

Twenty-Five Years of Patent Law in IIC

*Jochen Pagenberg**

History

It is appropriate to start the historic review of patent law as it is reflected in contributions to the IIC Review with a brief glance at international treaties and conventions, because the increasing discussion of international industrial property questions during the late 1960s led to the idea of founding IIC in the first place.

PCT

In the first year of publication of IIC, in 1970, the Washington Diplomatic Conference on the Patent Cooperation Treaty (PCT) was held, which resulted in an international patent filing system. Nobody could predict that under the administrative aegis of WIPO the PCT would turn out to be an outstanding success, despite its complexity, and would be used today by tens of thousands of applicants per year. Since the PCT has considerably facilitated the life of patent applicants and their agents worldwide, it is not surprising that several articles in the early issues of IIC dealt with this new Treaty.¹

EPC

Another, for Europe even more important convention, was concluded only three years later in Munich, namely the European Patent Convention, which for the first time created a multinational patent filing and granting authority with a fully elaborated substantive law and power to grant national patents for member countries which can be chosen by the applicant at his own discretion.

In 1973 Haertel,² who was rightly named the godfather of the Munich Patent Convention, and Braendli³ reported on the success of the Munich Diplomatic Conference⁴ for a European patent. Already at this early stage Pfanner described the conjunctive use of the Patent Cooperation Treaty and the European Patent Convention,⁵ which paved the way for what later proved to be a most successful multinational application system. The "Europe-PCT route" was explained in more detail several years later in particular for non-European users.⁶ The European Patent Office opened in 1979, and a first overview of its practice was published two years later by Haertel and Singer.⁷ The authors explained the structure of the Office with its different locations in Munich, The Hague and Berlin, described the qualifications of the examiners, statistical data about applications received, the representatives and also the influence of the substantive patent law on the national laws.

Further articles on European patent law followed by van Benthem on the solution of the language problem,⁸ and by others on specific questions of European patent law such as the patentable invention,⁹ the concept of inventive step¹⁰ and the future practice of patent proceedings in Europe.¹¹

In 1979 the first decisions of the Boards of Appeal of the EPO were published in IIC, subsequently becoming a permanent topic of information in this journal. Generous cooperation with the publication service of the EPO allows us to prepare English-language decisions for publication parallel to their publication in the EPO Official Journal, or even to choose decisions which were not intended for publication in the Official Journal.

The case law of the European Patent Office was not only reported but also critically commented upon by authors in the IIC Review. Primarily two topics were concerned: the assessment of the inventive step by the European instances and the question of the second pharmaceutical application.¹²

Community Patent Convention

The Community Patent Convention encountered more problems before it was possible to reach international agreement. The first report concerned the conclusion of the Luxembourg Intergovernmental Conference, which was held in June 1972.¹³ Work on the preparation of the entry into force of the Community Patent Convention progressed at a slow pace, in particular since one important new feature was added to the structure, namely the establishment of a Court of Appeal for infringement matters concerning Community patents.¹⁴ This explains why it was not until 1988 that the signing of the Luxembourg Convention on the Community patent could be reported.¹⁵

The results of the conference were not received with unanimous approval in view of the fact that two countries, Ireland and Denmark, decided not to join, because they had constitutional difficulties accepting a supranational infringement court. Moreover, unnecessarily strict formality rules had been introduced into the Convention during the conference, apparently as a political compromise which disregarded the needs and interests of the users of the system. Articles followed on the future infringement and revocation proceedings under national laws¹⁶ and on the question of damages and patent infringement litigation.¹⁷

Harmonization of Patent Laws

To the surprise and satisfaction of many authors, the EPC served as a model for patent law revisions in all European - and even a number of non-European - countries. A number of articles published in IIC over the years dealt with this topic.¹⁸ The harmonization of patent practice within the framework of the European Patent Organization found a well-accepted forum inspired by cooperation between the Max Planck Institute in Munich and the European Patent Office, namely the so-called "Symposium of European Patent Judges." IIC assured the publication of the various meetings which started in 1983 with a conference in Munich and were repeated every second year at different venues.¹⁹

More than a decade later but to a great extent influenced by European harmonization, the World Intellectual Property Organization embarked on a project the first aim of which was to establish a novelty grace period system at an international level, but which over the years became a discussion forum on international patent harmonization with its primary goal of abolishing unfavorable treatment of foreign inventors in the various national patent systems.

One of the topics discussed in Geneva as constituting a hindrance to harmonization, namely the first-to-invent system anchored in United States patent law, was treated in IIC in two articles.²⁰ They were complemented by several more discussing other topics and "discrimination" issues which still today are considered obstacles to the conclusion of the worldwide Patent Harmonization Treaty.²¹ These issues include patent interferences, prior

user rights,²² the patent term in the US and other particularities of US law concerning the effect of foreign activities on patentability and the treatment of foreign filings in the US.²³ One author examined procedural and substantive law differences between US and Japanese patent law which had also led to friction between the two countries over the last years during the harmonization talks,²⁴ which unfortunately have not yet resulted in the conclusion of a treaty.²⁵

Future Problems

In a farsighted article Beier²⁶ dealt with future problems of patent law, drawing a scheme of the development of patent law in which at that time numerous questions were left unsolved and for which he proposed solutions or at least a basis for a discussion. Among these questions were the definition of patentable subject matter, in particular results of scientific research, the patentability of biological inventions and computer programs, and the problem of exclusions from patent protection, which many years later gave rise to extensive discussions within the framework of international harmonization. The same author wrote a follow-up article on the patent protection of applied scientific research.²⁷

