no practical technical progress—the motor of development—unless an enterprise, whatever it is, has access to the necessary financing, some people considered that studies had practically no economic value, although they alone enabled new products and/or applications to be discovered and perfected.

With the aim of diminishing the economic value of know-how, these persons try to put forward the argument referred to above regarding direct or indirect, total or partial, disclosure of know-how concerning such products or applications simply as a result of their appearance on the market and/or the publication in a given country of any corresponding patent application so that the enterprises having discovered and perfected the products can no longer seek to obtain the relevant remuneration since the know-how is no longer of a confidential nature.

An enterprise can only therefore validly justify such a request for remuneration within the context of a contract to grant a license or assign a patent, where applicable. In this regard, however, we will simply recall the issues mentioned above concerning patents.

In the long run, do not such enterprises frequently run the risk of reaching the same conclusion as that already mentioned for “heavy industries,” at least as far as transfer of technology is concerned. Should we not also note that in practical terms those enterprises often turn inward as well?

If the noticeable decrease in transfer of technology from industrialized to developing countries, resulting in part at least from such withdrawal by enterprises possessing economically valuable technology, should be confirmed, as the statistics seem to prove, it would seriously affect the global economy as a whole with all the attendant long-term risks both for the industrialized countries and for the developing countries themselves.

Trademarks

As we know, a trademark is a distinctive sign normally put on products and used to distinguish those products and to indicate their source to an eventual purchaser; the same is true of service marks where appropriate. It is important not to confuse trademarks with trade names and signs, appellations of origin and indications of source, or with labels and collective marks.

The first question to be considered is that of the economic scope of a trademark in transfers of technology. Intrinsically a trademark has no technical content, contrary to a patent or *a fortiori* to know-how,

its interest for our purposes is thus limited in practical terms to the first panel of the triptych of development that we mentioned in the introduction, namely, sales both on the national and export markets. It is a well-known fact that a client's choice is often dictated by the trademark, which shows him directly or indirectly the source of the product.

Although a trademark itself is not technical but commercial, in practice it nevertheless often represents an element of considerable economic value in the business of an enterprise and is occasionally a very important element. It goes without saying that a trademark can constitute a major factor in the industrial development strategy of an enterprise.

If a product has been introduced in a market under a trademark and has gained a significant share thereof, perhaps due to the protection afforded by patent rights, it is obvious that the reputation the trademark may acquire among the public will be of real economic value for the enterprise as a vector not only for sales, as mentioned in the first panel of the triptych, but also for the establishment and/or transfer of technology in accordance with the two other panels.

We have seen that, in conformity with its industrial development strategy, an enterprise will normally directly or indirectly try to conquer new markets or new sectors of the market. It is clear that a trademark can obviously play an important, sometimes major, role in such action.

The attraction, let us say the market appeal, towards it will usually correspond quite faithfully to the image on the market of the goodwill of the enterprise from which the product derives.

It is well known that a good industrial development strategy consists in being on a marketing pull while possessing a technical push. When this is the case, a trademark can to a greater or lesser extent become an essential element in agreements on transferring technology to a production unit:

- either set up as a subsidiary with investment by the enterprise itself;
- or established without any capital investment by the enterprise by implementing the enterprise's technology.

One might say that this is particularly true when a trademark applies to manufactured products meeting the needs of vast markets, such as those for consumer goods like pharmaceutical, pesticide or food products, among others, as already stated. This is true, but it is also true for other products, such as semi-manufactured or intermediary ones, for example, special alloys or ceramics for space or aeronautics, etc.

It thus seems that a trademark can even sometimes acquire a certain technical content. In order to respond to the demands of a market, an enterprise often has to adapt its product to the market's specificity, which often means that it has to adapt its technology and know-how to the constraints of that market.

Doesn't a trademark then, although to a secondary degree, acquire technical content since the client, while responding in the first place to the purely commercial content of a trademark as an indicator of the source of the product, also expects it to adapt to the specificity of the market? Be that as it may, a trademark plays an important role in the transfer of technology itself.

Consequently, it goes without saying that the various comments or reservations that have been mentioned above with regard to patents and sometimes to know-how are also valid in this case. With regard to certain countries that thought it necessary to take even more restrictive steps in the field of trademarks, those comments may, indeed, be reinforced. It is, in fact, to be feared in this instance that the accumulation of such measures will lead to the development of negative synergies concerning the transfer of technology in certain industrial fields to such countries.

Franchising

Before concluding, a few words on franchising which, as is well known, mostly corresponds to specifically commercial rather than industrial investment. However, it should be recognized that such operations frequently include a transfer of technology with appropriate assistance, even patent and occasionally design licenses, in addition to trademark licenses and assistance in the commercial, marketing and publicity fields as well as in investment and management.

The global development of franchising during the last two decades shows clearly the role that it can play not only in the commercial but also in the industrial development strategy of an enterprise.

It seems obvious that such forms of association between the assigning enterprise and the purchasing enterprise must be able to make a positive contribution to world economic development by facilitating transfers among other technologies and between enterprises in different countries, while at the same time respecting the autonomy or independence of the purchaser, provided that the legitimate interests of both parties are fully respected.

