

54 C.C.P.A. 1119, *; 376 F.2d 936, **;
1967 CCPA LEXIS 365, ***; 153 U.S.P.Q. (BNA) 48

LEXSEE 153 USPQ 48

In Re David Neville Kirk and Vladimer Petrow

No. 7522

United States Court of Customs and Patent Appeals

54 C.C.P.A. 1119; 376 F.2d 936; 1967 CCPA LEXIS 365; 153 U.S.P.Q. (BNA) 48

Oral argument December 5, 1966

March 16, 1967

PRIOR HISTORY: [*1]**

APPEAL from Patent Office, Serial No. 796,749

DISPOSITION:

Affirmed.

LexisNexis(R) Headnotes

COUNSEL:

Bacon & Thomas (Jesse B. Grove, Jr., of counsel)
for appellants.

Clarence W. Moore (Jack E. Armore, of counsel) for
the Commissioner of Patents.

OPINIONBY:

WORLEY

OPINION: [937]**

[*1119] Before WORLEY, Chief Judge, RICH,
SMITH, ALMOND, Associate Judges, and WILLIAM
H. KIRKPATRICK. *

* Senior District Judge, Eastern District of
Pennsylvania, sitting by designation.

WORLEY, Chief Judge, delivered the opinion of the

court:

[*1120] This appeal is from the decision of the
Board of Appeals affirming the rejection of claims 11,
25, 26, 28, 29, 39, 41, and 45 in appellants' application
n1 entitled "1-Dehydro-6-Methyl Steroid Compounds."

n1 Serial No. 796,749, filed March 3, 1959.

Each claim defines a specific steroid compound,
claim 11 relating to a compound of the spirostane series;
claims 25, 26, 28, 29, and 45 to compounds of the
androstane series; and claims 39 and 41 to compounds of
the pregnane series. It is unnecessary to reproduce any
claim since the nature of the compounds will become
apparent.

The Patent Office rejected all claims for failure of
the specification "to comply [***2] with 35 USC 101
and 112." As we view the record, we are concerned with
not only the legal adequacy of appellants' disclosure of
"how to use" the claimed compounds under 35 USC 112,
n2 but also the legal adequacy of assertions of usefulness
in the original [**938] specification under 35 USC 101.
n3 We are particularly concerned with the applicability
of the decision of the Supreme Court in *Brenner v.*
Manson, 383 U.S. 519, to the facts here. n4

n2 35 USC 112 reads in pertinent part:

The specification shall contain a written
description of the invention, and of the manner

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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, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

n3 35 USC 101 reads in pertinent part:

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, subject to the conditions and requirements of this title. [Emphasis supplied.]

n4 This appeal was originally argued December 7, 1965, some three months prior to the decision in Brenner v. Manson on March 21, 1966. On November 10, 1966, this court restored the appeal to the calendar for reargument, and requested counsel to file memoranda "on the effect, if any, of Brenner v. Manson * * * on this appeal." Argument on that question was heard December 5, 1966. [***3]

The appropriate starting point for disposition of those issues is appellants' specification, which begins with several general statements as to how the claimed compounds are useful:

It is an object of the present invention to provide a process for the conversion of 3-oxo-[*] (4)-6-methyl and 3-oxo-[*] (4):(6)-6-methyl steroidal derivatives into the corresponding 1-dehydro-derivatives which are a new class of compounds often possessing high biological activity.

The present invention provides new 1-dehydro-derivatives of 3-oxo-[*] (4):(6)-6-methyl and certain 3-oxo-[*] (4)-6-methyl steroids having the formula

[Graphic omitted. See illustration in original.]

[*1121] (With or without a double bond at the 6:7 position) which 1-dehydro-derivatives are of value on account of their biological properties or as intermediates in the preparation of compounds with useful biological properties as herein indicated or as is apparent to those skilled in the art.

* * *

The invention also provides the following new steroidal 6-methyl-1:4-dien-3-ones and 6-methyl-1:4:6-trien-3-ones which are of value in steroid technology, in the furtherance of steroidal research and in [***4] the application of steroidal materials to veterinary or medical practice, whether as tablets, elixirs, injections, implants, or other types of pharmaceutical preparation well known

to those skilled in the art. [Emphasis supplied.]

The description continues with lists of specific compounds of the cholestane, spirostane, androstane and pregnane steroid series together with a recital of "uses" for the compounds recited in the lists. Two compounds of the spirostane series are disclosed, one of which, 6-hydroxy-6-methyl-25D-spirosta-1:4-dien-3-one, is the subject of claim 11. They are said to be

* * * of value as intermediates in the preparation of 6-methylated aromatic steroid hormones into which intermediates they may be converted by reaction in solution in acetic anhydride with toluene-p-sulphonic acid. [Emphasis supplied.]

Eighteen compounds of the androstane series are disclosed. The five recited in the claims are

17[*] -Hydroxy-6:17[*] -dimethylandrosta-1:4:6-trien-3-one [Claim 45]

17[*] -Ethylyl-17[*] -hydroxy-6-methylandrosta-1:4:6-trien-3-one [Claim 25]

17[*] -Acetoxy-4:6[*] -dimethylandrosta-1:4-dien-3-one [Claim 26]

9[*] -Fluoro-11[*] [***5] :17[*] -dihydroxy-6[*] :17[*] -dimethylandrosta-1:4-dien-3-one [Claim 28]
17[*] -Hydroxy-6[*] -methyl-17[*] -(prop-1-ynyl) androsta-1:4-dien-3-one [Claim 29] [**939]

They are said to be

* * * of value as intermediates in the preparation of 6-methylated aromatic steroidal hormones, into which they may be converted by reaction in solution in acetic anhydride with toluene-p-sulphonic acid, as intermediates in the preparation of biologically active compounds and in some cases on account of their biological properties. [Emphasis supplied.]

Some sixteen compounds of the pregnane series are disclosed, including the two compounds of claims 39 and 41,

6[*] -Methyl-16[*] :17[*] -isopropylidenedioxy-pregna-1:4-diene-3:20-dione [Claim 39] and 20:20-Bisethylenedioxy-6[*] -methylpregna-1:4-dien-3-one [Claim 41.]

They are alleged to be

* * * of value as intermediates in the preparation of compounds with valuable biological properties such as progestational properties or properties associated with the adrenocortical hormones or as intermediates in the preparation of compounds with useful biological properties. [Emphasis supplied.]

Appellants' arguments [***6] are, in the main, two-fold. They first contend that the specification is adequate

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to comply with § 101 and § 112 because it discloses that the claimed compounds "have present and [*1122] useful biological activity of the nature known for analogous steroidal compounds,' and that "one skilled in the art would know how to use the compounds of the claims to take advantage of their presently-existing biological activity." The second argument is that the specification adequately discloses that the compounds "have use as intermediates in the production of aromatic steroidal hormones and other biologically useful compounds," and that the examiner has admitted one skilled in the art would know how to use the claimed compounds as intermediates for that purpose. The respective arguments present somewhat different considerations, and will be discussed separately.

I. The Asserted "Therapeutic" or "Biological" Activity

In his final rejection, the examiner stated:

All the claims are again rejected as lacking adequate utility. The disclosure fails to indicate to one skilled in the art how one is to use the novel compounds of this invention. The therapeutic properties are stated [***7] in such general terms i.e., "useful biological properties", that it fails to convey any useful information to one skilled in the art and further fails to state which of the claimed compounds have a therapeutic activity. * * *

In response, appellants submitted argument that the rejection "is not warranted," and also submitted an affidavit of one of the applicants, a Dr. Petrow, which appellants summarized in a letter accompanying the affidavit and substantially reiterate in their brief here:

Attached hereto is an affirmation of Vladimir Petrow which shows that one skilled in the art would be able to determine the biological uses of the claimed compounds by routine tests. The Petrow affirmation specifically shows that * * * [the steroid of] (Claim 25) in the well-known McPhail modification of the Clauberg Assay possesses progestational activity on oral administration. The natural hormone, progesterone, on the other hand shows no response on oral administration in the same test. Accordingly, it is quite evident that the compound of claim 25 is a valuable oral progestational agent. This affirmation, accordingly, is proof of the fact that one skilled in the art would have no [***8] difficulty in determining whether or not the 1-dehydro derivatives of the pregnane series, as claimed, have value biologically as progestational agents. [Emphasis supplied.]

In addition, the Petrow affirmation * * * discloses the determination of the anabolic activity of * * * the compound of claim 26. It is shown [***940] by standard test procedure that this compound does have anabolic activity and that, in addition, it has a much higher anabolic/androgenic ratio than that of testosterone propionate, a well-known anabolic agent. * * *

Further * * * the oral progestational activity of * * * the compound of claim 39, is set forth by virtue of well-known test procedure. The pregnane derivative is shown to be approximately 4 times as active progestationally on oral administration as * * * a well-known oral progestational agent. * * * by means of other tests the compound of claim 39 has been found to have valuable anti-inflammatory activity greater than that of either cortisone acetate or hydrocortisone. By virtue of a further standard test procedure the gluco corticoid activity of the compound of claim 39 has been shown to be more than 10 times that of cortisone and hydrocortisone [***9] acetates.

[*1123] The affirmation of Dr. Petrow not only shows that the compounds claimed do have biological activity as asserted in the specification, but that the nature of such biological activity can be readily determined by those skilled in the art by reason of standard test procedures. n5

n5 The record shows that the "standard test procedures" involved the use of laboratory animals, specifically rats and rabbits.

Appellants' affidavit and argument went for naught, the examiner responding that

* * * the final rejection of all the claims in the case as lacking an adequate disclosure of utility is deemed sound and adhered to. * * *

In his Answer before the board, the examiner rejected the claims * * * as failing to comply with 35 U.S.C. 101 and 112 in that the specification fails to teach those skilled in the art how to use the invention. * * *

After reviewing the various passages of appellants' specification relating to the uses of the claimed compounds and "how to use" them, he concluded:

* * * nowhere is there found a specific allegation of utility for any compound within the scope of the claims. Thus the specification does not describe the manner [***10] in such full, clear, concise and exact terms as to enable one skilled in the steroid art to use the compounds of the instant invention. * * * Appellants have not listed one specific use for their claimed steroids and as those skilled in the art know steroids are susceptible to hundreds of uses. What appellants are really saying to those in the art is take these steroids, experiment, and find what use they do have as medicines. [Emphasis supplied.]

With regard to the Petrow affidavit, the examiner stated:

* * * it may be that oral progestational activity can be determined by procedures well known in the art. * * *

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Once one knows that a compound does have utility as a progestational agent, it is of course merely routine to determine at what doses this activity exists. In other words, if in the specification as filed there had been a specific allegation that the compounds herein claimed had progestational activity this would have been sufficient to satisfy 35 U.S.C. 112, since those skilled in the art would know how to use a steroid possessing progestational activity. Thus, the aforementioned affidavit is not determinative of the issue at bar which is if the specification as [***11] filed does not allege a specific utility would one skilled in the art know how to use the invention?

The board agreed, adding that the reference in the specification to "biological properties" of the claimed compounds "is so general and vague as to be meaningless." It found in the specification no reason to expect that any of the claimed compounds "presents the probability of [*941] usefulness in the same manner as a natural hormone."

Appellants rely on the allegations in their specification that the disclosed compounds have "biological activity" as adequate disclosure of a use for the claimed compounds, stating:

The disclosure teaches that the novel compounds are, in some cases, of value because of their presently existing biological activity. The application * * * teaches that such steroidal materials may be applied to veterinary or medical [*1124] practice in the form of tablets, elixirs, injections, implants or other pharmaceutical preparations. In other words, the compounds in question are to be used in the manner of other steroid hormones in veterinary or medical compositions.

They also rely on the Petrow affidavit as evidence of the proposition that one [***12] skilled in the art would know how to use the claimed compounds, and assert that "the Board erroneously, completely ignored the Petrow affirmation confirming present useful hormonal activity of some of the compounds * * *."

