Date: 20060426

Docket: T-2792-96

Citation: 2006 FC 524

Toronto, Ontario, April 26, 2006

PRESENT: The Honourable Mr. Justice Hughes

BETWEEN:

MERCK & CO., INC., MERCK FROSST CANADA & CO., MERCK FROSST CANADA LTD., SYNGENTA LIMITED, ASTRAZENECA UK LIMITED AND ASTRAZENECA CANADA INC.

Plaintiffs
(Defendants by Counterclaim)

and

APOTEX INC.

Defendant
(Plaintiff by Counterclaim)

REASONS FOR JUDGMENT

[1] This action concerns the infringement and validity of claims 1, 2 and 5 of Canadian Patent 1,275,350 ('350 patent). That patent is directed among other things, to a class of chemical compounds stated to be useful in treating hypertension. One such compound is known as lisinopril.

[2] The Plaintiffs include the owner of and licensees under the patent some of whom sell drugs in Canada incorporating lisinopril as an active ingredient. They commenced selling such drugs in the early 1990's developing a Canadian market estimated to be at least forty million dollars annually by the late 1990's. The Defendant Apotex Inc. is commonly referred to as a generic drug company. It chose to produce and sell in Canada and elsewhere a generic version of some of the Plaintiffs' lisinopril drugs. These generic versions were first introduced in the mid 1990's and by the end of that decade had acquired a major portion of the market in Canada. As of the time of the trial, Apotex's market for such drugs was estimated to be fifty to sixty million dollars annually.

[3] This action was commenced in 1996. The Plaintiffs alleged infringement, Apotex counterclaimed alleging invalidity of the patent. By the time of trial, Apotex admitted that, if the claims in issue of the patent were valid, then they had infringed those claims subject to certain exemptions as to some quantities of lisinopril obtained from an allegedly licensed source, and certain quantities used for allegedly exempted purposes.

[4] This action is not the first in which these parties have been engaged. Another action dealt with a related patent 1,275,349 pertaining to a compound known as enalapril. After a lengthy trial, an appeal and several related proceedings, that patent was held to be valid and infringed by Apotex. These former proceedings, say the Plaintiffs, preclude Apotex from raising attacks as to the validity of the patent at issue here.

[5] For the reasons that follow, I find that Apotex has infringed each of claims 1, 2 and 5 of the ‘350 patent, subject to certain exemptions, that Apotex is precluded from challenging the validity of those claims and, in any event, those challenges fail. Appropriate remedies are granted.

[6] I propose to deal with the matters considered in the following order:

1. The Parties
2. The Issues
3. The Witnesses
4. Background to the Biochemistry
5. Development of the Particular Compounds of Concern
6. What are Lisinopril, Enalapril and Enalaprilat
7. Combination with Diuretics
8. Commercialization of Lisinopril Products
9. History of the ‘350 Patent and Related Patents and Applications
10. Construction of the ‘340 Application
11. Use of Extrinsic Evidence
12. Construction of the ‘350 Patent Claims
13. Infringement
    - a) Admission as to Infringement
    - b) Exemptions from Infringement
        - i) Section 56
        - ii) License
        - iii) Section 55.2(1)

iv) Common Law

v) Dedication

c) Limitation Respecting Exemptions

14. Validity

a) Effect of the Presumption of Validity

b) Estoppel

i) Previous Litigation

ii) Delmar License

c) Divisional Procedure

d) Effective Filing Date of the Divisional Application

e) Double Patenting

f) Wilful Delay

15. Remedies

1. The Parties

[7] The status of the Plaintiffs is no longer in controversy, having been admitted by Apotex. Merck & Co. Inc. is, and at all times has been, the owner of the '350 patent. It is the "patentee" as defined by the *Patent Act* R.S.C. 1985, c.P.4, section 2 (the *Act*). The remainder of the Plaintiffs are licensees under the '350 patent at issue and are "persons claiming under the patentee," as defined in section 55(1) of that *Act*.

[8] A pre-trial order of this Court permitted the Plaintiffs to be arranged into two groups. One is the Merck group comprising Merck & Co. Inc, Merck Frosst Canada & Co. and Merck Frosst

Canada Ltd. The other is the Astra group comprising Syngenta Limited, AstraZeneca UK Limited and AstraZeneca Canada Inc. Each of Merck and Astra were permitted to be represented at trial by their own, separate, firm of solicitors and counsel.

[9] The Defendant Apotex Inc., is a Canadian company based in the Toronto area. It formulates and sells generic drugs that is, copies of drugs developed by others and permitted to be made and sold in Canada and elsewhere if they are bioequivalent to the satisfaction of the relevant government authorities. Apotex was amalgamated with Torpharm Inc. on April 1, 2004, and continues as Apotex Inc. The benefits and liabilities of each continue with Apotex Inc.

2. The Issues

[10] The parties were invited to submit a set of issues to the Court for determination. They filed separate submissions. From those submissions, which were much in agreement, the following issues emerge for determination:

1. Construction of the Patent and the Claims
2. Infringement
    a) Admission as to infringement
    b) Exemptions from Infringement
        i) Section 56 – Are certain lots exempt?
        ii) License – Does Delmar's license exempt any lots?
        iii) Section 55.2 – Are certain lots exempt?
        iv) Common Law – Are there common law exemptions and, if so, what is exempt.

v) Dedication – Does the Merck dedication of certain claims of the ‘559 patent exempt any lots from infringement?

3. Validity

a) Effect of the presumption of validity

b) Estoppel

i) Delmar License – Is Apotex estopped or otherwise precluded from challenging validity as a result of the claim to the benefit of the Delmar License?

ii) Prior Litigation - Is Apotex estopped or otherwise precluded from challenging validity of the ‘350 patent having regard to prior litigation, T-2408-91 and A-724-94?

c) Double Patenting – Are the claims at issue of the ‘350 patent invalid having regard to the ‘684 patent?

d) Improper Divisional – Is the ‘350 patent invalid as by improperly divided out of the patent application 341,340 having regard to that application and the other divided out applications?

e) What is the effective filing date of the application for the ‘350 patent? What is the effect of the disclosures in US patent 4,374,829 and European Patent Applicant?

f) Wilful Delay – Did Merck wilfully delay the prosecution of the application for the ‘350 patent and, if so, what is the effect.

4. Remedies

If a valid claim of the ‘350 has been infringed by non-exempt activity of Apotex

a) To what remedies are the Plaintiffs entitled?

b) To what remedies is the Defendant/Counterclaimant entitled?

3. The Witnesses

[11] There were thirteen fact witnesses and nine expert witnesses called by the parties. Except for opinions of the experts as to whether the ‘350 patent comprised one or several inventions, which is a question ultimately for the Court and not witnesses to determine, there was little disagreement between the witnesses. All witnesses were credible. Where it became necessary to choose among the experts, I prefer the evidence of Drs. Marshall, Garvas, Nelson, Wolfenden and Horovitz, who are not only recognized experts in their fields, but persons who were actually involved in relevant events in the critical periods in the 1960’s, 70’s and 80’s. The other experts, while helpful in many respects, were viewing some matters at issue more with the benefit of hindsight.

[12] Called as factual witnesses were:

1. Mr. Philippe Hébert, Vice-President of Marketing for Merck Frosst. He testified as to the marketing of lisinopril products by Merck in Canada and the effect of Apotex’s entry into that market.

2. Ms. Karen Feltmate, Vice-President of Marketing for AstraZeneca Canada. She testified as to the marketing of Astra lisinopril products in Canada and the effect of Apotex’s entry into that market.

3. Dr. Robert Dickinson, President of Delmar Chemicals, subpoenaed by Apotex. Delmar manufactured lisinopril in Canada in the early 1990’s some of which found its way into the hands of Apotex. Delmar was for a period of time licensed under the

patent in accordance with the compulsory license scheme provided under the *Patent Act* until it was repealed. He testified as to the licensing and the manufacturing of batches of lisinopril which ultimately found their way to Apotex.

4. Dr. Bernard (Barry) Sherman, President of Apotex. He testified generally as to the manufacture and sale of lisinopril products by Apotex. He also spoke about lobbying efforts made by various pharmaceutical trade associations as well as Apotex and Merck against and for proposed (and ultimately successful) revisions to the *Patent Act* to get rid of compulsory licensing.

5. Mr. Jack Kay, Chief Operating Officer of Apotex. He also spoke as to lobbying by Apotex, Merck and trade associations as to amendments to the *Patent Act* to get rid of compulsory licensing.

6. Mr. James Keon, President of the Canadian Generic Pharmaceutical Association, previously named the Canadian Drug Manufacturers Association. This is a trade association representing generic pharmaceutical companies in Canada including Apotex. He was previously a member of the policy branch of Industry Canada and involved in revision of the *Patent Act*. He testified as to lobbying efforts made by trade associations and companies such as Apotex and Merck in respect to proposals to remove compulsory licensing from the *Patent Act*.

7. Dr. George Michaliszyn, Director of Life Sciences at the Federal Department of Industry Canada. He appeared under subpoena from Apotex and testified as to lobbying efforts by interested parties, including Merck, as to amendments to the *Patent Act* respecting compulsory licensing.

8. Mr. John Hems, Director of Regulatory Affairs for Apotex. He testified as to the preparation by Apotex of substances including lisinopril for submission to United States and Canadian government regulatory bodies for approval to sell products containing lisinopril in those countries.

9. Ms. Bernice Tao, Associate Director of U.S. Regulatory Affairs at Apotex. She testified as to the preparation by Apotex of lisinopril containing products for purposes of submissions to United States regulatory officials for approval for sale in that country.

10. Mr. Lance Lovelock, Vice-President of Quality Assurance at Apotex. He testified as to the sampling by Apotex of lisinopril materials received by it and of lisinopril containing materials formulated by Apotex, and the testing and retention of such samples.

11. Mr. Donald Barber, Formulation Development Manager at Apotex. He testified as to the use of lisinopril by Apotex in the development and testing of various formulations of drugs for research and for submission to regulatory authorities.

12. Mr. Gordon Fahner, Vice-President of Finance at Apotex. He provided summaries of the records kept at Apotex as to sales of lisinopril products and as to lisinopril used in respect of submissions to regulatory authorities, for quality assurance, and for research and development.

13. Ms. Patty De Luca, a Canadian process server. She testified that she delivered a letter into the hands of a person in New Jersey who she believed to be a United States patent attorney, Michael Sudal. That letter invited Sudal to contact Apotex's lawyers concerning issues in the trial. Sudal never appeared as a witness.

[13] Expert witnesses were called by each of Merck, Astra and Apotex. All of the experts were qualified as such by the Court. All provided reports or affidavits however the parties did not elect to tender the whole of such documents into evidence. Only portions were deemed to have been read in evidence; certain other portions were ruled inadmissible on grounds, for instance, that the witness lacked expertise to address matters such as patent prosecution. Portions addressing ultimate issues for the Court to determine were read in, but have been given no weight. These witnesses, in order of appearance, were:

1. Dr. Paul Bartlett, called by Merck, an Emeritus Professor of Chemistry at the University of California, Berkeley (Exhibits 34 and 35). He testified as to the processes used by Delmar to manufacture lisinopril and the state of the materials during such process at dates critical to provisions of the *Patent Act* relating to

exemptions from infringement. There was no rebuttal to his evidence although he was cross-examined.

2. Dr. Robert McClelland, called by Apotex, retired Professor of Chemistry at the University of Toronto (Exhibit 89). He gave evidence as to chemistry, organic, biological and medicinal, particularly that relating to the compositions at issue. Dr. McClelland's general understanding of these matters was sound however, his evidence was acquired through knowledge looking in hindsight and not as a person involved at the relevant time.

3. Dr. Garland Marshall, called by Apotex, Professor of Biochemistry and Molecular Biophysics at Washington School of Medicine in St. Louis (Exhibit 144). He is an expert in medical chemistry, resin angiotensin system, cardiovascular pharmacology, and hypertension including ACE inhibitors. He was closely connected with developments in the area during the relevant period.

4. Dr. Alexander Klibanov, called by Apotex, Professor of Chemistry and Bioengineering at Massachusetts Institute of Technology (Exhibit 180). He was qualified as an expert in medicinal and biological chemistry and gave evidence as to the chemistry and biological features of the compounds of interest in these proceedings. His evidence was based on a hindsight review as he was not directly involved in this particular field at the time.

5. Dr. Robert Langer, called by Apotex, a Professor in the Chemical and Bioengineering Department of the Massachusetts Institute of Technology (Exhibit 187). He was qualified as an expert in chemical and biochemical engineering and gave the opinion that the developmental pathway with respect to the conversion of enalaprilat to the prodrug enalapril was clearly taught and thus, obvious to persons skilled in the art as of 1978.

   Dr. Langer was not cross-examined and no rebuttal was offered as to his opinion.

6. Dr. Haralambos Gavras, called by Apotex, a Professor of Medicine at Boston University School of Medicine (Exhibit 211). He was qualified as a medical doctor with expertise in the treatment of cardiovascular conditions, including hypertension and chronic heart failure, the use of ACE inhibitors and the pharmacology of ACE inhibitors. He clearly stated that he was not an expert in chemistry. Dr. Gavras was involved in clinical research involving drugs used to treat hypertension, including ACE inhibitors, and treatment of patients with such drugs at the relevant time. His evidence is important in this regard.

   The Plaintiffs put in evidence correspondence indicating that, at one time, they had contacted Dr. Gavras with a view to having him present evidence on their behalf. This correspondence indicated a view by one of the counsel for Merck that Dr. Gavras was seeking a large sum of money for doing so. That counsel did not give evidence as to what actually transpired. Dr. Gavras stated that he was seeking funding for his laboratory and heard nothing further from Merck's counsel after such

correspondence. Other evidence indicated that Dr. Gavras' fees charged to Apotex's solicitors are not extravagant. Apparently some fuss was made during pre-trial motions as to whether Dr. Gavras should give evidence. He did give evidence and I find that such evidence is in no way compromised or tainted.

7. Dr. Wendel Nelson, called by Astra, Professor of Medicinal Chemistry at the University of Washington, Seattle (Exhibit 239). He was qualified as an expert in the field of medicinal chemistry, particularly as to ACE inhibitors in the late 1970's and early 1980's. His involvement in the area was not as direct as that of others such as Wolfenden and Horovitz. He gave evidence as to the evolution of the development of ACE inhibitors in this period.

8. Dr. Richard Wolfenden, called by Astra, Professor of Biochemistry, University of North Carolina, Chapel Hill (Exhibit 253). He was qualified as an expert in the mechanism of enzyme action including the transition state and the development and design of inhibitors. His evidence is of particular relevance since he was, in the period of the 1960's through 1980's, involved directly in the fields relevant to this action. He authored major papers influential in the development of the Squibb inhibitor which was the first commercial oral inhibitor on the market.

9. Dr. Zola Horovitz, called by Merck, retired, Doctorate in Pharmacology and Director of Research at Squibb in the 1970's (Exhibits 261 and 262). He was qualified as a pharmacologist with particular experience in the areas of hypertension

and ACE inhibitors. He testified as to the development at Squibb of the first commercially available oral ACE inhibitor, Captopril. He gave evidence as to the effect of the Merck developments once they became known.