Conclusion

During the United Nations Conference on Science and Technology for Development held in Vienna in August 1979, developing countries clearly expressed their desire to have access to the knowledge possessed by the industrialized countries.

One can certainly understand that this is mankind's right, that is to say their right, as far as "knowledge" is concerned, but is it realistic or even reasonable to claim practically the same right in respect of the "know-how" possessed, as we have seen, by enterprises?

Obviously the message from Vienna must be heeded because no one can nor should remain unmoved by the often tragic problems facing mankind as a whole through the lack of industrialization. It is in the interests both of industrialized countries, often designated by the term "the North," and of developing countries, often called "the South," to cooperate in all fields, including technical fields, so as to allow the latter to achieve development in the shortest possible period of time and under the best conditions for both.

The technical cooperation that should be established between the North and the South, while respecting the different cultures involved, could, at least in its broad outline, reasonably be based in practice on the following two principles:

- on the one hand, the transmission of "knowledge" within the framework of agreements on "training" between States or communities of States and dealing with all aspects of education at all levels;
- and, on the other hand, the transfer of "know-how" by means of contracts of association among enterprises or groups of enterprises, whether private or not. Such know-how is in practice nearly always possessed by enterprises that include such associations and such transfers of their knowledge within their own development strategy.

News from Industrial Property Offices

BRAZIL

President of the National Institute of Industrial Property

We have been informed that Brigadier Alvaro Soares Brandao Dutra has been appointed President of the National Institute of Industrial Property.

SUDAN

Commercial Registrar General

We have been informed that Mr. Saeed Yousif Abdel Mahmoud has been appointed Commercial Registrar General.

FRANCE

Toward the Protection of Computer Software: Present Situation and Proposals

Extracts from the Report of the Working Group Established under the Auspices of INPI (France)

The report *Toward the Protection of Computer Software: Present Situation and Proposals* (in French, "*Vers une protection des logiciels informatiques: Situation actuelle et propositions*") constitutes one of the measures in the plan of action for the promotion of industrial property presented to the Council of Ministers of the Government of France by the Minister of Industry and Research.

The report was completed in December 1983 and released to the public by the Ministry of Industry and Research in June 1984. It was prepared by a Working Group established under the auspices of the National Institute of Industrial Property (INPI) and consisted of representatives of the interested ministries, industry, professional organizations and associations, and of professors, lawyers and other professionals. In his preface, Jean-Claude Combaldiéu, Director of the Industrial Property Service of the Ministry of Industry and Research, described the document as follows: "The report of the Working Group, which is the result of cooperation among the various interested parties, endeavors to present a synthesis of the different aspects of the problem together with proposals accepted by a very large consensus."

Extracts from the report follow.

General Context of the Problem of Legal Protection of Computer Software

Before studying the different methods used in France and abroad to protect "computer software," some comments should be made on the terminology and concepts used, the recency and specificity of protection requirements, and the principal international conventions capable of dealing with the question.

(a) Terminology and Concepts

The concepts of a computer program and computer software are complex.

In the first stage (as formulated by the engineer or programmer analyst), the "future program" is in the form of a general diagram of the various operations to be carried out to solve a problem previously analyzed functionally.

This "flowchart" is usually composed of a series of *algorithms* represented graphically or using a specialized language. It is representative both of the means of solving the problem and the method of implementation.

This source program is then usually transformed by a compiler into an *object program* which can be carried out by the machine, the compiler itself being a specialized program forming part of the machine's basic software.

Programs written in certain languages are not compiled but interpreted by the machine, which means that transformation into the "object" code only takes place at the time of executing the program. In this particular case, the "object" code only has a fleeting existence.

It must be noted that the transition from flowchart to the program itself can also be carried out automatically. In the case of "software engineering workshops," it is in fact the computer itself which elaborates programs from the flowcharts given to it in a specialized language and using basic algorithms previously stored.

The programs (source or object) are kept on material supports directly readable by a machine: usually tape, magnetic disc or floppy disc.

In certain cases, programs are recorded in permanent internal memories in the computer called R.O.M. (Read Only Memory).

In its directly operational aspect, an object program constitutes the "material realization" of intellectual work originally represented textually.

Other programs allow or facilitate the realization or the use of a program; this supporting material is usually

provided at the same time as the program. *It is this combination—program and supporting material—which constitutes computer software.*

While there is much to be said for protection against reproduction of the descriptive elements of computer software in their "textual" or graphic aspects, it is even more important for the practical realization of the program, which this material allows one to obtain.

(b) *Recency and Specificity of Protection Requirements*

These characteristics are simultaneously linked to technological developments, to the recent phenomenon of widespread infringement and to the two main forms they can take.

1. *The real demand for protection* of computer software is much *more recent* than the time when these problems started to tax the wisdom of jurists.

Its origin lies in developments in methods of creating computer software and in its cost, as well as in its methods of distribution (sale, leasing).

In the first days of computers, hardware manufacturers sold their software at the same time and it could only be utilized on their particular hardware: one was the obligatory complement to the other; hardware and software were manufactured and elaborated by the same company, which was able to control the use of one and the other.

Since then methods have progressed: an independent software market has arisen and hardware manufacturers, while they still have a large part of the basic software market, are no longer alone in creating software; furthermore, the cost of creating or acquiring computer software has become a more important part—and in some cases the major part—of the cost of methods (hardware and software) required for a specific application.