[1] We are not persuaded by appellants' arguments that their specification meets the requirements of § 101 and 112. It seems to us that the nebulous expressions "biological activity" or "biological properties" appearing in the specification convey no more explicit indication of the usefulness of the compounds and how to use them than did the equally obscure expression "useful for technical and pharmaceutical purposes" unsuccessfully relied upon by the appellant in *In re Diedrich*, 50 CCPA 1355, 318 F.2d 946, 138 USPQ 128. n6

n6 There this court affirmed the rejection of certain claims for failure of an application to

comply with section 112, noting that it had no "specific disclosure as to just how the compounds are to be used."

Nor does the Petrow affidavit help appellants' cause here. While that affidavit may show that three of appellants' claimed compounds do in fact possess specific anabolic, anti-inflammatory or glucocorticoid activity or usefulness [***13] as oral progestational agents, that is not the issue before us. It is what the compounds are disclosed to do that is determinative here. In that regard, it is appropriate to note that the specification does not even intimate that the claimed compounds of the spirostane and pregnane series themselves have "biological activity," much less the specific progestational, glucocorticoid or anti-inflammatory activities mentioned in the affidavit. With respect to the eighteen androstanes that are disclosed, five of which are claimed here, it is said they "are of value * * * in some cases on account of their biological properties." (Emphasis supplied.) There is no suggestion which androstanes are of value for that reason, or what biological properties make them useful. n7

n7 Appellants also rely on this court's decisions in *In re Hitchings*, 52 CCPA 1141, 342 F.2d 80, 144 USPQ 637; *In re Dodson*, 48 CCPA 1125, 292 F.2d 943, 130 USPQ 224; *In re Krimmel*, 48 CCPA 1116, 292 F.2d 948, 130 USPQ 215; and *In re Bergel*, 48 CCPA 1102, 292 F.2d 955, 130 USPQ 206, for the proposition that usefulness of compositions of matter under § 101 may be established by an appropriate demonstration that the composition has useful properties or activities when tested in laboratory animals. Appellants correctly point out that the Supreme Court in *Brenner v. Manson* neither approved nor disapproved the reasoning and conclusions of those cases, 383 U.S. 531. However, appellants' reliance on those cases here appears misplaced. In those cases, the inventors had carried their invention substantially further than appellants here, pharmacological testing having proceeded to an extent that some particular salutary effects on conditions inimical to animals could be ascribed to the compounds in issue there. The general results of those tests were disclosed in the application as filed, in contrast to the situation here. See also *Archer v. Papa*, 46 CCPA 835, 265 F.2d 954, 121 USPQ 413; *Blicke v. Treves*, 44 CCPA 753, 241 F.2d 718, 112 USPQ 472. [***14]

[*1125] [2] Thus we agree with the solicitor that appellants' affidavit is simply an ex post factor affirmation irrelevant to the issue of adequacy of the original disclosure inasmuch as it attempts to add

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statements of usefulness to the disclosure [***942] of the application as filed. Indeed, the sum and substance of the affidavit appears to be that one of ordinary skill in the art would know "how to use" the compounds to find out in the first instance whether the compounds are - or are not - in fact useful or possess useful properties, and to ascertain what those properties are. It amounts to an admission that experimentation would be necessary to determine actual uses - or possible lack of uses - of the compounds, as well as how to employ them in a useful manner. But surely Congress intended § 112 to presuppose full satisfaction of the requirements of § 101. Necessarily, compliance with § 112 requires a description of how to use presently useful inventions, otherwise an applicant would anomalously be required to teach how to use a useless invention. As this court stated in *Diedrich*, quoting with approval from the decision of the board:

We do not believe that [***15] it was the intention of the statutes to require the Patent Office, the courts, or the public to play the sort of guessing game that might be involved if an applicant could satisfy the requirements of the statutes by indicating the usefulness of a claimed compound in terms of possible use so general as to be meaningless and then, after his research or that of his competitors has definitely ascertained an actual use for the compound, adducing evidence intended to show that a particular specific use would have been obvious to men skilled in the particular art to which this use relates.

As the Supreme Court said in *Brenner v. Manson*:

* * * a patent is not a hunting license. It is not a reward for the research, but compensation for its successful conclusion. * * *

Appellants further argue that the board had no grounds for concluding there was "no definite expectation from the specification" that any one of the claimed compounds "presents the probability of usefulness in the same manner as a natural hormone." According to appellants, "The analogy to known natural and synthetic hormones [presumably appellants intend to draw an analogy in chemical make-up or constitution between [***16] the claimed compounds and, for example, the natural hormone progesterone] enables one to predict that the new compounds would possess similar hormonal activity." Moreover, since some of the disclosed compounds of the pregnane series, not claimed here, were stated in the specification to be of value on account of their hydrocortisone-like anti-inflammatory properties, appellants contend that "it would not be unreasonable to predict that others of this series [i.e. the claimed pregnane derivatives] would also have this property."

[3] Similar arguments were advanced before, and rejected by, the Supreme [***1126] Court in *Brenner v.*

Manson, 383 U.S. at 531-2. We find no error in the board's position on the facts of this case, absent a disclosure in the specification that the requisite properties of the claimed compounds are also similar to those of a natural or synthetic hormone of known activity. Appellants' arguments fail to recognize that many steroid compounds may possess no activity whatsoever. It cannot be presumed that a steroid chemical compound is "useful" under § 101, or that one of skill in the art will know "how to use" it, simply because the compound is closely [***17] related only in a structural sense to other steroid compounds known to be useful. Cf. *In re Adams*, 50 CCPA 1185, 316 F.2d 476, 137 USPQ 333, dissenting opinion.

We conclude that appellants' specification does not comply with § 101 and § 112 merely on the statements of "biological" activity recited therein.

II. The Asserted Usefulness as an "Intermediate"

As can be seen from the portions of the specification quoted earlier, appellants disclose that the claimed spirostane and androstane derivatives may be used as intermediates in the formation of 6-methyl aromatic steroids, and that the claimed pregnane derivatives may similarly be employed to produce steroids having [***943] "progestational properties" or "properties associated with the adreno-cortical hormones." n8

n8 The disclosure with respect to the claimed pregnanes was characterized by the board as "even less helpful as to the manner in which these compounds may be used." We note, as did the solicitor, that appellants do not disclose either broadly or specifically what steroids having "progestational" or "adreno-cortical" properties may be produced from the claimed pregnanes. There is no hint in the disclosure as to what additional molecular substituents, if any, must be present in the steroids to be produced from the claimed pregnanes to obtain the recited properties. Nor do appellants direct our attention to any specific compound, possessing some specific property and known to the art at the time they filed their application, which can be prepared from the claimed pregnanes. [***18]

The examiner has conceded that "those skilled in the art would know how to produce aromatic steroids" from the claimed compounds. However, he did not believe the inquiry into the adequacy of the disclosure should stop there, noting:

* * * As to the portions of the disclosure which indicates that the claimed compounds are useful as intermediates in the production of 6-methylated aromatic steroids, applicants have failed to show even one useful

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aromatic steroid which corresponds to the claimed intermediates. In other words, applicants' statement of utility is to the effect that the novel compounds claimed herein are useful in making other novel compounds which have no known use. In the Examiner's opinion this is not sufficient nor does the Examiner know of any decision holding that such a statement is adequate.

[Emphasis supplied.]

[*1127] Appellants contend that the examiner's holding n9 "is straight into the teeth" of the decision of this court in *In re Nelson*, 47 CCPA 1031, 280 F.2d 172, 126 USPQ 242. They urge that the present disclosure with respect to the usefulness of the claimed compounds as intermediates "is on all fours" with that in *Nelson*. In their view, the [***19] examiner's requirement for disclosure of a use of the final products produced by carrying out the known process on the novel intermediates of the claims "is an absurdity" in view of *Nelson* and the further decisions of this court in *In re [**944] Wilke*, 50 CCPA 964, 314 F.2d 558, 136 USPQ 435; *In re Adams*, and *In re Manson*, 52 CCPA 739, 333 F.2d 234, 142 USPQ 35. They look upon the latter decisions as carrying forward the principle expressed in *Nelson* that, in their words, "there is no necessity for a specification to teach the use of an end product where such end product is not the invention claimed, but merely the result thereof."

n9 It is interesting to compare the rejections voiced by the examiner and board and summarized by the solicitor in *Nelson*, 47 CCPA 1037-9, 280 F.2d 176-7, 126 USPQ 247, with those raised here. For all intents and purposes, the rejections are identical. Although the board here found no decision "more directly relevant" than *Nelson*, nevertheless the examiner, board and solicitor all seek to distinguish it, urging that this court "evidently felt" that at least some of the products which could be made using *Nelson*'s compounds as intermediates would be final products usable with no experimentation for specific therapeutic end purposes. The court did not intend *Nelson* to have the narrow scope attributed to it by the Patent Office. The most the court knew about what could be done with *Nelson*'s C-19 14-hydroxy androstenes was that they could be used as intermediates to produce "steroids of a class at least some members of which are known to have useful therapeutic properties." The court took that as no guarantee that any of the particular "final products" which might be produced from *Nelson*'s particular intermediates themselves would have the cardiac glycoside activity of other members of the class. As appellants correctly note in their brief:

In the *Nelson* case, one skilled in the art could not exactly predict what therapeutic properties the end products produced by the use of the claimed intermediates might have, nor could they predict that they would possess any at all. * * *

Appellants, however, also urge that their intermediates are "useful" substances even under the Patent Office interpretation of *Nelson*. They contend that the 6-methyl aromatic steroids produced from their claimed compounds are members of a class of aromatic estrogen compounds, some of which are useful commercially. They refer specifically to certain members of that class in their brief. But appellants have not disclosed or otherwise shown that any 6-methyl aromatic steroid which can be produced from their intermediates possesses activities in common with those commercial members of the aromatic steroid series. We cannot accept their arguments for reasons given under Part I of this opinion. [***20]

The decision in *Nelson* might well control here - if that decision were still a viable precedent. The question remains, however, whether the majority view in *Nelson* - that steroid chemical compounds may be useful under § 101 if they are useful to chemists doing research on steroids and can be used to produce steroids which are members of a general class some members of which are known to have useful therapeutic properties - can possibly remain the law in view of *Brenner v. Manson*.

[*1128] There the Supreme Court, in considering what renders a process useful under § 101, discussed the cases cited by appellants here, stating (all emphasis supplied):

As is so often the case, however, a simple, everyday word [useful] can be pregnant with ambiguity when applied to the facts of life. That this is so is demonstrated by the present conflict between the Patent Office and the CCPA over how the test is to be applied to a chemical process which yields an already known product whose utility - other than as a possible object of scientific inquiry - has not yet been evidenced. It was not long ago that agency and court seemed of one mind on the question. In *Application of Bremner*, [***21] 37 C.C.P.A. (Pat.) 1032, 1034, 182 F.2d 216, 217, the court affirmed rejection by the Patent Office of both process and product claims. It noted that "no use for the products claimed to be developed by the processes had been shown in the specification." It held that "It was never intended that a patent be granted upon a product, or a process producing a product, unless such product be useful." Nor was this new doctrine in the court. See *Thomas v. Michael*, 35 C.C.P.A. (Pat.) 1036, 1038-1039,

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166 F.2d 944, 946-947.