Computer Programs

The first years of IIC coincided with a discussion on a very modern subject, namely the patentability of computer programs. The unfortunate exclusion of patentability for computer programs per se in the Munich Patent Convention led to a series of unfavorable decisions in different countries.²⁸

A serious drawback in the case law concerning the patentability of computer programs was the German Federal Supreme Court decision *Minimization of Flight Costs*. In this decision, the highest German patent chamber regarded as unpatentable a computer program that, through a combined effect of technical and economic considerations, which were all contained and continuously tracked by computer program, enabled the optimization of flight costs for passenger flights in order to influence the flight conditions between departure and landing. Since the Supreme Court assumed that more than 50 % of the decisive factors were related to business, it refused the patentability of the program for lack of a technical nature.²⁹ Gradually and after considerable efforts undertaken by both industry and legal circles,³⁰ applicants encountered increasingly benevolent examiners, first in the EPO, and later also in national patent offices.³¹ Only years later did the courts take a more favorable view with respect to the patentability of computer programs and affirmed patentability, if a technical effect was achieved through the use of the computer.³²

Protection of Microorganisms

A topic of patentability which later became a subject of extreme economic importance appeared in IIC in 1974, namely the protection of microbiological inventions,³³ followed by questions of patentability³⁴ and specific problems of disclosure regarding these new types of inventions.³⁵ At that time the international discussion had only just started, and the protection of microorganisms was further elaborated in numerous articles³⁶ which mostly argued in favor of granting generous protection to this new type of subject matter. It is worthwhile reporting that a few years later the Max Planck Institute organized a conference on this topic

in Munich, which significantly influenced at least the case law of the German Federal Supreme Court, that finally acknowledged the patentability of microorganisms per se.³⁷ Subsequent decisions further developed the law with respect to the disclosure requirements, which are deemed fulfilled upon the deposit of the microorganism with an acknowledged depository under the condition that the agreement with the depository is irrevocable,³⁸ and provides for an authorization to deliver a propagable specimen to the patent granting authority at all times and to third parties at any time after first publication of the patent application. In addition such third parties must be in a position to obtain a propagable specimen of the deposited microorganism under reasonable conditions. The *Methylomonas*³⁹ decision established in this respect that an institution which is not legally independent of the applicant's organization is not sufficient to meet the requirement as to the disclosure under Sec. 26 of the Patent Act.

Decisions in the field of the protection of microorganisms followed from Australia,⁴⁰ Ireland⁴¹ and Switzerland, where the Patent Office held that a reference to a deposited microorganism in a patent application did not fulfill the disclosure requirements,⁴² and from the European Patent Office.⁴³

In 1989 the Proposal for a Council Directive on the Legal Protection of Biotechnological Inventions was published.⁴⁴ The discussion culminated in the question as to whether it was also possible to patent transgenic animals,⁴⁵ a question which is still under discussion in both legal and political circles.⁴⁶

Second Medical Indication

Another topic which was to occupy national courts as well as the European Patent Office for many years was the problem of the so-called second medical indication of pharmaceutical products.

The first case of the German Federal Supreme Court, *Benzene Sulfonyl Urea*,⁴⁷ still decided under the previous law, concerned an invention for a process directed to the use of a substance for treatment of an illness. It was regarded as patentable "to the extent that it offers the possibility of commercial exploitation." In France, the Supreme Court affirmed the protectability of a drug used in foodstuffs for animals, which was regarded as a non-therapeutic application.⁴⁸

The German Supreme Court came to the same result in a case which had to be decided under the new law and again concerned the use of a known substance.⁴⁹ The Supreme Court argued that the legislative history of Arts. 52(4) and 54(5) EPC did not exclude the possibility that in addition to use-restricted product protection for a known substance a use claim could be regarded as patentable if it was phrased as "use of X for the treatment of curing a disease Z." In the same issue of IIC a New Zealand case was published which had come to the opposite conclusion under the English-influenced patent system by applying the "vendible product" doctrine.⁵⁰ The Swiss Supreme Court had to decide the same issue under its harmonized law and paved the way for future EPO practice with its approach that was later known as the Swiss claiming method.⁵¹

Bruchhausen,⁵² then presiding judge of the Patent Chamber of the Federal Supreme Court, explained the views of the Court concerning its future practice with respect to claim formulation. Other authors completed the picture from other jurisdictions.⁵³

The long expected decision by the Enlarged Board of Appeal of the European Patent Office with respect to second medical use was finally handed down on November 5, 1983, in three parallel cases.⁵⁴ It rejected the claim formulation of the German Supreme Court, but allowed the so-called Swiss-type claim if it is formulated "use of a compound X for the manufacturing of a pharmaceutical Y to treat the disease Z."

In its later decisions the EPO followed a rather dogmatic approach which resulted in a limitation of the patentability of the second medical indication. In the decision of the Technical Board of Appeal, *Appetite Suppressant*,⁵⁵ the court distinguished the pharmaceutical's cosmetic effect from the therapeutic one and came to the conclusion that a claim for a "use of substance X for the cosmetic treatment of the human body" was acceptable, but that the same product used for medical treatment would only be protectable in the form of "use of X for the manufacture of Y for the medical treatment of Y."