[14] In addition, Apotex read in portions of its examination for discovery of Merck's designated witness Dr. Wryvatt, one of the persons named as inventor in the patent at issue. Astra agreed that it would be equally bound by the Merck discovery. Apotex also put in evidence a request to admit and response from Merck's solicitors. Merck tendered no discovery or request to admit into evidence. Astra tendered portions of discovery and related documents of Apotex into evidence.

4. Background to the Biochemistry

[15] The experts were in general agreement as to much of the biochemical background useful in understanding the '350 patent.

[16] Amino acids are the basic building blocks from which living matter is constructed. There are twenty amino acids commonly found in nature, these have names such as proline, lysine, glutamine, etc. which names are often shortened to pro, lys and glu, etc. By combining various numbers and groups of these acids in various configurations, larger structures known as peptides are formed. The bonds between these acids are known as peptide bonds. Still larger groups known as proteins may be formed from such acids. Yet larger structures can result in configurations such as deoxyribonucleic acid (DNA) and, ultimately, living matter.

[17] Materials such as proteins and peptides occur in the body and serve various functions beneficial or otherwise. Enzymes are organisms present in the body that facilitate the conversion of such materials into other material usually by cutting off (cleaving) a portion of the molecule. This process is said to be reversible but usually only when rare conditions exist. The study of one such enzyme, the angiotensin converting enzyme, is of interest in this proceeding.

[18] Enzymes attach themselves to proteins or peptides, usually smaller in size, and break those proteins or peptides, often referred to as substrates, down into smaller fragments. Substrates are attached to certain locations on the enzyme, a surface or pocket, which is particularly adapted for that substrate. The terms “lock and key” and “hand in glove” are sometimes used to describe such attachment. The attachment may be due to one or more of the physical size and shape, electro–chemical forces and, the presence of metallic ions such as zinc. Activity during the process of attachment and cleaving of the substrate is called the transition state.

[19] Enzymes can be prevented from performing their function by enzyme inhibitors, which can be molecules having one or more of a particular size, structure and electro-chemistry designed to mimic the target substrate and occupy much of the pocket or site on the enzyme normally attracted to the substrate, so as to prevent the enzyme from doing its work. It is the design of such molecules that is the subject matter of the patent at issue.

5. Development of the Particular Compounds of Concern

[20] The particular compounds of concern are generally known as ACE inhibitors, that is, angiotensin converter enzymes inhibitors, useful in the treatment of hypertension.

[21] The development of the particular compounds of concern has been well documented in scientific publications authored by some of those named as inventors of the patent in suit, for example Trial Exhibit 102 “Evolution of Angiotensin-Converting Enzyme Inhibitors” by Wryvatt published in *Clinical Physiology and Biochemistry* in 1988 and Trial Exhibit 109 “A New Class of Angiotensin-Converting Enzyme Inhibitors” by Patchett et al. published in *Nature* in 1989. These publications, however, are not direct proof of the facts recited in them. Neither the inventors nor any of their colleagues appeared as witnesses at trial although one, Wryvatt, was examined for discovery and some portions of that examination were put in evidence at trial.

[22] Three expert witnesses presented at trial had direct experience with the development of antihypertension drugs, one was Dr. Haralambos Gavras, a medical doctor who was, at the relevant time, active in clinical trials and medical treatment of patients with certain drugs used to treat hypertension. Another was Dr. Richard Wolfenden, an expert enzymological chemist whose published scientific papers in the enzyme field, including transition state reactions, provided the basis for much development in this area. The third was Dr. Zola Horowitz an expert in pharmacology, who participated in the development of a commercially successful angiotensin converting enzyme inhibitor at Squibb, sold under the name Captopril. This Squibb product was the most immediate prior art relevant to the compounds of the patent at issue. Dr. Garland Marshall was also active in the field at the time although not as directly as these three.

[23] Dr. Gavras explained that, historically, there was until the middle 1960’s much doubt as to whether hypertensive patients could be treated. He described how, in the late 1960’s, certain

hypertensive medications such as diuretics, methyldopa, and beta blockers were available. If one did not do the job, another was added in administration to a patient. In the 1970's, a derivative of the venom of a poisonous snake, teprotide, was introduced. It was an ACE inhibitor administered intravenously. Teprotide was sometimes used in combination with a diuretic such as hydrochlorochiozide (HCTZ) in patients who did not respond to treatment with just one of them. When the Squibb product, Captopril, became available, it likewise would sometimes be used in combination with a diuretic where patients initially failed to respond.

[24] Dr. Wolfenden described scientific work directly related to ACE inhibitors. He described that in the late 1970's, work in this area, including work that related to transition state analog inhibitors, was in its infancy. By the late 1970's, it was known that the system whereby angiotensin, an eleven amino acid substrate was reduced to angiotensin I, a ten amino acid substrate, by a substance called renin, and further reduced to angiotensin II, an eight amino acid substrate, by an angiotensin converting enzyme. It was known that this system had an important role in the regulation of blood pressure in humans. Dr. Ondetti and others at Squibb determined in the early 1970's that teprotide, an eight amino acid substance derived from snake venom was effective in lowering blood pressure in hypertensive patients. Dr. Wolfenden attributed remarkable insight to Dr. Ondetti and others, in applying principles that were hypothetical at the time, to the development of the ACE inhibitor we now know as Captopril.

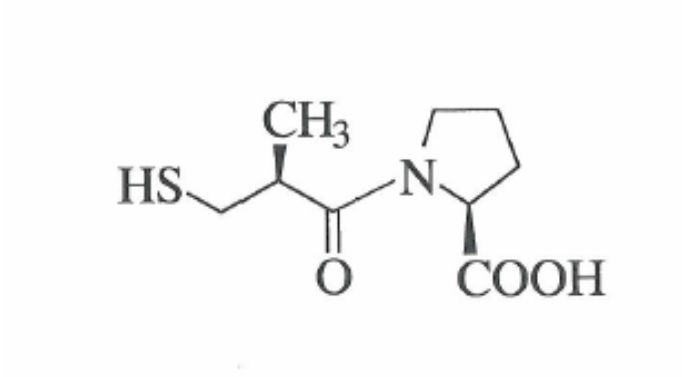
[25] Dr. Horowitz was part of the team, including Dr. Ondetti and others, responsible for the Captopril development at Squibb. He explained that in the 1960's, researchers at Squibb were able to determine some of the characteristics of the angiotensin converting enzyme that served to cut off

(cleave) two terminal amino acids of angiotensin I at a peptide bond, so as to leave angiotensin II. At that time, the Squibb researchers came into contact with Dr. Ferreira, who had isolated venom from a Brazilian snake that Squibb believed might inhibit the angiotensin converting enzyme. Working with this venom, the Squibb researchers identified what became known as teprotide. This substance needed to be administered intravenously but proved to be an effective ACE inhibitor. Dr. Gavras, among others did early clinical work with teprotide.

[26] Squibb recognized that intravenous administration was not very desirable and sought a drug that could be administered orally. They come across a publication by Dr. Wolfenden which discussed possible inhibitors for a different enzyme. Squibb believed that sufficient similarities existed such that portions of the structure proposed by Wolfenden could be used, together with other molecular arrangements, to create an ACE inhibitor. Many compounds were tested, some of which were reported in paper by Dr. Ondetti et al. in *Science* in 1977. One of these compounds was, what is now known as Captopril. This compound could be administered orally and was shown, at the laboratory level, to be effective. Clinical testing went on through the 1970's ultimately leading to government approval and commercial distribution of that product for use as an ACE inhibitor in the treatment of hypertension.

[27] It is not disputed that Captopril was a known ACE inhibitor useful in treating hypertension at a time before Merck made its discoveries relating to the patent at issue. In short, it is prior art.

[28] Captopril, as described by Dr. Horovitz, is not a standard peptide although it has certain characteristics of a peptide. As a chemical formula it can be stated as (D-2-Methyl-3-mercaptopropanol-L-proline). Diagrammatically it can be shown as:



[29] It is recognized by all parties that Captopril was a significant invention.

[30] Direct evidence as to the development of Merck's compound is obtained only through the portions of the discovery tendered into evidence at trial by Apotex. From that evidence, it is clear that the persons named as inventors by Merck were aware of the developments at Squibb, including what is now known as Captopril and that they believed that the toxicity of the Squibb compound had yet to be tested. It was acknowledged that the Merck work that led to the patent at issue was done after Captopril was already known. These persons also knew of the structure of the snake venom compounds that preceeded Captopril, such as teprotide.

[31] The first patent application directed to the class of compounds at issue filed by Merck anywhere was United States application 968,249 filed December 11, 1978. The Canadian application 341,340 ('340 application) which claimed priority from this United States application was filed in Canada on December 6, 1979.

[32] Merck had made some compounds falling within the general description of Formula I of the patents before filing the United States Patent application, but it is not clear from the evidence as to which or how many or to what degree they were tested. Lisinopril was first made by Merck in about May 1979. Enalapril had been made and tested earlier, in about January 1979. In vivo testing of lisinopril and enalapril maleate was reported in October 1979. It was not until about April 1983 that a clinical operational plan was established. Merck received approval to market lisinopril first in the United States later in the 1980's.

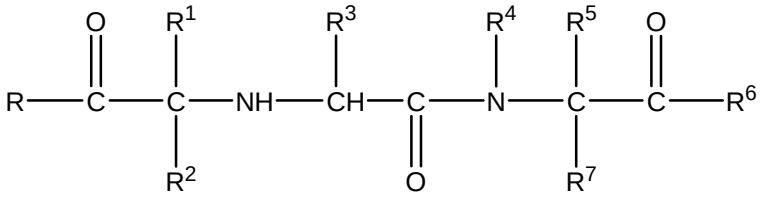
6. What are Lisinopril, Enalapril and Enalaprilat?

[33] A class of compounds of which lisinopril is one, is described in the '340 application and claimed in that patent by means of a general formula, Formula I which contains seven locations R plus R^1 through R^6 at which a choice of several chemicals or molecules may be placed. It is estimated that easily billions of compounds could exist within this class. Sometimes such a claim is referred to as a Markush claim after a United States decision of that name where such a claim was first discussed (*ex parte Markush* (1925), 240 US OG 835).

[34] Although the experts were in agreement that there is no commonly accepted scientific definition of the terms, Formula I has been referred to as a "backbone" and the resulting structures when various R through R^6 components are affixed have been referred to as "analogs". In general, the '340 application and all related patents and applications refer to the compounds generally as carboxyalkyl dipeptides and derivatives thereof and all refer to the same "backbone", Formula I. Where they differ is in the selection of chemicals and molecules which comprise each R through R^6.

[35] The “backbone” Formula I may be depicted as:

Formula I



[36] Some of the patents divided out of the ‘340 application restrict themselves to classes that include compounds commonly known as lisinopril, enalapril and enalaprilat. Each of lisinopril, enalapril and enalaprilat share the common backbone of Formula I, they differ in some of the substituents found at some of the R through R^6 positions. They each can be depicted in various ways. The written formula for each is:

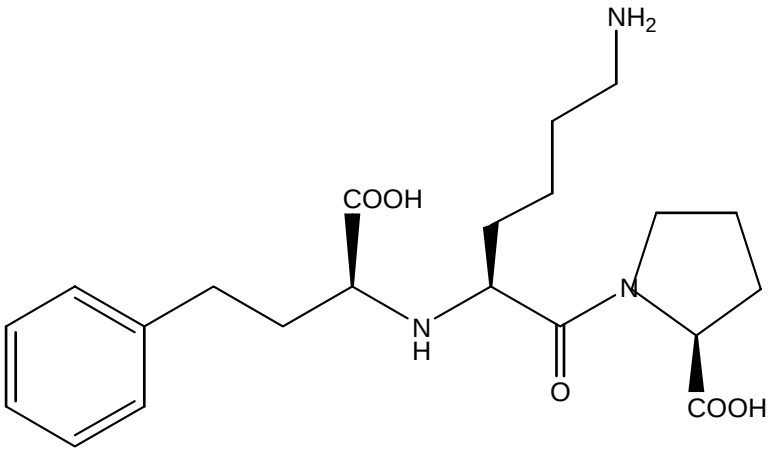
Lisinopril: N-α-(1(S)-carboxy-3-phenylpropyl)-L-lysyl-L-proline

Enalapril: N-(1(S)-ethoxycarbonyl-3-phenylpropyl)-L-alanyl-L-proline

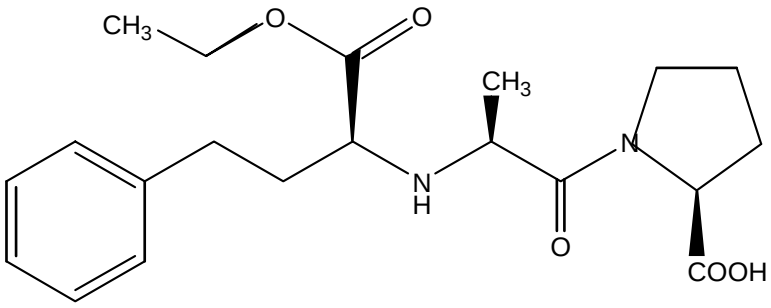
Enalaprilat: N-(1(S)-carboxy-3-phenylpropyl)-L-alanyl-L-proline

[37] The differences between the molecular structure of each of these compounds can be depicted, using conventional stereochemistry illustration where a solid wedge indicates a molecule rising out of the page toward the reader, and a dotted wedge indicating a molecule directed away from the reader:

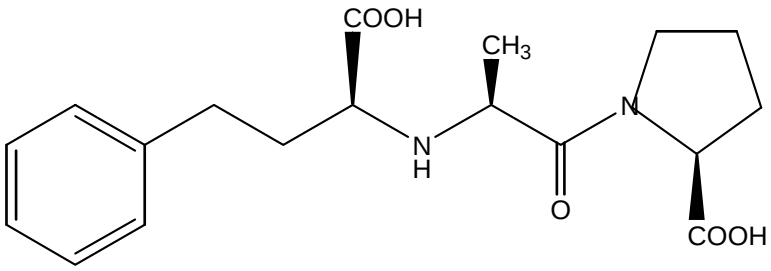
Lisinopril



Enalapril



Enalaprilat



[38] Using the jargon of some of the experts in this case, enalapril is the prodrug version of enalaprilat and lisinopril differs from enalaprilat in the molecular structure found in the R^3 position.

[39] The concept of a prodrug, according to the evidence, was known to a person skilled in the art as of 1978. Some medicines, if taken orally, will pass through the intestinal wall reasonably well, so that they enter the bloodstream in the desired form. Other medicines do not pass through the intestinal wall or do so poorly. In order to facilitate the passage of such medicines through the intestinal wall, additions to the molecular structure are made so as to change the electrochemistry of the overall molecule. Once the molecule passes through the wall, the added portion breaks off, leaving the desired molecule in the bloodstream to do its work. It is the uncontradicted evidence of Dr. Langer that, given the molecular structure of enalaprilat in 1978, a person skilled in the art could readily convert it to the prodrug enalapril.

[40] Enalaprilat was found to be an effective antihypertensive but could only be administered intravenously. The much more desirable route of oral administration was achieved by creating a prodrug version, namely enalapril.