The Patent Office has remained steadfast in this view. The CCPA, however, has moved sharply away from *Bremner*. The trend began in *Application of Nelson*, 47 C.C.P.A. (Pat.) 1031, 280 F.2d 172. There, the court reversed the Patent Office's rejection of a claim on a process [product] yielding chemical intermediates "useful to chemists doing research on steroids," despite the absence of evidence that any of the steroids thus ultimately produced were themselves "useful." The trend has accelerated, culminating in the present case where the court held it sufficient that a process produces the result intended and is not "detrimental to the public interest." 52 C.C.P.A. [***22] (Pat.) at 745, 333 F.2d at 238.

n10 In a footnote to the above comments, the Court added:

Thus, in *Application of Wilke*, 50 C.C.P.A. (Pat.) 964, 314 F.2d 558, the court reversed a Patent Office denial of a process claim, holding that 35 U.S.C. § 112 (1964 ed.) was satisfied even though the specification recited only the manner in which the process was to be used and not any use for the products thereby yielded. See also *Application of Adams*, 50 C.C.P.A. (Pat.) 1185, 316 F.2d 476.

In *Application of Szwarc*, 50 C.C.P.A. (Pat.) 1571, 319 F.2d 277, the court acknowledged that its view of the law respecting utility of chemical processes had changed since *Brenner*. * * * [Emphasis supplied.]

Stripped of the highly technical procedural differences, the basic issue here, as in *Brenner v. Manson*, is whether the burden resting on an applicant to show that his invention is useful within the requirements of § 101 has been satisfied. While *Manson* did not disclose any use at all for the steroid compounds produced by his process, the arguments he advanced [***945] as to why those compounds were useful under § 101 correspond in substantial measure to the disclosure of the specification [***23] and the arguments relied on here. There can be no doubt that the insubstantial, superficial nature of vague, general disclosures or arguments of "useful in research" or "useful as building blocks of value to the researcher" was recognized, and clearly rejected, by the Supreme Court:

Whatever weight is attached to the value of encouraging disclosure and of inhibiting secrecy, we believe a more compelling consideration is that a process [***1129] patent in the chemical field, which has not been developed and pointed to the degree of specific utility, creates a monopoly of knowledge which should be

granted only if clearly commanded by the statute. * * * The basic quid pro quo contemplated by the Constitution and the Congress for granting a patent monopoly is the benefit derived by the public from an invention with substantial utility. Unless and until a process is refined and developed to this point - where specific benefit exists in currently available form - there is insufficient justification for permitting an applicant to engross what may prove to be a broad field.

These arguments for and against the patentability of a process which either has no known use or is useful [***24] only in the sense that it may be an object of scientific research would apply equally to the patenting of the product produced by the process. Respondent appears to concede that with respect to a product, as opposed to a process, Congress has struck the balance on the side of nonpatentability unless "utility" is shown. Indeed, the decisions of the CCPA are in accord with the view that a product may not be patented absent a showing of utility greater than any adduced in the present case. We find absolutely no warrant for the proposition that although Congress intended that no patent be granted on a chemical compound whose sole "utility" consists of its potential role as an object of use-testing, a different set of rules was meant to apply to the process which yielded the unpatentable product. That proposition seems to us little more than an attempt to evade the impact of the rules which concededly govern patentability of the product itself. (Emphasis supplied.)

[4] Wholly aside from the controlling impact of that reasoning here, the conclusion is inescapable that, just as the practical utility of the compound produced by a chemical process "is an essential element" in establishing [***25] patentability of the process, 383 U.S. 519, so the practical utility of the compound, or compounds, produced from a chemical "intermediate," the "starting material" in such a process, is an essential element in establishing patentability of that intermediate. It seems clear that, if a process for producing a product of only conjectural use is not itself "useful" within § 101, it cannot be said that the starting materials for such a process - i.e., the presently claimed intermediates - are "useful." 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. n11 [***946] Cf. *Reiners v. Mehlretter*, 43 CCPA 1019, 1026, 236 F.2d 418, 421, 111 USPQ 97, 100, where compounds employed as intermediates to produce other directly useful compounds were found to be themselves useful.

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n11 It does not appear that appellants seriously disagree with us on the matter, for in their memorandum on reargument they state:

C. By analogy between a process for production of a product and an intermediate for producing an end product, such intermediate would not be useful within the meaning of 35 U.S.C. 101 merely because it can be used to make the intended product, or because the end product belongs to a class of compounds now the subject of serious scientific investigation. [***26]

It is impossible to reconcile the reasoning and conclusion of the majority in Nelson, Wilke, Adams and Szwarc with the majority view [*1130] in Brenner v. Manson. Therefore, to the extent that those decisions are inconsistent with Brenner v. Manson and the views expressed herein, they must be, and are, overruled.

The decision is affirmed.

CONCURBY:

WORLEY

CONCUR:

WORLEY, Chief Judge, specially concurring.

It is most regrettable that for the first time in the history of this court, the usual orderly processes of the court have been ignored by a minority.

The instant appeal was re-argued December 5, 1966. The majority opinion was circulated December 22 in its present form. Yet, now, nearly three months later, the dissenting opinions are not available and no valid excuse is given.

[*1131] It would seem that if the majority can direct its time and attention to expediting the work of the court it should not be too much to expect the same diligence from the minority.

It should not be necessary to say that the duty of this court is to the litigants, applicants for patents, the Patent Office and the public - not to the possible whims and caprices of individual judges. [***27] It is impossible to discharge that duty by condoning the instant derelictions, which hereafter will not be countenanced.

DISSENTBY:

RICH, SMITH

DISSENT:

RICH, Judge.

Notice of Forthcoming Dissenting Opinion

I, like Judge Smith, whose sentiments I share, am now revising a dissenting opinion to cover this case and the companion Joly case (No. 7472), argued together December 5, 1966, and involving similar issues. I initially filed my tentative dissenting opinion herein February 1 in response to the December 22 majority opinion and a January 24 opinion in Joly. Thereafter the majority opinion in Joly was 75% rewritten on February 8 and again, on February 20, its content, responsive in part to observations in my dissent, was reduced 50%. In the ensuing three weeks the court has conferred on a long agenda of cases and held a week of hearings March 6-10, upon the conclusion of which I resumed, on March 13, my revision of the dissent. On that day notice was given by the Chief Judge that these two cases "will go down Thursday, March 16."

Protest to the arbitrary use of assumed power having proved futile, this unprecedented display of unseemly haste, condoned by the majority, necessitates [***28] this notice.

SMITH, Judge, dissenting.

Our usual practice is to release the majority opinion simultaneously with any dissenting opinions. There has been an unwarranted departure from this procedure in this case, the effect of which is to preclude an expression of my views at this time. I am unable to see wherein the cause of justice is served by such an irregular procedure. This dissent is therefore 1) a protest to the procedure here adopted, and 2) a notice that my full written dissent will be forthcoming as soon as the pressures of court work permit.

RICH, Judge.

Notice of Withdrawal

With the filing of the attached dissenting opinion in the above case, I hereby withdraw my "Notice of Forthcoming Dissenting Opinion," dated March 16, 1967 (published in Patent, Trademark and Copyright Weekly Reports for April 3, 1967, 153 USPQ No. 1, at page 56 following the majority opinion herein).

RICH, Judge, dissenting. [***947]

I. Introduction

Herein I state my views both in this case and the companion case of *In re Joly* (No. 7472), 54 CCPA 1159, 376 F.2d 906, 153 USPQ 45, 243, wherein Judge Smith has written the principal dissenting opinion, with which I generally [***29] agree. These cases having been considered together throughout and the majority having decided Joly on the [*1132] basis of its opinion herein, we agreed on this division of labor and the dissenting opinions in each case have had to await developments in

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the other.

These two cases are something of a sequel to our *In re Manson*, 52 CCPA 739, 333 F.2d 234, 142 USPQ 35, reversed by the Supreme Court in *Brenner v. Manson* (hereinafter *Manson*), 383 U.S. 519, March 21, 1966. These cases are Chapter II to Manson's Chapter I and involve issues not placed before or argued in the Supreme Court in Manson. As I read the Manson opinion, after following the cases closely, including attendance at the arguments before the Supreme Court, n1 it is my view that the Manson decision is not controlling, is not determinative of the issues here. That was my view when, on July 11, 1966, I circulated an opinion for the court herein which enjoyed majority support for more than three months, during which time no dissenting opinion appeared. n2

n1 In fact, I have followed the development of this branch of patent law from long prior to the case of *Monsanto v. Coe*, 145 F.2d 18, 79 App.D.C. 155, 62 USPQ 37 (1944), significantly twice referred to by Mr. Justice Fortas in his Manson majority opinion.

n2 Chief Judge Worley first filed a dissenting opinion herein Oct. 19, 1966, which bears little resemblance to his present majority opinion first circulated Dec. 22, 1966. The first dissenting opinion in July was also by Chief Judge Worley on Oct. 19 after three separate opinions to reverse had been circulated by the late Judge Martin who, however, decided before he died that the "thrust" of Manson required affirmance in July. He never expressly reached Kirk to my knowledge. [***30]

A related key question, to my mind, was then, and still is, whether our decision [**948] in *In re Nelson*, 47 CCPA 1031, 280 F.2d 172, 126 USPQ 242 (hereinafter *Nelson*), on which appellants principally rely, remains a viable precedent after Manson. I think it does and that its overruling herein, together with a somewhat haphazard selection of other cases, is actually inconsistent with the Supreme Court's action in deciding Manson, notwithstanding some of the words in its opinion.

The majority's extension of Manson herein and in July demonstrates to me the need for one or both of two things: (1) further illumination by the Supreme Court, based on arguments directed to the problem, of the law on "utility" with respect to chemical compounds, which are in fact useful to research chemists in their work and commercial in the sense that they are manufactured, sold, and purchased for that purpose; (2) action by Congress to remove the uncertainty and confusion in which these decisions surely leave the law.

To the end that the legal problems may be appraised

in the light of practical considerations as well as legal theories, I have set down what follows.

II. Manson Is Distinguishable [***31] and Should Not Be Extended

I cannot believe that the purpose of the Supreme Court majority in Manson was to decide future issues in patent law unwittingly, virtue [*1133] of lower court expansion of its dictum, without knowing the implications of such decisions. Incautious though some of its language may have been, it expressly reserved judgment with the phrase "we express no view" on a group of our cases in which we held new chemical compounds to be "useful," though having utility only in scientific investigation. I find those decisions logically indistinguishable from the principles applied by the majority here in the name of Manson. (See footnote 17 of Manson.)

What the majority makes out of Manson by way of a test for utility under 35 USC 101 is that the compound must have "practical utility," or "some specific use." This is its summation of what is to be found in the Manson passages quoted by the majority. My own summary of that dictum would be that there must be specific, substantial utility which provides specific benefit in currently available form. One reason for characterizing this as dictum is that the opinion also refers to decisions of this court, including [***32] *Nelson*, listed in footnote 23 and left undisturbed, which have required "a showing of utility greater than any adduced in the present case., (emphasis mine) which, it will be remembered, was zero in Manson. The distinction which must be borne in mind is that between some disclosure of utility and none. The most significant aspect of Manson's patent application and his Rule 204(b) affidavits is that they disclosed no utility whatever for the compounds produced by his claimed process.

The issue before the Supreme Court in Manson was, primarily, the right of Manson to an interference with an issued patent n3 on a process claim, a subsidiary [**949] issue being the sufficiency of the affidavits, containing no disclosure of utility for the product of the claimed process, to show a reduction to practice and hence prima facie priority, which might deprive the patentees of their patent. The issue here is the legal adequacy of an admitted disclosure of a use in an application for a patent on chemical compounds, no issued patent and no question of priority being involved.

n3 That the Supreme Court was well aware of this practical aspect of the case appears from its footnote 12, discussing what the issue was, wherein it said (my emphasis): * * * there is no basis for the proposition that even where an applicant for an interference [Manson was trying

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to provoke one with an issued patent] presents a claim which on its face is unpatentable, a complicated and frequently lengthy factual inquiry into priority of invention must inexorably take place.

The policy considerations which operate in priority disputes (interferences) are well indicated in the Government's Manson brief wherein the point was made (p. 31) that: * * * the rule below may harmfully operate, as it did in this case, to prefer an inventor who finds no use, and who does not even disclose his invention, over one who, shortly afterwards, independently arrives at both the new process and a use for the product produced and seeks a patent after full disclosure to exploit his invention.