At the same time, contracts for hardware and/or software have been separated ("unpackaged").

Under these circumstances the need for computer software protection became even more acute and it has become imperative following the growth of program portability, that is to say, the autonomy of software compared to hardware, which means that programs can be used in different types of hardware.

The most portable programs are therefore destined to be sold on a large scale, like any consumer product (*software package*); this "assembly line production" and "mass consumption" aspect has become more noticeable with the development of *microcomputers*. The large amount of such software available increases the probability of fraud and facilitates infringement, at the same time as opportunities for widespread dissemination of illegal copies make piracy more attractive.

This perhaps explains why certain authors have assimilated the problem of protecting computer programs to that of pirating tapes, which are protected

by copyright, a form of exclusive right towards which those creating programs have turned.

Unfortunately, the problems of computer software protection are more complex.

2. *The specificity of protection requirements* is itself due to the two principal aspects inherent in "infringement" in this field, a reflection of the dual nature of computer software.

First of all, there is the "pure and simple copy" of the form in which the program is presented. Total or partial reproduction of this sort is carried out either from the object program or the source program. From this point of view, infringement undoubtedly comes under the 1957 copyright law.

It may also take on another form that is further from copyright but closer to the patent right: this is the intellectual or material use of the program: intellectual use of the inventive aspects contained in the algorithms; unauthorized use of a program description for the purposes of its material execution; finally, material use of programs in their concrete form, but under unauthorized conditions.

While the descriptive elements of a program in their textual or graphic form (such as functional analysis, detailed analysis, supporting material, description of programs) are able to take advantage of the protection afforded by the Law of March 11, 1957, on Literary and Artistic Property, the same is not true of their utilization for the concrete execution of a computer program whose creation process is described in the documents mentioned above.¹

These two forms of piracy already demonstrate the need for two types of protection.

- one along the lines of the copyright system for the "reproduction of programs" aspect;
- the other, along the lines of the patent system, for the "inventive" aspect of programs, in particular.

(c) *International Conventions*

Taking into account the intellectual aspect of the creations in question—creations of the intellect such as literary works and inventions—three major international conventions to which France is party could cover obligations in the field. However, they shed no light.

The 1883 Paris Convention for the Protection of Industrial Property—whose centenary we have just celebrated—neither imposes nor prohibits the protection of programs.

The same is true of the 1886 Berne Convention for the Protection of Literary and Artistic Works and for the 1952 Universal Copyright Convention: these latter do not formally include computer programs among the works that contracting States are obliged to protect.

¹ On this question, a comparison could be made with the text of a patent which allows a person skilled in the art to execute concretely the invention patented.

It follows that there is a latent risk of very heterogeneous national solutions, subject to what will be said later concerning more limited international conventions such as the 1973 Munich Convention on the Grant of European Patents.

Current Methods of Protecting Computer Software in France

In France, no specific text protects computer software. On the contrary, it is strictly forbidden to patent programs as such.

In the absence of any specific text on the protection of computer software, the methods of protection used by the interested parties are of two different types, and they are used together.

The first is exclusive protection: patent and copyright; their use can of course be justified by the quality of the right granted under this type of protection: monopoly of exploitation for a certain term together with a parallel right of prohibition vis-à-vis third parties.

The second type is the *de facto* protection brought about by secrecy; it is based on technical methods and on the common law of liability both due to negligence and breach of contract.

Apart from the fact that the often very high cost of constructing technical "locks" is reflected in the price of sale of the software, the effectiveness of these methods as a whole is only relative and is sometimes illusory.

This is why we do not propose to refer to such methods, which are in fact only used because there is no method of exclusive protection, or because it is unadapted or inadequate, as we shall see.

(a) Patent Protection (Law of January, 2 1968, as Amended, on Patents)

Historically, this was the method towards which creators of computer software turned.

There were several reasons justifying this trend.

1. Motives Justifying This Trend

The first reason is that, as pointed out by certain authors, "taking into account the technical aspect of the creations in question, patent protection seems to be the most natural."²

The second is that a patent comes under industrial property law, whose objective is to regulate creations that are to be applied industrially, that is to say, that will be used in industry, and whose scope must be "understood in the broadest sense" (Paris Convention, Article 1).

The third is that the conditions for obtaining patents and the content of the right granted appeared essentially

to be well adapted to the situation under examination:

- filing gave rise to the creation of a fixed date;
- the duration of the monopoly granted, namely, 20 years, covered the life cycle of a program (which is extremely variable and can extend from several months to more than 20 years in certain cases);
- above all, a patent gave its owner fairly broad rights of prohibition covering, in particular, utilization.

From the points of view of general interest and legal security, the state of computer art was systematically enriched by the publication of the program's description 18 months after filing, informing third parties at the same time that a monopoly was being obtained.

Apart from the fact that such publication was not welcomed by the industrialists involved, there was another difficulty: how to meet the basic requirements for obtaining a patent—novelty, inventive activity, industrial application.