Further decisions by the European Patent Office were handed down with respect to the formulation of use claims for a second medical use of a known pharmaceutical product,⁵⁶ but also for second non-medical indications.⁵⁷ Not only other national patent offices⁵⁸ but also national courts⁵⁹ followed the EPO in a spirit of harmonization, although not always with convincing reasons.⁶⁰

Inventive Step/Nonobviousness

In view of the importance of the patentability requirements it is not surprising that the examination method of non-obviousness remained a subject of permanent discussion in the courts and in articles published in *IIC*. In 1978, the European Patent Office organized a conference with European practitioners who were asked which level of inventive step they would prefer the EPO to apply. This unusual hearing came to an interesting conclusion. An overwhelming majority assessed the British patentability standard as being too low and the Dutch standard as too high and voted for the German standard as being "just right."⁶¹ In the same year, at the International Congress of AIPPI held in Munich one of the main workshop topics was an international panel discussion on the inventive step.⁶²

As one could expect, the practice in the different countries was far from uniform. Important patents which were litigated in parallel in a number of countries survived in some countries and were invalidated in others. The first French decisions under the new harmonized law adopted an objective approach and distinguished clearly between the examination of novelty and inventive step.⁶³

The European Patent Office developed an objective examination method by using criteria based on views of experts in the field, their failures, prior publications in the literature on this topic,⁶⁴ and refused to accept a mosaic combination of unrelated or conflicting documents for the examination of inventive step. A number of indicia have been regarded by the EPO as convincing evidence of non-obviousness, like the simplicity of the solution and surprising advantageous results of a chemical process.⁶⁵

The discussion also started at a national level, where the contrast to the EPO practice was in part considerable. Scholarly articles by some authors who voted in favor of more objective standards in this field underlined the need for greater predictability.⁶⁶ The German Federal Supreme Court explained its assessment of non-obviousness and the use of secondary considerations in its *Jacquard* and *Mass-Balancing System* decisions.⁶⁷ The Court made it clear that in a revocation action the plaintiff bears the burden of proof for the invalidity of the patent, and if indicia speak in favor of patentability, the patent must be upheld.⁶⁸ The same

view was taken in later decisions by patent offices and also by other courts.⁶⁹ The contention of the German Federal Patent Court^{69a} that a different level of patentability must be applied to German patents as contrasted to European patents was not confirmed by the German Federal Supreme Court.⁷⁰

In two articles on inventive step, one on the historic development of this concept, and another which revealed the procedural imbalance between the patent applicant and the office and between the patentee, Beier supported the objective approach by the use of indicia.⁷¹ He therefore underlined the need for more objective appreciation of the patentability requirements. Further articles followed on the patentability requirements of novelty and inventive step.⁷²

Scope of Protection and Infringement

Claim Interpretation

The law of patent infringement and in particular the interpretation and scope of patent claims were also topics discussed over many years on a comparative law basis and with respect to the rule of Art. 69 EPC.⁷³ The same question was also the subject of an international conference on which a report was published in IIC,⁷⁴ and many years later of a Symposium of European Patent Judges, where country reports were presented and published on Germany, France, and the UK.⁷⁵

- 765 -

One of the most important decisions in this area was handed down by the German Federal Supreme Court and which became known under the catchword *Formstein* (Moulded Curbstone).⁷⁶ Similarly to the *Wilson* decision of the American CAFC which was issued practically at the same time, the German Supreme Court allowed the defense that the embodiment alleged to be an infringing equivalent would not be patentable over the prior art so that it could not form the basis of an injunction.

A similarly important decision concerning the scope of protection of patents was the Federal Supreme Court decision *Radio Broadcasting System*,⁷⁷ which was understood by German practitioners as a clear signal that under the rule of Art. 69 EPC and its Interpretation Protocol, a strict interpretation of the claim language would be practiced by the Federal Supreme Court and that former decisions granting protection for a general inventive idea would definitely be abandoned.⁷⁸

In the *Catnic* decision⁷⁹ the English House of Lords, still applying the former English law before harmonization with the European interpretation rules, acknowledged that a more generous application of the doctrine of equivalence is warranted. Later decisions from several countries which formerly had favored a more generous approach with respect to claim interpretation now emphasized that the wording of the claim is the basis of interpretation under Art. 69 EPC.⁸⁰

One infringement case, *Epilady*, was dealt with in a number of European and also non-European jurisdictions, providing an opportunity for comparative law analysis. Since all courts had to deal with the application of the doctrine of equivalence, it was particularly interesting to observe that for the first time judges were willing to take note of the results reached in other jurisdictions.⁸¹

The Austrian Supreme Court handed down decisions on the interpretation of the scope of protection concerning a combination claim which was infringed by individual parts of that claim.^{81a} The Court reached the same result as the German Supreme Court in the *Radio*

Broadcasting decision, namely that if a feature in a combination claim is not separately claimed use of such individual feature cannot be prevented if the combination is not used as a whole.⁸²

A large number of decisions was published which aimed at interpreting Art. 69 EPC and the Interpretation Protocol.⁸³ Several decisions dealt with cases where claim features were lacking or had been exchanged in the allegedly infringing embodiment, and the courts defined rules under which the principle of legal certainty would still allow an infringement to be affirmed.⁸⁴

Testing

To what extent the testing of a patented invention for commercial purposes is exempted under the infringement rules of the Community Patent Convention, as far as they had been incorporated into national law, was first examined in a decision by the High Court of the UK⁸⁵ and the Court of Appeals.⁸⁶ There the British courts came to the conclusion that trials carried out in order to prove to a customer or a public authority that a product works are not admissible experiments under Art. 29 et seq. of the Community Patent Convention. In a parallel case the German Federal Supreme Court granted an injunction against the testing company for a period after the expiration of the patent.⁸⁷

Damages and Other Remedies for Patent Infringement

Another topic within the field of patent infringement, namely the question of damages, gave rise to discussions in the wake of several decisions handed down by the German Federal Supreme Court on the amount of damages and the duration of payment. The proposal of granting multiple damages following the US example came up in Germany.⁸⁸ The German Supreme Court, however, rejected such a claim in a case where an infringer had sold an infringing drug at a price 42 % below the patentee's sales price. Although the patentee was able to prove that he had lost an important part of the market, the Supreme Court refused to grant higher damages than 8 % of the turnover as against 24 % which the patentee had requested.⁸⁹ In another case the Supreme Court confirmed that a royalty in lieu of damages must also be paid as long as the utility model concerned is in force, even if it is later invalidated with retroactive effect.⁹⁰

A further important decision followed which significantly facilitated and broadened the possibility of claiming damages for the infringement of industrial property rights in Germany. The Supreme Court decided that a right owner has a claim for unlawful enrichment in a case where a damage claim does not exist because the infringers acted without fault.⁹¹

This means also that the three-year period of limitation for a damage claim is no longer an absolute barrier since a claim for unjust enrichment remains valid for a period of 30 years.