[41] Lisinopril fortunately has a molecular structure of such a nature that it passes through the intestinal wall sufficiently readily such that a prodrug version is unnecessary. It appears from data available at least until very recently that it has characteristics that make it slightly less effective as an oral medication than enalapril. More recent data suggests that it may be equally or more effective in some respects. From a clinical point of view, according to Dr. Gavras, enalapril and lisinopril are equally effective and they are as effective as Captopril, except that Captopril must be taken several times a day whereas the others are taken only once a day as their persistence in the body is better.

[42] Lisinopril, as a molecule, differs from enalaprilat only in the R^3 position, although that difference enables it to be taken orally rather than the less desirable intravenous route.

[43] A useful depiction is found at Figure 7 taken from an article entitled “Evolution of Angiotensin-Converting Enzyme Inhibitors” by Wryvatt published in 1988 in *Clinical Physiological Biochemistry*.

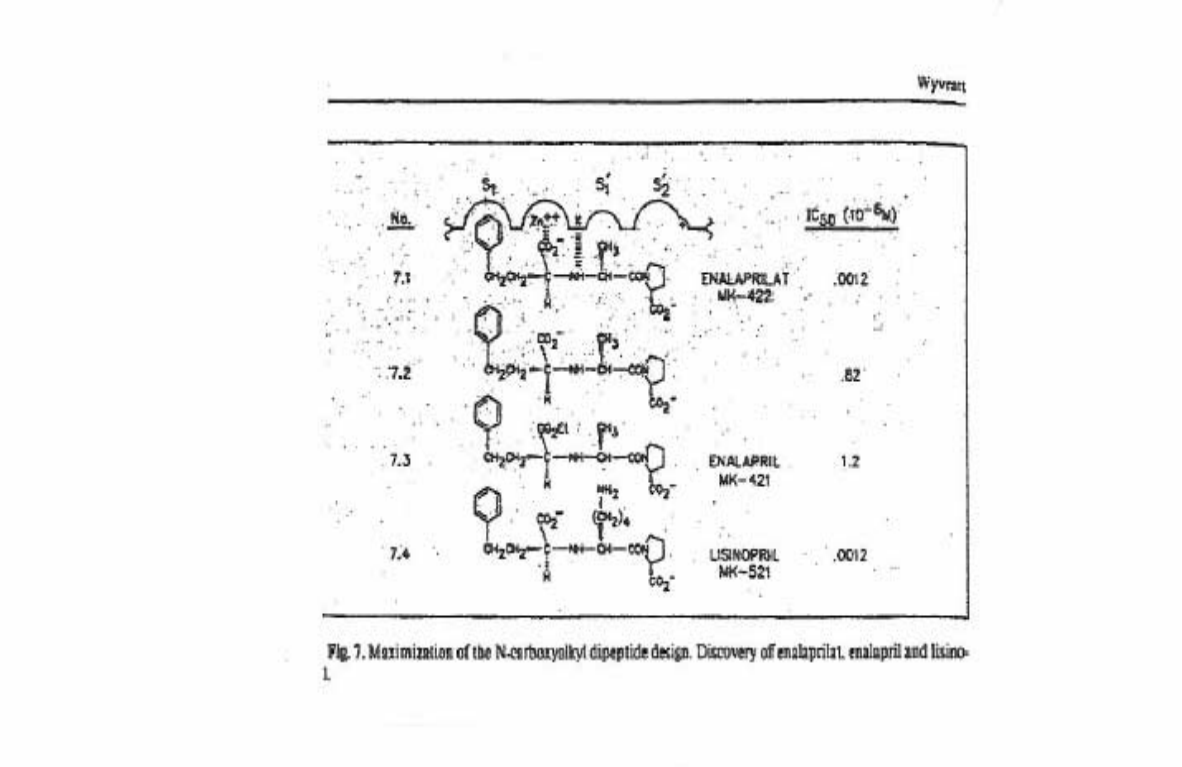


Fig. 7. Maximization of the N-carboxyalkyl dipeptide design. Discovery of enalaprilat, enalapril and lisino-
l.

[44] At the top is depicted various pockets or sites designated as S_1, S_1^1 and S_2^1 located on the enzyme, to which the molecules enalaprilat, enalapril or lisinopril will attach themselves so as to inhibit angiotensin conversion. Keeping in mind Formula I, the site depicted as S_1^1 is the location at which that part of the molecular structure designated as R^3 will fit.

[45] It is Dr. Marshall's evidence that the S_1^1 site is fairly promiscuous, that it will accept R^3 structures of a variety of types without particular discrimination thus, it is not particularly important what R^3 is relatively speaking. He says lisinopril is an obvious variant of enalaprilat. Dr. McClelland is of a similar opinion.

[46] On the other hand Dr. Nelson states that, given that enalaprilat was known to be useful only if given intravenously, it would not have been readily apparent that changes in the R^3 position could produce a molecule that could be administered orally. Dr. Wolfenden states that even if the

differences from a molecular point of view between lisinopril and enalapril and enalaprilat appear relatively small, the substantial changes that result would not have been obvious to a person skilled in the art as of 1978 or 1979.

[47] Given the known prior art of Captopril, these are even greater differences in the molecular structure in comparison with lisinopril, enalapril and enalaprilat. Only the structure as normally depicted at the right hand side (C terminus) is similar to any of enalapril or enalaprilat or lisinopril. Dr. Horowitz, one of the Squibb scientists responsible for the discovery of Captopril, expressed the surprise and chagrin at Squibb when the Merck developments became known as they were unable to make those discoveries. Dr. Marshall, one of Apotex's experts, described the Merck discovery in arriving at the backbone represented by Formula I in terms of "eureka". There is no doubt that, in respect of the prior art known as of 1978 or 1979, the backbone of Formula I, enalapril, enalaprilat and lisinopril were new and inventive. Apotex does not challenge the inventiveness of the class or of lisinopril specifically.

[48] I find, on the evidence, favouring that of Drs. Nelson and Wolfenden that each of lisinopril, enalapril and enalaprilat were, as of 1978 or 1979 inventively different from each other. If separate patent applications had been filed, for instance by third parties, for each of lisinopril, enalapril and enalaprilat, they would have been allowed as separate, inventively different, patents.

7. Combination with Diuretics

[49] Diuretics, such as hydrochlorothiazide (HCTZ) were, for at least a decade prior to 1978, known and used in the treatment of hypertension, according to Dr. Gavras. They reduce the amount

of fluid, hence pressure, in the circulatory system. Dr. Gavras stated that for several years prior to 1978, a clinician treating hypertensives would, if one medicine was seen not to be sufficiently effective, add a second or even a third. Thus HCTZ could be added to, for instance, a beta blocker. From a clinical point of view, the administration of a diuretic with another antihypertensive was well known before 1978.

[50] The evidence shows that in practice, the commercial drugs produced by the Plaintiffs indicate that the effect of adding a diuretic to lisinopril in tablet form is simply cumulative, not synergistic, nor antagonistic. The effect is just as Dr. Gavras and others had been practicing for years before.

[51] Dr. Horovitz stated that the combination of a diuretic with another antihypertensive such as Captopril had to be approached with caution. One could not always assume that it would work or, more importantly, be safe and effective. He stressed the need for clinical trials.

[52] From a patent point of view, there is little difference between these opinions. Dr. Gavras is saying that combinations with antihypertensives and diuretics have worked well in the past and there is every reason to believe that these combinations would work equally well in the future. Dr. Horowitz's caution is essentially on the regulatory side: will it pass muster from a regulatory point of view? The government regulatory bodies always require testing. As stated by Lederman J. in *Bayer A/G v. Apotex Inc*. (1995), 60 C.P.R. (3d) 58 (Ont Gen. Div.) at page 89 (affirmed (1998) 82 C.P.R. (3d) 526 (Ont CA)), testing for regulatory approval relates to commercial acceptability as

opposed to whether it is operable as promised by the patent. While I appreciate that Lederman J. was addressing an argument of inutility, this applies equally to obviousness.

[53] While it is unnecessary for me to make a finding as to obviousness in view of my findings as to enalapril and lisinopril being different inventions, I find that there is no inventiveness in the simple addition of a diuretic such as HCTZ to these compounds.

8. Commercialization of Lisinopril Products

[54] The first commercialization of lisinopril products in Canada was made by Merck in the early 1990's and closely followed by Astra. On October 26, 1990, Merck received a Notice of Compliance from Health Canada giving it permission to market lisinopril containing drugs in Canada in 5, 10, 20 and 40 milligram (mg) strength tablets for oral administration. Merck sold these drugs under the name PRINIVIL. Commencing at the end of 1990, Merck began to sell these drugs in Canada in tablets of 5, 10 and 20 milligram strength. A 40 milligram strength was never sold in Canada. These sales have continued uninterrupted through to the date of trial. At the end of 1999, a further approval was obtained to sell such a drug in the 2.5 milligram strength. Some sales at this strength were made but have stopped.

[55] Merck does not make lisinopril in Canada, it obtains it from elsewhere, however it formulates lisinopril by adding to it other ingredients, expedients, and produces tablets in the 5, 10 and 20 milligram strengths in Canada. The 2.5 milligram strength tablet was acquired from abroad and packaged in Canada for distribution for a short period of time. In addition, Merck formulates in

Canada and exports to the United States 5, 10 and 20 milligram versions of lisinopril tablets, and has done so since 1997.

[56] On October 29, 1992, Merck obtained another Notice of Compliance, this one relating to a drug containing both lisinopril and a diuretic known as hydrochlorothiazide (HCTZ) in strengths of 20/12.5 and 20/25 milligrams of lisinopril/HCTZ. Another Notice of Compliance for such a combination in a 10/12.5 strength was received in June of 1994. Since the dates of such Notices, Merck has been selling these combination drugs in Canada under the name PRINZIDE.

[57] Since its entry into the Canadian market, Merck estimates that it has total sales in excess of around two hundred and fifty million dollars for PRINVIL and thirty million dollars for PRINZIDE.

[58] Astra entered into an arrangement with Merck, the details of which were not given, whereby Astra was licensed in respect of lisinopril products in Canada. Astra and its predecessors, ICI and Zeneca, have been selling lisinopril containing tablets in 5, 10 and 20 milligram strengths in Canada since at least as early as 1993, under the name ZESTRIL. It also sells a tablet containing a combination of lisinopril and HCTZ in 10/12.5, 20/12.5 and 20/25 milligram strengths under the name ZESTORETIC. Astra does not make any of these tablets in Canada, it imports them in bulk from related corporations and packages them in Canada for distribution. Peak sales for ZESTRIL occurred in 1996 at the forty million dollar level.

[59] Apotex obtained approval for a generic version of lisinopril tablets in 1996 and entered the market late that year with a 5 milligram strength tablet under the name APO-LISINOPRIL. Late in

1999, Apotex expanded its range to include 10 and 20 milligram strengths. Apotex has made, at least at laboratory levels, but never sold, a combination lisinopril and diuretic product in Canada. Apotex also manufactures lisinopril tablets for export.

[60] The initial entry by Apotex into the Canadian marketplace in 1996 appears to have had limited impact on the sales of Merck and Astra products, probably because it was available in only one, low dosage strength. However, the entry in 1999 of additional dosage strengths of Apotex product essentially was the end of significant sales by Merck and Astra except for the combination lisinopril/diuretic products where Apotex did not compete. Mr. Hébert testified that since the year 2000, Merck has essentially stopped supporting its lisinopril products in Canada although some sales continue, particularly in Quebec. Ms. Feltmate testified that Astra also stopped supporting its lisinopril products in Canada once Apotex began marketing a full range of dosages in its tablets.

[61] The reason that Apotex was able to gain the level of the sales of lisinopril product appears to be that its product is cheaper and, since it is available only by prescription through hospitals and pharmacies, in many instances provincial regulations require substitution of the cheapest available product. There is no evidence that either Merck or Astra took any steps to meet this competition by price reduction or any other means.

[62] The evidence of Mr. Gordon Fahner, Vice-President of Finance of Apotex is that sales of the Apotex lisinopril products have been in the order of fifty to sixty million dollars annually for the last three years and probably over the two hundred and fifty million dollars in total. Dr. Sherman

estimated that the total Canadian market for lisinopril products, with Apotex in the market, is about eighty million dollars a year.

9. History of the ‘350 Patent and Related Patents and Applications

[63] On December 11, 1978, the initial (priority) patent application was filed by Merck in the United States Patent Office. It described a vast number of compounds having a common backbone, Formula I. Within the compounds described as “most favourable” were compounds, not specifically identified, but which included lisinopril, enalapril and enalaprilat. Apotex does not contest that, as of that date, the class of compounds described in this application was new and inventive.

[64] On December 6, 1979, the Canadian patent application 341,340 (‘340 application) was filed claiming the benefits of priority from the United States application. The disclosure was essentially the same as the United States application however, many more examples were added including examples specifically disclosing each of lisinopril, enalapril and enalaprilat. There were claims specific to each of lisinopril, enalapril and enalaprilat. Apotex argues that the ‘340 application is “constrained” by its claim to priority from the United States application. No authority for such proposition was given. All that a claim to priority does is to enable an applicant to claim an earlier date of filing or a notional date of invention if that became an issue. No such issue was raised in this action.

[65] A European Application was also filed with a claim of priority to the United States application and on June 25, 1980, European Patent Application EP 12401 was published. On February 22, 1983, United States Patent 4,374,829 was issued, tracing back to the original United

States priority application. The information contained in each is, for patent purposes, equal to that contained in the Canadian parent application and each of the divisionals. If the divisionals can claim the original filing date of the Canadian patent, as provided in section 36(4) of the *Patent Act*, the United States Patent and European Application are irrelevant, as they were published later. If the divisional relating to the '350 patent is only entitled to its actual divisional filing date, August 1, 1989, then the invention claimed in the '350 would have been fully disclosed some six or more years previous, by the publication of the European Patent Application and issued United States Patent hence not new, thus, invalid under the provisions of section 27(1)(b) of the old *Patent Act*, *infra*.

[66] At issue is whether the application for the '350 patent was a proper divisional.

[67] The '350 patent is but one of many patents that have originated from the parent '340 application filed with the Canadian Patent Office on December 6, 1979. The '350 patent is the result of an application "divided out" from the parent '340 application on August 1, 1989, as number 607,198 and prosecuted as a separate application.

[68] Since both the parent '340 application and the "divided out" or divisional application for the '350 patent were both filed before October 1, 1989, the '350 patent and all applications are to be dealt with under the provisions of the "old" *Patent Act* R.S.C. 1985, c.P-4, that is, those provisions applicable to patent applications filed in Canada before that date and patents maturing from such applications.

[69] The parent ‘340 application originally contained seven claims, six directed to various compounds, the seventh directed to a process for producing such compounds. In the description, the classes of compounds were divided into preferred, more preferred and most preferred. All compounds were stated to be useful in treating hypertensive mammals, including humans, and were said to be capable of being administered orally or parenterally (intravenously). Dosage ranges of 5 to 500mg per dose or 5 to 2000mg per day were given. It was stated that the compounds may be given in combination with other diuretics or antihypertensives. One hundred and twenty seven examples were given.

[70] It was agreed by the experts that the broadest claim of the parent ‘340 application potentially could cover billions of compounds, among which would be lisinopril as well as enalapril and enalaprilat. It was agreed that those three compounds fall within the “most preferred” class of compounds as described in the application. At least one example, Example 57B was directed specifically to lisinopril. One claim, claim 5, was specific to lisinopril.