The requirement of the industrial nature or industrial application of the invention appeared to be one of the most difficult to fulfill.³

Although the concept of industrial application has evolved and become more flexible, even going so far as to state that an invention "can be made or used in any kind of industry," it nevertheless remains true that, for historical reasons of patent law, even in the present day there is an underlying concept of treatment of or action on the subject matter in the concrete sense of the term (subject, however, to the attitude to be adopted by jurisprudence on the scope of the flexibility mentioned above and to the *Schlumberger* judgment which will be dealt with later.)

This extremely materialistic view of the concept of industrial nature means that a number of inventions that are economically valid but which do not directly carry out such treatment or action are considered to be non-patentable.

2. Legal and Jurisprudential Solutions

This was why in 1968, following lively discussions it is true, the legislator excluded computer programs from patent protection and assimilated them to systems of an abstract character.⁴

³ This can be seen from the preparatory work for the Law of January 2, 1968.

⁴ The 1963 Strasbourg Convention on the Unification of Certain Points of Substantive Law on Patents for Invention did not formally impose this exclusion: at the time of preparatory work on the Law, France applied most of the provisions of this Convention although it had not ratified it. Parliamentary debates, however, show that the Government representative at the time undertook to adopt a similar solution at the national level when a solution had been found at the international level regarding the protection of programs (*Journal Officiel* of December 20, 1967, Parliamentary Debates, Senate P.2435).

² Jurisprudence shows that they are right: recent legal decisions on such problems have always started by examining whether programs come under patent protection (*Babolat Maillot*, Court of Paris, November 2, 1982; *Apple*, District Court, Paris, September 21, 1983).

This exclusion is contained in Section 6 of the Law as amended in 1978 in wording taken from the 1973 Munich Convention on the Grant of European Patents:⁵

"(2) *The following in particular shall not be regarded as inventions within the meaning of paragraph (1):*⁶

"(a) discoveries, scientific theories and mathematical methods;

"(b) aesthetic creations;

"(c) *schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;*

"(d) presentations of information.

"(3) The provisions of paragraph (2) shall exclude patentability of the subject matter or activities referred to in that provision only to the extent to which a patent application or patent relates to such subject matter or activities as such."

The absence of this definition in the initial text of 1968 allowed the Paris Court to adopt in the first instance a position deemed restrictive by some (*Mobil Oil*).

In this case, the Paris Court categorically refused to allow the patentability of an invention for a process that used a computer program; referring to the preparatory work on the Law of 1968 from which it clearly appeared that it was the legislator's intention to exclude all programs without defining whether or not they led to industrial results, the Court refused to examine whether or not there was an industrial nature and, if not, whether its absence was obvious (*Mobil Oil*, Court of Paris, May 22, 1973); the Supreme Court rejected the appeal (May 28, 1975).

In a second judgment in application of the Law of 1968, although the new Law of 1978 had entered into force, the Paris Court reversed this legal precedent (*Schlumberger*, June 15, 1981).

The invention in question consisted of a process allowing the physical characteristics of land formations to be reproduced for the purposes of oil exploration, through measurements taken during drilling and evaluated by the computer.

The Court first of all considered that on grounds of principle, "a process could not be excluded from patentability for the sole motive that one or several of its stages were carried out by a computer controlled by a program; *that such a solution would in fact result in excluding from patentability the majority of recent important inventions which necessitated the use of a computer program, and that such a solution would lead to illogical results at the practical level.*"

The Court then examined whether or not in fact the industrial nature requirement had been satisfied and replied in the affirmative.

"This process is of an industrial nature:

"— in its objective, because it is situated in industry and oil exploration;

"— in its application, because it does not consist of an abstract formula but a series of concrete steps materially carried out;

"— in its results, because it enables representation of the physical characteristics of land formations, which has a technical effect and is of industrial use."

Finally, the Paris Court emphasized that "*the legal provision prohibiting patentability of computer programs is a provision of exception which must be the subject of restricted interpretation.*"

We believe that this reversal of jurisprudence can be explained by the international context in which the judgment was pronounced.

3. *The Context of the Schlumberger Judgment*

When in 1968 France decided formally to exclude programs from patent protection in the Law itself, it was the first country to do so.

However, and despite the existence of a similar provision in their respective national legislation, foreign jurisdictions were gradually obliged to give rulings on the problem of program patentability.

At the time of the *Schlumberger* judgment—June 15, 1981—a general trend could be seen globally: this trend consisted, and still consists, in denying the patentability of programs claimed as such, giving the reason that they only constitute mental methods having no industrial nature, but at the same time admitting the patentability of processes for industrial use in which one or several stages are implemented by a program.

This international context, together with the legal exclusion formulated in a more restricted way in the new Law of 1978—not applicable in the *Schlumberger* case but referred to by the Court—undoubtedly guided the judges in their interpretation of the texts.

4. *Limits of Patent Protection*

As some people wrote, "jurisprudence has taken a step forward."

The decision of the Paris Court is certainly of great interest for the question we are studying, particularly, its admission of the industrial nature of the invention in question. This requirement henceforth seems to be open to a different interpretation and it has moved somewhat from the concept of direct action on the subject matter.

It nevertheless remains true that protection was granted to a process with an industrial objective whose implementation required the use of a program.

In the present state of jurisprudence, it does not appear that the principle of non-patentability of programs as such has been affected and it is difficult to see clearly the limits of legal exclusion.