In a further decision the Supreme Court came to the conclusion that in the case of damages which are not paid until a long time after the infringement a surcharge is warranted in view of the fact that the infringer was able to work with his money for a substantial period of time.⁹²

With respect to the compensation claim for the use of a published patent application the Supreme Court granted a reasonable royalty under similar conditions as for a granted patent.⁹³

In addition, the problem of preliminary injunction proceedings was discussed on the basis of national reports at a European Judges' Symposium.⁹⁴

Summary

It is impressive how the last 25 years of patent law development have changed the international scene if one compares them with any other previous 25-year period, and how this has been documented and discussed in IIC. The most dramatic advances in modern technologies, in particular in the field of computers and biotechnology, imposed their rules on patent office practice and the courts in all countries of the world. It can only be hoped that the patent laws remain sufficiently flexible to cope with similar future developments, since contrary to the opinion voiced by the US Commissioner in 1860 who believed that no major inventions could still be expected in the future, most inventions in fact still lie ahead of us.

* Dr.jur.; LL.M., Harvard University; Attorney-at-Law; Member of the Research Staff of the Max Planck Institute for Foreign and International Patent, Copyright and Competition Law, Munich.

1 MAST, "The Washington Diplomatic Conference on the Patent Cooperation Treaty," 1 IIC 307 (1970); CLARK, "Another View of the Patent Cooperation Treaty," 2 IIC 260 (1971).

2 HAERTEL, "The Munich Diplomatic Conference on European Patent Law," 4 IIC 271 (1973).

3 BRAENDLI, "Munich Diplomatic Conference for the Setting up of a European System for the Grant of Patents (Report on the Discussions)," 4 IIC 402 (1973).

4 Cf. for the first and only Revision Conference on Art. 63 EPC, PAGENBERG, "Diplomatic Conference on the Revision of Article 63 EPC," 23 IIC 248 (1992).

5 PFANNER, "Conjunctive Use of the Patent Cooperation Treaty and the European Patent Convention," 4 IIC 281 (1973).

6 GALL, "The Europe PCT Route - Rights and Safeguards for Applicants," 13 IIC 65 (1982).

7 HAERTEL & SINGER, "Two Years of the European Patent Office and European Patent Law," 12 IIC 277 (1981).

8 VAN BENTHEM, "The Solution of the Language Problem in the European Patent Conventions," 6 IIC 1 (1975).

9 KOLLE, "The Patentable Invention in the European Patent Convention," 5 IIC 140 (1974).

10 PAGENBERG, "The Concept of the 'Inventive Step'," 5 IIC 157 (1974).

11 STAUDER, "The Future of Patent Infringement Proceedings in Europe," 6 IIC 168 (1975); see also for later contributions GORI, "The European Patent Grant System and How It Ties in with Revocation Proceedings," 21 IIC 452 (1990).

12 See on these topics *infra* notes 54 et seq., 59 et seq.

13 Report: "Conclusion of the Luxembourg Inter-Governmental Conference on the Establishment of a European Patent Organization," 3 IIC 369 (1972).

14 For this aspect of harmonization see HAARDT, "The Setting Up of a Court of Appeal for Community Patents," 16 IIC 332 (1985).

15 KRIEGER, "The Luxembourg Convention on the Community Patent - A Challenge and a Duty," 19 IIC 143 (1988); the Community patent procedures were also dealt with in an article by BRUCHHAUSEN, "Determining Patent Subject-Matter in Grant, Infringement and Revocation Proceedings," 20 IIC 341 (1989); and STAUDER, "Substantive Law Aspects of the Community Patent," 22 IIC 979 (1991). See also the comprehensive study by BENYAMINI, "Patent Infringement in the European Community," Vol. 13 in the series IIC Studies (Weinheim 1993).

16 MANGINI, "The Legal Framework for Infringement and the Revocation Proceedings in Patent Matters in the Contracting States of the European Patent Convention," 14 IIC 776 (1983); STAUDER provided a thorough comparative overview on the patent infringement practice in four European countries which was the result of several years' field study in the different countries of the national courts in this field: "The Practical Significance of Infringement and Revocation Proceedings in the Federal Republic of Germany, France, Italy, and the United Kingdom," 14 IIC 793 (1983).

17 FOGLIA, "Procedural Aspects of Litigation Relating to Community Patents," 22 IIC 970 (1991); SCORDAMAGLIA, "The Common Appeal Court and the Future of the Community Patent Following the Luxembourg Conference," 22 IIC 334, 458 (1991).

