

THE PATENTABILITY OF CHEMICAL INTERMEDIATES

The Constitution provides that: "The Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."¹ Congress has exercised this power since 1790 by passing statutes which regulate the issuance of patents. In each of these statutes there has been a requirement that an invention, in order to receive a patent, be useful.² Utility has never been defined in the pertinent section of the patent statute.³ Section 101 of Title 35 of the United States Code, which contains the utility requirement of the present patent statute, is no exception.⁴ Section 112 of Title 35 requires that the inventor disclose to those skilled in the art how to use the invention.⁵

It is the purpose of this Comment to discuss the utility and disclosure requirements as they relate to chemical compounds useful as intermediates in the formation of other compounds and to the processes which produce such intermediates. Part I presents an historical background of these requirements in the area of chemical patents. Part II analyzes the current law as set out in two recent decisions of the Circuit Court of Customs and Patent Appeals and an earlier Supreme Court decision. Finally, Part III suggests a standard of utility which would alleviate some of the problems in this area.

I

HISTORICAL BACKGROUND OF THE UTILITY REQUIREMENT IN CHEMICAL PATENTS

A. The Utility Requirement Before 1950

Prior to 1950 the utility requirement in the area of chemical patents received a very liberal interpretation from the Patent Office, the Board of Patent Appeals, and the courts.⁶ One court held that a description of a compound's characteristics was sufficient to satisfy the utility require-

¹ U.S. CONST. art. I, § 8.

² Note, *The Utility Requirement in the Patent Law*, 53 GEO. L.J. 154, 155-56 (1964).

³ Note, *Some Special Problems with the Utility Requirement in Chemical Patents*, 35 GEO. WASH. L. REV. 809 (1967).

⁴ 35 U.S.C. § 101 (1964): "Whoever invents or discovers any new and useful process, machine, manufacture or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor . . ."

⁵ 35 U.S.C. § 112 (1964): "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains . . . to make and use the same . . ."

⁶ See Levy, *Utility—The Inverted Criterion*, 30 J. PAT. OFF. SOC'Y 592, 593 (1948);

ment.⁷ In another court's view, the ability of the compound or process to perform its intended purpose fulfilled the requirement, as long as that purpose was not harmful.⁸ Justice Story said of the utility requirement:

All that the law requires is, that the invention should not be frivolous or injurious to the well-being, good policy, or sound morals of society. The word "useful," therefore, is incorporated into the act in contradistinction to mischievous or immoral. For instance, a new invention to poison people, or to promote debauchery, or to facilitate private assassination, is not a patentable invention. But if the invention steers wide of these objectives, whether it be more or less useful is a circumstance very material to the interests of the patentee, but of no importance to the public. If it be not extensively useful, it will silently sink into contempt and disregard.⁹

Many compounds and processes received patents even though the patent applications contained no mention of a use.¹⁰ The courts supported this practice on the principle of inherent utility¹¹—they simply presumed that the new compound was useful. This principle also applied to compounds which were useful as intermediates in the formation of other compounds.¹²

B. The "Rule of *Bremner*"

In 1950 the Circuit Court of Customs and Patent Appeals decided *In re Bremner*.¹³ The only major issue before the court was whether the

Reardon, *The Utility Requirement in Chemical Patent Applications*, 38 J. PAT. OFF. SOC'Y. 282 (1952); Wolfe, *Adequacy of Disclosure as Regards Specific Embodiment and Use of Invention*, 41 J. PAT. OFF. SOC'Y 61, 66 (1959); Editorial Note, *Do Chemical Intermediates Have Patentable Utility?* 29 GEO. WASH. L. REV. 87, 91 (1961); Note, 14 AM. U.L. REV. 78, 79 (1964); 23 GEO. WASH. L. REV. 113, 114 (1954); 8 U.C.L.A.L. REV. 989, 990 (1961). See also G. CURTIS, A TREATISE ON THE LAW OF PATENTS 111 (4th ed. 1873).

⁷ See *Potter v. Tone*, 36 App. D.C. 181 (1911). "The court felt that to require a showing of use in some commercial process successfully practiced would amount to a holding that the inventor must make another invention which could be the subject of another patent." Note, 35 GEO. WASH. L. REV. 809, 810 (1967).

⁸ See *Seymour v. Osborne*, 78 U.S. 516, 549 (1870) (The requirement is satisfied if the invention "is capable of being beneficially used for the purpose for which it was designed.") The requirement that the use be beneficial meant only that the use must not be harmful. Note, *The Utility Requirement in the Patent Law*, 53 GEO. L.J. 154, 157 (1964).

⁹ *Lowell v. Lewis* 15 F. Cas. 1018, 1019 (No. 8568) (C.C.D. Mass. 1817).

¹⁰ E.g., *Ex parte Watt*, 63 U.S.P.Q. 163 (Pat. Off. Bd. App. 1942); see *Potter v. Tone*, 36 App. D.C. 181 (D.C. Cir. 1911). But see *Smith, Kline & French Laboratories v. Clark & Clark*, 70 U.S.P.Q. 382 (3d Cir. 1946). See also 23 GEO. WASH. L. REV. 113, 114 (1954); 8 U.C.L.A.L. REV. 989 (1961).

¹¹ *Ex parte Watt*, 63 U.S.P.Q. 163 (Pat. Off. Bd. App. 1942).

¹² *Id.* See *Lewers, Composition of Matter*, 4 J. PAT. OFF. SOC'Y 530 (1922); 8 U.C.L.A.L. REV. 989, 990 (1961).

¹³ 182 F.2d 216 (C.C.P.A. 1961).

application must assert the invention's utility and indicate its use. The court, relying on the predecessors of sections 101 and 112, said that no process or product compound was patentable if not useful. Prior to this time, lack of utility of a chemical compound had never been grounds for rejecting a chemical patent application.¹⁴

The so-called "*Bremner* rule," that the patent application must assert utility and indicate the use or uses for both product and process claims, replaced the concept of inherent utility.¹⁵ Assertion of a compound's utility as an intermediate in the formation of another compound was no longer sufficient to satisfy the utility requirement.¹⁶ In one court's view, a description of the compound's important characteristics, such as insolubility in acids and capability of depositing a particular film, failed to meet the requirements.¹⁷

C. In re Nelson—A New Trend or Return to pre-Bremner Law

In 1960 the Circuit Court of Customs and Patent Appeals decided *In re Nelson*.¹⁸ The patent application in that case described how claimed compounds produce analogous compounds which belonged to a class of chemicals some of which had a known use. The court held that this was sufficient to satisfy the utility requirements of section 101 and that disclosing the method of converting one compound into another was sufficient to satisfy the requirements of section 112.¹⁹ The court specifically repudiated²⁰ an earlier decision²¹ which had held a description of a claimed compound's characteristics insufficient to satisfy the utility requirement.