[71] Section 36(1) of the “old” *Patent Act* provides that a patent shall be granted for one invention only, with a saving provision that if granted for more than one invention, it shall not be invalid for that reason. Section 36(2) provides that the Commissioner shall direct an application to be divided when it appears to the Commissioner to describe and claim more than one invention and also provides that the applicant may do so on its own initiative. Section 36(4) provides that a divisional (divided out) application carries on as separate and distinct application but bears the filing date of the original (parent) application.

[72] In the case of the ‘350 and related patents, all were divided out by the applicant on its own initiative; the Commissioner did not request a dividing, nor did the Commissioner object when the divisional applications were filed and prosecuted by the Applicant. The Commissioner made no comment in this regard.

[73] The first dividing out took place on September 16, 1986 when three applications were filed as divisionals. The parent ‘340 application remained but without claims directed to the subject matter of the divisionals. One of those divisionals was application 518,334 with claims to a class of compounds including enalapril. This application ultimately matured on October 16, 1990, to patent number 1,275,349 (‘349 patent) about which there has been much previous litigation between the parties. The second was application 518,335 which included claims directed to enalaprilat. This application ultimately matured on May 5, 1992 to patent number 1,300,313. The third was application 518,336 which included claims directed to lisinopril. The patent file history of this third application suggests that in early October 1989, before the ‘350 patent was granted, a patent agent working for Merck phoned the Patent Office and asked that the claims of this application be cancelled. This application was ultimately abandoned in 1991 for failure to respond to a patent office action dated July 9, 1990.

[74] A second group of divisionals comprised two which were filed on September 7, 1988. The first was application 576,715 which included claims directed to enalapril plus a diuretic. This application matured on November 7, 1989, to patent number 1,262,684. This patent is involved in the “double patenting” issue raised by Apotex. The second was application 576,716 which included claims directed to lisinopril plus a diuretic and to uses of lisinopril alone. This application matured

on November 8, 1990, to patent number 1,276,559. The claims directed to uses of lisinopril alone were dedicated to the public by Merck & Co. Inc. without prejudice to any rights in other claims in that patent or any other patent or application, by a document dated December 8, 2004, and filed with the Patent Office shortly thereafter.

[75] A third, and final division was made on August 1, 1989, when application 607,198 was filed with claims including those directed to lisinopril. This application matured on October 16, 1990, to patent number 1,275,350 which is the patent at issue in this action. It is to be noted that October 16, 1990, is the same date that the ‘349 patent with claims directed to enalapril was granted.

[76] The parent ‘340 application, with no claims overlapping those of the divisional applications, matured to patent number 1,308,313 on May 5, 1992. Essentially, this patent claimed whatever was left after dividing out the other applications.

[77] The experts agree that, as between the various issued patents, there are no precisely overlapping claims. Only the ‘350 patent includes claims directed to lisinopril alone. The subsequently issued patent 1,276,559 has claims directed to lisinopril plus a diuretic and also had claims directed to uses of lisinopril alone which use claims were dedicated to the public as previously discussed.

[78] The description contained in the ‘350 patent differs from that of the parent ‘340 application as originally filed in that the classes of “preferred, more preferred and most preferred” compounds are much narrower in the ‘350 patent. Claim 1 claims this narrower class but, according to at least

one expert, Dr. Kilbonov, still may claim over a billion compounds. Claim 2 is directed specifically to lisinopril. Claim 5 is directed to lisinopril or other of the compounds of claim 1 in a formulation for treating hypertension. The examples in the ‘350 patent have been reduced to 3 including an example specific to lisinopril. The stated usages, manner of administration, dosages and possible combination with diuretics and other antihypertensives remains the same. No further description was added to the ‘350 patent. No further or specific data is given in respect of lisinopril. Example 1 of the ‘350 patent closely parallels Example 57 of the parent application in describing lisinopril.

[79] In brief, except for the narrowing of the range of compounds that could be created using Formula I and selection among that range and restriction as to number of examples, the description of the ‘350 patent is unchanged from that of the parent ‘340 application as filed. The stated uses, dosages, combination with other material is precisely the same as found in the parent ‘340 application as it is in every other patent divided out from the parent ‘340 application and the parent itself as issued to a patent.

10. Construction of the ‘340 Application

[80] The issues in this action require a construction, not only of the claims of the ‘350 patent, but of the specification of that patent and the parent ‘340 application as originally filed in the Canadian Patent Office on December 6, 1979.

[81] The Supreme Court of Canada in *Camco Inc. v. Whirlpool Corp*., [2000] 2 S.C.R. 1067 and *Free World Trust v. Électro Santé Inc*., [2000] 2 S.C.R. 1024 was concerned with the construction of the claims of the patents in suit. That Court told us that construction of the claims is a function to

be performed by the Court, reading the claim in an informed and purposive way through the eyes of a person skilled in the art to which the patent pertains, as of the date of its publication, or, in the case of an old Act patent, the date of its grant.

[82] However, where the occasion demands, the whole of the patent including the specification as well as the claims, needs to be interpreted. The same rules apply. As Binnie J. for the Court, said in *Whirlpool* at paragraphs 42 and 43:

> *42 The content of a patent specification is regulated by s. 34 of the Patent Act. The first part is a "disclosure" in which the patentee must describe the [page1089] invention "with sufficiently complete and accurate details as will enable a workman, skilled in the art to which the invention relates, to construct or use that invention when the period of the monopoly has expired": Consolboard Inc. v. MacMillan Bloedel (Sask.) Ltd., [1981] 1 S.C.R. 504, at p. 517. The disclosure is the quid provided by the inventor in exchange for the quo of a 17-year (now 20-year) monopoly on the exploitation of the invention. The monopoly is enforceable by an array of statutory and equitable remedies and it is therefore important for the public to know what is prohibited and where they may safely go while the patent is still in existence. The public notice function is performed by the claims that conclude the specification and must state "distinctly and in explicit terms the things or combinations that the applicant regards as new and in which he claims an exclusive property or privilege" (s. 34(2))". An inventor is not obliged to claim a monopoly on everything new, ingenious and useful disclosed in the specification. The usual rule is that what is not claimed is considered disclaimed.*
>
> *43 The first step in a patent suit is therefore to construe the claims. Claims construction is antecedent to consideration of both validity and infringement issues. The appellants' argument is that these two inquiries -- validity and infringement -- are distinct, and that if the principles of "purposive construction" derived from Catnic are to be adopted at all, they should properly be confined to infringement issues only. The principle of "purposive construction", they say, has no role to play in the determination of validity, and its misapplication is fatal to the judgment under appeal.*

[83] While this discussion relates more particularly to the claims, the construction of the whole of the patent is also something to be considered by the Court as stated by Pigeon J. of the Supreme Court in *Burton Parsons Chemicals, Inc. v. Hewlett-Packard (Canada) Ltd*., [1976] 1 S.C.R. 555 at 563:

> *While the construction of a patent is for the Court like that of any other legal document, it is however to be done on the basis that the addressee is a man skilled in the art and the knowledge such a man is expected to possess is to be taken into consideration. To such a man it must be obvious that a cream for use with skin contact electrodes is not to be made up with ingredients that are toxic or irritating, or are apt to stain or discolour the skin.*

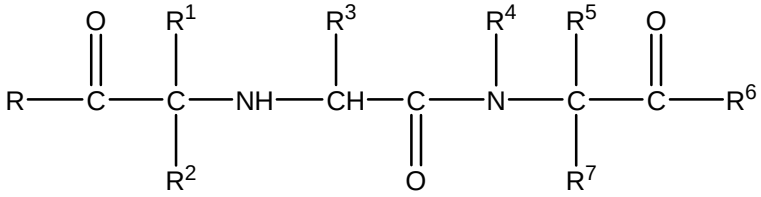
[84] The Supreme Court said the same thing in *Western Electric Co. v. Baldwin International Radio of Canada*, [1934] S.C.R. 570 at 572 where Duff CJ gave the opinion of the Court: construction of the specification is a question of law exclusively for the Court.

[85] A patent is an enactment within the meaning of the *Interpretation Act*, R.S.C. 1985 c.I-21 section 2(1) as stated by Binnie J. in *Whirlpool* at paragraph 49(e) and is to be given an interpretation that best answers the attainment of its objects.

[86] Therefore, turning first to the parent ‘340 application as filed on December 6, 1979, it starts with a statement of the background of the invention at page 1:

Background of Invention

The invention in its broad aspects relates to carboxyalkyl dipeptides and derivations thereof which are useful as converting enzyme inhibitors and as antihypertensives. The compounds of this invention can be shown by the following formula:



[87] There follows a listing of various elements and compounds that may be inserted at the R through R^6 positions.

[88] At page 5, the list of materials from which R through R^6 may be selected is narrowed:

> *"Preferred are those compounds of Formula 1 wherein:"*

[89] And the list is further narrowed at page 5:

> *"Still more preferred compounds are those preferred compounds of Formula 1 wherein:"*

[90] And further narrowed again, at the bottom of that page:

> *"Most preferred are compounds of Formula 1 wherein:"*

[91] No reason for these increasing preferences is given, no data of comparative performance, for instance, is set out.

[92] Page 6 tells us that these compounds can be provided in a salt form and methods for preparation of the compounds are set out in several following pages:

> *The preferred, more preferred and most preferred compounds also include pharmaceutically acceptable salts thereof.*
>
> *The products of Formula (I) and the preferred subgroups can be produced by one or more of the methods and subroutes in the following equations:*

[93] At pages 12 and 13, the stereochemistry of the structure is described, again in very general terms:

> *In products of general Formula I, the carbon atoms to which R^1, R^3 and R^5 are attached may be asymmetric. The compounds accordingly exist in diasteresometric forms or mixtures thereof. The above described syntheses can utilize racemates, enantiomers or diastereomers as starting materials. When diastereomeric products result from the synthetic procedures, the diastereomeric products can be separated by conventional chromatographic or fractional crystallization methods. In general, the aminoacid part-structures,* **…**

[94] At page 13, we are told that the compounds form salts. A variety of salts are named and a description given as to how to form them:

> *The compounds of this invention form salts with various inorganic and organic acids and bases which are also within the scope of the invention. Such salts include* **…**

[95] At page 14, the utility of the compounds is set out:

> *The compounds of this invention inhibit angiotensin converting enzyme and thus block conversion of the decapeptide angiotensin I to angiotensin II.*
>
> ***
>
> *The evaluation of converting enzyme inhibitors is guided by in vitro enzyme inhibition assays. For example…*

[96] At the bottom of page 14 and over to page 15, we are told that the compounds may be administered in a variety of ways and broad dosage ranges are set out:

> *Thus, the compounds of this invention are useful as antihypertensives in treating hypertensive mammals, including humans and they can be utilized to achieve the reduction of blood pressure by formulating in compositions such as tablets, capsules or elixirs for oral administration or in sterile solutions or suspensions for parenteral administration. The compounds of this invention can be administered to patients (animals and human) in need of such treatment in a dosage range of 5 to 500 mg per patient generally given several times, thus giving a total daily dose of from 5 to 2000 mg per day. The dose will vary depending on severity of disease, weight of patient and other factors which a person skilled in the art will recognize.*

[97] At page 15, we are told that the compounds may be combined with other diuretics or antihypertensives and a number of such materials and dosage strengths are identified:

> *Also the compounds of this invention may be given in combination with other diuretics or antihypertensives. Typically these are combinations whose individual per day dosages range from one-fifth of the minimally recommended clinical dosages to the maximum recommended levels for the entities when they are given singly. To illustrate these combinations …*

[98] At the bottom of page 15 over to page 17, illustrations as to formulation into pharmaceutical compositions are given:

> *Typically the combinations shown above are formulated into pharmaceutical compositions as discussed below.*

****

[99] At page 17, an introduction to the Examples is given. The examples are said to be illustrative of the invention and constitute preferred embodiments:

> *The following examples are illustrative of the invention and constitute preferred embodiments. The preferred diastereomers of those examples are isolated by column chromatography or fractional crystallization.*

[100] There follows one hundred and twenty seven examples, many directed to specific compounds and their preparation. Example 25 is specific to enalaprilat. Example 26 is specific to enalapril. Example 57B is specific to lisinopril.

[101] The parent application, as filed, contained seven claims. Claims 1, 2 and 3, all of them quite broad, are directed to classes of compounds. Claim 4 was specific to enalapril, claim 5 was specific to lisinopril. Claim 6 was directed to nine different compounds, the first of which was enalaprilat. Claim 7 is directed to a process for preparation of the compounds.

[102] It is quite clear that the specification is directed to a class of compounds, divided, without stating why, into three classes, preferred, more preferred and most preferred. Specifically exemplified and claimed are compounds including lisinopril, enalapril and enalaprilat. No data is given in respect of any compound, no comparison is made as between any compounds. Lisinopril, save for being individually exemplified (along with many other individually exemplified compounds) and being individually claimed, is in no way separated from the class of compounds said to be “most preferred”. No special mention is made of lisinopril, no special attributes of lisinopril are given.

[103] When we turn to the ‘350 patent, we find almost precisely the same description as was given in the parent ‘340 application. The range of compounds given as preferred, more preferred and most preferred, is narrowed but said still to be in the billions. The examples are reduced to three, Example 1B being specific to lisinopril. There are 6 claims, claim 1 being a broad claim which includes lisinopril. Claim 2 is specific to lisinopril. Claim 5 is directed to a pharmaceutical composition that could contain a variety of compounds, one being lisinopril.

[104] I pause here in the construction of the specification, to comment that Apotex does not contest that the class of compounds represented by Formula I even in its broadest form, is proper subject matter for a valid patent. Inventiveness and utility of such a broad class were, at one time, contested by Apotex but those challenges as to validity were dropped. Similarly, with respect to lisinopril alone, Apotex does not raise any challenge as to its inventiveness or to the fact that it is adequately supported by the disclosure.

[105] The issue that is raised by Apotex is whether the parent ‘340 application describes one invention, namely a class of compounds represented by Formula I, of which there could be many examples depending on what substances are used in the R through R^6 position, for instance lisinopril, enalapril and enalaprilat. Or, is the description directed to many separate inventions, one being the class and others being those specifically stated such as lisinopril, enalapril and enalaprilat?

[106] “Invention” is a rather elastic word. The late Dr. Fox, in his text *Canadian Patent Law and Practice* (4^{th}) Edition, Carswell, Toronto at page 60, said this as to invention:

> *The term "invention", as it is used in the law of patents, is one to which more than one meaning may be attached. It may be used interchangeably with "subject-matter" in the sense that it relates to the content of a patent, or in other words to the device or process that is protected. It may thus be used as a substitute designation for a given improvement whether patented or unpatented. In another sense it may relate to the quality of the act that called an improvement into being. In this sense its meaning is directed to the mental act of originating and devising rather than to the product of the mental act.*

[107] The *Patent Act*, in s. 2 defines "invention" as:

> *"invention" means any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter;*

[108] A patent very similar to the '350 patent in its wording was examined by the English Courts in *May & Baker Limited v. Boots Pure Drug Company Limited* (1950), 67 R.P.C. 23, where Lord Normand, one of the majority, at page 37 said:

> *"Specifications like other documents must be construed as they are and not as they might have been."*

[109] Lord MacDermott, another of the majority, said at pages 51 and 52:

> *"**…** the inventive step consists in the discovery of a scientific truth, to the effect that if certain defined classes of materials are combined according to certain processes the whole range of resulting products will have therapeutic value… this view does not involve a plurality of inventions**…**"*

[110] Lord Simonds, the third of the majority, at page 32 said:

> *"For, if a specific drug falls within the general terms of the invention whose nature is stated in the consistory clause and is for that reason to be regarded as the same invention, it remains the same invention whether or not it is specifically described by way of example or illustration. The sameness or difference of the two inventions cannot*

> *be determined by the fact that the patentee had elected to give the one as an example of the other, though I do not doubt that, if he does so, the probability is in favour of their sameness."*

[111] It is compelling, having read the specification of the '340 application as a whole, endeavouring to give a purposive construction to what is stated there, to be driven to the same conclusion as the majority of the House of Lords in *May & Baker*, namely that there is but one invention described, namely a class of compounds having the structure of Formula I in common, useful in treating hypertension, and that lisinopril, enalapril and enalaprilat are simply illustrative members of that class.