What the brief overlooks, however, is that the declaration of the interference is only the beginning and that the policy considerations might well operate to prevent the award of priority to the one with the inferior disclosure, just as they operate so that not all interferences conclude by grant of patent to the first inventor in fact. See *Mason v. Hepburn*, 13 App.D.C. 86 (1898); *Woofter v. Carlson*, 54 CCPA 917, 367 F.2d 436, 151 USPQ 407. [***33]

[*1134] While in Manson there was no disclosure of a use for the compound, reliance being placed on a mere assertion that utility was obvious to Manson, here there is admitted disclosure of utility of the compounds as intermediates to make certain steroids. The Supreme Court in Manson did not have this specific issue before it.

If it be said that use as intermediates is utility "only in the sense that it may be an object of scientific research," I note, as did footnote 17 of Manson, the cases holding that findings of anti-tumor effectiveness of chemical compounds in mice, rats, and rabbits, i.e., in laboratory animals, objects only of scientific research, constituted statutory usefulness. Since the Supreme Court deliberately left standing these decisions wherein patentability was sustained on the basis of usefulness only in scientific research, I cannot possibly read Manson as finding such utility legally inadequate.

Although the Manson opinion makes an argumentative assumption that "Congress intended that no patent be granted on a chemical compound whose sole 'utility' consists of its potential role as an object of use testing," there is no citation of prior decisions [***34] or legislative history in support of that assumption, I know of none, that is not the case here, and the statement appears to be inconsistent with the action taken by the Court in Manson footnote 17. See *Potter v. Tone*, 36 App.D.C. 181 (1911), which is an overlooked part of the

history of utility law and a case relied on by Chief Judge Worley in his opinion in *In re Folkers*, 52 CCPA 1269, 344 F.2d 970, 145 USPQ 390, hereinafter discussed (section VIII, infra), a case I find indistinguishable from this one but in which he found statutory utility with the unanimous support of the court, which case he has not overruled. The Supreme Court itself, in footnote 23 of Manson, acknowledged the Folkers case as being one having a showing of utility "greater than any adduced" by Manson.

I have searched diligently through the Manson opinion's discussion of process utility for some authoritative statement of what constitutes usefulness in a compound, have found no more than the dictum using the adjectives "substantial," "specific," "currently available," and "practical," and I am forced back on the same inquiry I made in Nelson when confronted by the Patent Office with the same words, usefulness [***35] to whom and for what purpose? I believe, as hereinafter stated, that usefulness, to chemists doing research on steroids, as intermediates to make other compounds they desire to make is sufficient. I further believe that this is the law as to the meaning of "useful" in 35 USC 101 as it was applied for decades and reaffirmed by the 1952 codification of the provision without change and that, for reasons hereinafter stated, it is sound and venerable law conducive to a sound patent system. I do not believe that in settling Manson's claim to an [*1135] interference the Supreme Court showed any intention of wholly overturning 175 years of established law on what is "useful," especially when it seems not to have found the significant legislative history underlying 35 USC 101, which is in history, not in the annals of the legislature.

III. Manson Did Not Overrule Nelson

It is the majority here, including the two judges who wrote dissenting opinions in Nelson, which uses Manson as a pretext for unnecessarily overruling Nelson. [***950] Certainly the Manson opinion indicates no intent to overrule Nelson. In fact, the Supreme Court majority said very little about Nelson and what [***36] it did say contains errors indicating that the case and its place in legal history were not well understood. The majority opinion here quotes the only passage referring to Nelson, taking silent note of one of the errors in it by inserting in brackets the word "product" following reference to "process" for the reason that no process claims were involved in Nelson. All the Supreme Court said about Nelson was that therein this court moved sharply away from *In re Bremner*, 37 CCPA 1032, 182 F.2d 216, 86 USPQ 74, reversing the "rejection of a claim on a process" (which was not the fact) "yielding chemical intermediates 'useful to chemists doing research on steroids,' despite the absence of evidence that any of the steroids thus ultimately produced were themselves 'useful.'" If Nelson had involved any process claims,

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perhaps the Manson decision would by implication have overruled a decision on them, but it did not.

The Government's brief in Manson likewise had little to say about Nelson and deals with the case only in a footnote stating, inter alia, that "Product claims alone were in issue in Nelson," and "While not overruling *Bremner*, the court interpreted it as requiring nothing more [***37] than was present in Nelson." Actually, the Nelson opinion, which I wrote, is at some pains to say that the rule of *Bremner* was that an application must contain "an assertion of utility and an indication of the use or uses intended," that the rule had been fully met in the case, and that we were "not disposed to alter this requirement, which has now been with us for a decade" (47 CCPA at 1047). It is not seen how this can be characterized as a move "sharply away from *Bremner*," as the Supreme Court said.

The situation is clear. The dissenting judges in Nelson held, and still hold, certain a priori notions about the meaning of "useful" in 35 USC 101 and its predecessor statutes back to 1790. Although these notions are directly contrary to 175 years of legal history, they find dictum in Manson conforming to their views. This assumed majority "view" in Manson they find requires Nelson to be overruled, just as they find Manson compels these cases to be affirmed. However, the [*1136] differences between the facts on which the Supreme Court had to base its decision in Manson and the facts it would have to think about if it had these cases or one comparable to Nelson before it, are [***38] such that the conclusions of the majority here about the controlling effect of Manson are legally unsound under elementary principles of stare decisis.

In the next section I hope to clarify where Nelson stands in legal history.

IV. Rather Than Starting a "trend," Nelson Was Intended To Stop a Short-Lived Departure From Established Law

Nelson did not start a trend, contrary to the statement in Manson. It was intended to stop and until now to some extent succeeded in stopping, a very modern trend, started after 1950 in the Patent Office. Mr. Justice Harlan appreciated this fact. In Manson he said in his dissent, joined by *Mr. Justice Douglas*, 383 U.S. at 539, 148 USPQ at 697 - and it cannot be too often repeated:

While available proof is not conclusive [i.e., in the Manson record, there being plenty elsewhere in the memories of those living], the commentators seem to be in agreement that until *Application of Bremner*, 37 C.C.P.A. (Pat.) 1032, 182 F.2d 216, 86 USPQ 74, in 1950, chemical patent applications were commonly granted although no resulting end use was stated or the statement was in extremely broad terms. n3 Taking this to be true [as it is], *Bremner* represented [***39] a

deviation from established practice which the CCPA has now sought to remedy in part only to find that the Patent Office does not want to return to the beaten track. If usefulness was typically regarded as inherent during a long and prolific [**951] period of chemical research and development in this country, surely this is added reason why the Court's result should not be adopted until Congress expressly mandates it, presumably on the basis of empirical data which this Court does not possess. [My emphasis.]

Justice Harlan's footnote 3 cites articles in 41 JPOS 61, 66, 29 Geo.Wash.L.Rev. 87, 91, 53 Geo.L.J. 154, 183 and 14 Am.U.L.Rev. 78 and notes that the Government's brief in Manson was in accord in saying:

[It] was apparently assumed by the Patent Office [prior to 1950] * * * that chemical compounds were necessarily useful * * * and that specific inquiry beyond the success of the process was therefore unnecessary * * *. [My emphasis.]

A further authority on this subject is Irving Marcus, Manager, General Organic Chemistry Examining Group, Group 120 of the Patent Office, who signed the Examiner's Answers in this case, author of "The Patent Office and Pharmaceutical [***40] Invention," 47 JPOS 669, a paper read at the 175th Anniversary Symposium in April 1965. The situation during a period of indefinite extent, but clearly bracketing [*1137] the passage of the Patent Act of 1952, is thus described by Mr. Marcus (p. 672):

The compound cases were treated in a different manner [from pharmaceutical composition and method of therapeutic use cases]. In spite of disclosures stating merely "useful as pharmaceuticals or in the preparation of pharmaceuticals," [i.e., as "intermediates"] the compounds were allowed as being for useful inventions. There was very little objection to such disclosures and our files are full of patents with these vague disclosures.

It is not the statutes or the decisional law of courts of law which have changed, but Patent Office decisions and policies. The only question here, of course, is what are the statutory requirements. The present applications of Kirk and Joly are "compound cases" of the type referred to by Mr. Marcus.

A contemporaneous historical news item on the change in Patent Office policy appears in Chemical and Engineering News for December 20, 1954, at p. 5046, where Mr. Stone, Supervisory Examiner [***41] for the chemical divisions, is quoted as saying:

Until the *Bremner* case several years ago, which made it clear that a statement of utility must be included in a chemical patent, it was almost completely ignored. Publication of the *Tolkmith* case last September tightens up this requirement even more by demanding a specific

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utility. [Emphasis ours.]

Ex parte Tolkmith, 102 USPQ 464 (1954), was a Patent Office Board of Appeals decision involving an application containing an application containing claims to a compound and containing an allegation of use as an intermediate and as a constituent of parasiticide compositions, deemed insufficient under 35 USC 112, the board referring vaguely to the requirement for disclosure of "utility" but making no reference to 35 USC 101. The examiner relied on Bremner. The board supported his rejection, adding reference to Avakian v. Fahrenbach (unpublished, MS Decisions Vol. 172, 425, 426, Comm'r. 1951).

In an article entitled "Adequacy of Disclosure as Regards Specific Embodiment and Use of Invention," by Wolffe, a member of the Tolkmith board, 41 JPOS 61 at 66 (a talk given April 17, 1958) is the statement:

In many cases the manner in which [***42] an invention may be used to advantage is so obvious that the specification is not objected to even if it does not describe a particular use. * * * Numerous patents on alloys which do not specifically describe the particular use to which the alloys may be applied have been granted.

Until recently it was also rather common to get patents on chemical compounds in cases where no use was [***952] indicated for the claimed compounds or in which a very broad indication or suggestion as to use was included in the application. Two recent decisions, one by the Court of Customs and Patent Appeals [Bremner] and one by the Commissioner of Patents [Avakian v. Fahrenbach], have put an end to this practice.[Emphasis mine.]

Wolffe interestingly reports that the examiner in the Avakian case took the position that the Bremner case did not apply to chemical [*1138] compounds!(P. 67.) The examiner had said, "Organic compounds are inherently useful as intermediates for preparing other compounds and this inherent utility satisfies the statutory requirement." (My emphasis.) That is the situation with respect to the administration of the patent law before some unidentifiable upper echelon [***43] in the Patent Office turned the thumb screws on the chemists. It did so with no mandate from Congress or the courts. It just arbitrarily decided to change the law.

For the sake of historical accuracy it should be noted that Bremner set out no requirement for a minimum quantum of utility and no definite test. All it said was that a utility must be asserted and indicated. Nelson, moreover, fully accepted Bremner (see the section of the opinion entitled "The Bremner Case * * *").