As the patent route has been closed since 1968 and, without awaiting the *Schlumberger* judgment—which in any case only partially corresponds to their expectations—the creators of computer software have turned to another form of exclusive protection: copyright.

⁵ This is not surprising in view of the undertakings given by contracting States to the Munich Convention and the Luxembourg Convention on a Community Patent to harmonize the substantive provisions of their national legislation with the Munich Convention.

⁶ Section 6(1) defines patentable inventions as those which are new, involve an inventive step and are susceptible of industrial application.

(b) *Protection under Copyright (Law of March 11, 1957, on Literary and Artistic Property)*

This route was foreseeable and tempting for several reasons:

1. *Motives Underlying This Trend*

— Even though a computer program is the result of mental work and will always remain so, at least during the initial stages of elaboration and even with the development of software engineering, the notion of a work of the intellect capable of being protected by copyright is very broad because it is seen independently of its merits or objectives.

— The Law of March 11, 1957, on Literary and Artistic Property protects creations that are original in their composition and/or expression (as opposed to the ideas expressed); since computer programs are composed and expressed in a certain form, it was likely that they would come under this form of protection, subject to meeting the requirement of originality.

— The requirement of originality of form is viewed very flexibly by jurisprudence (protection of almanacs and directories).

— Finally, and above all, protection is not subject to any formality; it derives from "the sole fact of creation."

These endeavors have met with a positive response in two recent cases.

2. *Jurisprudential Solutions*

In its first judgment pronounced on November 2, 1982, the Paris Court expressed the view that "the elaboration of a computer application program is a work of the intellect that is original in its composition and expression and goes beyond mere automatic restrictive logic; that it is not a necessary intellectual mechanism; that analyst-programmers, like translators, have to choose between various forms of presentation and expression; that their choice therefore bears the stamp of their personality" (*Babolat Maillot*).

The position adopted by the Paris Court must be viewed in the light of general considerations as well as considerations related to the specific context of the case.

3. *The Context of the Babolat Maillot Case*

From a general point of view and taking into account the specific exclusion of programs from patent protection, there is a very strong doctrinal current in favor of application of the 1957 Law.

At the national level, this current was considerably strengthened five months before the judgment was pronounced, by a reply from the Minister of Justice to a written question from Mrs. Florence d'Harcourt on the question.

After recalling that programs were excluded from patent protection, the Minister considered that "leg-

islation on literary and artistic property (Law of March 11, 1957) seems more appropriate. The absence of an 'aesthetic' nature does not preclude computer software from taking advantage of the protection of this legislation as works of the intellect expressed in a form that makes them accessible to others and retaining the stamp of their authors' personalities through the original character of their composition" (*Journal Officiel*, July 26, 1982).

The Minister of Justice nevertheless emphasized that "while it is neither urgent nor even called for by the professionals concerned, in the long term legislation would no doubt be appropriate."

This point of view was confirmed in a second reply to another written question.⁷

Furthermore, and as happened with patent protection for programs as stages in implementing a process, the international trend was already created to protect programs by means of copyright.

As regards the special considerations of this case—underlined by some authors—they have arisen because the basic problems in question involve labor laws; moreover, the appeal against this judgment will soon be considered by the Social Chamber of the Supreme Court.

Since this judgment, other decisions have been made along the same lines.

In two cases concerning video games controlled by a mini-program, judges applied the 1957 Law assimilating these creations to cinematographic works (*Presotto*, District Court, Paris, March 9, 1982; *Atari*, District Court, Paris, December 8, 1982.). However, these cases only concern software protection by analogy.

Much more relevant is the judgment pronounced on September 21, 1983, by the First Civil Division of the District Court of Paris. In this case the judges found a French company guilty of infringing basic computer software belonging to an American company, a conviction based on the 1957 Law (*Apple Computer*).

The Court, comparing computer programs to musical compositions, considered that "the personal effort of the creator is determinant in the result obtained" and that "since the similarities noted (between the two programs contested) could not be explained by programming norms and standards, the evidence suggests that the nature of computer programs is that of works of intellect."

This decision, however, is not final.

⁷ On this question, the second, more recent, reply (November 7, 1983), is even more open than the preceding one: it mentions the work of the Committee set up within INPI and responsible for "drawing up concrete legal proposals in the field" (*Journal Officiel*, November 7, 1983, Parliamentary Debates, National Assembly, written question no. 35560 from Mr. Bruno Bourg-Broc, pp. 4799-4800).

4. *Consequences of this Jurisprudence as a Whole and Limits of Copyright Protection*

The conclusions to be drawn from this jurisprudence comprise two aspects.

First of all, a positive aspect, at least in the present state of the law. To the extent that programs as such are not protected under a patent, application of the Law of March 11, 1957, gives the creators of computer software a legal weapon to:

- combat duplication of their programs; this is especially important in the case of piracy of software packages;
- order seizure for infringement and undertake action for infringement.

Secondly, a negative, or at least limited, aspect due to the inadequacy and the inappropriate nature of the protection granted.