Nelson represented a return to the interpretation of the utility requirement which prevailed before *In re Bremner*. The court held that, because the application carried an implicit assertion of utility, explicit assertion was unnecessary to satisfy the requirements of utility and dis-

¹⁴ *E.g.*, *Canadian-American Pharmaceutical Co. v. Coe*, 126 F.2d 847 (D.C. Cir. 1942); *Parker v. Marzall*, 86 U.S.P.Q. 446 (D.D.C. 1950); *In re Norris*, 179 F.2d 970 (C.C.P.A. 1950); *In re Finley*, 174 F.2d 130 (C.C.P.A. 1949); *Ex parte Brahn*, 65 U.S.P.Q. 282 (Pat. Off. Bd. App. 1945); see Note, *The Utility Requirement in the Patent Law*, 53 GEO. L.J. 154, 183 (1964).

¹⁵ See Note, 14 AM. U.L. REV. 78, 80 (1964).

¹⁶ See *Avakian v. Fahrenbach*, Interference No. 84, 159 in the file of Patent No. 2,620,340, 1951, cited in 23 GEO. WASH. L. REV. 113 (1954). See also *Ex parte Tolkmith*, 102 U.S.P.Q. 464 (Pat. Off. Bd. App. 1954).

¹⁷ *Petrocarbon Ltd. v. Watson*, 247 F.2d 800 (D.C. Cir. 1957).

¹⁸ 280 F.2d 172 (C.C.P.A. 1960).

¹⁹ See also Comment, *Do Chemical Intermediates Have Patentable Utility?*, 29 GEO. WASH. L. REV. 87, 101 (1961).

²⁰ 280 F.2d at 186.

²¹ *Petrocarbon Ltd. v. Watson*, 247 F.2d 800 (D.C. Cir. 1957).

closure.²² Some predicted that because the capability of acting as an intermediate in the formation of another compound is inherent in almost all compounds, the *Nelson* rule would effectively eliminate the utility requirement for chemical compounds.²³

This prediction showed promise of fulfillment in the years immediately following the *Nelson* decision. In a series of decisions between 1960 and 1965 the Circuit Court of Customs and Patent Appeals reestablished a liberal view of the utility requirement very similar to the one prevailing prior to *Bremner*.²⁴ The first of these cases distinguished between chemical compounds and chemical processes as they relate to the requirements of disclosure in section 112.²⁵ The court stated that where the claim is for a process, it is unnecessary that the specification teach a use for the compound which is the product of the process, as the decision in *Bremner* had required. The opposite result, according to the court, would require the applicant to teach a use for something which he had not claimed.²⁶

The court next decided a case involving the difficult question of section 112's impact on compounds useful as intermediates in the formation of other compounds.²⁷ Focusing on what a chemist would know about such compounds, the court held that the disclosure of their usefulness as intermediates was sufficient to satisfy the requirements of section 112.²⁸ The "rule of *Bremner*" ceased to exist as a viable precedent in the view of the Circuit Court of Customs and Patent Appeals.²⁹ This interpretation of utility sounded very much like Justice Story's,³⁰ and at this point very little remained of the vitality of the *Bremner* decision.

The United States Supreme Court then decided *Brenner v. Manson*,³¹ only the second case in fifteen years to involve primarily patent law

²² 280 F.2d at 184.

²³ See, e.g., Note, *Do Chemical Intermediates Have Patentable Utility?*, 29 GEO. WASH. L. REV. 87, 102, 109 (1961).

²⁴ E.g., *In re Manson*, 333 F.2d 234 (C.C.P.A. 1963), *rev'd* *Brenner v. Manson*, 383 U.S. 519 (1966) (see note 32 *infra* and accompanying text); *In re Szwarc*, 319 F.2d 277 (C.C.P.A. 1963); *In re Adams*, 316 F.2d 476 (C.C.P.A. 1963); *In re Wilke*, 314 F.2d 558 (C.C.P.A. 1963).

²⁵ *In re Wilke*, 314 F.2d 558, 565 (C.C.P.A. 1963); see Note, 14 AM. U.L. REV. 78, 81 (1964).

²⁶ *In re Wilke*, 314 F.2d 558, 565 (C.C.P.A. 1963).

²⁷ *In re Adams*, 316 F.2d 476 (C.C.P.A. 1963). The court relied on *In re Wilke*, 314 F.2d 558 (C.C.P.A. 1963), in holding that the disclosure was sufficient to satisfy the requirements of § 112 insofar as the process claims were concerned, 316 F.2d at 478.

²⁸ 316 F.2d at 478.

²⁹ See *In re Szwarc*, 319 F.2d 277, 285 (C.C.P.A. 1963): "the so-called 'rule of *Bremner*' . . . no longer exists in this court."

³⁰ See note 9 *supra* and accompanying text.

³¹ 383 U.S. 519 (1966). The other patent case which the Supreme Court had considered since 1950 was *Graham v. John Deere Co.*, 383 U.S. 1 (1966).

issues. The question was whether a chemical process which produces a product which is useful as an intermediate and as an object of scientific investigation possesses patentable utility. The Circuit Court of Customs and Patent Appeals had held that section 101 does not require that a process, in order to be useful, must produce a product known to be useful.³² If a process works, stated the court, and is not detrimental to the public interest, then it is useful in accordance with the patent laws.³³ The Supreme Court, however, ruled that such a process did not satisfy the utility requirement under section 101 and indicated that a product compound whose sole utility was as an object of scientific research would likewise fail to satisfy section 101.³⁴ This decision represented a reestablishment of the *Brenner* view of the utility requirement.

The Circuit Court of Customs and Patent Appeals found this Supreme Court decision controlling in deciding *In re Kirk*³⁵ and *In re Joly*.³⁶ Both of these cases involved claims to compounds useful as intermediates in producing other compounds with no known practical utility. The majority in each case held that such utility was insufficient to satisfy the requirements of section 101 and 112.³⁷

This history shows that prior to 1950 the courts took a liberal view of the utility requirement with respect to chemical compounds and processes. The 1950 *Brenner* decision substantially increased the utility requirement's stringency. But in 1960 the Circuit Court of Customs and Patent Appeals, in deciding *Nelson*, returned to its pre-*Brenner* view. Finally, with *Manson*, the Supreme Court revived the more stringent *Brenner* standards of utility, and the Circuit Court of Customs and Patent Appeals followed suit.