18 HAERTEL, "The Harmonizing Effect of European Patent Law on National Patent Laws," 14 IIC 719 (1983); ÖSTERBORG, "Recent Changes in Danish Patent Law - Harmonization With the International Patent

Systems," 10 IIC 314 (1979); UBERTAZZI & VOHLAND, "The New Italian Patent Act," 11 IIC 441 (1980); VIANES, "The New French Patent Law," 11 IIC 131 (1980); SIJP, "Scope of Protection Afforded by a European Patent," 10 IIC 433 (1979); WINKLER, "The Scope of Patent Protection: Past, Present and Future," 10 IIC 296 (1979); KRIEGER, "The New German Patent Law After Its Harmonization With European Patent Law - A General Survey," 13 IIC 1 (1982); TÖRNROTH, "Swedish Patent Legislation in Recent Years with Particular Regard to International Developments," 17 IIC 161 (1986); COHEN JEHOAM, "Harmonising Intellectual Property Law Within the European Community," 23 IIC 622 (1992); VAN BENTHEM, "The European Patent System and European Integration," 24 IIC 435 (1993).

19 "Second Symposium of European Judges," 16 IIC 283 (1985); "Third Symposium" in 18 IIC 579 (1987); "Fourth Symposium" in 20 IIC 271 (1989); "Fifth Symposium" in 22 IIC 843; "Sixth Symposium" in 24 IIC 689 (1993); "Seventh Symposium" in a forthcoming issue of IIC.

20 STEDMAN, "The First-to-Invent Concept in United States Patent Law," 2 IIC 241 (1971); NICOLAI, "First-to-File vs. First-to-Invent: A Comparative Study Based on German and United States Patent Law," 3 IIC 103 (1972).

21 See on this topic PAGENBERG, "WIPO Diplomatic Conference in The Hague on Harmonization of Patent Law," 22 IIC 682 (1991).

22 MARTERER, "The Prior User's Right," 21 IIC 521 (1990); ÖSTERBORG, "Towards a Harmonized Prior Use Right Within a Common Market Patent System," 12 IIC 447 (1981).

23 FEDERICO, "Patent Interferences in the United States Patent Office," 2 IIC 21 (1971); WEGNER & PAGENBERG, "Paris Convention Priority: A Unique American Viewpoint Denying 'The Same Effect' to the Foreign Filing," 5 IIC 362 (1974); SCHNELLER & CHISUM, "Patenting and Patent Filing Abroad As a Bar to U.S. Patent Grant - History, Purpose and Sanctions of Sec. 35 U.S.C. § 102(d)," 11 IIC 324 (1980). See also BEIER & KATZENBERGER for another harmonization topic, "Restoration of the Right to Claim Priority Under Art. 4, Paris Convention," 21 IIC 289 (1990).

24 DAUS, "Patentable Differences: Japan and the United States," 17 IIC 463 (1986).

25 Cf. PAGENBERG, "WIPO: Diplomatic Conference in The Hague on Harmonization of Patent Law," 22 IIC 682 (1991).

26 BEIER, "Future Problems of Patent Law," 3 IIC 423 (1972).

27 Id., "Scientific Research, Patent Protection and Innovation," 6 IIC 367 (1975).

28 Austrian Patent Office, 2 IIC 206 (1971) - Algorithm; Dutch Patent Office, 2 IIC 308 (1971) - Telephone Connecting System; Paris Court of Appeals, 5 IIC 216 (1974) - Selection of Pigments, with comment by KOLLE; Swiss Supreme Court, 5 IIC 448 (1974) - Dimensional Synthesis; German Federal Supreme Court - Disposition Program, 8 IIC 558 (1977).

29 Federal Supreme Court, 19 IIC 538 (1988) - Minimization of Flight Costs, with comment by BETTEN. Rather restrictive also Federal Supreme Court, 9 IIC 363 (1978) - Test Method, and 9 IIC 459 (1978) - Straken. Decisions of the Federal Patent Court followed this unfavorable trend: German Federal Patent Court, 18 IIC 805 (1987) - Operating Program; 19 IIC 545 (1988) - Digital Signal Processing; 19 IIC 553 (1988) - Electronic Translation Device; 19 IIC 545 (1988) - Computer Tomograph and 19 IIC 546 (1988) - Programming Device.

30 See the comparative law articles by B. PAGENBERG, "Patentability of Computer Programs on the National and International Level," 5 IIC 1 (1974); KINDERMANN, "Special Protection Systems for Computer Programs - A Comparative Study," 7 IIC 301 (1976); VAN VOORTHUIZEN, "The Patentability of Computer Programs and Computer-Related Inventions Under the European Patent Convention," 18 IIC 627 (1987); ANDERS, "Patentability of Programs for Data Processing Systems," 22 IIC 475 (1991); KOLLE, "Patentability of Software Related Inventions," 22 IIC 660 (1991); MARKEY, "Patents of Mathematical Algorithms," 22 IIC 986 (1991); OLD, "Patenting Computer Related Inventions in Australia," 24 IIC 345 (1993).

31 TBA, 19 IIC 531 (1988) - X-Ray Apparatus (no weighting of technical and non-technical features); TBA, 21 IIC 354 (1990) - Computer-Related Invention; TBA, 21 IIC 358 - Document Abstracting; TBA, 21 IIC 358 (1990) - Data Processor Network; TBA, 22 IIC 103 (1991) - Text Processing.

32 Cf. UK High Court, 19 IIC 553 (1988) - Automated Securities Trading System (requirement of technical effect); Dutch Patent Office Board of Appeals, 19 IIC 561 (1988) - Bar Code and 19 IIC 563 (1988) - Patentability of Computer Programs; Australian Federal Court, 25 IIC 109 (1994) - Algorithm; the German Supreme Court defined the difference between patentable and non-patentable programs in 23 IIC 824 (1992) - Page Buffer; 24 IIC 124 (1993) - Chinese Characters, and 24 IIC 645 (1993) - Diving Computer: if there is no need for intellectual activity for the application of a computer program, the technical character of an invention must be affirmed. For Swiss law see LUTZ, "Protection of Computer Programs in Switzerland," 25 IIC 153 (1994).