Inadequacy:

- because only the form in which the program is expressed can be protected under the Law of March 11, 1957. It is not certain that any of the author's recognized rights of reproduction, performance and adaptation, as defined in this Law, protect him against any utilization of his software and, in particular, against any material implementation carried out in conformity with the source program or with the supporting material, for example. Without prejudice to anti-competitive or parasitical acts carried out to the detriment of the owner—acts that could be punished by action for unfair competition rather than under the Law of March 11, 1957—the inventive content of the program appears to remain within the public domain;

- because several authors recognize that the condition for protection under the 1957 Law—namely, originality of the composition and/or expression—is not really adapted to the creations in question; in any case, when looked at mainly in relation to expression, this criterion could lead to protection of software that is very ordinary from the inventive point of view and as regards a person skilled in the art, or it could even lead to protection for the large majority of programs. Such a situation could have unfavorable consequences at the economic level (a blocking effect).

Furthermore the inappropriate nature:

- because the absence of deposit does not allow the creator to consolidate his property nor give it a fixed date;

- because the system governing creation by employees is not adapted to the computer software industry: according to the 1957 Law the owner of a right is the creator; the employer can only be given financial rights; the employee retains a moral right in his creation, which he can oppose if his work is transformed;

- because the duration of protection (life of the author and 50 years after his death) is much too long;

although certain people might object that "he who can do more can do less," it is nevertheless true that such a duration—which is justifiable for literary works—is likely to slow down the development of software; this is just one proof that the Law of March 11, 1957, is not designed to protect computer programs;

- finally, when the growing practice of having computers implement their own programs (software engineering) has become more general, only the program's composition will be capable of being deemed an intellectual work, the expression would be "the work of the machine"; it would ensue that the originality required by the 1957 Law could only be found in the composition of programs and this would result in restricting the possibilities for protection afforded by this Law.

To conclude on this point, reference is made to a recent *declaration by the Executive Committee of the International Literary and Artistic Association (ALAI)*, according to which:

"Protection under copyright law may be afforded to a computer program where the latter comprises the basic features generally required for recognizing an intellectual creation as the subject matter of copyright, particularly where such program does not solely constitute the result of technical directives incapable of expression in a different original form.

"Further notes that simple utilization of ideas contained in a program could escape protection based solely on copyright.

"Is therefore of the opinion that, since copyright might not always be able to safeguard the interests of the author of a program adequately, software should be protected not only by copyright but also by further arrangements adapted to its specific nature, which should be based on specific legislation and an appropriate international instrument."⁸

* * *

[Summary of the Present Situation in France and at the International Level]

The present situation both in France and at the international level can be summarized as follows:

- patent protection for processes in which one or several stages are carried out by a computer controlled by a program;

- protection by copyright legislation for the formal aspect of computer programs, it being understood, however, that apart from the case of the United States:

- such protection only derives from jurisprudential interpretations, which are moreover very few and very recent,
- it is not certain that this form of protection covers all cases of fraudulent or non-authorized use of programs or their description; the jurisprudence has not yet in fact decided upon this question;

⁸ Declaration of October 1983.

— absence of protection for inventive processes or systems, which constitute one of the main aspects of programs and which are the basis of their elaboration;

— imprecision and differences of view regarding the definitions of various creations grouped together under the general term of software.

All these problems are complex and the fragmentary and divergent solutions that are put forward make the situation even more confused.

Therefore, it is necessary to take measures with a view to providing some legal safeguards if not clarification.

* * *

Proposals

The extent of the risks facing producers and above all the relatively favorable position currently occupied by France in this field call for the rapid implementation of effective solutions.

They must nevertheless respect certain conditions or restrictions both economic and legal.

(a) Economic Conditions

The protection envisaged must be reasonable and the solutions must therefore:

— be easy to implement and low-cost, this element being important because among the creators there are a number of small companies or independent authors;

— be relatively flexible in view of technological developments, which are likely to be fairly rapid in coming years;

— not be incompatible with systems in neighboring countries, in particular, European countries.

This latter aspect is primordial; in the present context, France's national legislation cannot be fundamentally different from the solutions adopted by its economic partners and competitors because of the international convention mechanisms governing the field.

For the moment it therefore appears to be out of the question to amend the legislation to allow patentability of programs as such; since such patentability is not allowed in other countries, the Paris Convention would be of no use for the protection of similar patents abroad. Moreover, it is not certain that, for the formal and original aspect of the program deposited under a patent application, the Berne Convention could be invoked.

(b) Legal Constraints

The Berne Convention, which France signed in 1887, comprises a minimum number of conventional rules which the 74 contracting States have undertaken to respect, in particular:

— exclusion of any formality—such as deposit—as a condition for protection (Article 5(2));

— the term of protection comprising the life of the author (natural person) and 50 years after his death (Article 7(1));

— assimilation of Unionist works to national works.

* * *

These constraints should not make one lose sight of the fact that it is necessary to:

— ensure legal safeguards;

— ensure effective protection covering, in particular, fraudulent acts economically harmful to the owner.

These considerations govern all actions to be undertaken. They should be followed in two complementary directions in the short-term and medium-term.

In the Short-Term and at the National Level

1. *No Re-Examination of Patent Protection for Programs Which Are Not Claimed as Such*

It is not proposed to re-examine patent protection for processes with an industrial objective in which one or several stages are carried out by a computer controlled by a program (holding in the *Schlumberger* case; final decision of the Paris Court of Appeal of June 15, 1981).