³² *In re Manson*, 333 F.2d 234, 237 (C.C.P.A. 1963), *rev'd*, 383 U.S. 519 (1966): "If, to be patentable, a process must not only produce a product but a product known or proved to be useful, then it follows that an application for a patent on such a process would have to disclose how to use the product. But the holding in *Wilke* is to the contrary."

³³ 333 F.2d at 238. The court quoted from Justice Story's opinion in *Lowell v. Lewis*, 15 F. Cas. 1018, 1019 (No. 8568) (C.C.D. Mass. 1817); see note 9 *supra* and accompanying text.

³⁴ *Brenner v. Manson*, 383 U.S. 519, 534-35 (1966). See generally, Velvel, *A Critique of Brenner vs. Manson*, 49 J. PAT. OFF. SOC'Y 5 (1967).

³⁵ 376 F.2d 936 (C.C.P.A. 1967).

³⁶ 376 F.2d 906 (C.C.P.A. 1967).

³⁷ *In re Kirk*, 376 F.2d 936, 945 (C.C.P.A. 1967); *In re Joly*, 376 F.2d 906, 908-09 (C.C.P.A. 1967). The court said in *Kirk*: "[T]he practical utility of the compound, or compounds, produced from a chemical 'intermediate' . . . is an essential element in establishing patentability of that intermediate. . . . It is not enough that the specification disclose that the intermediate exists and that it 'works,' reacts, or can be used to produce some intended product of no known use. Nor is it enough that the product disclosed to be obtained from the intermediate belongs to some class of compounds which now is, or in the future might be, the subject of research to determine some specific use." 376 F.2d at 945.

II

AN ANALYSIS OF THE CURRENT LAW

Many chemical compounds and processes are clearly patentable even under the Supreme Court's strict view of the utility requirement. Any chemical which possesses some commercial use has patentable utility.³⁸ Compounds or processes useful in plastics,³⁹ electric lighting,⁴⁰ or in some formula with therapeutic value⁴¹ are only a few of the vast variety of chemical inventions which clearly meet the utility requirements of section 101. The characteristic which distinguishes these compounds from those in *Bremner*, *Nelson*, *Manson*, *Kirk* and *Joly* is the latter's claimed usefulness only as intermediates in the formation of other compounds which presently have no known use. The product compounds which result may be of a class of compounds, as in *Nelson*,⁴² some members of which have a known use, or they may have no known present use although they are the objects of current scientific investigation.⁴³

The compounds in *Bremner*, *Nelson*, *Manson*, *Kirk* and *Joly* all belonged to a class of compounds known as steroids which possess a nucleus with a unique structural configuration of carbon and hydrogen atoms.⁴⁴ Steroids include a wide range of naturally occurring compounds such as the sterols proper, bile acids, sex hormones, adrenocortical hormones, cardiac glycosides, sepojenins, and some alkaloids.⁴⁵ Consequently, the decision as to the patentability of these compounds would have great importance for the chemist and biologist even if this were the only class of compounds involved. Patentability assumes greater significance in light of the ability of all organic compounds and of many inorganic compounds to act as intermediates in forming other compounds.⁴⁶

³⁸ See E. THOMAS, *CHEMICAL INVENTIONS AND CHEMICAL PATENTS* 153 (M. Auslander ed. 1964). "Commercial success to be a measure of patentability must be due to features set forth in the patent and covered by it. Yet failure to get early commercial recognition and commercial adoption does not militate against the fact of invention." *Id.* at 154-55.

³⁹ See, e.g., *Kansas City Southern Ry. v. Silica Products Co.*, 48 F.2d 503 (8th Cir.), *cert. denied*, 284 U.S. 654 (1931).

⁴⁰ See, e.g., *Anraku v. General Elec. Co.*, 80 F.2d 958 (9th Cir. 1935), *cert. denied*, 298 U.S. 678 (1936).

⁴¹ See, e.g., *Ruskin v. Coe*, 58 F. Supp. 424 (D.D.C. 1945); *Dick v. Lederle Antitoxin Labs.*, 43 F.2d 628 (S.D.N.Y. 1930).

⁴² See *In re Nelson*, 280 F.2d 172, 180 (C.C.P.A. 1960).

⁴³ The product compounds in *Manson*, *Kirk*, and *Joly* were objects of current scientific investigation. See *Brenner v. Manson*, 383 U.S. 519, 530 (1966); *In re Kirk*, 376 F.2d 936, 938 (1967); *In re Joly*, 376 F.2d 906, 908 (1967).

⁴⁴ W. KLYNE, *THE CHEMISTRY OF STEROIDS* 13 (1957).

⁴⁵ *Id.* at 13.

⁴⁶ See Note, *Do Chemical Intermediates Have Patentable Utility?* 29 GEO. WASH. L. REV. 87, 88, 109 (1961).

Probably the most important question in this inquiry is which interpretation of the utility requirement is more likely to implement congressional intent in establishing utility as a prerequisite for patentability. Many assert that scientific progress is the basic purpose of the patent system,⁴⁷ while others place greater emphasis on a short term commercial benefit to the general public.⁴⁸ These two purposes may at times be harmonious and at other times irreconcilable. Because Congress has not defined the utility requirement, one must seek elsewhere for the meaning of the term "useful."

A. *Brenner v. Manson*

The Supreme Court in *Brenner v. Manson* reinstated the "rule of *Brenner*" into the patent law.⁴⁹ There are fundamental problems with the *Manson* decision. First, the Court did not, as it thought, return to well-established doctrine by invoking *Brenner's* utility requirement.

The Supreme Court saw the decision in *Brenner* as representing the established law with respect to the utility requirement for chemical patents. The *Nelson* decision, in the Court's view, was a departure from the established rule.⁵⁰ But this interpretation of the utility requirement's history, as Justice Harlan indicates in his dissent, failed to take account of the law prior to *Brenner*, holding that chemical compounds including those whose only use was as an intermediate in the formation of other compounds, possessed inherent utility.⁵¹ *Nelson* was actually a return to, rather than a departure from, the prevailing view of the utility requirement.⁵²

1. *Secrecy and Research*

The second problem with the *Manson* decision is the Court's reasoning with respect to the degree to which its holding would frustrate the disclosure goals of the patent laws. The Court recognized the possibility that inability to patent a process such as the one which *Manson* claimed in his application might tend to discourage disclosure and lead to greater,

⁴⁷ The Constitution's grant of power to Congress to administer the patent system indicates that the purpose of the system is "To promote the Progress of Science and useful Arts . . ." U.S. CONST. art. I, § 8. See Note, 35 GEO. WASH. L. REV. 809, 810 (1967): "[C]onfusion arises from the inapplicability of mechanical precedents to chemical inventions whose utility is often mainly scientific, the commercial applications being as yet undiscovered."