33 VON PECHMANN, "National and International Problems Concerning the Protection of Microbiological Inventions," 3 IIC 295 (1972); Federal Supreme Court, 6 IIC 207 (1975) - Baker's Yeast, with comment by VOSSIUS.

34 WEGNER, "Patenting Nature's Secrets," 7 IIC 235 (1976).

35 HÜNI, "The Disclosure in Patent Applications for Microbiological Inventions," 8 IIC 499 (1977).

36 CADMAN, 16 IIC 311 (1985); TESCHEMACHER, "Patentability of Microorganisms per se," 13 IIC 27 (1982); STRAUS, "Patent Protection for Biotechnological Inventions," 16 IIC 445 (1985); MARTERER, "The Patentability of Micro-organisms per se," 18 IIC 666 (1987); STRAUS, "The Relationship Between Plant Variety Protection and Patent Protection for Biotechnological Inventions from an International Viewpoint," 18 IIC 723 (1987); MARKEY, "Patentability of Animals, 20 IIC 372 (1989); MOUFANG, "Patentability of Genetic Inventions in Animals," 20 IIC 823 (1989).

37 Federal Supreme Court, 18 IIC 396 (1987) - Rabies Virus, with comment by GEISSLER.

38 Federal Supreme Court, 17 IIC 548 (1986) - Disclosure of Microorganisms.

39 Federal Supreme Court, 18 IIC 520 (1987) - *Methylomonas*; Federal Supreme Court, 12 IIC 862 (1981) - Concentrate of Microorganisms; for the difference between the written disclosure and the deposit see EPO TBA, 23 IIC 263 (1992) - Monoclonal Antibody.

40 Commissioner of Patents, 8 IIC 453 (1977) - Strain Schwabe.

41 10 IIC 754 (1979) - Micro-organism.

42 10 IIC 757 (1979) - Microorganisms; for the disclosure of a new plant variety of Supreme Court of Canada, 21 IIC 848 (1990) - Pioneer Hi-Bred.

43 TBA, 20 IIC 885 (1989) - NABISCO/Micro-organisms (disclosure requirements for microorganisms).

44 20 IIC 55 (1989) - Snoring Sickness.

45 TBA, 22 IIC 74 (1991) - Onco-Mouse II; TBA, 24 IIC 103 (1993) - Onco-Mouse/Harvard II.

46 Morality criteria were discussed in Opposition Division, 24 IIC 618 (1993) - Patent for Plant Life Forms; see also the article by KINKELDEY, "The Patenting of Animals," 24 IIC 777 (1993); DI CERBO, "The Patentability of Animals," 24 IIC 788 (1993) and CRESPI, "The Micro-Organism Deposit System in European Patent Law," 24 IIC 1 (1993); MOUFANG, "Patenting of Human Genes, Cells and Parts of the Body? - The Ethical Dimensions of Patent Law," 25 IIC 487 (1994).

47 Federal Supreme Court, 9 IIC 42 (1978); with the same result Federal Supreme Court, 14 IIC 283 (1983) - Sitosterylglucosides.

48 Supreme Court, 3 IIC 508 (1972) - Microorganisms.

49 Federal Supreme Court, 15 IIC 215 (1984) - Hydopyridine, with comment by PAGENBERG.

50 Court of Appeal of New Zealand, 15 IIC 224 (1984) - Metoprine, with comment by PAGENBERG. Cf. the opposite result by the Australian Federal Court in the case *Anaesthetic Supplies v. Rescare Limited*, 26 IIC 399 (1995) - Snoring Sickness.

51 Swiss Supreme Court, 15 IIC 82 (1984) - Diagnostic Method; Swiss Patent Office, 16 IIC 11 (1985) - Second Medical Use.

52 BRUCHHAUSEN, "The Second Medical Use of European Patent Law," 16 IIC 306 (1985).

53 HANSEN, "New Problems of the Second Indication," 19 IIC 722 (1988); GAUMONT, "Patentability and Patent Scope of Pharmaceutical Inventions," 13 IIC 431 (1982); STIEGER, "Article 54(5) of the Munich Patent Convention: An Exception for Pharmaceuticals," 13 IIC 137 (1982); SUCHY, "Patent Protection for a Second Medical Use," 13 IIC 471 (1982); GRUBER & KROHER, "Patentability of Pharmaceutical Inventions - A Comparison of the Legal Situation in Germany and Some Common Law Countries," 15 IIC 588, 726 (1984); KOKTVEDGAARD & ÖSTERBORG, "Patents for Pharmaceutical Inventions in Denmark," 15 IIC 415 (1984); MOUFANG, "Methods of Medical Treatment Under Patent Law," 24 IIC 18 (1993).

54 EBA, 16 IIC 83 (1985) - Second Medical Use (In re Eisai).

55 18 IIC 258 (1987) - Appetite Suppressant, with comment by PAGENBERG.

56 16 IIC 91 (1985) - Second Medical Use; TBA, 19 IIC 803 (1988) - Dysmenorrhea (treatment of pain, discomfort and incapacity); the EPO took the view that the treatment of ectoparasites on pigs constituted a therapeutic treatment independent of the fact whether such treatment would have been applied by a doctor or a farmer: TBA, 20 IIC 188 (1989) - Pigs I; 20 IIC 196 (1989) - Pigs II.

57 TBA, 20 IIC 75 (1989) - Non-invasive Measurement; TBA, 20 IIC 88 (1989) - Flow Measurements, with comment by PAGENBERG; EBA, 22 IIC 85 (1991) - Friction-Reducing Additive, with comment by PAGENBERG; EBA, 22 IIC 84 (1991) - Plant Growth-Regulating Agent; TBA, 23 IIC 377 (1992) - Growth Regulation.