2. *No Amendment of the Law of March 11, 1957, on Literary and Artistic Property*

Neither is it proposed to amend the Law of March 11, 1957, nor to re-examine the recent jurisprudential trend towards protecting programs under this Law.

All programs whose formal expression is original within the meaning given in current jurisprudence are therefore able to be protected in France under the Law of March 11, 1957, and abroad under the conditions provided for in the Berne Convention of 1886 or the Universal Convention of 1952.

However, none of the legal decisions mentioned above is final; the Supreme Court has never had the opportunity to adopt a position on this point.

The limits of these two forms of protection have been emphasized in the developments above, in particular, their ability to ensure a sufficient level of protection and to adapt to foreseeable developments in methods of creating computer software.

3. *Creation of a Sui Generis Right*

It is proposed to establish for certain computer software a complementary system strengthening the protection at present possible under the two forms of exclusive rights mentioned above.

Recourse to the *sui generis* system would be optional, that is to say, not excluding recourse to the two present methods of protection both at the national and international levels.

Having clarified this point, the *sui generis* right that it is proposed to establish would, in outline, be formulated in the following manner, subject, however, to more detailed thought being given to its modalities.

Substantive Condition and Subject of Protection

Only certain computer software resulting from a significant intellectual effort on the part of a person skilled in the art would be able to benefit from this complementary protection; one possible criterion could be non-obviousness for an expert.

This non-obviousness for the expert could derive from

- algorithms,
- combinations of algorithms, even known ones,

having enabled a functional program to be obtained for one or more applications in the fields of economic, industrial, commercial or other activities claimed at the time of deposit.

Formal Condition

Computer software should be the subject of a deposit in order to be able to benefit from this reinforced protection; the program itself could be deposited as well as the written documents showing the non-obviousness of the computer software whose protection is applied for.

It is premature to decide whether programs should be deposited under their source form or their object form where it exists; the same is true regarding whether or not the deposit should comprise the totality or only part of the instructions constituting the program.

With regard to other documents, they could include elements of analyses and documentation.

Rights Granted

- The computer software deposited would benefit from a fixed legal date.
- The applicant would be presumed to be the owner of the computer software deposited.
- Any act harmful to the interests of the owner of the right would be prohibited, whether it relates to the material use of the computer software by any means or under any conditions whatsoever or to its "intellectual" use.

Right to prohibit:

1. copying the computer software by any means or in any form, except for legitimate reasons of safekeeping; legitimate safekeeping means safekeeping the goal of which is to allow the continuation of use of the computer software initially authorized by the owner of the rights;

2. translating the software other than by compiling or interpreting;

3. using the software to establish a program derived from it or adapted therefrom and carrying out the functions or applications claimed at the time of deposit of the software, or similar functions or applications;

4. using the software to control the operation of a machine or storing it in a machine without the authorization of the proprietor;

5. offering or stocking for the purposes of sale, hire, or license or selling, importing, exporting, leasing or licensing the computer software;

6. disclosing the computer software or facilitating its disclosure to any person before it is made accessible to the public with the consent of the proprietor.

In addition, incitement to acts mentioned under paragraphs 1 to 6 should be prohibited.

Such acts could involve the criminal liability of their author, in view of the acts of "piracy" that they imply.

Strengthened Duration of Protection

The duration could be 20 years from the date of deposit. but this question remains open.

Publication

Two forms of publication could be envisaged.

1. After the deposit and during the term of protection, a list of deposits could be published in an Official Bulletin showing:

- the name of the depositor;
- the title of the computer software filed;
- the applications claimed;
- where appropriate, a descriptive abstract of the computer software or; at least its main characteristics.

During the term of protection, the computer software deposited would remain secret and would be handed over only to the applicant or upon request by the public prosecutor.

2. At the expiration of the term of protection, the computer software deposited would be accessible to any interested party.

Substantive Examination

The deposited computer software would not be the subject of substantive examination at the time of deposit; it is only in the case of litigation that the courts would be called upon to decide whether the conditions laid down for granting the requested protection have been met, resorting to a judicial investigation if necessary.

In the affirmative, the prohibitions mentioned above could be invoked.

In the negative, the protection afforded by the other legal routes, such as the Law of March 11, 1957, would

remain open to the extent that the conditions for such protection have been met.

In the Medium-Term and at the International and National Levels

The system that is proposed to be set up must be capable of being modified in the light of international developments.

It is therefore appropriate to participate actively in the work of WIPO:

- in respect of the examination of the possibilities and limits of computer software protection under existing international conventions;
- in respect of the formulation of a special treaty ensuring well-defined and effective protection for computer software in all its aspects;
- in respect of studying in detail the problems of protection for integrated circuits; there does not appear

to have been any thought given to this question either at the international or national levels. From the point of view of French economic interests, this question is not yet urgent; nevertheless, it would be easier to implement solutions at the national level if the bases of an appropriate system of protection existed at the international level.