⁴⁸ This was essentially the emphasis of the Supreme Court's decision in *Brenner v. Manson*, 383 U.S. 519, 534-45 (1966), and of the Circuit Court of Customs and Patent Appeals' decision in *In re Kirk*, 376 F.2d 936, 945 (C.C.P.A. 1967), and *In re Joly*, 376 F.2d 906, 908 (C.C.P.A. 1967).

⁴⁹ See text accompanying note 36 *supra*.

⁵⁰ *Brenner v. Manson*, 383 U.S. 519, 530 (1966).

⁵¹ *Id.* at 539-40. See notes 6-32 *supra* and accompanying text.

⁵² See notes 21-25 *supra* and accompanying text.

undesirable secrecy. But, the Court argued, minimizing disclosure is perhaps not a serious problem because modern patent drafting techniques minimize disclosure anyway.⁵³ This statement, if true, applies equally well to a patent application which contains a claim to a compound or process with a commercial use. The appropriate remedy for such a defect is refusal to grant patents wherever there is insufficient disclosure rather than refusal to grant patents where the claimed invention is useful only in research.⁵⁴

The Court viewed the tendency toward secrecy where an inventor cannot receive a patent for his compound as exaggerated: If the inventor is unable to find a use for his invention, he will want to disclose it to someone who can find a use for it.⁵⁵ However, this does not appear necessarily to be true. It seems at least as likely that the inventor would want to withhold disclosure until he could gain patent protection after finding some use for his invention. This would certainly be the case if he acted in his economic self-interest.⁵⁶

The Court stated that disclosure of a patented process will not stimulate research into new uses for it because the patentee can enforce his patent against subsequent researchers.⁵⁷ However, section 100 of the patent statute provides that processes, which are patentable under section 101, include new uses of a known process.⁵⁸ This means that if a second researcher discovers a new use for the known process, he may receive a patent for it. He would then have a legal right to stop the original inventor from using the process in the new manner, whereas the original inventor could legally stop the second researcher from using the process in any manner whatsoever, including the new manner. In this situation there is an incentive for the two inventors to work out some

⁵³ 383 U.S. at 533-34.

⁵⁴ For an excellent discussion of the Supreme Court's arguments in *Brenner v. Manson* see Velvel, *supra* note 34. Velvel suggests that because the patent drafting techniques tend to minimize disclosure even where the invention is useful commercially, and considering that such inventions do receive patents, then, by a "parity of reasoning," research inventions should receive patents too. *Id.* at 6-7.

⁵⁵ 383 U.S. at 534.

⁵⁶ See Justice Harlan's dissenting opinion, *Brenner v. Manson*, 383 U.S. 519, 538 (1966); Velvel, *supra* note 36. Velvel points out that there is a possibility that empirical study may show that the Supreme Court is correct, contrary to the apparently reasonable assumption that inventors will act in their own best interest, but until this occurs, "the Court's statement makes little sense in regard to profit-oriented individuals or organizations." *Id.* at 7.

⁵⁷ 383 U.S. at 534. There is a well recognized exception to the general rules of patent infringement. If a subsequent researcher experiments with a patented compound or process for the sole purpose of satisfying a curiosity or philosophical interest, he is not an infringer. See 3 A. WALKER, *THE LAW OF PATENTS FOR INVENTORS* 1682 (A. Deller ed. 1937).

⁵⁸ 35 U.S.C. § 100 (1964). Section 100(b) reads in pertinent part: "The term 'process' means process, art or method, and includes a new use of a known process"

mutually profitable cross-licensing agreement.⁵⁹ The possibility of cross-licensing provides the second researcher with the motivation to experiment with the known process in the first place.⁶⁰

There is admittedly a possible difficulty with this argument. The original patentee has the right to prevent anyone from even experimenting with his patented process. Generally, he will not do this because it would not be in his economic self-interest.⁶¹ The patentee wants to obtain a patent so that he can place his process into the hands of others with the assurance that he will receive compensation for it. The patentee knows that his patent becomes more valuable to him through the development of new uses of his invention.⁶²

There is, however, a very important exception to the general rule that a patentee will not attempt to prevent research with his process. If the original patentee is a large corporation with all the necessary research facilities to conduct its own research into the process' uses, it will have no economic incentive to license others to do the research. Even though this exception may be extremely important because of the size and relative independence of many patentees, it is clear that the issuance of patents on such processes will not limit research into their uses. On the one hand, the large chemical corporation does the research itself, while on the other hand, the patentee who does not have the resources to do his own research has an economic incentive to license others to do so. Moreover, the original patentee's right to prevent others from experimenting with his process is, as a practical matter, unenforceable.⁶³ The reason for this is that such experimentation ordinarily occurs on the infringer's own property which is relatively secret from public observation.⁶⁴

In summary, the Supreme Court in *Manson* argued that failure to receive patent protection would not produce undesirable secrecy and that, in any event, disclosure of a new process would not necessarily stimulate research into new uses for that process. Hence, not granting a patent for the process would not deter the progress of science. It seems more reasonable, however, that if an inventor cannot receive patent protection for his invention, he will withhold disclosure until he can discover some

⁵⁹ Velvel, *supra* note 34, at 8. See also *United States v. General Elec. Co.*, 272 U.S. 476 (1926) (holding such cross-licensing agreements valid).

⁶⁰ See Velvel, *supra* note 34, at 8.

⁶¹ *Id.* at 8-9.

⁶² See *Id.* at 9. See also W. BENNETT, *THE AMERICAN PATENT SYSTEM* 142 (1943) [hereinafter cited as BENNETT].

⁶³ BENNETT, *supra* note 62, at 142.