58 Swedish Patent Office, 19 IIC 815 (1988) - Hydopyridine; and the Dutch Patent Office, 20 IIC 220 (1989) - Second Medical Use; Austrian Patent Office, 22 IIC 109 (1991) - Prohibition of Substance Protection.

59 High Court of Justice, 17 IIC 101 (1986) - Schering.

60 See Paris Court of Appeals, 25 IIC 266 (1994) - Synthelabo, with comment by GEISSLER; cf. also the critical comment by PAGENBERG on the Schering decision, 17 IIC 111 (1986).

61 PAGENBERG, "The Inventive Step Under European Patent Law," 9 IIC 351 (1978).

62 See the report in 9 IIC 80 (1978).

63 Paris District Court, 6 IIC 456 (1975) - Fermentation Cabinet. Further decisions on nonobviousness on typical French products like a pastry, a recipe, and for a bra followed: Supreme Court, 10 IIC 618 (1979) - Pastry Recipe, with comment by PAGENBERG; 10 IIC 620 (1979) - Bra, both decided by the highest French court; see for later decisions, Supreme Court, 21 IIC 379 (1990) - Sufficient Reasoning, with comment by MATHELY.

64 VAN BENTHEM & WALLACE, "The Problem of Assessing Inventive Step in the European Patent Procedure," 9 IIC 297 (1978); PAGENBERG, "The Evaluation of the 'Inventive Step' in the European Patent System - More Objective Standards Needed," 9 IIC 121 (1978).

65 TBA, 14 IIC 100 (1983) - Methylenebis (phenylisocyanate); TBA, 20 IIC 725 (1989) - Polypeptide Expression (closest art pointing away from invention, trial doomed to failure); there were few exceptions to this objective practice, cf. TBA, 17 IIC 541 (1986) -

General Technical Knowledge, with comment by PAGENBERG; TBA, 17 IIC 405 (1986) - Pencil Sharpener, with comment by PAGENBERG.

66 In Germany the discussion culminated in a scientific dispute between PAGENBERG, 12 IIC 1 (1981) and PAKUSCHER, 12 IIC 816 (1981), concerning primarily the practice of the German Federal Patent Court which was regarded by many practitioners as unpredictable and not in conformity with objective standards of evaluation.

67 Federal Supreme Court, 14 IIC 421 (1983) - Mass-Balancing System; 14 IIC 419 (1983) - Jacquard.

68 German Federal Supreme Court, 22 IIC 810 (1991) - Elastic Support: so-called secondary indications based on an unexpected advancement over the prior art must be taken into account in evaluating the inventive step; similarly Commercial Court of Zurich, 25 IIC 105 (1994) - Dental Abrasive Disk.

69 The German Federal Supreme Court accepted the prejudice in the art as an objective criterion of inventive step, 17 IIC 267 (1986) - Chloroturon; also the Swiss Supreme Court accepted technical progress, long-felt need and the interest of infringers in the invention as objective criteria for inventive step, 17 IIC 263 (1986) - Snow Chains, similarly Commercial Court of Zurich, 25 IIC 105 (1994) - Dental Abrasive Disk, and the Swiss Patent Office used the surprising effect and technical advance as objective criteria for nonobviousness, 12 IIC 82 (1981) - Spring Mechanism, with comment by PAGENBERG; the EPO accepted the use of known elements for a new purpose by way of a simplification and the fact that unexpected advantages and commercial success were achieved as an indication of inventive step, TBA, 16 IIC 470 (1985) -

Picking Machine; see also the Australian High Court, 12 IIC 705 (1981) with comment by RYAN favoring an objective approach.

70 Federal Supreme Court, 22 IIC 810 (1991) - Elastic Support; cf. also the article by PAGENBERG, "Different Level of Inventive Step for German and European Patents?," 22 IIC 763 (1991).

71 BEIER, "The Inventive Step in Its Historical Development," 17 IIC 301 (1986); BEIER, "The Remedies of the Patent Applicant and His Competitors in Comparison - Balance or Imbalance? A Comparative Law Study," 20 IIC 407 (1989).

72 CORNISH, "The Essential Criteria for Patentability of European Inventions: Novelty and Inventive Step," 14 IIC 765 (1983); SCHMIDT-SZALEWSKI, "Nonobviousness as a Requirement of Patents in French Law," 23 IIC 725 (1992); TURRINI, "The Concept of Novelty," 22 IIC 1992 (1991).

73 Some basic thoughts were laid down by the Presiding Judge of the German Federal Supreme Court, in a series of articles: BRUCHHAUSEN, "The Scope of Patent Protection in Different European Countries - An Outline of Recent Case Law," 4 IIC 306 (1973); id., "The Extent of Protection of the European Patent," 5 IIC 253 (1974); id., "Interpretation and Application of European Patent Law and Harmonized National Patent Law," 14 IIC 732 (1983); DI CERBO, "The Scope of the Protection Conferred by a Product Patent," 22 IIC 993 (1991); STAUDER, "The History of Art. 69(1) EPC," 23 IIC 311 (1992). See also the comprehensive study by TAKENAKA, "Interpreting Patent Claims: The US, Germany and Japan," Vol. 17 in the series IIC Studies (Weinheim 1995).

74 ARMITAGE, "Drafting and Interpretation of Claims Under New European Patent Laws: A Review of the Benescience Conference in May 1981," 12 IIC 627 (1981); cf. also another article by the same author, ARMITAGE, "Interpretation of European Patents - Art. 69 EPC and the Protocol on Interpretation," 14 IIC 811 (1983).