Finally, it should be pointed out that a working group has been set up within the European Patent Office to study these problems with reference to the possibilities of protection by means of patents. Its mandate is to define as clearly as possible the limits excluding programs from patentability that are contained in the 1973 Munich Convention on the Grant of European Patents and in the French Law of 1968, as amended. The result will no doubt be changes in the provisions concerning practical examination at the European Patent Office.

In view of the harmonization that will result at the national level, INPI must participate very actively in the work of this working group.

Calendar of Meetings

WIPO Meetings

(Not all WIPO meetings are listed. Dates are subject to possible change.)

1984

November 5 to 9 (Geneva) – Committee of Experts on Biotechnological Inventions

November 19 to 23 (Geneva) – Permanent Committee on Patent Information (PCPI): Working Groups on Special Questions and on Planning

November 26 to 30 (Paris) – Group of Experts on Copyright Problems Related to the Rental of Phonograms and Videograms (convened jointly with Unesco)

November 26 to December 7 (Geneva) – Permanent Committee on Patent Information (PCPI): Working Group on Search Information

December 10 to 14 (Paris) – Group of Experts on the Intellectual Property Aspects of the Protection of Folklore at the International Level (convened jointly with Unesco)

December 17 (Geneva) – Informal Meeting with International Non-Governmental Organizations Essentially Concerned with Industrial Property

December 17 (Geneva) – Informal Meeting with International Non-Governmental Organizations Essentially Concerned with Copyright and Neighboring Rights

1985

January 21 to 25 (Geneva) – International Patent Classification (IPC) Union: Committee of Experts

February 4 to 8 (Geneva) – Permanent Committee for Development Cooperation Related to Copyright and Neighboring Rights

February 25 to March 1 (Geneva) – Group of Experts on Copyright Protection of Computer Software (convened jointly with Unesco)

March 11 to 15 (Geneva) – Permanent Committee on Patent Information (PCPI): Working Group on General Information

March 18 to 22 (Paris) – Group of Experts on Copyright Problems in the Field of Direct Broadcasting Satellites (convened jointly with Unesco)

April 22 to 26 (Paris) – Joint Unesco-WIPO Consultative Committee on the Access by Developing Countries to Works Protected by Copyright (convened jointly with Unesco)

May 6 to 17 (Geneva) – Permanent Committee on Patent Information (PCPI): Working Group on Search Information

June 6 to 14 (Geneva) – Permanent Committee on Patent Information (PCPI): Working Groups on Planning and on Special Questions

June 17 to 25 (Paris) – Berne Union: Executive Committee (Extraordinary Session) (sitting together, for the discussion of certain items, with the Intergovernmental Committee of the Universal Copyright Convention)

June 26 to 28 (Paris) – Rome Convention: Intergovernmental Committee (Ordinary Session) (convened jointly with ILO and Unesco)

September 11 to 13 (Geneva) – Permanent Committee on Patent Information (PCPI): Working Group on Patent Information for Developing Countries

September 16 to 20 (Geneva) – Permanent Committee on Patent Information (PCPI)

September 23 to October 1 (Geneva) – Governing Bodies (WIPO General Assembly, Conference and Coordination Committee; Assemblies of the Paris, Madrid, Hague, Nice, Lisbon, Locarno, IPC, PCT, Budapest, TRT and Berne Unions; Conferences of Representatives of the Paris, Hague, Nice and Berne Unions; Executive Committees of the Paris and Berne Unions; Committee of Directors of the Madrid Union; Council of the Lisbon Union)

October 7 to 11 (Geneva) – Permanent Committee on Patent Information (PCPI): Working Group on General Information

November 18 to 22 (Geneva) – Permanent Committee on Patent Information (PCPI): Working Groups on Special Questions and on Planning

November 25 to December 6 (Geneva) – Permanent Committee on Patent Information (PCPI): Working Group on Search Information

UPOV Meetings

1984

November 6 and 7 (Geneva) – Technical Committee

November 8 and 9 (Geneva) – Administrative and Legal Committee

Other Meetings Concerned with Industrial Property

1984

Center for the International Study of Industrial Property — December 3 to 7 (Strasbourg) — Seminar on the Drafting of European Patent Claims and Notices of Opposition

European Patent Organisation — December 3 to 7 (Munich) — Administrative Council

Pacific Industrial Property Association — November 7 to 9 (Sendai) — 15th International Congress

1985

Center for the International Study of Industrial Property — January 28 to February 1 (Strasbourg) — Seminar on Legal Problems Concerning the European Patent Convention, the Paris Convention, the Patent Cooperation Treaty and the Community Patent Convention

European Patent Organisation — June 10 to 14 and December 4 to 7 (Munich) — Administrative Council

Hungarian Group of the International Association for the Protection of Industrial Property and the Hungarian Association for the Protection of Industrial Property — September 2 to 6 (Budapest) — Sixth International Conference on "New Technical Tendencies and Industrial Property Protection"

International Association for the Protection of Industrial Property — May 13 to 19 (Rio de Janeiro) — Executive Committee

International Federation of Industrial Property Attorneys — June 3 to 7 (Augsburg) — World Congress

Japanese Government — April 18 and 19 (Tokyo) — Celebration and Symposium Commemorating the Centenary of the Japanese Industrial Property System

1986

International Association for the Protection of Industrial Property — June 8 to 13 (London) — XXXIII Congress