What actually happened in the internal administration of the law by the Patent Office was that,

building on what it imagined or wished Bremner to say, and a not very definitive ruling in an interference by an Assistant Commissioner in Avakian v. Fahrenbach, n4 the Patent Office began in Tolkmith a steady escalation of the requirements for disclosures of "utility," raising them above anything required by the statute or by Bremner, and developing its own brand new theories and philosophy about what the statute means by "useful." In the process, as we learned from the Nelson record and observed on many other occasions, confusion worse confounded was generated by cross-breeding sections 101 and 112, commingling [***44] the requirements for utility, disclosure of how to use, and best mode disclosure, with the result that we tried to lay down some guidelines in Nelson to separate these discrete statutory requirements. In our 1958 opinion in that case (not published until later because of rehearing), we first pointed out that in the preceding five years or so the Patent Office had gotten out of line with the century-old course of the patent law.

n4 This was Commissioner Murphy's supervisory review of an examiner's refusal to dissolve an interference, on motion by Avakian, on the ground Fahrenbach's application was "devoid of any statement as to the utility of the complex chemical compound covered by the count." The same situation existed in Bremner. It does not exist here. The Commissioner sent the case back to the examiner with instructions that if a statement of utility could be inserted which would not be "new matter" (which seems a silly idea if in fact there was none) then the interference should proceed, otherwise the examiner should dissolve it. As to its effect on the law, all the case does is to reiterate the Bremner rule that there must be "an assertion of utility and an indication of the use or uses intended." [***45]

Nelson's first application was filed in 1951 just when this shift was beginning to take place. The shift was first given general publicity by Commissioner Watson in a portion of an unpublished speech delivered by him in Atlantic City September 19, 1956, to the Division of Medicinal Chemistry of the American Chemical Society, at which time he stated that this then new policy, well known to be under criticism, [*1139] was still being studied "with care." As to the previously obtaining practice he said:

For some time in the past very little attention was paid to the requirement for a disclosure of utility in chemical cases. Some chemical patents were issued with specifications reciting the barest suggestions of uses for the new compounds claimed, or even without uses being stated at all. It was generally the position of the [***953]

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Patent Office that a chemical compound could be regarded as an intermediate substance useful in the preparation of other compounds, since it was regarded as obvious that any organic compound could be so used. *Ex parte Watt*, 1944 C.D. 5, 63 USPQ 163.

And such was also the view of the law taken by the courts. *Potter v. Tone*, *supra*. Reviewing [***46] that speech makes it appear that what was really concerning the Patent Office, which blurred into other "chemical" cases, was the desirability of full and complete descriptions of the utility and manner of using pharmaceutical preparations intended for human use as medicines. This is a very different problem from the broad question of statutory usefulness.

Historically, I find it insupportable to say that Nelson started a "trend." The flare-up of utility rejections during a period of four or five years - but which will now, under the majority decisions, continue indefinitely and with no clear guidelines - was in fact an innovation in a stable interpretation of the word "useful" in the statute which had prevailed for over a century, both in the Patent Office and the courts. Nelson reviews this history under the heading "Utility." For an earlier brief review, see "Comparative Utility as a Requisite of Patentability," by C. O. Marshall, 1 *JPOS* 550, 553 et seq. (1919). It behooves those who would speak with authority on what "useful" means in patent law to consult some of the ample history of the subject and it is hoped that the foregoing puts the place of the Nelson opinion in this [***47] development in clearer perspective.

As may be imagined, the self-induced change in position on the part of the Patent Office with respect to what the law requires by way of disclosures of utility in chemical applications has contributed heavily to the disproportionate number of appeals in chemical cases. The majority decisions and their inconsistency with other holdings not overruled are not calculated to change that picture.

V. This Case and Manson Differ by More Than "Highly Technical Procedural Differences"

The differences between this case and Manson are far from being aptly described - and thus the majority described them in lawyer's classic brush-off terms - as "highly technical procedural differences." It is naive to assume that the Supreme Court would have decided this case as it did Manson or would have uttered to same sort of supporting reasoning with respect to it. Different facts call for different [*1140] decisions which call forth different rationalizations, as anyone knows who has ever written an opinion. The question here is not whether a second and later applicant with no disclosure of utility for the product of a process should be allowed to have [***48] an interference with a patentee who had a good disclosure, with the attendant possibility of taking the

patent away from him. That was the real issue in Manson. The issue here is quite different: whether existing specific disclosure of the utilities of new compounds, not yet patented to anyone else, as intermediates to make specific other compounds is a sufficient disclosure to support a first patent on an otherwise patentable (i.e., new and unobvious) compound. Utility, of course, is but one prerequisite to patentability. This question was not presented in Manson. We have no way of knowing how the Court would have decided it.

It is therefore clear, as I understand the principle of stare decisis, that there is no decision in Manson bearing on the sole issue in this case and it is, therefore, not controlling here. We are free to apply our reasoning to the set of facts before us. The words in Manson, on which the majority hangs its rationalization of a result which is but the full flowering of the dissenting opinions in Nelson, are not words of authority binding on us. Nor, in my judgment, because of several underlying erroneous factual assumptions, are they even words of wisdom. [***49] [**954]

I am constrained to align myself with the views expressed by Mr. Justice Harlan to which I refer as expressing views omitted here.

VI. There Is a Vast Legislative History on the Meaning of "Useful"

Though I am sure the majority think they are being most reasonable, adhering to principles embodied in the Constitution, and following what Congress "must have intended," in point of fact they are legislating and ignoring the law as Congress enacted it.

The Supreme Court in Manson found "no specific assistance in the legislative materials underlying § 101," which was a 1952 enactment. That is because the legislature was then taking no action with respect to that provision except to reenact it without change, wherefore the true "legislative materials" necessarily consist only of its long history of construction and repeated reenactment without change, rather than some revisor's note or testimony at a hearing. It is history one must consider, rather than one's inner consciousness and preconceptions.

The ABC's of the situation are as follows: (A) If one goes through the statutes, from the first one in 1790 to date, the simplest of all possible legislative situations [***50] is found. Through the course of 162 years of Congressional action (1790-1952), the identical term "useful" has been employed to describe one of the prerequisites to patentability. (B) If one then examines the interpretation of this term by the courts and the analyses of the courts' views by the text-writers, what is found is that [*1141] the case law always was that any degree of utility to anybody was legal "utility." All this is analyzed in Nelson in detail. (C) Considering, finally,

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that the present statute, the Patent Act of 1952, § 101, was enacted without the slightest indication of any intent to change the law, as expressed in the cases, texts, and administrative practice, it is clear that the majority here is indulging in judicial law-making, as the majority in *Manson* would be if mere dictum in that opinion is raised to the dignity of "law." I think, in view of the long and clear course of legal history on the construction of "useful," that it would be improper to attribute such an intent to the Supreme Court.

The Patent Office and the majority are wont to mix up sections 101 and 112 on the "utility" issue and to find something more than can be found in 101 in the [***51] requirement of 112. The *Nelson* case briefs and record were replete with references to the non-existent "section 112 utility requirement." The argument was, and still seems to be, that the two sections are inseparable and each can be used to wash the other's hands - if you cannot find a requirement for "practical" utility in 101 (and you cannot) then you find it in 112. Judge Kirkpatrick voiced it in dissent in *Nelson* as follows (my emphasis):

Apparently unwilling to accept a mere statement in the application that the subject matter is useful, Congress added Section 112 which, in effect, requires the inventor to tell in his specification exactly how to make use of the invention.

* * *

The requirements of Section 112 as to showing manner of using are inseparable from those of Section 101 as to usefulness. The provision of Section 112 that the specification shall describe the manner of using * * * certainly means, in view of Section 101, that the applicant must show how his invention can be employed usefully.

Which is going around in a circle, ending up finally in section 101, and begging the question as to what is meant by "useful."

Thoughtful analysis will show that the [***52] outstanding primary characteristic of the majority opinion is also begging the question on the meaning of "useful," "no known use," "only conjectural use," and "some specific use" without once [***955] explaining what is meant, leaving it to readers to formulate their own meanings according to their own notions. These terms, along with "specific," "currently available," and "practical" use can all be subsumed under the one label - "petitio principii." What the majority wishes to be the law applicable to any given fact situation is implicitly taken for granted. History and the case law as reported by every author who ever wrote a textbook provide a sounder working foundation and they are mostly reported in *Nelson*. They are unanimous in finding the law to be that any degree of utility, however slight, complies with

the requirement that an invention be "useful." The majority has an underfined "quid pro quo" philosophy which simply cannot be squared with legal history.

[*1142] Any effort to add to section 101 through section 112 must fail in any historically justifiable construction of the patent statute for the simple and controlling reasons that: (A) The relevant terms now [***53] in section 112 have also been substantially the same ever since they were first introduced into the statute in section 2 of the first Patent Act of 1790 and cast into approximately their present form in the revision act of 1836, section 6. (B) The interpretation of "useful" throughout the ensuing century and a half by the courts as including any use to anybody - including usefulness as an "intermediate" to a research chemist - was made notwithstanding the concurrent provisions of section 112 (§ 4888 of the Revised Statutes from 1874 to 1952, which contains the exact phraseology of § 112).

In considering this case-law history one must be alert, in order to escape mental elephant pits, to avoid being confused by opinions which are dealing not with utility per se but with the unobviousness issue (or its predecessors, the presence of "invention," or "inventivlevel" as Stringham calls it) in terms of degree of utility as an indication thereof. The same precaution is called for in deciding the patentability issue in current cases so as not to confound the requirement of section 101 with that of section 103. It has been pointed out time and again since the days of Justice Story, as [***54] fully discussed in *Nelson*, that degree of utility is of no public concern whatsoever. This elementary principle appears not to have gotten through to those who still talk of utility in terms of "quid pro quo" for a patent. The only quid pro quo demanded by statute is full disclosure of a new and unobvious invention which is of some use to someone. If it is of very little use, the patent will correspondingly be of very little value to the patentee, who has never been called on either to know or to explain all potential uses of his invention. The hard fact is he almost never knows the full extent of the utility until years after he makes his invention. Uses evolve after inventions are disclosed.

VII. The Supreme Court in *Manson* Did Not Hold That Disclosure of Use in Research Alone Is Noncompliance With the Statute. It Reserved That Question

The main thing to be remembered about the *Manson* opinion is that it speaks about a situation in which there was no disclosure of utility.

The *Manson* opinion is relatively short, as opinions go. It does not say much. The only point actually decided is that for the purposes of provoking an interference with a process claim in an issued [***55] patent an applicant for a patent on the same claim must

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disclose that the process produces a "useful" product, that it is not enough to assert the use of the product is obvious to the applicant, but some specific use must be mentioned (as Bremner said), at least in the absence of evidence that a specific use would be obvious.

[*1143] Now, in the present cases specific uses for the claimed products are asserted. (In Joly processes for making the products are also claimed.) This is the first difference from Manson. To use the words of Manson, there exists disclosure of "utility greater than any adduced in the present case," which was [*956] zero. The next hurdle to surmount is the Manson reference to "a chemical compound whose sole 'utility' consists of its potential role as an object of use testing" and a product of a process which "is useful only in the sense that it may be an object of scientific research." (My emphasis.)

People who look merely at the words of an opinion without regard to what a court does in trying to discover "law" are as far from its discovery as religious fundamentalists are from the discovery of "truth" in holy writ in insisting that the world [***56] was made in seven (7) days. With respect to what was actually in the collective mind of the Supreme Court majority when it talked of "use testing" and "scientific research" - which is something we can only surmise - the most significant act of the Court is manifest in its footnote 17 where it actually came to grips with decisions relating to "use testing" and "scientific research." It there lists four cases (there are really five as there are two companion Bergel cases, 48 CCPA 1101 and 1102, both with the same issue, both opinions by Chief Judge Worley) in which the sole utility alleged for chemical compounds was as "an object of use testing," or "an object of scientific research" in laboratory animals, as specified in footnote 17. We held such utilities sufficient under section 101. As to these the Supreme Court majority was very careful to "express no view." This brings us to the contention of the majority here that the Manson decision demands assertion of a "specific" "practical utility" - whatever that is. Whatever it is, and neither Manson nor the majority give a clue, the contention simply cannot be made to jibe with the act of the Supreme Court in withholding judgment on [***57] the legal adequacy of disclosure of "scientific" use tests on laboratory animals (mice, rats, and rabbits) as a compliance with the statutory requirement that an invention be "useful." Useful to whom and for what? In the footnote 17 cases there is only one possible answer and that is useful to research workers in their research. There is nothing "practical" about these uses.