[112] However, the Exchequer Court, in two decisions of Thurlow J., both of which were upheld by the Supreme Court of Canada, has, in respect of patents having disclosures and claims strikingly similar to that of the '340 application, held otherwise. The first of those was *C.H. Boehringer Sohn v. Bell-Craig Ltd.* (1962), 39 C.P.R. 201 where Thurlow J. considered *May & Baker* noting that the patent which he was considering not only exemplified a particular substance, but claimed it as well (just as in the '340 application here) whereas there was no such claim in *May & Baker*. He said at page 217:

> *The problem of so reading the specification is embarrassing for by its context the disclosure throughout suggests one and only one invention. But, as a matter of construction of the specification, this suggestion of the specification must, I think, give way in order to give meaning to the specification as a whole which includes claim 8 and thus indicates that besides the invention of the class an invention of the single substance, 2- phenyl-3-methylmorpholine is involved in the disclosure.*

[113] The Supreme Court of Canada affirmed Thurlow J. ((1963), 41 C.P.R. 1) but without discussion as to this point.

[114] The second decision is that of *Hoechst Pharmaceuticals of Canada Ltd. v. Gilbert & Co.* (1965) 50 C.P.R. 26 where Thurlow J. was again faced with a similar patent which again contained a claim to the particular substance. He found at page 36:

> *The disclosure does not purport to be one of an invention of tolbutamide alone or of it and a process or processes for its preparation but on the contrary purports to relate to a class of sulphonyl ureas of which tolbutamide is one member, and it proceeds to outline in general terms methods by which ureas of the class may be produced and to assert utility for the substances of the class. Tolbutamide is mentioned from time to time as an example of the class but not until one reaches claim 10 (13 in the case of the last patent) is there any indication that the invention is concerned with anything but a whole class of substances and general methods of producing them. In this respect the specifications resemble that considered in C.H. Boehringer Sohn v. Bell Craig Ltd. ([1962] Ex. C.R. 201.) and for the reasons there given at pages 209 to 215 I am of the opinion that these specifications should be regarded as purporting to disclose several different inventions, one or more pertaining to a class or classes of substances, another to the single substance known as tolbutamide and several others to the particular substances claimed in claims 11 to 19 inclusive (14 to 21 in the last).*

[115] The Supreme Court of Canada this time did comment on the point (reported in the same volume beginning at page 54) but only in the context that, while it was conceeded that the one compound alone could have been the subject of a valid patent, Thurlow J. had found the patent invalid on the basis that the class was too broad. The Supreme Court affirmed that decision.

[116] Counsel for Apotex attempted to distinguish the patents considered by Thurlow J. from the ‘340 application and ‘350 patent at issue here. I find no substantive distinction. This application and patent and those considered by Thurlow J. and that of *May & Baker* are, for the purposes of

construction considered here, the same. Were I to approach the matter without jurisprudential constraints, I would readily find that the ‘340 application is directed to but one invention, a class of compounds, of which individual compounds such as lisinopril are but illustrative. However, *Boehringer* and *Hoechst, supra*, oblige me to find otherwise, on the slender basis that there was, in the ‘340 application not only examples but also specific claims to the individual compounds enalapril, enalaprilat and lisinopril, each of which, on the theory of those cases, is a different invention from the class. A higher court may be persuaded otherwise however, for jurisprudential integrity in this Court, I must find that the ‘340 application discloses separate inventions to each of the class, to lisinopril, to enalapril and to enalaprilat.

11. Use of Extrinsic Evidence

[117] Counsel for Apotex urged me, in considering the issue of construction particularly of the ‘340 patent application, to consider extrinsic evidence, including communications between Merck’s United States patent attorneys and the United States Patent Office during the prosecution of the priority application filed there. Those communications included an argument by Merck’s attorneys, ultimately successful, to the effect that only one invention was disclosed in the parent application. Apotex also urged that I consider internal memoranda written by the persons named as inventors by Merck and certain published scientific papers authored by some of these persons. Some statements in these memoranda and papers suggested that these persons considered that a class of compounds had been invented and no separate invention was made in respect of members of that class, such as lisinopril.

[118] As I have already concluded, were it not for the Canadian jurisprudence, the ‘340 application in my opinion discloses one invention, a class. This view is consistent with the evidence urged upon me by Apotex.

[119] I have resisted referring to this evidence, however. As to the communication with the United States Patent Office, no evidence was led of any person having expertise in United States patent law and prosecution practice. I am hesitant to make any conclusions in a matter rife with technical issues such as this, without such assistance, or even to draw any inference from such correspondence. The Courts, commencing with *Lovell Manufacturing Co. v. Beatty Bros. Ltd.* (1962), 41 C.P.R. 18 at 38-39 through *Free World, supra*, paras. 62-67 have resisted consideration of extrinsic evidence particularly foreign patent prosecution, in interpreting a Canadian patent. While there are exceptions such as *Laboratoire Pentagone Ltée. v. Parke Davis & Co*., [1968] S.C.R. 307 at 312, they are rare instances best left in isolation. The reason for resisting such extrinsic evidence is plain: a patent should stand on its own, to be read by a person skilled in the art so as to be understood on its own. To encourage the exhumation and use of extrinsic evidence such as domestic or foreign prosecution history and writings of inventors and the like is to take patent construction into the realm of expensive, possibly endless searches and arguments. Patent construction is difficult enough as it is.

[120] Further, with respect to writings of inventors whether internal memoranda or papers published in scientific journals and the like, the Federal Court of Appeal in *Nekoosa Packaging Corp. v. AMCA International Ltd*. (1994), 56 C.P.R. (3d) 470 per Robertson J.A. at page 480 made it very clear that the general rule is that extrinsic evidence is inadmissible for the purpose of construing a patent specification and this must necessarily extend to the testimony of the inventor

pertaining to the proper construction of the specification. This applies even more so when the evidence is essentially hearsay.

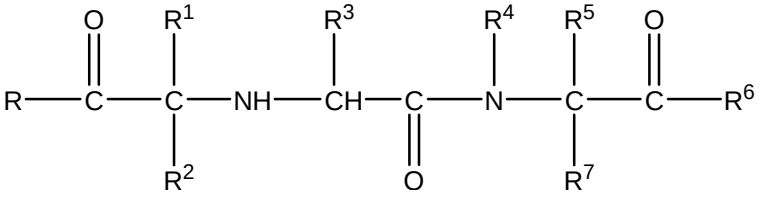
[121] Therefore, I have not considered for the purpose of construction, the United States prosecution history or the memoranda or papers by the inventors.

12. Construction of the '350 Patent Claims

[122] As instructed by the Supreme Court of Canada in *Whirlpool Corp. v. Camco Inc*. [2000] 2 S.C.R.1067, the Court must construe the claims at issue. This construction is to be made without regard to infringement or validity. Construction is to be considered as of the date the patent was issued and granted, October 16, 1990. The Court is to put itself in the position of the ordinary person skilled in the art to which the patent pertains and read the claims in the context of the description made in the patent as a whole thus, give a purposive construction to the claims.

[123] At issue are claims 1, 2 and 5 of the '350 patent which are as follows:

Claim 1 A compound of the formula:



wherein:

R and R^6	can be the same or different and are hydroxy or loweralkoxy;
R^1 is	a substituted lower alkyl wherein the substituent is phenyl or halophenyl;

R^2 and R^7	are hydrogen;
R^3 is	amino lower alkyl;
R^4 and R^5	are lower alkyl;
R^4 and R^5	may be connected together to form an alkylene bridge of from 2 to 4 carbon atoms;

and the pharmaceutically acceptable salts thereof.

Claim 2 N-α-(1(S)-carboxy-3-phenylpropyl)-L-lysyl-L-proline

****

Claim 5 A pharmaceutical composition for reducing hypertension comprising an effective amount of a compound of Claim 1, 2 or 4 and a pharmaceutically acceptable carrier.

[124] Construction of these claims, as stated by the Federal Court of Appeal in earlier interlocutory proceedings in this case, *Merck & Co. Inc. v. Apotex Inc*. (2003), 30 C.P.R. (4th) 40, 2003 FCA 488 at paragraph 2, has never been an issue between the parties. It has been acknowledged, and the Court so finds, that claim 1 includes many compounds, one of which is lisinopril. Claim 2 claims only the compound lisinopril. Claim 5 claims a pharmaceutical composition for reducing hypertension comprising an effective amount of the compounds of claims 1 or 2 including, lisinopril. These compounds are said to be useful as converting enzyme inhibitors and as antihypertensives. Although such use is not particularly included in claims 1 or 2, such use is inherent in those claims. This same finding was made by the Federal Court of Appeal with respect to the '349 patent directed to enalapril (*Merck & Co. v. Apotex Inc*. (1995), 60 C.P.R. (3d) 356 at page 373).

[125] Therefore, the claims 1, 2 and 5 can be construed as:

1. Compounds of Formula I wherein R and R^1 through R^6 are selected from the choices given. Lisinopril is among such choices. Inherent in this claim is its utility in reducing hypertension.

2. Lisinopril. Inherent is its utility in reducing hypertension.

5. A pharmaceutical composition for reducing hypertension comprising an effective amount of a compound of claim 1 including lisinopril and a pharmaceutically acceptable carrier.

13. Infringement

a) Admission as to Infringement

[126] Apotex's counsel made the following statement to the Court on January 19, 2006:

> *"Apotex will acknowledge that its only defences to infringement of claims 1, 2 and to the extent that tablets were made, 5, which is the formulation claims, of the '350 patent are invalidity, section 56, license, experimental use and regulatory use.*
>
> *That is the extent of the defences for infringement."*

[127] This same position was noted by the Federal Court of Appeal in hearing an earlier interlocutory motion in this matter as reported at (2003) 30 C.P.R. (4^{th}) 40, 2003 FCA 488 at paragraph 2.

[128] Thus, if any of claims 1, 2 or 5 is valid, Apotex will have infringed such claims subject to the exemptions put in issue. Claim 5 is directed to formulated drugs thus, only Apotex's tablets are at issue in respect of claim 5. All of Apotex's commercial products were in tablet form.

b) Exemptions from Infringement

[129] Apotex asserts that, if the claims of the ‘350 patent are found to be valid, then certain quantities of lisinopril used by Apotex are exempt from infringement for a variety of reasons:

- Section 56 of the old *Patent Act* exempts material acquired before the ‘350 patent was granted on October 16, 1990.
- A Compulsory License issued to Delmar under the ‘350 patent exempts certain quantities of lisinopril manufactured by Delmar and ultimately acquired by Apotex.
- Section 55.2 of the *Patent Act* permits Apotex to use and retain certain quantities of lisinopril for submissions as required by government authorities.
- The common law respecting patents permits non-infringing use to be made by Apotex of certain quantities of lisinopril for experimental purposes.

[130] As to the quantities used, when they were used and for what purposes, I accept without reservation, the evidence of Apotex employees Fahner, Hems, Tao, Lovelock and Barber. In any accounting to be made, their evidence as given at trial should be accepted as credible and accurate.

(i) Section 56 – Are certain lots exempt?

[131] The Plaintiffs have agreed that certain lots of lisinopril acquired by Apotex are exempt by reason of the provisions of section 56 of the *Patent Act*, as set out in Exhibit 1. Remaining at issue, in respect of this asserted exemption, are three lots of lisinopril manufactured in Canada by Delmar and ultimately acquired by Apotex. They are identified as Delmar lot numbers P65485, P65510 and P65557.

[132] Section 56 of the old *Patent Act* states that every person who, before the issuing of a patent, that is October 16, 1990, has purchased, constructed or acquired an invention for which the patent is

obtained, has the right to use and sell to others the specific composition of matter patented and so acquired.

[133] The evidence of Dr. Dickinson, President of Delmar was that two of the lots in question, numbers P65485 and P65510 were, as of October 16, 1990, in the latter stages of manufacture. Neither was a “produit fini”, to use Delmar’s words, as of that date. The evidence of Dr. Dickinson and the expert, Dr. Bartlett who examined the production records of Delmar, was that as of October 16, 1990, lisinopril did exist as molecules in each of those batches, however, as for P65485 the lisinopril had not been isolated, freed of residual solvents and released for purposes of formulating into a drug until October 20, 1990. As for P65510, the lisinopril was at a still earlier stage of production. That lisinopril had not yet been isolated as a solid and still had to undergo purification steps including tituration and recrystalization, followed by drying, before it could be released as a finished product.

[134] Voluminous records, in the French language, were produced by Delmar showing the manufacture of lisinopril from raw materials. A large number of steps were undergone before arriving at what Delmar records described as a “produit fini.” While lisinopril as a molecule came into existence somewhere within each batch before October 16, 1990, until those molecules had been sufficiently isolated and purified so that Delmar could consider that it had arrived at a “produit fini”, it cannot be said that Delmar had “purchased, constructed or acquired” the invention within the meaning of section 56. That did not happen with respect to either batch P65485 or P65510 until after the patent was granted.

[135] As to lot P65557, we have no records. Dr. Dickinson said that they could not be found. Inferring only from numerical sequence, that lot was probably even less advanced that the other lots. The onus lies on Apotex to prove an exemption and it has not done so with respect to lot P65557.

[136] Essentially the same issue arose in earlier litigation between these parties as to enalaprilat manufactured by Delmar. The Federal Court of Appeal in *Merck & Co. v. Apotex Inc*. (1995), 60 C.P.R. (3d) 356, at page 373, held that inherent in the claim, and the patent, is the purpose and utility of the compound enalapril. That Court made that finding in the course of stating that bulk enalapril made before the date of grant could be made into tablets. However, also inherent is the fact that the bulk material as of the date of grant, must be in a usable form such as to be formulated into tableted drugs. The Federal Court of Appeal in *Merck, supra* at page 375, made it clear that section 56 could only apply to material that was in satisfactory condition so as to be considered by the manufacturer as something that could be shipped to a customer. In the present action, the two batches produced by Delmar contained lisinopril only as one, unisolated, part of a vat of chemical material. It was not usable for anything as of the critical date. The lisinopril in the vat cannot be said to have been "purchased, constructed or acquired" as of the critical date.

[137] This view is consistent with that of the majority of the Federal Court of Appeal in *Lido Industrial Products Ltd. v. Teledyne Industries Inc.* (1981), 57 C.P.R. (2nd) 29 as expressed by Urie JA at pages 54 and 55. In speaking of shower heads that had been ordered from a supplier but not yet delivered as of the relevant date, Urie JA stated that the critical feature was that the actual patented object must be in existence as of that date.