⁶⁴ *Id.*

use for his invention. Undesirable secrecy could result.⁶⁵ It is also reasonable that disclosure will stimulate research into new uses for the invention, thus promoting the progress of science.⁶⁶

2. *The Monopoly of the Patent Grant*

Finally, the *Manson* decision emphasized the public's economic benefit to be derived from a patent monopoly, to the exclusion of the derivative benefits it would receive from increased chemical research. The Court believed that granting a patent for a process whose end product compound is useful only as an intermediate would lead to a monopoly over a potentially vast area. Such a patent might block off whole fields of research, the Court argued, without a compensating benefit to the public.⁶⁷

The Supreme Court said that the quid pro quo for granting the patent monopoly is the benefit to society. When there is no "specific benefit . . . in currently available form,"⁶⁸ there is nothing to compensate the public for the price it pays in allowing the patentee a monopoly on his invention. In this view, there is apparently insufficient benefit to the public deriving from a discovery which facilitates research to justify the granting of the patent monopoly. By emphasizing commercial benefit currently available to the public, the Court did not mention any benefit which might be incidental to an increased rate of chemical research.⁶⁹

B. *Kirk and Joly*

In addition to the problems with the *Manson* decision itself, there are difficulties in applying it to the patent applications for steroid intermediates of *Kirk* and *Joly*. *Manson* contains language which indicates that products and processes are to receive similar treatment with respect to the utility requirement and that neither is patentable if useful only in research.⁷⁰ The Circuit Court of Customs and Patent Appeals decided in *Kirk* and *Joly* that compounds useful only as intermediates in the production of other compounds which have no present known use other than as objects of scientific investigation did not satisfy the utility requirement of section 101, and the disclosure of how to use these compounds as intermediates did not satisfy the requirements of section 112.⁷¹

⁶⁵ See Justice Harlan's dissenting opinion, *Brenner v. Manson*, 383 U.S. 519, 538 (1966); Velvel, *supra* note 34, at 7.

⁶⁶ Velvel, *supra* note 34, at 12.

⁶⁷ 383 U.S. at 534-35.

⁶⁸ *Id.*

⁶⁹ See *id.* at 534.

⁷⁰ *Id.* at 535.

⁷¹ *In re Kirk*, 376 F.2d 936, 937-46 (C.C.P.A. 1967); *In re Joly*, 376 F.2d 906, 907-09 (C.C.P.A. 1967).

The court found the decision in *Brenner v. Manson* controlling on the facts of *Kirk* and *Joly* and held, on questionable grounds, that the Supreme Court's decision required it to overrule the *Nelson* decision.⁷²

The *Kirk* and *Joly* decisions appear to be the logical extension of the Supreme Court's reasoning in *Brenner v. Manson*. Nevertheless, there are questions about the direct applicability of *Manson* to the facts in *Kirk* and *Joly*. First, the procedural context in which *Manson* arose was an interference proceeding, whereas *Kirk* and *Joly* were ex parte proceedings involving the sufficiency of the applications to support patent claims. Second, the claims in *Manson* involved only processes while *Kirk* and *Joly* involved product claims.⁷³

1. Interference Proceedings

The purpose of an interference proceeding, brought before the Patent Office,⁷⁴ is to determine which of two or more parties claiming the same invention is the prior inventor.⁷⁵ The *Kirk* and *Joly* dissenters contended that the issue of utility is not the same issue in an ex parte proceeding as it is in an interference proceeding because the utility requirement is much stricter in the latter context, and therefore a decision that an invention lacks utility in an interference proceeding as in *Manson* is not binding on the issue of utility in an ex parte proceeding as in *Kirk* and *Joly*.⁷⁶

The main difference between those who think that the issue of utility in an interference and in an ex parte proceeding is the same and those who think there is a fundamental difference lies in their differing views as to the nature of the interference proceeding. Those finding similarity see the interference proceeding as composed of two parts. The first part is the determination of patentability of the invention with respect to both parties. Only when the Patent Office has found the invention patentable will it consider the question of priority.⁷⁷ Those who find a dif-

⁷² 376 F.2d at 946. The Supreme Court cited *Nelson* as requiring a more substantial showing of utility than any which *Manson* had made. *Brenner v. Manson*, 383 U.S. 519, 535 n.23 (1966). The Court also specifically reserved judgment on several cases where the usefulness of the compound was solely in research, a category into which the compounds in *Nelson* would fit. *Id.* at 531 n.17. Hence *Manson* neither required nor justified the overruling of *Nelson*.

⁷³ Judge Rich considered these factors important enough to distinguish the *Manson* case from the *Kirk* and *Joly* facts. 376 F.2d 936, 949 (1967) (dissenting opinion).

⁷⁴ For an excellent and detailed discussion of the current law with respect to interference proceedings see 1 C. RIVISE & A. CAESAR, INTERFERENCE LAW AND PRACTICE (1940) [hereinafter cited as RIVISE & CAESAR].

⁷⁵ *Id.* at 5-6.

⁷⁶ *In re Kirk*, 376 F.2d 936, 949 (C.C.P.A. 1967).

⁷⁷ See *Brenner v. Manson*, 383 U.S. 519, 528 n.12 (1966); RIVISE & CAESAR 26, 30:

ference see the interference proceeding as a single unit in which the question of priority of invention is the crucial issue which receives first consideration. To establish priority of invention, the inventor must prove an actual reduction to practice, which is a more stringent requirement than the requirement of utility in an ex parte proceeding. Therefore, they conclude, a refusal to grant an interference because the inventor has not established priority should not be binding on the issue of the invention's utility in an ex parte proceeding.⁷⁸

Each application in an interference proceeding must be such that it could result in a valid patent in an ex parte proceeding.⁷⁹ Such a determination requires the Patent Office to measure the sufficiency of the application and the patentability of the invention by the same statutory standards as in an ex parte proceeding, including the standard of utility in section 101 and the standard of disclosure in section 112.⁸⁰ This supports the conclusion that the decision on the patentability of research compounds and processes does not depend on the procedural context, whether interference or ex parte, in which the issue arises. The decision in *Brenner v. Manson* that the claimed process was not patentable would accordingly be binding on the issue of the process's patentability even though it arose in an ex parte proceeding.

2. *Process v. Product*

Some have urged that there should be different standards of utility depending on whether the claimed invention is a compound or a process.⁸¹ Most of these arguments contend that the requirement of utility for a process should be nothing more than that the process perform the function which the inventor intended it to fulfill; the court should not look

"The following prerequisites are essential to the institution of an interference between two or more applications:

(a) Each application must have been filed in such complete form as to have entitled the applicant to an examination of his application on the merits.

(b) Each application must be one that could result in a valid patent, *if prosecuted to final allowance*."