It is clear to me from its acts that the Supreme Court majority, regardless of some of its words, pleasing though they may be to the Nelson dissenters, deliberately refrained from passing on fact situations such as we have in the instant cases, where there are specific disclosures

in the specifications of uses of chemists or research workers, namely, use to make other specifically named compounds, coupled with a Patent Office admission of record that how to use for that purpose under 35 USC 112 is not an issue. Lest they be forgotten, I quote those disclosures, simplified by omission of the involved chemical names [*1144] which are replaced by the bracketed clauses and retaining the letter designations in parentheses used by the board in its opinion:

(c) [The spirostane series, which includes claim 11] [***58] are of value as intermediates in the preparation of 6-methylated aromatic steroid hormones * * *.

(d) [The androstanes, claims 25, 26, 28, 29, 45] are of value as intermediates in the preparation of 6-methylated aromatic steroidal hormones, into which they may be converted by reaction in solution in acetic anhydride with toluenep-sulphonic acid, as intermediates in the preparation of biologically active compounds and in some cases on account of their biological properties.

(e) [The pregnane series, claims 39, 41] are of value as intermediates in the preparation of compounds with valuable biological properties such as progestational properties or properties associated with the adrenocortical hormones or as intermediates in the preparation of compounds with useful biological properties.

This is a far cry from the total silence on use in Manson and it is more than a full compliance with the rule of Bremner. [*957]

VIII. These Cases Create Unworkable Administrative Problems. If They Stand, the Congress Should Act

The rule of the majority, with its impossible-to-define criteria, sets up an administratively impossible line-drawing problem. What is "practical" utility? [***59] My view, which I believe is clearly in accord with legal history, is that a new steroid, which a research scientist can use at once in his daily work, and which a chemical manufacturer, in accordance with common commercial practice, will be happy to sell him without knowing what is to be done with it, has, in Manson terms, "currently available," "substantial," "practical" and "specific" utility - to the research scientists as the relevant segment of the public.

I am unable to determine how or where to draw the line between such defacto useful compounds and those involved in *In re Folkers*, 52 CCPA 1269, 344 F.2d 970, 145 USPQ 390 (1965), opinion by Worley, C.J., for one example, wherein this court unanimously accepted as adequate a showing that the compounds were "useful as oxidizing or reducing agents," which is no more than a statement that the compounds are capable of two kinds of basic chemical reactions, and that they were "useful to the biochemist in the study of enzyme systems," which is

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nothing but "scientific research" or "use testing." The Folkers application, moreover, did not even state these utilities. It merely stated properties from which the court was willing to [***60] infer "some uses." The majority has seen no need to overrule this decision or to find it inconsistent with Manson. It has shown no desire to be consistent. If that is to be an indication of where to draw the line, I fail to see how either the inventors or the chemical group Patent Office examiners will be able to follow it. The law should be such, insofar as possible, that the examiners can follow it "strictly," as admonished by [*1145] the Commissioner and by the Supreme Court in *Graham v. John Deere*, 383 U.S. 1, 18.

The patent system operated very well - indeed, a lot better and at a lower cost in time and money, with less trouble and fewer appeals - before the Patent Office, not so very long ago, using Bremner as an excuse but going far beyond its requirements, initiated its get-tough policy on chemical utility, a policy bringing confusion in its train as the appeals to this court during the past decade well illustrate. From the practical administrative standpoint, the best rule, which is what we had in substance until 1950, is that chemical compounds are per se "useful" within the meaning of 35 USC 101. Since that was the rule in effect when Congress reenacted the "useful" [***61] and "how to use" provisions in 1952, in the same terms which had been in the statute from the beginning, there is no basis for assuming any "intent" that there should be a different rule.

If this cannot be brought to pass by court decisions, then the problem should be submitted to Congress. An effective statute which would restore the law to what it was for a century and a half would merely have to provide: (a) that new and unobvious chemical compounds are per se useful within the meaning of 35 USC 101 and (b) that it shall be conclusively presumed that chemists will know how to use them within the meaning of 35 USC 112.

Such restoration of the law, however accomplished, would have the salutary effects of: (1) rendering the law definite, (2) removing a burden from the examining corps it is not equipped to deal with effectively, (3) reducing appeals, (4) speeding up disclosure with consequent facilitation of research, (5) increasing the incentives to produce and disclose new compounds, (6) encouraging the production and marketing of new compounds for experimental purposes which will develop new uses for them, thus advancing the art and advantaging the public, (7) putting an end [***62] to the wasting of time and money in concocting uses merely for compliance with Patent [***958] Office requirements, a practice hereinafter exemplified, and (8) stopping the present illegal practice of requiring two inventions to be made before one can be patented - inventions often made by different people working for different employers, one

inventing the compound and another discovering the use.

The last point is illustrated by the following from a paper read by Joseph Gray Jackson, distinguished Philadelphia patent lawyer and teacher, at an Institute on Patent Law of the Southwestern Legal Foundation, Dallas, Texas, March 30, 1967. Discussing Manson he said (all emphasis mine):

It thus would seem that utility from the standpoint of aiding the research community is a highly undeveloped and uncertain area in the Patent Law.

[*1146] As a practical matter, if you invent a new machine for research, such as an electron microscope, and electron probe analyzer or a chromatograph, it is believed that the Patent Office and the courts will readily accept the idea that it is useful without question as to the utility of the scientific information derived in a particular process [***63] or product.

If the invention relates to a process which is useful only in research, the Patent Law requires utility for the product. [Citing Manson.] If the invention relates to a new composition whose utility exists solely in research, for example, a new chemical intermediate, there is grave doubt whether this is enough utility unless the intermediate is useful to produce products which have themselves known utility.

If it is to be the law that a new intermediate for which no known useful end product exists is not to be patentable until such useful end product is developed, in the meantime we will have a strange situation. [Mr. Jackson had not yet learned of these decisions.] The intermediate will be a potential invention held in suspended animation. It is not a patentable invention. The inventor of the intermediate will have to wait until someone produces a useful product from the intermediate. Then we will have a serious question as to who has made the invention of the intermediate. If the useful end product is unobvious, it would seem that the inventor of the intermediate will have to join the inventor of the end product with him in order to get a valid patent. On [***64] the other hand, if the useful end product is obvious from the knowledge of the intermediate, it would seem that the inventor of the intermediate can get a valid patent as a sole inventor by disclosing the useful end product. We will also have challenging problems about statutory bars. Can it be possible that publication or public use of the intermediate more than one year prior to the discovery of any useful end product will create a statutory bar against patenting the intermediate before it is possible to file a valid patent application on the intermediate? It seems to me that you cannot create a statutory bar until one year after it was possible for the inventor of the intermediate to file an application for a valid patent.

An elaborate ritual dance is required to satisfy the

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Patent Office as to the disclosure of utility of a drug. If the drug is to be applied to humans, the Patent Office usually requires clinical tests, that is, tests on human patients. It is difficult to get the Patent Office to accept proof of utility based on experiments performed on animals alone, unless of course the drug is a veterinary drug, or relates to something like an X-ray opacifier which will foreseeably [***65] perform the same way on animals as on humans. The reservation in the Manson case of the question as to whether treatment of tumors in mice might be accepted as utility, throws further doubt as to how far animal tests will be effective.

In the foregoing we see again how the majority decisions create a situation in which it takes two inventions to get one patent, which may be made by different [***959] people at different times. Mr. Jackson has not even fully developed the problems. If the compound is claimed as the invention, how can the discoverer of its use be joined as an inventor, since he did not invent the compound which may have been delivered to him as the invention of a stranger? If it is the use that is claimed (as a process, 35 USC 100(b)), how can the inventor of the compound be joined, since he did not discover it? There is no "joint" invention in such cases. See 35 USC 102(f), which expressly prohibits claiming, or invalidates a patent claiming, that which the applicant or patentee "did not himself invent." Cf. 35 USC 282(2).

[*1147] Thus the rule of the majority, and of Manson if read as the majority reads it, plays into the hands of the large to gigantic [***66] corporation possessed not only of chemical manufacturing facilities but, in cases involving subject matter such as that here, biological screening and testing facilities - even clinical testing facilities - as well.

The trouble with the majority rule would seem to stem from the fact that the authors of the opinions do not, or do not wish to, see the consequences of their decisions, an example being developed in the next section.

IX. The Majority Decisions Are an Incentive to the Contriving of Phony Utilities, Withholding of Information From Applications, and Delay in Disclosure of New Compounds

When shortly after 1950 the consistent construction of the statutory term "useful" which had prevailed since 1790 began to be upset by the Patent Office - and it was not altered anywhere else that I know of or anywhere else that any brief has shown - the applicants and potential applicants for chemical compound patents began to ponder the problem of what to do.

I have before me a 6-page single-spaced internal memorandum by one of them, a research chemist in one of the country's largest chemical companies, directed to

company patent counsel, dated July 31, 1957, a few months before [***67] the Nelson case was argued. I know no better way to make clear the mistaken philosophy n5 of the majority and to show how it will work in the commercial world than to extract the following passages (my emphasis):

n5 The Manson majority opinion ends with a literary flourish in the form of a sentence I wrote in *In re Ruschig*, 52 CCPA 1238, 1245, 343 F.2d 965, 970, 145 USPQ 274, 279. I said, "a patent system must be related to the world of commerce rather than to the realm of philosophy"; and that is precisely why I would reverse in these cases. Therefore, as the Supreme Court used the phrase, my meaning could not have been more completely inverted. It is to the world of commerce and the actual operation of the patent incentive system therein that I have attempted to relate the law in such cases as Nelson, our decision in Manson, this case and the others so cavalierly overruled by the majority. I shall continue on this course.

A well-characterized organic compound is something which the chemist, i.e., a person skilled in the art, definitely knows how to use. He can esterify or etherify a hydroxy radical present in a compound, he can amidate or alkylate an amino radical, [***68] he knows how to introduce a great variety of substituents into a benzene ring, and he knows enough about typical reactions and typical organic compounds to start with a hitherto unknown compound and proceed through as many as 30 or 50 steps in order to gain a desired end compound. Hence, to the chemist any new organic compound is a tool which he can use * * *. Is it necessary that we resort to a utility which can be understood by the non-skilled? * * * Certainly, insofar as the public is concerned, it would be wiser and more appropriate to state simply that the new chemical compound is useful as an intermediate for preparing other compounds. In the mechanical art, claims are readily allowed to individual members of machines even though the member in [***960] itself has no direct [*1148] utility. A valve is ineffective unless it is connected to a conduit, a rivet in itself serves no purpose without the members which it will unite, and a link is similarly ineffective. * * * Similarly, in chemistry, there may be thousands of compounds which may be regarded as ineffective in themselves but which can be converted by methods as well known to the chemist as is screwing, riveting, [***69] and jointing known to the mechanic to give products which constitute as much of a contribution to the so-called useful arts as does a finished machine.

So much by way of background. But then we come to the practical problem posed by the rule being

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promulgated by the majority - a rule of great vagueness and no definite limits by reason of reliance on the terms "practical," "substantial," "specific," and "currently available." They are nothing but trouble-makers, as time will amply demonstrate.

Any chemical compound is also useful as a material with which research in allied fields is conducted. New fuels are available because new compounds were available for testing in fuels. New biological toxicants are serving the public because new compounds had been available for testing against bacteria, insects and weeds. New plastics and fibrous materials are offered because new chemical compounds had been provided for testing. The public is well aware of the fact that the provision of new compounds for testing purposes contributes to national wealth and it realizes [would that that segment of it on courts did so] that its progress depends upon its capital of new compounds to be tested. [***70] Each new compound adds to the public's capital; and in so doing, it becomes useful.

We now come to the crux of the matter in the two concluding paragraphs and it will be clear why I cannot identify my source. What these paragraphs describe is already being done on an increasing scale and the majority opinion will have the effect of accelerating it. It is my view that it is a social evil and contrary to sound public policy. It is one of the inevitable "implications of a decision" like the majority decision here.