[138] I find, therefore, that the benefit of section 56 of the *Patent Act* cannot be given to any of Delmar batches P65485, P65510 or P65557.

(ii) License – Does Delmar's license exempt any lots?

[139] On May 2, 1992, Delmar acquired from the Commissioner of Patents under the provisions of the *Patent Act* then in force, a compulsory license in respect of the '350 patent. The *Patent Act* was amended by S.C. 1993, c.2, terminating compulsory licenses granted after December 20, 1991. The relevant provision, transitional section 12 reads:

> *12. **Licenses ceasing to have effect** - (1) Every license granted under section 39 of the former Act on or after December 20, 1991 shall cease to have effect on the expiration of the day preceding the commencement day, and all rights or privileges acquired or accrued under that license or under the former Act in relation to that license shall thereupon be extinguished.*
>
> *(2) Actions for infringement barred – For greater certainty, no action for infringement of a patent lies under the Patent Act in respect of any act that is done before the commencement day under a license referred to in subsection (1) in accordance with the terms of that license and sections 39 to 39.17 of the former Act.*

[140] The "commencement day" was February 14, 1993.

[141] The operative terms of the license granted by the Commissioner to Delmar appear to be the same as those considered by this Court and the Federal Court of Appeal in earlier litigation between these parties reported at (1994), 59 C.P.R. (3d) 133 and (1995), 68 C.P.R. (3d) 356, in dealing with the enalapril '349 patent. The operative terms of the '350 patent license granted to Delmar at issue here are:

> *NOW THEREFORE, be it known that pursuant to the power vested in me by the Patent Act as amended, and, in particular by Sections 4 and 39(4) thereof, I do grant to the Applicant, a non-exclusive license under Canadian patent number 1,275,350 for the unexpired term thereof to do the things specified in the application with respect to the medicine whose chemical or proper name is Lisinopril, namely:*
>
> *(1) with respect to any patent named above that is for an invention that is other than a process.*
>
> *(a) under patent number 1,275,350 to make the invention for medicine;*
>
> *(b) under patent number 1, 275,350 to make the invention for the preparation or production of medicine;*
>
> *(c) under patent number 1,275,350 to use the invention for medicine;*
>
> *(d) under patent number 1,275,350 to use the invention for the preparation or production of medicine;*
>
> *(e) under patent number 1,275,350 to sell the invention for medicine; and*
>
> *(f) under patent number 1,275,350 to sell the invention for the preparation or production of medicine;*
>
> *the sale thereof not being restricted to Canada only, under the following terms and conditions.*

[142] The Commissioner particularly addressed a concern raised by the patentee Merck that the Applicant Delmar may not be able to produce formulated tablets. In his decision granting the license, he said:

> *The patentee has stated that, since the Applicant has expressed the intention of preparing or having prepared final dosage forms of the medicine for sale in Canada without indicating that it has the necessary facilities for so doing., the only way in which the veracity of these statements can be tested is for the Commissioner to grant a license where the bulk manufacturer is prohibited from selling*

> *outside Canada until such time as it can supply evidence that it is complying with the basic fundamental policy underlying Section 39(4) of the Act of providing effective competition in Canada by selling the medicine here; however I am not prepared to so limit the license since there is no requirement in the Act and Rules that an applicant possess all of the facilities to enable it to be able to carry out all of the operations that have been requested by it at the time it makes its application or indeed at the time of grant of the license.*

[143] The evidence of Dr. Dickinson and Dr. Sherman is that Delmar produced certain batches of lisinopril between May 12, 1992, the date the license was granted, and the "commencement date" of February 14, 1993. Some of those batches were sold to a Panamanian company, Apothecary International Inc. The paperwork indicates that the transfer of title took place before February 14, 1993. No evidence to the contrary was led and nothing in evidence or the demeanour of the witnesses leads me to conclude otherwise.

[144] However, the lisinopril, in drums, remained physically in a warehouse under the custody of Delmar, in the Montreal area. Ultimately, well after February 14, 1993, title to these drums appears to have passed from Apothecary to Apotex, and Delmar shipped the drums to facilities under Apotex's control in the Toronto area. Apotex used this lisinopril to formulate tablets.

[145] Thus, lisinopril was made by Delmar during the license period and, during that period, title but not possession passed to a third party. Apotex ultimately acquired both title and possession to this lisinopril well after the license period had expired. Can Apotex claim the benefit of Delmar's license?

[146] The earlier decisions of this Court and the Federal Court of Appeal in dealing with a very similar license to Delmar for enalapril are somewhat confusing as there is, in those decisions, consideration of the license mingled with consideration of section 56 which appears to be irrelevant to the license issue. I am speaking particularly of the decision of this Court found at pages 164 and 165 of the report at (1994), 59 C.P.R. (3d) 133 and of the Court of Appeal at page 376 of the report at (1995), 60 C.P.R. (3d) 356. The Federal Court of Appeal at page 376 said:

> *The trial judge held that there was no infringement in Apotex's producing the final dosage form from bulk product it held only on consignment, during the time when Delmar's license was in effect under the law. There was no cross- appeal by the respondents on this holding...*
>
> *Again, I am in agreement with the conclusion of the learned trial judge, though I should prefer to rest my conclusion on the extinguishment of Delmar's rights and so of any right in the appellant, rather than on a return to s. 56, which I am not at all certain is in play on this point.*

[147] Subsequently, the Supreme Court of Canada, in a case involving different parties, considered the effect of a terminated compulsory license. In *Eli Lilly and Co. v. Novopharm Ltd.* (1998), 80 C.P.R. (3d) 321 that Court considered the situation in which a party had purchased product which, at the time of its manufacture, was made under the provisions of a compulsory license. Iacobucci J. for the Court at paragraphs 99 to 101 held that, in the absence of express conditions to the contrary, the purchaser of such licensed product is free to deal with the product without fear of infringing upon the patents in question.

[148] The Federal Court of Appeal later considered the *Eli Lilly* case as well as its decision in *Apotex Inc. v. Merck & Co.* (2002), 19 C.P.R. (4^{th}) 163, on appeal from a motion for summary

judgment where the Trial Judge allowed an application by Merck to strike out Apotex's action seeking approval to sell enalapril made by Delmar during the course of its compulsory license and subsequently acquired by Apotex. The Trial Judge dismissed the action on the basis of the prior litigation between the parties. The Federal Court of Appeal upheld the Trial Judge. It held that *Eli Lilly* did not represent a change in the law and that any issue in that respect could have been raised by Apotex in earlier litigation respecting the same patent. The same determination was made in respect of another of Apotex's argument as to interpretation of section 12 of the *Act* amending the *Patent Act* which dealt with extinguishment of compulsory licenses.

[149] Were it not for the decision of the Federal Court of Appeal in *Apotex Inc. v. Merck & Co.* (2002), 19 C.P.R. (4th) 163, *supra*, I would have held that Apotex may properly assert that the grant of license by the Commissioner includes the right to make and sell the invention (lisinopril) for the preparation or production of medicine (see paragraphs 1(b) and (f) of the license). There is no restriction that the person preparing or producing the medicine be Delmar or an agent of or under contract with Delmar. Delmar is able to sell lisinopril to others to prepare or produce medicine. That is what happened here. Delmar made lisinopril during the term of the license and sold it to a third party during the term of the license. The third party later sold it to Apotex, who prepared or produced a medicine. Delmar paid a royalty to Merck for that privilege and Merck kept the money. I would have concluded that the goods were licensed and that the license runs with the goods.

[150] Since the Federal Court of Appeal in *Apotex Inc. v. Merck & Co.* (2002)19 C.P.R. (4th) 163 *supra* in a decision involving the same parties, Apotex and Merck, in respect of a compulsory license identical in terms with that at issue here, involving a patent which arose from the same

parent application (‘340) as the ‘350 patent here, has decided that Apotex was prevented from re-litigating the issue of the license, I am compelled to say likewise. Apotex cannot, now, raise the ‘350 compulsory license as a defence to infringement.

[151] Should a higher Court wish to consider this issue afresh, my view is that the license, even if extinguished, still runs with goods made before the license was extinguished. As stated in *Eli Lilly*, *supra*, this affords a good defence to infringement. The “extinguishment” argument in my view has to be considered in light of section 12(2) of the transitional provisions of the *Patent Amendment Act*, S.C. 1993, c.2 which provides that no action for infringement lies in respect of any act done before the commencement date. Product made under license before that date was lawfully made, it could be lawfully sold to and used by another after that date.

[152] However, I must find that Apotex cannot claim the benefit of Delmar’s license is respect of lisinopril made by Delmar under license and ultimately acquired by Apotex.

(iii) Section 55.2(1) – Are certain lots exempt?

[153] Section 55.2(1) of the *Patent Act* provides that it is not an infringement of a patent for any person, such as Apotex, to make, construct, use or sell the patented invention solely for uses reasonably related to the development and submission of information required under any law of Canada, a province, or any other country that regulates the manufacture, construction, use or sale of any product. This exception is clear and unequivocal.

[154] These provisions have been derived from similar provisions found in the *United States Drug Pure Competition and Patent Term Restoration Act* of 1994, see 202, 98 Stat. 1585 as amended 35 U.S.C. see 271(e)(1). That United States statute is more restrictive as it speaks only of requirements under United States law and is limited to drugs. The United States Supreme Court interpreted these provisions in *Merck KG v. Integra Lifesciences Ltd*. 545 US 1 (2005). Scalia J in giving the opinion of the Court said at page 8:

> *Though the contours of this provision are not exact in every respect, the statutory text makes clear that it provides a wide berth for the use of patented drugs in activities related to the federal regulatory process.*
>
> *As an initial matter, we think it apparent from the statutory text that, sec 271(e)(1)'s exemption from infringement extends to all uses of patented inventions that are reasonably related to the development and submission of any information under the FDCA.*

[155] At page 12, Scalia J. made it clear that the exemption applied not only to research that ultimately found its way to the FDA but also research and experiments that did not ultimately find its way there. At page 13 he concluded:

> *Congress did not limit 271(e) (1)'s safe harbour to the development of information for inclusion in a submission to the FDA; not did it create an exemption applicable only to the research relevant to filing an ANDA for approval of a generic drug. Rather, it exempted from infringement all uses of patented compounds "reasonably related" to the process of developing information for submission under any federal law regulating the manufacture, use, or distribution of drugs.*

[156] The evidence of the Apotex employees clearly shows that Apotex prepared and used lisinopril and materials incorporating lisinopril for the purposes of obtaining permission necessary to sell lisinopril containing drugs in Canada and the United States. While not all such lisinopril and

materials may have been ultimately referenced in those submissions, all were directed in one way or another to that purpose. Such use and such materials are exempt from infringement as provided by section 55.2(b).

[157] In addition, further material was routinely taken by Apotex as samples from incoming raw material and of the finished products. These samples are stored in the event that they are required for future reference in accordance with regulatory requirements. These samples never enter the stream of commerce and are ultimately destroyed.

[158] Drug manufacturers are required to retain samples on an ongoing basis by both Canadian and United States federal regulatory authorities. Provisions for doing so are made under the *Food and Drug Regulations,* C.R.C. c.870 in Canada and the *Food Drug and Cosmetic Act* 21 U.S.C. in the United States. The samples taken by Apotex and retained by it were done so in compliance with these provisions. I find that section 55.2(1) is sufficiently broad so as to exempt from infringement such samples taken pursuant to such regulations and needed for submission of information to the relevant government authorities if and when required. I add that, since such material is never sold and is ultimately destroyed, it is difficult to imagine what damage was suffered by any of the Plaintiffs.

(iv) Common Law – Are there common law exemptions and, if so, what is exempt.

[159] The Supreme Court of Canada in *Smith Kline & French Inter-American Corp. v. Micro Chemicals Ltd.,* [1972] S.C.R. 506, dealt with whether certain exemptions existed at common law

respecting patent infringement. It found that some exemptions exist. That case has been followed by this Court in *Cochlear Corp. v. Cosem Neurostim Ltée* (1995), 64 C.P.R. (3d) 10 at page 44.

[160] The Supreme Court in *Micro Chemicals, supra,* at pages 518 to 520 affirmed a decision of the English Court of Appeal in *Frearson v. Loe* (1878), 9 Ch. D.48 which states that there is a doctrine of "fair dealing" in respect of patent infringement:

> *Patent rights were never granted to prevent persons of ingenuity exercising their talents in a fair way. But if there be neither using nor vending of the invention for profit, the mere making for the purpose of experiment, and not for a fraudulent purpose, ought not to be considered within the prohibition and, if it were, it is certainly not the subject for an injunction.*

[161] The Supreme Court in *Micro Chemicals* held it to be significant that the Trial Judge had found that small amounts of the patented compound had been produced, put in bottles, kept by Micro and never entered into commerce and no damage was suffered by the patentee and no profits made by Micro. They held that the Trial Judge was in error in finding that such activity constituted infringement. They found that an experimental user, without a license, in the course of *bona fide* experiments with a patented article was not an infringment. The use of the product, not for profit, but to establish the fact that a person could manufacture a product in accordance with the patent, was not an infringement.

[162] In this case, the evidence shows that there has been a use of lisinopril that should be considered in the circumstance of "fair dealing". That is the use of lisinopril in ongoing research and development of alternate formulae, alternate techniques for tablet making and the like.

[163] As to this research and development material, I find that it clearly falls within the "fair dealing" exemption provided by the Supreme Court of Canada in *Micro Chemicals*.

(v) Dedication

[164] There is no provision in the Canadian *Patent Act* or *Rules* for dedicating a patent or claims, to the public. There is a provision for disclaiming a patent or part of a patent however, that practice arises under section 48 of the *Patent Act* which requires a disclaimer to be based upon some mistake, accident or inadvertence. What happens if there was no mistake, accident or inadvertence but the patentee no longer wishes to possess the monopoly granted to it by a patent or certain of its claims?

[165] A patent is a monopoly, and each claim is a separate definition of that monopoly, that arises only if someone makes an application for that monopoly. The grant of a patent comes from the federal government, but only when sought by an applicant. Once the applicant receives the grant, it is free to exploit that monopoly by practicing or licensing the invention, or to ignore it. To ignore what others may be doing in infringing upon that monopoly may give rise to defences of laches, acquiescence or the like if, at a later date, the patentee wishes to enforce that monopoly. An unused monopoly may also give rise to compulsory licenses to practice the invention.

[166] If the patentee wishes not just to ignore its monopoly but to advise the public that it has done so, it is entirely within the patentee's right to make a public statement to that effect. Just as a patentee may craft the monopoly by appropriate draughtsmanship of the claims, it may tell the public, by appropriate draughtsmanship, that which it chooses to ignore or no longer enjoy.

[167] In this case, the dedication of certain claims of patent 1,276,559 directed to particular uses of lisinopril was specifically drafted to state that the dedication was without prejudice to the patentee's rights as expressed in other claims of the same patent or in any other patent or patent application. The wording is clear, if the monopoly defined in the dedicated claims overlaps the monopoly defined in other claims of that patent or any other patent or application, whatever rights subsist in those other claims is not dedicated. This form of notice is that of the patentee's own choosing and is amply clear, the rights of undedicated claims have not been dedicated.