⁷⁸ See *In re Kirk*, 376 F.2d 936, 953 (1967) (Rich, J., dissenting); Vibber, *Utility—A Requisite in Reduction to Practice*, 30 J. PAT. OFF. SOC'Y 773, 785 (1948); 23 GEO. WASH. L. REV. 113 (1954). See also Burke, *Utility of Chemical Inventions: Chameleon of the Patent Law*, 43 J. PAT. OFF. SOC'Y 205, 207 (1961); Levy, *Utility—the Inverted Criterion*, 30 J. PAT. OFF. SOC'Y 592, 599 (1948); Robbins, *The Requirement of Utility in Chemical Patent Applications*, 35 J. PAT. OFF. SOC'Y 413, 416 (1953); Comment, *The Legally Complete Invention—A Study of the Requirement of Testing to Establish an Actual Reduction to Practice*, 33 GEO. WASH. L. REV. 740, 746-48 (1965).

⁷⁹ See 1 RIVISE & CAESAR, at 30.

⁸⁰ See note 78 *supra*.

⁸¹ This distinction was first recognized by the Circuit Court of Customs and Patent Appeals in *In re Wilke*, 314 F.2d 558 (C.C.P.A. 1963). See Note, 35 GEO. WASH. L. REV. 809, 813 (1967).

to the utility or nonutility of the product compound in order to determine whether or not the process is useful because to do so would require the inventor to teach the manner of using a product which he did not claim and which was not his invention. Therefore, the argument concludes, a decision that a process does not possess utility cannot be controlling on the issue whether the process's product compounds possess utility.⁸² This was one of the bases on which the dissenters in *Kirk* and *Joly* distinguished those cases from *Manson*.⁸³

Which of these viewpoints one holds depends largely on his interpretation of the policies underlying the granting of the patent monopoly. If one believes, as the Supreme Court did in *Brenner v. Manson*, that the emphasis should be on some "specific benefit . . . in currently available form,"⁸⁴ then he will quite reasonably look to the utility of the product compounds in determining the utility of the process. If one believes, on the other hand, that the benefits from progress in research are sufficient to justify the granting of the patent monopoly, then he will reasonably consider the functioning of the process as sufficient to satisfy the utility requirement without regard for the utility of the product compound.

3. *The Relationship Between Sections 101 and 112*

Those who believe that compounds which are useful in research either directly or as intermediates possess patentable utility maintain that research itself is a useful field of human endeavor. One difference between this view and the view that such compounds lack patentable utility lies in whether one interprets sections 101 and 112 separately or together.⁸⁵ The majority in *Kirk* and *Joly* argued that the two sections should be read together and that the disclosure requirements of section 112 presuppose full compliance with the requirements of section 101. The court said that any other interpretation of the requirements would anomalously require an applicant "to teach how to use a useless invention."⁸⁶ If one reads section 101 as requiring some specific benefit to the general public, he will necessarily read sections 101 and 112 together. Otherwise, there would be no requirement that the inventor disclose the benefit to the public because section 101 requires no disclosure. But reading the sec-

⁸² See *In re Szwarc*, 319 F.2d 277 (C.C.P.A. 1963); *In re Adams*, 316 F.2d 476 (C.C.P.A. 1963); *In re Wilke*, 314 F.2d 558 (C.C.P.A. 1963). See also Note, 35 GEO. WASH. L. REV. 809, 813 (1967).

⁸³ *In re Kirk*, 376 F.2d 936, 949 (C.C.P.A. 1967).

⁸⁴ 383 U.S. at 534-35.

⁸⁵ Burke, *Utility of Chemical Inventions: Chameleon of the Patent Law*, 43 J. PAT. OFF. Soc'y 205, 215 (1961).

⁸⁶ 376 F.2d at 942.

tions separately appears more reasonable because section 112 makes specific reference to the knowledge of those skilled in the art, whereas section 101 does not. In any event, if the sections are read together, it would appear more reasonable to interpret section 101's utility requirement by the standard of knowledge of one skilled in the art than to interpret section 112 to require disclosure of some specific benefit in apparent disregard of that section's language.⁸⁷

III

CRITIQUE AND SUGGESTION FOR A STANDARD OF UTILITY

The Supreme Court in *Brenner v. Manson* considered the quid pro quo for the granting of the patent monopoly to be the benefit to the public.⁸⁸ Unless the invention provided some "specific benefit . . . in currently available form," it did not compensate the public for the price it pays in allowing the patentee a monopoly on his invention.

The American economic system attempts to maintain free competition to ensure the greatest possible production and widest possible distribution of goods and services to the public. The ideal of a competitive economy is opposed to an economy dominated by monopolies which would restrict the total output of society and enlarge the monopolist's share.⁸⁹

The one outstanding exception to the general aversion to monopolies is the patent system.⁹⁰ This exception was predicated on the belief that new inventions would tend to augment the total amount of goods and services available to the public, and should consequently receive encouragement, even at the expense of forfeiting the ideal of free competition for a limited time. Congress received power from the Constitution to provide "patent grants of monopoly for limited periods of time in order to encourage inventive activity."⁹¹

There are two criticisms of the Supreme Court's emphasis on commercial benefit to the general public as a prerequisite to patentability. First, chemical research is vital to the development of useful products which the public enjoys. The progress of scientific research in this century has been responsible for a direct and significant increase in the produc-

⁸⁷ Cf. Burke, *supra* note 85, at 215. See also Judge Smith's dissenting opinion in *In re Joly*, 376 F.2d 906, 910 (1967).

⁸⁸ 383 U.S. at 534-35.

⁸⁹ BENNETT, *supra* note 62, at 80.

⁹⁰ *Id.* at 84. For an excellent analysis of the policies underlying the 1952 revision of the patent laws, see Riesenfeld, *The United States Patent Act in Light of Comparative Law* (pts. 1-2), 102 U. PA. L. REV. 291, 723 (1954).