In spite of the fact that research in the allied arts cannot proceed unless there is a constant replenishment of compounds to be tested, we have somehow failed to consider new compounds as useful tools in these arts. At the present time we resort to artificialities in order to justify our provision of these tools to national economy and well-being. In one instance, for example, the writer was faced with preparing a specification on a class of complex compounds having groupings and substituents which a Cancer Institute had thought it would like to test. The compounds had been prepared; but before sending them out, it was necessary to file patent applications claiming [***71] the compounds per se. Biological testing institutions want to know what compound they are using because they wish to relate chemical structure to biological activity. Of course at this stage no utility of any nature [except as tools] had been demonstrated and since cancer research not only takes a long time but also rarely brings out a direct utility, another utility had to be asserted and demonstrated in the specification. Since the compounds had carboxylate radicals, it was easy for the chemist to see how they could be converted into compounds of some direct utility. Accordingly, he hydrolyzed one and converted the resulting free acid into a copper salt, being quite certain that the compound containing copper would have a fungicide effect. It did. And the specification was

written up setting forth utility of the new compounds as useful intermediates for the preparation of fungicides, the hydrolysis and salt-forming steps were described, and the fungicide tests and results were set forth. This [***1149] apparently satisfied the utility requirement. [***961] In another instance, a complex compound having a benzene ring was readily sulfonated to give a material which possessed [***72] surface-activity, even though the new compound was so expensive that so far as the chemist knew it would never be expedient to employ it merely as an intermediate for the production of a wetting-out agent. This again was done simply to satisfy utility requirements.

In view of the fact that one skilled in the chemical art knows how to convert any new compound into a material which will have the sort of utility that the non-skilled understands, it is possible, at the expense of valuable time and effort, to demonstrate eventual utility. But, it undeniably hampers effort, which ought to be directed at a more worthy end; and, what is equally important, it cheapens the science.

Clearly it is against public policy to so establish the dynamics of the patent system that they operate to cause scarce scientific and inventive brainpower to waste its time concocting "legal utilities" merely for the purpose of satisfying the Patent Office, which uses are never intended to be pursued further, instead of promoting honest disclosures which simply state that compounds are useful as "intermediates" and are intended merely to be supplied to another research group as the raw materials for further research. Such [***73] fantastic "law" is never indulged in with respect to other scientific "tools" of a mechanical or optical or electronic sort, such as a new laboratory balance, electron microscope, oscilloscope, or spectrophotometer, for example, yet they have no use whatever except to provide information and make research possible. Nor does the Patent Office worry about the utility of games, toys, and cosmetics. The rule of the majority is actually an incentive, furthermore, to conceal information as to the important uses actually in contemplation by the researchers for they dare not even mention such sensitive subjects as possible human therapeutic utility for fear of a demand that they be shown actually to exist and that they be proved by clinical tests beyond the power of the applicant to supply. I have watched this happening for more than a decade.

Least of all am I concerned about the failure of a patent specification to recite "definite" uses of compounds at the early stage when little is known about them. This is no cause for practical concern because one thing which surely can be counted on with respect to new compounds, once made available for use through the incentive of patent coverage, [***74] without any further incentive from the patent system, is rapid dissemination of knowledge about their practical uses.

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Spreading such knowledge is the vendor's means of creating his market and increasing his profits. Judge Smith gives examples of this in his Joly dissenting opinion. There is not the least practical necessity nor statutory obligation, so far as I can determine, for insisting on inclusion in the patent of such use information with respect to newly invented compounds.

Neither am I concerned about the inventor-producer of a new compound enjoying its market for 17 years on an exclusive basis after he has obtained his patent on the basis of some single, legally adequate [*1150] disclosure of a use. He always has and he always will do this, so long as compounds remain patentable. And why should it be otherwise? It is he who gave the world the new compound and thereby produced the progress in the art, thus serving the public. It is rare indeed that all or even the major uses are foreseen.

To cite an analogy from the non-steroid chemical compound field, how could the Teflon-coated frying pan have been developed without Teflon, a material of countless "definite" [***75] uses today, mostly not even visualized when Teflon was first produced by du Pont as a material of interesting potentialities. Today it circles the earth in such diverse uses as flexible fuel lines and electrical insulators in missiles and jet engines. Which definite [**962] use is the applicant for patent supposed to wait for and of what real public importance is it that only the first, which is perhaps the least important, be disclosed in the application?

In my view, the Patent Office ruling in this case is an attempt to enforce a short-sighted and impractical policy not required by either the literal terms of the statute or the objectives it is intended to accomplish, a policy never deemed necessary by the Patent Office under the same statutes until a very few years ago and applied nowhere except in the chemical examining group, which is something of a discrimination in legal administration.

Relating the matter to the instant case, it is clear from the examiner's answer on appeal to the board that his gaze was fixed on the prospect that what would be made from the "intermediate" would or must be an ultimate end product with therapeutic properties, either shown to be known [***76] or determined and disclosed, else nothing would be patentable. That probably started the trouble.

Followed to its logical conclusion, this idea becomes a *reductio ad absurdum*. In the normal course of progress in the useful arts one man's final product is often another man's starting material. The final products of a manufacturer or producer of chemicals may be the biological researcher's raw material and the starting material of the pharmaceutical manufacturer. Is progress in the useful arts to be deemed never achieved until some man beneficently swallows a pill? Why should the

patenting of new chemical compounds of many potential uses in industry and in medical science await his favorably physiological response? How can anyone do research work on steroids, adding and subtracting substituents, the presence or absence of which the examiner and the solicitor tell us in this case have such profound effects on their physiological properties, and how can they investigate those properties, unless the steroids are first made available? Why will supply them if they cannot first be protected? Do we wish to restrict protection, as the majority would, to those manufacturing organizations [***77] which support their own biological testing facilities? The solicitor's brief herein quotes extensively from a textbook on steroids, [*1151] "Steroid Drugs," by Norman Applezweig (1962), summarizing as follows:

It is apparent from the foregoing that steroids, including aromatic steroids, may or may not be biologically active, even if they possess activity the possible activities are diverse and numerous, and that the activities usually or frequently are drastically affected by the smallest changes in the steroid molecule. Consequently, the broad references in the present application to aromatic steroid hormones [sic] are insufficient to meet the utility requirements of the statute, especially in that such disclosure does not describe how to use the invention in the terms required by *35 USC 112*.

Accepting the first sentence as fact, it argues more against than for the legal consequences of the majority decision.

The inventions sought to be patented are new compounds and their patentability is not dependent upon specific therapeutic activities, the discovery of which is being left to others, to the biological and medical workers who could not discover their activities without [***78] having the compounds supplied to them by the chemical synthesizers. Progress in the chemical arts is made one step at a time and often by different groups of people. One group invents the chemical compounds. Another group discovers their therapeutic uses. Still others may improve upon them by modifications and compounding.

The issue in these cases is of vast practical economic importance to the public, chemical and medical research, and the chemical industry as a whole. The simple question involved, to borrow a phrase from Mr. Justice Douglas, n6 really [**963] is at what point the inventors of new chemical compounds "serve the ends of science - to push back the frontiers of chemistry." My view, like that of Justices Harlan and Douglas, is that they do it when they are in a position to give the compounds to the world. That is the way they used to be regarded. My observation is that the attempt to regard them otherwise, demanding the second invention before the first can be patented, does nothing but disrupt the

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smooth operation of our incentive system by delaying disclosure of new compounds and creating untold complications. I can find no good in it.

n6 Concurring in *The Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147, 154, 87 USPQ 303, 306. [***79]

X. The Clash of the Sound and the Unsound Quid Pro Quo Philosophies of the Patent System

Ours is a government of laws, not men. The basic law is the Constitution which authorizes, but does not create, a patent system. One of the Article I enumerated powers is that of clause 8 of section 8 granting to Congress the power to secure exclusive rights to inventors in their "discoveries" for limited times. All else is left to Congress.

Congress created a patent system by enacting statutes. The system, clearly, is one of legal rights granted according to terms prescribed [*1152] by Congress. The right to a patent exists if the applicant complies with the prerequisites. The power of the judiciary is restricted to construing the statutes and applying them to specific facts, as in the case of any other statutes.

The terms fixed by Congress, which should govern the judiciary as firmly as they govern inventors, under a government of laws, are basically five. (1) The invention must fall in the statutory category of 35 USC 101. (2) Under the same section it must be new and (3) useful. (4) It must be unobvious as defined in 35 USC 103 and (5) it must be clearly disclosed as required [***80] in 35 USC 112 and 113 so as to make the invention available to the public.

An invention which meets the first four requirements is a patentable invention. It is the election of the inventor whether he will patent it or not; there is no compulsion on him to do so and he may keep it to himself. Though patentable, it may or may not be an invention of commercial value; patentability, in legal theory, has nothing to do with commercial value. It seems probable that the majority of inventions actually patented turn out to have little or no commercial value. Many, however, have tremendous value. Not every horse places in a race but those which do, make the race very attractive. Therein lies the incentive.

How does this legislative scheme serve the Constitutional purpose "to promote the progress of science and useful arts"? The basic proposition to patentees is: if your invention has market value and if you can exploit it with profit, that profit will be secured to the extent that you may have the right to exclude

others from exploiting your invention. Whether that right has value is, of course, entirely dependent on whether the invention has value. But the right to the patent does [***81] not depend on the commercial value of the invention or on whether its contribution to "progress" is large or small or almost nil. The right to patent depends on compliance with the conditions specified by Congress and value of the invention definitely is not one of them. This is by way of stating the background for consideration of the "quid pro quo" question.

Not far below the surface of the division of opinion in this case lie diametrically opposed views on what is the quid pro quo required of an inventor in exchange for his patent right and the question will never be satisfactorily settled until this problem is clarified. The Latin words have various translations including what for what, something for something, giving one value for another, or in law the mutual consideration.

I prefer not to use the term quid pro quo in discussing patent law because we are dealing with a statutory right and the simple view I espouse is that if the [***964] statutory terms are met, the right must be granted, for what it may be worth. There is nothing in the statutes about quid pro quo. But if one must go looking for one, it is clear [*1153] enough what it is. A patentable invention [***82] having been made, in that the first four conditions listed above have been complied with, the only quid pro quo required of the inventor is the disclosure of his invention required of him as the fifth requirement for patentability.

It is quite possible that what is disclosed either totally lacks or has very little practical or commercial value. But this is how the system operates to promote progress. It produces the dross with the gold. You cannot get cream without producing milk. There is no way to tell ahead of time with any practical degree of accuracy which is going to be which. The gift of prophesy exists neither in the Patent Office nor the courts which review its actions. We had best adhere to administration of the system according to the ground rules laid down by Congress.

Considering quid pro quo, if we must, on this point, it is one of the legal beauties of the system that what is given by the people through their government - the patent right - is valued automatically by what is given by the patentee. His patent has value directly related to the value of his invention, as determined in the marketplace. In short, notwithstanding the grant of a patent, if the [***83] inventor has given nothing, the government has given nothing. The right to exclude others from the use of something no one wishes to use is worthless - economically. Nevertheless, in another aspect of the system the disclosure is there and may serve in its own way to promote progress.

Taking this view of quid pro quo as disclosure only,

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it becomes necessary additionally to state the place of the requirement that the invention be "useful," in the context of these cases, in order to make clear what is wrong with the other concept of quid pro quo. The unadorned word "useful" has been in the statutes unchanged since 1790. The unwavering course of the courts in construing "useful" since then has been the construction initiated by Justice Story and universally adopted to the effect that any use to anybody for any purpose suffices, without regard to degree. As Rogers on Patents restated it as late as 1914 (Vol. 1, p. 9) "utility * * * approaches a presumption more nearly than any other point recited in the statute and is seldom questioned by the courts or the Patent Office, except in cases of perpetual motion * * *." And in that category this court questions nostrums for growing hair [***84] on bald heads, *In re Oberweger*, 28 CCPA 749, 115 F.2d 826, 47 USPQ 455, devices which will not work or are incapable of being comprehended, *In re Perrigo*, 18 CCPA 1323, 48 F.2d 965, 9 USPQ 152, and, for the time being, alleged cancer cures, *In re Citron*, 51 CCPA 852, 325 F.2d 248, 139 USPQ 516. These cases involve the term "useful" in the sense of operativeness, not degree of utility. Inoperative compositions and devices have no utility.