[168] Substantially the same wording was before this Court in *G.D. Searle & Co. v. Merck & Co.* (2002), 20 C.P.R. (4th) 103. While in the context of a summary judgment, the Court came to the same conclusion at paragraphs 95 to 98, namely that claims other than those dedicated, remain undisturbed.

[169] I find, therefore, that the dedication of some of the claims of the '559 patent does not affect the enforceability or validity of claims 1, 2 and 5 of the '350 patent. Even if the claims in the '559 patent are invalid, that does not make the claims in the earlier '350 patent invalid nor does the dedication of claims in the '559 patent impair, or permit infringement of the '350 patent.

c) Limitations Respecting Exemptions

[170] I have found that section 55.2(l) of the *Patent Act* and the common law as to "fair dealing" afford exemptions as to certain Apotex activity that would otherwise infringe the claims at issue. The onus is on Apotex to raise these exemptions and to prove them. While Apotex says that the

Plaintiffs were well aware of Apotex's claim to such exemptions for several years prior to trial, Apotex did not plead the issue of such exemptions until it amended its Defence and Counterclaim on January 26, 2006. Apotex had amended its pleadings on several previous occasions but not so as to raise these issues.

[171] It is not enough to hint at or suggest that such exemptions will be claimed, they must be pleaded. A party opposite is entitled to know the case put against it in a formal and proper way.

[172] The *Patent Act* now contains specific provisions as to limitations. Section 55.01 provides that no remedy may be awarded for an act occurring more than six years previous. The *Federal Court Act* R.S.C. 1985, s.39 provides that if no other limitation period is provided, provincial limitation periods apply where activity is confined to a single province, otherwise the period is six years. While Apotex's tablet manufacturing business is located in Ontario, it obtained material from Quebec and from abroad, it sells across Canada and exports product. No one province can be said to be uniquely involved. The six year limitation period is appropriate.

[173] Morton, *Limitation of Civil Actions*, 1988 Carswell, Toronto, in addressing limitations in patent proceedings, having cited Collier J. of the Federal Court in *Sandvik A/B v. Windsor Machine Co. Ltd*. (1986), 8 C.P.R. (3d) 433 at 442-443 makes the simple statement that, unless specifically pleaded, a limitations defence is of no use. I agree.

[174] Therefore, as to the exemptions here found to be proper, such exemptions shall apply only to activity which took place on and after January 26, 2000, that is, six years before Apotex's pleading was amended so as to include a plea as to such exemptions.

14. Validity

a) Effect of the presumption of validity

[175] The Plaintiffs rely upon section 45 of the *Patent Act*, which provides that a patent shall, in the absence of evidence to the contrary, be presumed to be valid.

[176] The effect of this provision has been explained for instance by the Federal Court of Appeal in *Tye-Sil Corp. Ltd. v. Diversified Products Corp.et al* (1991), 35 C.P.R. (3d) 350 at 357-359, to mean that a patent, without any other evidence, enjoys a presumption of validity. If evidence as to invalidity is led at trial, the Court must weigh that evidence on the balance of probabilities and make a finding as to validity. Unless held to be invalid, the '350 patent will endure for seventeen years from the date of grant and issue that is, until October 16, 2007.

[177] In this action, Apotex is challenging validity of the '350 patent and, individually, claims 1, 2 and 5 of that patent on a number of grounds including delay, double patenting and improper divisional. In earlier litigation in this Court T-2408-91 and on appeal to the Federal Court of Appeal, A-724-94, claims in the '349 patent relating to enalapril were held to be valid and infringed by Apotex. The parties or their privies in this present action and that earlier action are essentially the same. The addition of the Astra Plaintiffs in this action as licensees under the '350 patent is irrelevant.

[178] The evidence and submissions of the parties must be examined and weighed in this context.

b) Estoppel

(i) Previous Litigation – Is Apotex estopped or otherwise precluded from challenging validity of the '350 patent having regard to prior litigation T-2408-91 and A-724-94?

[179] The '349 patent and the '350 patent each issued the same day, they each were divided out of the same parent '340 application. The '349 patent is essentially directed to enalapril, the '350 patent is essentially directed to lisinopril.

[180] The Supreme Court of Canada has provided clear guidance as to how to deal with subsequent litigation between much the same parties dealing with much the same subject on issues that were, or could have been raised in the earlier litigation. In *Danyluk v. Ainsworth Technologies Inc.* [2001] 2 S.C.R. 460, Binnie J. at paragraph 18 said:

> *The law rightly seeks a finality to litigation. To advance that objective, it requires litigants to put their best foot forward to establish the truth of their allegations when first called upon to do so. A litigant, to use the vernacular, is only entitled to one bite at the cherry***…**

[181] In *Maynard v. Maynard*, [1951] S.C.R. 346, the Supreme Court of Canada cited with approval at pages 358 and 359, a passage from *Green v. Weatherill*, [1929] 2 Ch. 213:

> *The plea of res judicata is not a technical doctrine, but a fundamental doctrine based on the view that there must be an end to litigation: see In re May [28 Ch. D. 516, 518.]; Badar Bee v. Habib Merican Noordin [[1909] A.C. 615.]. In the latter case it may be observed that Lord Macnaghten in delivering the judgment*

> *cites from the Digest and relies on the maxim "Exceptio rei judicatae obstat quotiens eadem quaestio inter easdem personas revocatur." In the leading case of Henderson v. Henderson [3 Hare, 100, 114.], there is to be found the following statement of the law by Wigram V.C.: "I believe I state the rule of the Court correctly when I say that where a given matter becomes the subject of litigation in and of adjudication by a court of competent jurisdiction, the Court requires the parties to that litigation to bring forward their whole case and will not (except under special circumstances) permit the same parties to open the same subject of litigation in respect of matter which might have been brought forward as part of the subject in contest, but which was not brought forward only because they have from negligence, inadvertence or even accident, omitted part of their case. The plea of res judicata applies, except in special cases, not only to points upon which the Court was actually required by the parties to form an opinion and pronounce a judgment, but to every point which properly belonged to the subject of litigation and which the parties, exercising reasonable diligence, might have brought forward at the time." This passage has recently been approved by the Privy Council in the case of Hoystead v. Commissioner of Taxation [[1926] A.C. 155 170.].*

[182] Justice Layden-Stevenson of this Court in *AB Hassle v. Apotex Inc*. (2005), 38 C.P.R. (4th) 216 gave an excellent review of the law on the subject of finality in litigation. Her findings were approved by the Federal Court of Appeal, 2006 FCA 51, [2006] F.C.J. No. 203 at paragraph 26. Justice Layden-Stevenson said that in exercising discretion where there is no suggestion of fraud or dishonesty in the earlier litigation and no new evidence that was previously unavailable that would conclusively affect the earlier result, respect must be given to the desire for finality in litigation.

[183] Apotex endeavoured to isolate different forms of prior litigation preclusion, arguing the limitations of each, such as to endeavour to avoid being engaged by any of them. It does not advance matters to try to pigeonhole the basis in respect of which re-litigation is to be precluded.

The robust point is that, as Binnie J. says, a second bite at the cherry is to be precluded where appropriate.

[184] The decision of the Federal Court of Appeal in proceedings between these parties dealing with an attempt by Apotex to re-litigate the enalapril patent in *Apotex Inc. v. Merck & Co.* (2002), 19 C.P.R. (4th) 163, clearly states at paragraphs 29 and 30 that finality in litigation is the paramount policy concern. Only in "special circumstances" will a party be entitled, in the discretion of the Court, to engage in further litigation.

[185] It is clear from a review of these cases that where the parties, the subject matter and the issues are the same, there can be no further litigation. Further, where an issue is one that a party did not raise, but could have raised in the earlier litigation, the Court will not permit the new issue to be litigated in the absence of special circumstances. Are there "special circumstances" here? Does the mere fact that there are "different" patents directed to what I have determined to be "different inventions" make a difference?

[186] Attacks on validity based on double patenting and improper divisional were not apparently raised in the earlier proceedings or, if they were at some point, they were not the subject of any judicial determination. There is no indication that Apotex was precluded from or unable to raise these points in the earlier litigation. It is not clear whether delay was or was not raised at trial, probably it was not, but that doesn't matter, it either was or could have been raised.

[187] To the extent that I have determined that enalapril (‘349) is patentably different from lisinopril (‘350), the subject matter of this action is different from the earlier. However, the same questions as to delay, double patenting and improper divisional could have been raised in the earlier litigation since the ‘349 also arises from the same parent ‘340 application and issued on the same day as the ‘350 patent. The same issues as to double patenting, improper divisional and delay are matters that could have been raised in the ‘349 patent litigation, even though they apparently were not.

[188] I draw an analogy. A person owns a large piece of land, some pieces are sub-divided out of the large piece but still owned by the same person. An individual allegedly trespasses upon one of the small pieces and the owner brings an action which is defended. The individual, now defendant, argues non-trespass and raises certain issues as to validity of title and ownership. The defendant loses. A second action is brought by the person alleging that the same individual (defendant) has trespassed upon a second piece of land divided out from the large piece. The individual, again a defendant, now wishes to raise new defences such as improper division of the land. Can he do so? Surely not. While the two divided out pieces of land are separate properties, the parties are the same, the “parent” piece of land is the same and the issues now sought to be raised apply equally to each. The Court seeks finality in litigation as a paramount concern.

[189] Therefore, I find that Apotex is precluded from raising attacks as to the validity of the ‘350 patent in this action based on delay, improper divisional or double patenting. I will nonetheless deal with these arguments in the event that I am found it be in error as to preclusion.

(ii) Delmar License – Is Apotex estopped or otherwise precluded from challenging validity as a result of the claim to the benefit of the Delmar License?

[190] Notwithstanding my findings as to preclusion, I will deal with the issue of specific preclusion arising out of the license to Delmar. Apotex is claiming that certain quantities of lisinopril acquired by it directly or indirectly from Delmar are licensed by reason of a compulsory license granted by the Commissioner of Patents to Delmar. That license does not contain any express terms relating to the validity of the patent.

[191] The Ontario Court General Division in *Apotex v. Tanabe Seiyaku & Nordic* (1994), 59 C.P.R. (3d) 38, dealt with a situation where the holder of a compulsory license under a patent granted by the Commissioner of Patents, was challenging the validity of that patent in an action brought for infringement. At page 49, Campbell J. made it clear that any estoppel that a patentee may rely upon extended only in respect of activities alleged to fall within the scope of the license, any activity outside that scope would permit the party otherwise licensed to challenge validity. That decision was followed by the same Court in *Bayer A/G v. Apotex Inc*. (1995), 60 C.P.R. (3d) 58 at pages 72 to 75, affirmed 82 C.P.R. (3d) 526 (Ont CA).

[192] Here, Apotex is alleging that two batches of lisinopril made by Delmar under a compulsory license, may be used by Apotex without infringing the patent. To the extent that such argument applies to those batches, Apotex cannot challenge validity. However, since I have found that Apotex is estopped from raising the issue of the Delmar license here, Apotex cannot, by reason of licensee estoppel only, be said to be estopped from challenging validity of the patent. It is estopped for other reasons as I have already explained.

c) Divisional Procedure

[193] Section 36(1) of the old *Patent Act* provides that a patent shall be granted for one invention only, however, if it happens that a patent includes more than one invention, it is not, for that reason, invalid. Section 36(2) requires the Commissioner to divide applications where more than one invention is detected. That subsection permits, but does not require, the applicant to do likewise. Section 36(4) requires that separate fees be paid and a separate application be made, but affords the divisional application the same filing date as the parent.

[194] Apotex raises two arguments as to improper division of the ‘350 patent. The first is that the parent ‘340 application did not both describe and claim more than one invention, it only described one invention, the class, of which lisinopril was but an example. I have already held that, in accordance with the jurisprudence of this Court, there were several inventions, not just one. Thus, this argument fails.

[195] The second argument is that the application that led to the ‘350 patent could not, as of the date it was filed, August 1, 1989, be a proper divisional in respect of lisinopril, since an earlier application, 518,336 was pending in the Patent Office at that time and that application had already divided out, among other things, lisinopril. This earlier application is the one where, apparently, just a few days before the issuance of the ‘350 application, Merck’s patent agent phoned the Patent Office to cancel the claims and the application was ultimately abandoned a year or so after the ‘350 patent issued. Further, another application, number 576,715 had also been previously filed but issued to a patent, number 1,276,559 after the filing of the application for the ‘350 patent. This

application was directed to a combination of lisinopril plus a diuretic. In effect, Apotex argues, Merck had already exhausted its opportunity to divide out a patent directed to lisinopril.

[196] Apotex's second argument ignores the fact that, while applications are pending before the Patent Office they may be amended at any time, either at the request of the patent examiner, or voluntarily by the applicant. An applicant may, in certain circumstances, even amend the application after it has been allowed by the examiner. Where the examiner, or the applicant, perceives that two or more applications include overlapping claims, such claims can be removed from one or other of these applications, at any time before a patent issues. Here only one patent, the '350 patent, actually issued with claims specific to lisinopril. The '559 patent with claims to lisinopril plus a diuretic issued after the '350 patent issued, and is thus irrelevant here. The 518,336 application never did issue as a patent.

[197] During the pendenacy of an application or several applications, the procedures to be followed are the prerogative of the Patent Office. Amendments are routinely requested and made. Whether at one time or another, two or more applications included the same or similar claims is simply not relevant in considering a patent that emerged from any such application. Thus, I find that neither basis for improper divisional raised by Apotex has merit.

d) Effective Filing Date of the Divisional Application

[198] Even if one or other of Apotex's arguments had merit, what is the consequence of an improper divisional? Section 36(1) of the *Patent Act* addresses the situation where a patent issues directed to multiple inventions, it says that this does not invalidate the patent. Section 36(2) says

that the Commissioner, on perceiving multiple inventions, must require dividing out. Presumably if the applicant fails to do so, the application will not be allowed. However, in a situation where the applicant voluntarily divides its application and the Commissioner does not object, there is no clear provision in the *Patent Act*.

[199] Section 40 of the *Patent Act* provides that the Commissioner may refuse to grant a patent. Section 41 provides for an appeal from that decision.

[200] Section 43 provides that a patent, once issued, is presumed to be valid, as discussed earlier in these Reasons. Section 53 provides specifically that a patent is invalid where an allegation in the petition is untrue or if the specification and drawings are wilfully misleading. Section 59 provides that a defendant may plead as a defence any fact or default which under the *Act* or in law renders the patent void. The Courts routinely invalidate patents for failure to show invention, or for reasons of prior art as provided in section 27, or for improper description or drawing as required by section 34, none of which sections specifically provide for invalidity.

[201] Apotex argues that improper division of a patent application, like failure to comply with sections 27 or 34, in law renders a patent void, or at best, the filing date of the divisional application is the only date that can be claimed and not the parent ‘340 application filing date. There is no basis in the *Act* for ascribing the later date, section 36(4) provides that a divisional bears the original filing date. The divisional is either proper or it is not, no default position is provided.

[202] Merck argues that the Commissioner, who has at best tacitly approved the divisional, is simply acting procedurally and such actions are to be given deference. Merck says that any improper result can be dealt with, for instance, by the application of laws relating to double patenting. It relies on cases such as *Fada Radio Ltd. v. Canadian General Electric Co. Limited,* [1927] S.C.R. 520, to state that once a patent has issued, a Court should not invalidate that patent on the basis of a procedural requirement if it appears that the Commissioner was satisfied as to the procedure.