⁹¹ BENNETT, *supra* note 62, at 80.

tion and distribution of goods and services.⁹² An invention which facilitates research is therefore of direct benefit to the public in that it increases the rate of the progress of science. As an illustration, if a compound is useful as an intermediate in the production of other compounds which are the objects of current scientific investigation, it performs a function which benefits the public. The public has a direct interest in discovering whether those compounds which are the objects of scientific investigation have some therapeutic or other value. In facilitating research into the uses of those compounds, the intermediate is serving that public interest. Such a benefit should be a proper *quid pro quo* for granting the patent monopoly.⁹³

The second difficulty with the Supreme Court's argument is its apparent implication, unsupported by precedent, that marketability is a prerequisite of patentability. There has never been a requirement that the invention possess greater practicality than another process or composition of matter which can accomplish the same result.⁹⁴ The general rule has been that an invention may be patentable even though commercially impractical.⁹⁵ Clearly, the benefit which the public derives from such an invention is minimal because it does not function practically in the commercial world. But it is equally clear that the public has given up nothing valuable by granting a patent monopoly on a commercially worthless invention.⁹⁶ Other inventions may possess only minimal utility at the time of the granting of the patent and later become extremely valuable to the public and to the patentee through the later development of new and unpredictable uses. For example, it was several years after the granting of a patent for ether that its properties as an anesthetic become apparent.⁹⁷ The same is true of compounds and processes useful in research. They may possess usefulness only as intermediates at the time of discovery. Subsequently they may become extremely valuable through discovery and development of new uses. It is difficult, if not impossible, in many instances, to predict the ultimate value of an invention to the general public. The patentability of the invention has never depended on

⁹² See generally *id.* at 121-41.

⁹³ See Velvel, *supra* note 34, at 10; Note, 35 GEO. WASH. L. REV. 809, 817 (1967).

⁹⁴ Vibber, *Utility—A Requisite in Reduction to Practice*, 30 J. PAT. OFF. SOC'Y 773 (1948).

⁹⁵ See *Flintkote Co. v. National Asbestos Mfg. Co.*, 52 F.2d 719 (3d Cir. 1931); *Electro-Dynamic Co. v. U.S. Light & Heat Corp.*, 278 F. 80 (2d Cir. 1921). *Leichsenring v. Freeman*, 103 F.2d 378 (C.C.P.A. 1939); *Williams v. Handschagl*, 48 F.2d 395 (C.C.P.A. 1931). But see Comment, *Do Chemical Intermediates Have Patentable Utility?*, 29 GEO. WASH. L. REV. 87, 100 (1961).

⁹⁶ See generally BENNETT, *supra* note 62, at 142-48.

⁹⁷ See Ryan, *Patentability of a New Use for an Old Composition of Matter*, 15 GEO. WASH. L. REV. 284 (1947).

the predicted degree of future value it may have in the marketplace. There is no apparent reason why the rule should be different in the case of compounds useful as intermediates.

No monopoly, of course, is absolute. Every monopoly is limited by the demand schedule for the product, the pressure of substitutes, the potential competition, the possibility of alienating future demand, and the possibility of intervention by the government, whether or not it is a patent monopoly. Patent monopolies, however, possess further limitations, the primary of which is the possibility of obtaining patents for substitute products or processes.⁹⁸ Only a very few of the many patents which issue from the Patent Office cover basic inventions. In the case of most other patents, whether for processes or compositions of matter, the same results are achievable by some alternative process or composition. This possibility, as well as the great difficulty in proving infringement in most cases, decreases the value of the patent monopoly to the patentee as well as the danger that it will cover a potentially vast area without the compensating benefit to the public.⁹⁹

Eliminating any requirement that a patentable process or product possess a specific degree of utility¹⁰⁰ appears reasonable to the extent that it increases the possibility of choice among products or processes of varying degrees of performance. The patent law carries a presumption that the public receives its compensation for the granting of the patent monopoly when the invention has met the statutory requirements,¹⁰¹ and whether the invention meets those requirements, including the requirement of utility, has never depended on the degree of benefit which the public receives. Insofar as the decisions in *Manson*, *Kirk*, and *Joly* tend to establish a requirement that an invention possess a specific degree of utility before the patent may issue, they intrude into an area where such standards are neither applicable nor desirable.¹⁰²

Petitioner argued in *Manson* that the product compounds of his process might inhibit tumors in mice. Even though such a capability does not appear to satisfy the Court's test that a patentable invention must possess some "specific benefit . . . in currently available form," the Court specifically declined to express an opinion as to the patentable utility of compounds which could produce such an effect.¹⁰³ This indicates that the Court's test may not be rigidly applied. Assuming the question

⁹⁸ For an excellent discussion of the various factors which limit the monopoly created by the granting of a patent see BENNETT, *supra* note 62, at 121-41.

⁹⁹ *Id.*

¹⁰⁰ See note 94 *supra* and accompanying text.

¹⁰¹ See generally BENNETT, *supra* note 62, at 142-56.

¹⁰² See Note, 35 GEO. WASH. L. REV. 809, 817 (1967).

¹⁰³ 383 U.S. at 531n.17.

is open, it seems that such a process should be patentable because the resulting wide-spread dissemination of information about the process has a great social value. Disclosure of and experimentation with the process is highly desirable before it has developed to the stage where it can actually inhibit tumors but after the discoverer can say with some assurance that it will be useful in a particular field of research. Because society benefits from scientific research generally, and disclosure of new processes will stimulate research, there is a benefit to society in disseminating information about the process. Providing chemists with the information quickly enhances the possibility that they will be able to solve their research problem at a faster rate than if each must discover the process independently.¹⁰⁴ Such an increase in the possibilities of developing the process is worth the price of granting the patent monopoly.

The decisions in *Manson*, *Kirk* and *Joly* seem effectively to exclude research chemists from the class of people for whom an invention may be useful.¹⁰⁵ Under this rationale, utility to a research chemist alone is not patentable utility. The dissenters contended that these decisions would result in an increase of undesirable secrecy because few inventors will apply for patents on intermediates.¹⁰⁶ Patentability, on the other hand, would increase availability of these processes and compounds and would permit the research chemist to devote more time to research rather than first having to invent the chemical products necessary for investigation. Without such basic tools of research, progress declines—to the frustration of the constitutional design for the patent system.¹⁰⁷

Contrary to this position and in support of the interpretation of the utility requirement which the majorities in *Kirk*, *Joly*, and *Manson* imposed is the argument that parallel lines of scientific development often occur independently. Failure to grant patent protection to one discoverer will not prevent others who simultaneously make the same discovery from working with the product or process.¹⁰⁸ Granting a patent monopoly is therefore unnecessary to promote progress where progress is possible without the stimulation which patent protection provides. But even though such parallel discovery is possible, it frequently does not occur. And even when parallel discovery does occur, the vast majority of research scientists and inventors nevertheless have no opportunity to work with the product or process because they are not participants in the

¹⁰⁴ Velvel, *supra* note 34, at 12.

¹⁰⁵ Note, 35 GEO. WASH. L. REV. 809, 817 (1967).

¹⁰⁶ See *In re Kirk*, 376 F.2d 936, 959-62 (C.C.P.A. 1967) (Rich, J., dissenting); Velvel, *supra* note 34, at 12; Note, 35 GEO. WASH. L. REV. 809, 817 (1967).