75 The series of articles covered the granting procedure as well as infringement and revocation proceedings by FALCONER for the British law, 20 IIC 348 (1989); for France by LE TALLEC, 20 IIC 355 (1989); BRINKHOF for the Netherlands, 21 IIC 488 (1990); id. 22 IIC 908 (1991); BRUCHHAUSEN, "Substance Protection in Chemistry," 22 IIC 863 (1991).

76 Federal Supreme Court, 18 IIC 795 (1987) - Moulded Curbstone, with comment by GEISSLER.

77 Federal Supreme Court, 19 IIC 811 (1988) - Radio Broadcasting System.

78 See commenting article by PAGENBERG, "New Trends in Patent Claim Interpretation in Germany - Goodbye to the 'General Inventive Idea,'" 19 IIC 788 (1988); cf. for the US practice RICH, "Extent of

Protection and Interpretation of Claims - American Perspectives," 21 IIC 497 (1990); see also Federal Supreme Court on the scope of a product patent, 13 IIC 224 (1982) - Hay Reaper.

79 House of Lords, 12 IIC 699 (1981).

80 Austrian Supreme Patent and Trademark Chamber, 19 IIC 676 (1988) - Sliding Gate (definition of equivalents); Zurich Commercial Court, 22 IIC 398 (1991) - Tool Retainer Spindles, with comment by HILTY; Zurich Commercial Court, 25 IIC 105 (1994) - Dental Abrasive Disk.

81 Court of Appeal Düsseldorf, 21 IIC 572 (1990) - Epilady Germany and 24 IIC 838 (1993) - Epilady Germany II; High Court of Hong Kong, 21 IIC 580 (1990) and Hong Kong Court of Appeal, 24 IIC 388 (1993) - Epilady X; Supreme Court The Hague, 21 IIC 586, 589 (1990) - Epilady Netherlands I and II; Court of Appeals The Hague, 24 IIC 832 (1993) - Epilady Netherlands III; Court of Appeals and Patents Court, 21 IIC 561, 860 - Epilady UK I and II, with comment by SHERMAN; Court of Appeals of Vienna, 23 IIC 391 (1992) - Epilady V; Swiss Federal Court, 22 IIC 394 (1991) - Epilady VI.

82 Cf. also BOSSUNG, "Responsibility of the European Patent Office," 22 IIC 916 (1991).

83 Federal Supreme Court, 22 IIC 249 (1991) - Ion Analysis; 22 IIC 104 (1991) - Handle Cord for Battery Case; 23 IIC 111 (1992) - Fixing Device II; 23 IIC 120 (1992) - Apparatus for Washing Vehicles (for a sub-combination); Federal Supreme Court, 23 IIC 268 (1992) - Polyurethane Rigid Foam Boards; Dutch Supreme Court, 23 IIC 529 (1992) - Extraction Device, with comment by RUIJSENAARS.

84 Federal Supreme Court, 22 IIC 109 (1991) - Ion Analysis; Federal Supreme Court, 22 IIC 104 (1991) - Handle Cord for Battery Case; Federal Supreme Court, 24 IIC 259 (1993) - Heatable Breathing Air Hose; UK Court of Appeals, 24 IIC 845 (1993) - Latch; for a case of file wrapper estoppel see Federal Supreme Court, 25 IIC 420 (1994) - Moistening Device, with comment by HEATH; for an overview of the case law in France and Germany see the article by PAGENBERG, "The Scope of Art. 69 European Patent Convention: Should Sub-Combinations Be Protected?," 24 IIC 314 (1993).

85 UK High Court, 17 IIC 115 (1986) - Monsanto. See generally on the issue of experiments and testing GILAT, "Experiments and Patents" Vol. 16 in the series IIC Studies (Weinheim 1995).

86 Court of Appeals, 17 IIC 410 (1986) - Monsanto.

87 Federal Supreme Court, 22 IIC 541 (1991) - Ethofumesate. In a very recent decision awaiting publication, this Court held that clinical tests to discover a second medical use of a patented drug do not constitute patent infringement, Federal Supreme Court July 11, 1995, X ZR 99/92.

88 PAGENBERG, "No Multiple Damages for Patent Infringement Under German Law?," 11 IIC 723 (1980).

89 Federal Supreme Court, 11 IIC 763 (1980) - Tolbutamide.

90 See PAGENBERG, "Assessment of Damages for Patent Infringement," 14 IIC 85 (1983); Federal Supreme Court, 9 IIC 156 (1985) - Plastic Hollow Section I; Federal Supreme Court, 11 IIC 763 (1980) - Tolbutamide; Federal Supreme Court, 14 IIC 111 (1983) - Heel Support Device; see comments by PAGENBERG, 14 IIC 421 and 537 (1983).

91 Federal Supreme Court, 9 IIC 356 (1978) - Plastic Hollow Section.

92 Federal Supreme Court, 14 IIC 111 (1983) - Heel Support Device; see also Federal Supreme Court, 24 IIC 503 (1993) - Control Device, for the definition of a "reasonable royalty" in case of a dependent patent.

93 Decision of the Federal Supreme Court, 21 IIC 241 (1990) - Open-end Spinning Machine.

94 GUERIN, "The New Preliminary Injunction Procedure Instituted in France," 21 IIC 541 (1990); TRAXLER, "Interim Measures in Patent Infringement Proceedings Under Austrian Law," 24 IIC 751 (1993); BRINKHOF, "Summary Proceedings and Other Procedural Measures in Connection with Patent Infringement," 24 IIC 762 (1993); BOVAL, "Bailiffs' Reports, Seizure and Injunctions in Patent Infringement Proceedings in France," 24 IIC 744 (1993).