Any judge or court undertaking today to hold that degree of utility is open for consideration on the issue of compliance with 35 USC 101 is simply changing the course of the law as it has been established for [*1154] over a century and a half. The legislative history is clear on that, the identical term bearing the same construction having been enacted time and again until the last reenactment in 1952. It is true there are no legislative materials on § 101 for the simple reason there was no discussion of this firmly fixed statute in the course of codifying it in 1952. There is no legislative history, therefore, to support a change from the historical construction.

To sum up my view of the law, an invention is patentable when it is in [***85] the category named in the statute (here a composition of matter, namely a compound, and in Joly a process as well), and it is new, useful (without regard to kind or degree of utility), and unobvious. The quid pro quo for a patent on such an invention, by statutory mandate, is simply [**965] its full disclosure. Now what is the other view? Is it supportable?

Chief Judge Worley articulated his idea about quid pro quo in his dissenting opinion in Nelson, in which opinion he used the term and said (my emphasis):

Patent rights are valuable rights and should be earned by those who seek patent monopolies. But the net effect of granting a patent here will be to give appellants an unearned monopoly on a substantial area in the field of chemistry, and prevent others, unless they are willing to risk infringement, from also experimenting in a field

which should be open to all.

To dispose quickly of a collateral point of law, experimental use is not infringement. n7 Judge Worley expressed similar sentiments in his dissenting opinions in the instant cases before he was in the majority, which I will not quote from since they are not officially opinions. They resemble his conclusion [***86] in the Nelson dissent that

n7 *Chesterfield v. U.S.*, 159 F.Supp. 371, 116 USPQ 445 (Ct. Cls., 1958) and cases cited; *Whittemore v. Cutter*, 29 Fed.Cas. 1120 (No. 17,600) (C.C.D. Mass. 1813); *Sawin v. Guild*, 21 Fed.Cas. 554 (No. 12,391) (C.C.D. Mass. 1813). See *Kaz Mfg. Co. v. Chesebrough-Ponds, Inc.*, 317 F.2d 679 (C.A.2, 1963).

* * * if the majority opinion serves as a precedent, it seems inevitable that in the future the public will be exchanging fixed patent rights for a diminishing quid pro quo far below the standards contemplated by the Constitution and the statutes.

I am unaware of any standard in the Constitution other than the concept that whatever statutory system Congress devised, it should be one which will promote progress. Congress devised such a system and the pre-1950 history in the chemical arts indicates that it promoted progress very well indeed, without the majority's affirmation of the Patent Office's innovations in the law.

As to the standards "contemplated" by the statutes, they are explicit. They are set out above. There is nothing in them about "earning" patent rights by producing some particular degree of utility.

The only point in the statute [***87] at which Congress injected any concept in the nature of degree is the unobviousness requirement of section [*1155] 103, a requirement injected into the law by the Supreme Court in 1850. *Graham v. John Deere*, 383 U.S. 1, at p. 10. In *Graham* the Court said, in II,

Within the limits of the constitutional grant, the Congress may, of course, implement the stated purpose of the Framers by selecting the policy which in its judgment best effectuates the constitutional aim.

That policy is to give patents to those who disclose any new, useful, and unobvious invention in the statutory category. In stating the policy, most recently in 1952, it necessarily used the word "useful" according to the meaning it had acquired in patent law which leaves no room for a quality determination by judges as to whether there is enough quid for the quo. As *Graham* has interpreted our present statutes, it is to be presumed that the public has derived the benefit contemplated by

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Congress when the invention disclosed is new, useful, and unobvious. Congress set no further conditions.

It seems to me that the majority's reasoning involves the classic error of thinking that the law requires that each and [***88] every invention shall promote progress. The statutes contain no such principle. Obviously, whether an individual invention actually promotes progress is a fact determined only by history. Such a test is practically unworkable at the application stage as history cannot be foreseen. Therefore Congress, in its wisdom, laid down specific tests for determining patentability and has not imposed on the judiciary or the Patent Office the impossible task of determining how much utility "earns" a patent. [***966]

I appreciate that this is a dissenting opinion but I rest on the hope that there is still some authority in reason and, as Mr. Justice Douglas said in *Peak v. U.S.*, 353 U.S. 43, that "common sense often makes good law."

SMITH, Judge.

Notice of Withdrawal

The attached dissenting opinion shall be substituted for my previous dissenting opinion filed March 16, 1967.

SMITH, Judge, dissenting.

My dissent here and in July, unavoidably completed after the majority handed down their opinions, I suppose may be termed, in a pragmatic sense as related to any persuasive function here at the court, "Smith's folly." However, because of what seem to me to be the most important [***89] considerations, of the injustice done to appellants by the majority and the dire consequences that will flow from the majority decisions, I respectfully submit the following. I am in general agreement with Judge Rich's dissent but desire to add some additional observations.

[***1156] Appellants here discovered, and attempted to claim, a new and unobvious invention embodies in what the statute terms a "composition of matter." No one argues that they have not succeeded in so doing. However, they are denied a patent because the board and the majority assert they allegedly failed to teach those of ordinary skill in the art how to use the claimed products, section 112, and further, they did not disclose "useful" products, section 101.

The sum and substance of the majority's reasoning seems to be that appellants failed to be as specific in their specification concerning what the claimed products were useful for, section 101, as the majority interprets section 101 to require. I base this conclusion on the following observations. The majority agrees appellants stated that their new products possessed high biological activity, had biological properties, were useful as intermediates [***90] in the preparation of products having biological

properties, were useful in steroid research and were useful in medical or veterinary applications. As intermediates, certain products were said to be of value in the preparation of 6-methylated aromatic steroidal hormones and others were said to possess valuable biological properties such as progestational properties or properties associated with the adrenocortical hormones. The majority further agrees that the evidence proves one skilled in the art would be able to determine biological uses of the claimed products by routine tests.

Appellants attempted to prove the claimed new products were in fact useful for the purposes alleged and that persons of ordinary skill in the art would know they were useful and how to use them. Apparently they succeeded in their proofs to the satisfaction of the majority which does not challenge the facts established by appellants. However, the majority dismisses these facts as but "an ex post facto affirmation," as "irrelevant," and as representing an attempt to "add statements of usefulness to the disclosure." Further, the majority position is that because appellants submitted these facts, there [***91] is an "admission that experimentation would be necessary to determine actual uses," whatever "actual" may mean. n1

n1 See the discussion, *infra*, of new and unobvious alloys and lubricants.

It seems to me that the reasoning of the majority cannot withstand analysis in terms of basic principles of patent law. As I view the majority position, appellants cannot submit evidence for consideration that one of ordinary skill in the art would know the claimed products were useful. To the majority, such evidence is prohibited as "new matter," see section 132. I agree that "new matter" cannot be added to satisfy any requirement of Title 35. But I fail to see where evidence which proves one of ordinary skill in the art would know how to use, section 112, new, unobvious and useful compositions [***967] of matter, section 101, can possibly be "new matter," within any reasonable interpretation [***1157] of the statute. It seems to me that appellant's evidence proves clearly that the examiner and the board members were unable to understand the uses for the products simply because they lacked the knowledge and skills the evidence shows were possessed by those of ordinary skill in this [***92] art.

The majority states that "Appellants' arguments fail to recognize that many steroid compounds may possess no activity whatsoever." I find this observation meaningless. Appellants are not so naive. They asserted that they had discovered useful products possessing useful activity. Thus what the majority in effect is saying is that it does not believe appellants and for this reason will not consider evidence which shows one of ordinary

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skill in the art, after learning of the claimed products and their asserted uses, would know how to use them as useful products. In determining whether the products are "useful," the majority by its holding restricts appellants to proofs of the knowledge stated in their specification to the exclusion of all information possessed by those of ordinary skill in this art.

The majority, it seems to me, injects confusion into the law and indorses an erroneous standard concerning chemical practice. The usefulness of chemical products is henceforth to be judged by a nebulous, "general versus specific" dichotomy without resort to what one of ordinary skill in the art would in fact conclude as to usefulness. Henceforth, if a disclosure of usefulness [***93] is deemed too "general," the inquiry is at an end and appellants are warned not to attempt to confuse the examiner, the board, or this court with evidence of facts which prove the invention is useful in the field or for the purposes asserted.

The injustice to appellants in this case is readily apparent. Operating under what they thought the law to be, they filed an application in compliance therewith. Now over eight years later, through the majority's rush to apply the dictum in Manson to the Nelson dissenters' expressed views as to what the "law ought to be," appellants are criticized for their apparent lack of knowledge in the art of steroid chemistry and are told that their disclosure of usefulness is wholly inadequate. Their application is found by the majority to be deficient ab initio.

Evidence of facts offered by appellants that one of ordinary skill in the art would find the products useful is characterized by the majority as irrelevant, inadmissible, and an ex post facto affirmation. The stark truth of the matter is that the majority construes a "law" as to chemical utility, "after the occurrence of a fact or commission of an act [filing an application] which retrospectively [***94] changes the legal consequences [patentability] or relations of such fact or deed," Black's Law Dictionary 662 (4th ed. 1957) (definition of "ex post facto law,"). Justice demands that appellants be given the opportunity to [*1158] present the evidence which the majority casually casts aside, presumed because it is inconsistent with the conclusions they wish to reach.

The majority attempts to justify its holding by statements such as, "the specification does not even intimate that the claimed compounds of the spirostane and pregnane series themselves have 'biological activity'" and "There is no suggestion * * * what biological properties make [the androstanes] * * * useful." This seems to me to be "fly specking" the specification as to individual products to reach an affirmance. Considering the specification as a whole and in view of the evidence submitted by appellants I would find sections 101 and

112 to be satisfied.

I have attempted to explain in my Joly dissent why I feel chemical inventors are being wrongfully discriminated against. I believe the majority opinion here is supporting evidence for my views. Considering the simple invention of an admittedly new and [***95] unobvious lubricant or alloy, I do not think that the Patent Office or the majority would find either [**968] to be "useless." Yet both the alloy and the lubricant can conceivably be found "useless" under the reasoning of the majority here. "High temperature" alloys and lubricants may well be inoperative or "useless" at low temperatures. The usefulness of these inventions, however, is not to be tested by reference to one of no skill in the art; if that were so, probably many specifications would be found to be "deficient" because an assertion that the invention was useful as a "lubricant" or as an "alloy" would be "too general." Simply stated, the specification speaks to those of ordinary skill in the art, section 112, and not to laymen. Persons of ordinary skill in the alloy and lubricant art know how to use these inventions. Once given a disclosure of these inventions they can experiment, without the assistance of the inventor or someone of a like or higher level of skill, to ascertain applications and uses, for the inventions.

It seems to me that the majority confuses its own lack of knowledge concerning "steroids" with the requirements of the law. I see no legal basis [***96] for distinguishing between steroids, alloys and lubricants concerning assertions of use. The fact is that the majority, from personal observation, apparently is willing to presume and believe that alloys and lubricants are useful. Further, they apparently are willing to presume and believe that it would be obvious to them as to how such products would be used. But because the products here are steroids, they and many other chemical products are presumed "useless" because it is the personal belief of the majority that some "do not work." The majority has convinced itself that the "proper" test required by "law" is to require the applicant to prove that he is not claiming one of what [*1159] they would term "useless" steroids. Chaos in the invention, development, and disclosure of inventions in the chemical arts is the only result I can see as flowing from the majority's reasoning. There is no record basis for indulging the presumptions of the majority contrary to assertions in the specification, that appellants are trying to claim "one of those inactive steroids."

Here, as in Joly, I find that the majority misconstrues, misapprehends and misapplies Manson, all to the denial [***97] of due process to appellants. I therefore dissent.