¹⁰⁷ Note, 35 GEO. WASH. L. REV. 809, 817 (1967); see Velvel, *supra* note 34, at 12.

¹⁰⁸ See Velvel, *supra* note 34, at 11.

parallel discovery.¹⁰⁹ Hence, the possibility of parallel discovery is not a suitable basis for denying patents to research chemical compounds and processes.

B. Suggestion for a Standard of Utility

An early Supreme Court case established the following standard of utility: The determination of the presence or absence of utility must be made in the light of the common knowledge of persons skilled in the art.¹¹⁰ The Supreme Court in *Brenner v. Manson* did not refer to this standard of utility. The dissenters in *Kirk* and *Joly* advocated readopting this standard by indicating that its application would involve an inquiry into what the chemists themselves consider useful in their work.¹¹¹ According to this standard, if a compound or process is useful to a research chemist in his research and the disclosure in the application is sufficient to show the chemist how to use the invention, then it fulfills the requirements of utility in section 101 and the requirements of disclosure in section 112.¹¹²

Such a standard is reasonable if one believes that the researcher makes his contribution to society at the time he discovers the compound or process and that the utility rests in the availability of the compound for further research.¹¹³ The development of such intermediates as were present in *Kirk* and *Joly* is often the product of exhaustive research, and it is irrefutable that such research—when considered in its entirety—advances science and the useful arts and that “utility is characteristic of every phase of the project.”¹¹⁴

Adopting this standard of utility would promote the progress of science and the public would benefit accordingly. More inventors would apply for patents on processes and compounds useful in research. Information about the discoveries would become available to the scientific community at an early stage. Consequently, more research into the uses of the new compounds and processes would result and the rate of discovery of uses would increase. Useful products and processes would become available to the public at a faster rate.¹¹⁵ Furthermore, uniformity and ease of administration of the utility requirement would

¹⁰⁹ *Id.*

¹¹⁰ *Klein v. Russell*, 86 U.S. (19 Wall.) 433 (1873). *Cf.* *Graham v. John Deere Co.*, 383 U.S. 1, 19 (1966), where the Supreme Court measured compliance with the requirement of § 103 that the invention be nonobvious according to the common knowledge of one skilled in the art.

¹¹¹ See *In re Joly* 376 F.2d 906, 917 (C.C.P.A. 1967) (dissenting opinion).

¹¹² See *In re Kirk*, 376 F.2d 936, 956 (C.C.P.A. 1967) (dissenting opinion).

¹¹³ See *Levy*, *supra* note 6, at 594.

¹¹⁴ *Id.* at 596.

¹¹⁵ See *Velvel*, *supra* note 34, at 12; Note, 35 GEO. WASH. L. REV. 809, 817 (1967).

increase. The inventor and the patent office could more readily comprehend the requirements of utility and disclosure which each must respectively fulfill and administer.¹¹⁶

In addition, the proposed standard of utility would more readily comport with that applied to tools which other scientists use. A new slide rule which is useful to those mathematicians trained in its use and a new surgeon's tool useful to a highly specialized surgeon possess patentable utility even though the general public cannot use these instruments. The benefit to the public results exclusively from the expert's use of the invention. Similarly, any benefit which the general public receives from the discovery of the steroid compounds in *Kirk* and *Joly* results from the use of these compounds by experts. In each case, the public does not benefit by being able to *use* the invention but receives a benefit through the expert's use of the invention.

It is arguable, however, that the general public receives a benefit from the expert's use of the slide rule or the surgical tool in a way that it does not benefit from the expert's use of the steroid compounds. The benefit to the public seems much more direct in the case of the slide rule or the surgeon's tool in that, whereas it is certain that the use of these instruments will lead to useful results in some instances, there is no similar assurance that the particular steroid will prove to possess some therapeutic value, and the patent should issue only after some particular steroid has shown some particular therapeutic value. The courts' greater willingness to allow patents to issue for mechanical inventions probably stems from the fact that it is often easier to visualize the benefit which society receives from such inventions than it is to visualize the benefit which the public receives from a chemical compound or process. There is no question, however, that the public does benefit from the progress in research which results from the discovery of these compounds and processes.¹¹⁷ A reasonable interpretation of the utility requirement cannot distinguish among these three inventions on the basis of the benefit which the general public receives from each. The better rule would require determination of the presence or absence of utility in the light of the common knowledge of one who is skilled in the art. If the research chemist can show that the invention is useful to him in his research, then the invention should satisfy the requirement that it possess utility.¹¹⁸

¹¹⁶ For a discussion of the difficulties involved in the administration of the rules as they now stand see *In re Kirk*, 376 F.2d 936, 957 (C.C.P.A. 1967) (dissenting opinion).

¹¹⁷ See note 104 *supra* and accompanying text.

¹¹⁸ For a discussion of possible constitutional objections to the adoption of such a rule and reasons why such objections do not constitute a serious bar to congressional action see Velvel, *supra* note 34, at 13-14.

CONCLUSION

The granting of the patent monopoly is an exception to the general aversion to monopolies in a free enterprise economy. The theory which supports this exception is that the privilege of a monopoly will act as an incentive to invention and discovery and the public will benefit in the long run from the increase in useful goods and services.

In order to justify the price which the public pays for the patent—the evils of the limited monopoly—the invention or discovery must possess utility. The Supreme Court in *Brenner v. Manson* diverged from precedent and interpreted this requirement to mean that there must be some “specific benefit . . . in currently available form.” Justice Story, on the other hand, maintained that the degree of utility which the invention possessed was important to the inventor but of no importance whatever to the public.¹¹⁹

If the determination of the presence or absence of utility is made in light of the common knowledge of persons skilled in the art, then a compound or process useful to a research chemist in his research will possess patentable utility and a specification which teaches the chemist how to use the invention or discovery will satisfy the disclosure requirement of section 112. Such a rule is in harmony with much of the history of the utility requirement, including a decision of the United States Supreme Court.¹²⁰ It is desirable because it would promote an increase in patent applications for inventions useful in research, a valuable dissemination of information about these discoveries which otherwise might remain secret, a corresponding increase in the rate of chemical research, and greater benefits to the general public accruing from this research. In general, it would promote the progress of science and the useful arts, thus fulfilling the constitutional design.

Brent Nelson Rushforth

¹¹⁹ See note 9 *supra* and accompanying text.

¹²⁰ *Klein v. Russell*, 86 U.S. 433 (1873).