[203] I prefer Merck's position. Division of a patent application is essentially a procedural matter. If several patents claiming the same invention have been granted, a sufficient remedy as to validity exists in the application of the principles of double patenting.

[204] Here, I find that there has been no improper divisional, no basis for ascribing a filing date other than that of the parent '340 application has been established and no basis upon which to invalidate the '350 patent for that reason has been established. Therefore, I must turn to the issue of double patenting.

e) Double Patenting

[205] Apotex alleges that the ‘350 patent directed to lisinopril is invalid for double patenting having regard to an earlier issued patent, divided out of the same parent application, number 1,262,684. The ‘684 patent claims the combination of enalapril plus a diuretic.

[206] Double patenting is a judge - made concept. It does not appear in the *Patent Act*. The *Patent Act* in this regard in section 27 states that a patent will be invalid only if there has been a disclosure of the invention at least a certain period of time in advance of the filing of the application for the patent under consideration. No such period of time exists here.

[207] Double patenting deals with a situation where there is insufficient time between prior disclosure and filing or where several patents issue from the same application (divisionals) and the same parties such as inventors or applicants are involved. The theory is that a person should not enjoy an extended monopoly in the same invention by having separate patents issued to it when there really is only one invention involved.

[208] Where there has been sufficient time between the issuance of a first patent and the filing of an application for a second, for instance two years in the case of an “old” *Act* filing, then validity of the second patent is determined on the classic principles of anticipation or obviousness, where the date of invention is critical.

[209] One such case is the *Pfizer Canada Inc. v. Canada (Minister of Health)* decision of this Court, February 17, 2006, 2006 FC 220, [2006] F.C.J. No.273, where it was determined that an allegation that a patent was invalid was justified. The patent claimed a particular selection of salts of

a medicine from a wide range of such salts previously known without showing a novel or inventive basis for doing so. This is an example of a case dealing with known prior art and the failure to distinguish the claimed invention from the prior art in an inventive sense.

[210] The decision of this Court in *Bayer Inc. v. Canada (Minister of Health and Welfare)* (1998), 82 C.P.R. (3d) 359 and the Supreme Court of Canada decision upon which it relies *Commissioner of Patents v. Farbwerke Hoechst A/G* [1964] S.C.R. 49 are more important here. Both these cases dealt with the propriety of divisional applications in respect of medicines filed at a time when section 41 of the *Patent Act* was in force which severely restricted claims to medicines *per se* allowing only claims to medicine as made by particular processes. Attempts to avoid section 41 were made by filing divisional patents directed to the medicine in combination with other, known, medically inert substances wherein the medicine was formulated into a drug. The decision in both cases held that there could not be a separate invention in simply, as they put it, diluting the medicine. While using terms such as inventive ingenuity and obviousness, these Courts were dealing essentially with different obvious combinations of the same medicine.

[211] The leading case as to double patenting is the Supreme Court decision in *Whirlpool Corp. v. Camco Inc*., [2000] 2 S.C.R. 1067, where the Court identified two types of double patenting, one was where the claims were "identical or coterminous", the other was where the claims were not "patentably distinct". While using the word "obviousness" in relation to the second type, the Court, as an example, referred to the *Farbwerke Hoechst* case, *supra*, where a dilute form of the same medicine was held to be not "patentably distinct" from the medicine itself.

[212] Here we must consider whether a prior patent claiming enalapril plus a diuretic invalidates the later ‘350 patent claiming lisinopril. Is the lisinopril patent “identical or coterminous” with the enalapril plus diuretic patent? Is the lisinopril patent “patentably distinct” or is it “obvious” having regard to the earlier enalapril plus diuretic patent?

[213] I have already found that lisinopril and enalapril are separate inventions. A *fortiori* lisinopril and enalapril plus a diuretic are separate inventions, they are “patentably distinct” they are not “identical or coterminous”. Being different inventions, one is not “obvious” in view of the other in the sense of *Bayer* or *Hoechst, supra,* where the same compound was simply diluted or formulated.

[214] I find that the ‘350 patent is not invalid for reason of double patenting over the ‘684 patent.

f) Wilful Delay – Did Merck wilfully delay the prosecution for the ‘350 patent and, if so, what is the effect?

[215] Merck & Co. Inc. filed the first patent application for the class of compounds relevant here in the United States of America on December 11, 1978, as application number 968,249. This application ultimately matured into United States Patent Number 4,374,829 which issued February 22, 1983.

[216] In Canada, the parent ‘340 application was filed on December 6, 1979. This is within the twelve month period provided by the Paris Convention. The result is that the application could claim certain benefits of priority from the United States Application Number 968,249 filed December 11, 1978. The application for what ultimately became the ‘350 patent was filed, as a

divisional, on August 1, 1989. The ‘350 patent was issued and granted on October 16, 1990. Thus, the ‘350 patent took almost 12 years from the original priority filing, or almost 11 years from the original Canadian filing, or just over one year from the divisional filing, to mature into a granted patent. A review of the file history of the ‘340 application and the ‘350 patent shows that Merck provided timely responses to the Patent Office where requested. The lengthiest delays were those within the Patent Office itself. There is an unexplained statement on the wrapper of the file stating “take as much time as necessary on this case.” There is no evidence as to who wrote or said this or what it meant or in what context it was said or written. It is meaningless as it stands.

[217] No evidence, factual or expert, was led to demonstrate whether the length of time it took to prosecute the Canadian application was unduly long or short. Any comparison with the length of time it took to obtain a United States patent is hampered by the lack of evidence as to whether the prosecution there was unduly long or short. The Court was invited to look at the United States and Canadian file histories and draw inferences from communications with the Patent Offices and prosecuting agents and attorneys as to whether Merck had delayed prosecution in Canada. Without evidence as to what patent prosecution practice is and means in each country this Court cannot draw meaningful inferences as to delay or wilfulness.

[218] No direct evidence as to the “wilfulness” of Merck in prosecuting the Canadian application was introduced. Apotex called the evidence of a number of factual witnesses, its President, Sherman, its Chief Operating Officer, Kay, the President of a generic pharmaceutical trade association to which it belongs, Keon, a civil servant, Michaelyzn, all of whom testified that there was much lobbying by Apotex, the generic trade association, Merck and the brand pharmaceutical

trade association, in the mid to late 1980's and early 1990's as to what was known as Bill C-22. Provisions were enacted as a result of that Bill, doing away with the compulsory licenses in the Canadian *Patent Act*. I draw no inferences from this evidence.

[219] A process server, De Luca, delivered a letter to a person who was probably a retired Merck patent attorney, Sudal whose name appears in connection with the prosecution of the United States patent application, inviting him to contact Apotex's counsel, probably with a view to having him appear as a witness at trial. He never appeared. I infer nothing from this. No evidence was led as to whether or not he contacted Apotex's counsel or if so, what transpired.

[220] In short, there is no evidence that Merck wilfully delayed the issuance of the '350 patent.

[221] As to the law on the subject, there is none in Canadian jurisprudence. Nothing in the *Patent Act* addresses the consequences of delay in prosecuting a patent application other than abandonment if timely responses and fee payments are not made. This did not happen here. There is no case law in Canada addressing consequences, if any, as to delay.

[222] While I appreciate and endorse the proposition that the Court must be open to new concepts as to the law respecting validity of patents or indeed any new concepts as the occasion may demand, here I resist any invitation to consider law outside Canada as indicating what the law in Canada should be on this point simply because there is insufficient factual background in evidence in this case against which to consider such a matter.

[223] This issue simply has not been proven.

15. Remedies

[224] The ‘350 patent as well as claims 1, 2 and 5 of the ‘350 patent are found to be valid and infringed by Apotex subject to certain exemptions afforded by section 55.2(1) of the *Patent Act* and “fair dealing” exemptions provided for by common law. Section 55 of that *Act* provides that the patentee and all persons claiming under the patentee are entitled to damages. Section 57 permits the Court to award an injunction and an account of profits in appropriate circumstances. Normally, an order for delivery up of infringing material would follow the award of an injunction. The Court has power to award pre-judgment interest; the *Federal Courts Act*, R.S.C. 1985, c.F-7 sections 36 and 37 directs the Court to look at the laws of an appropriate province if possible or more generally, in that regard. The Court has inherent power to award exemplary or punitive damages where appropriate, and to award costs.

[225] An Amended Order of this Court dated July 24, 2000, has provided not only a bifurcation of the trial of this action so as to leave the calculation as to quantum of damage or profits to a later time, but has also provided that the determination as to whether the Plaintiffs are entitled to elect profits shall be left to me as the Trial Judge.

[226] At trial, counsel for each of Merck and Astra asked that I treat the Plaintiffs collectively and as to any monetary award, they will sort that out as between themselves. I am content to do that. Thus, I will treat the Plaintiffs as a single entity consisting the patentee and licensees who have been

and are selling product coming within the scope of the ‘350 patent in the Canadian marketplace and, to a limited extent, exporting such product from Canada.

[227] The Plaintiffs are clearly entitled to damages. Are they entitled to elect to take Apotex’s profits instead? Apotex argues that an inquiry as to profits is complex and normally should not be awarded. I do not find this argument to be persuasive. If a party elects profits, it does so knowing that it may be complex, it makes that choice. However, I believe that the time has come for the Court to examine more critically than it has in the past, the remedies awarded for patent infringement.

[228] I am aware that, in many cases, the Court simply makes an award of damages or profits as the Plaintiffs may elect. There have been exceptions where profits have been denied such as *J.M. Voith GmbH v. Beloit Corp.* (1993), 47 C.P.R. (3d) 448 (FC) affirmed on this point (1997), 73 C.P.R. (3d) 321, where in the period between when the trial division had declared a patent to be invalid and its restoration to validity by the Court of Appeal, there had been sales of infringing product. The Court held that it would be inequitable to award profits for this period.

[229] An award of profits is an equitable remedy subject to the discretion of the Courts (*Dableh v. Ontario Hydro* (1993), 50 C.P.R. (3d) 290 at 356-367 (FC)). In this case, a specific order providing for consideration of the remedy of election of profits by the Trial Judge, Muldoon J., had been made. The evidence of the representatives of Merck and Astra, Hébert and Feltmate, is clear that the initial entry of Apotex into the market as a generic in 1996 was of limited concern since Apotex offered only a 5mg tablet. This action was begun in 1996 but proceeded rather slowly. In all, it has

taken ten years to get to trial. When Apotex came into the market with a broad range of tablet strengths in 1999, Merck and Astra stopped promoting their product. There is no evidence that either Merck or Astra took any steps to match Apotex as to price or in any other way take competitive measures in the market. They simply stopped any significant market activity and left the market to Apotex. The cost of competing effectively could have been considered in the assessment of damages. The ten year period leading to this trial has been commented upon by all parties, each of whom blames the other for the delays. However, considering the fact that the Plaintiffs essentially threw in the towel and left this action to proceed in a leisurely fashion leads me to conclude that they should not be entitled to elect an award of profits. There shall, however, be an award of damages.

[230] The evidence is clear that Apotex is in the continuing business of making, using and selling lisinopril containing products, therefore that activity should be enjoined until the expiry of the ‘350 patent. However, given the length of time that it took to get this matter to trial, it is appropriate that Apotex have a grace period in order to determine whether it wishes to appeal from this decision and seek a stay of the injunction. Therefore Apotex shall have thirty days from the date that these Reasons are issued before the injunction is effective, provided however that Apotex shall account for all lisinopril acquired by it and all uses of lisinopril, whenever acquired, during that thirty day period and that all funds received in respect of all sales and other dispositions of lisinopril and lisinopril containing products in that period shall be held by it in a separate trust fund subject to further Order of the Court.

[231] With respect to any lisinopril and any lisinopril containing product in the possession, custody or control of Apotex at the time that the injunction becomes effective, Apotex may elect to deliver such material up to the Plaintiffs. Alternatively, Apotex may retain such product to be used or sold or otherwise disposed of after the expiry of the ‘350 patent, given that the ‘350 patent will expire in about a year and a half, provided that Apotex keeps an account of all such material and that all monies received by Apotex in respect thereof shall be held in the same separate trust fund subject to further Order of the Court.

[232] The Plaintiffs ask for what they describe as elevated damages and/or costs. Such request has not been particularly pleaded, it was only made in counsel’s submissions in argument. This request is made on the basis that Apotex sought, and ultimately after litigation, received, a Notice of Compliance to sell lisinopril products in Canada on the basis that it would be using lisinopril made before the issuance of the ‘350 patent. The evidence shows that such material was soon used up and Apotex sought, and obtained other material from Delmar and from abroad which it used to continue to make lisinopril products.

[233] In 1996, the Federal Court of Appeal in *Apotex Inc. v. Zeneca Pharma Inc.et al* 69 C.P.R. (3d) 451, considered Apotex’s application for a Notice of Compliance and stated that the Minister should not be prohibited from issuing such a Notice simply because there was a “theoretical possibility” that Apotex may use the Notice to sell infringing material in the future.

[234] In 2000, the Court was asked to reconsider its earlier decision upon evidence that Apotex had, by that time, commenced to use lisinopril made after the ‘350 patent was granted. The Federal

Court of Appeal in *Apotex Inc. v. Zeneca Pharma Inc*. (2001), 10 C.P.R. (4th) 146 held that there was no basis for reconsidering its 1996 judgment.

[235] The Plaintiffs seek "elevated" damages at what they describe as a "modest" thirty percent (30%) premium on the basis of Apotex's alleged misrepresentation and misconduct. Apotex's actual representations at the time it sought a Notice of Compliance and in the Court proceedings were not put in evidence, there is only what is set out in various Reasons of the Courts.

[236] The Plaintiffs never provided a specific pleading as to such damage. They say they do not have to and rely on *Merck & Co. v. Brantford Chemicals Inc.*, 2004 FCA 223, [2004] F.C.J. No. 1003, paragraph 3 for that proposition. I have been provided with a copy of the Statement of Claim dated 26 September, 2003 in that action T-1780-03 and there was, in fact a plea for, "Punitive and Exemplary damages" in that claim.

[237] The Federal Court of Appeal in *Brantford Chemicals* did not appear to have been directed to the Supreme Court of Canada in *Whiten v. Pilot Insurance Company*, (2002) 209 D.L.R. (4th) 257 at paragraph 86 where the Supreme Court was referred to some law indicating that no specific plea as to punitive damages needs to be made. The Supreme Court rejected that law and required a specific plea and not simply one buried in a general reference to general damage. The opposite party was entitled to sufficient advance notice so as to consider the scope of its jeopardy.

[238] Here, there is no specific plea even though since at least 2000 the Plaintiffs have been aware of the circumstances. Both parties amended their pleadings on several occasions, including during this trial. Yet no such plea was made.

[239] I decline to award any damage beyond the normal damages already awarded. In particular, I decline to award any “elevated” or punitive or exemplary damages because there is no pleading respecting such damage.

[240] An award of pre-judgement interest is appropriate. There has been no reason demonstrated why such an award should be refused. Such interest should not be compounded. The rate of such interest should be calculated separately for each year since infringing activity began at the average annual bank rate established by the Bank of Canada as the minimum rate at which the Bank of Canada makes short-term advances to the banks listed in Schedule 1 of the *Bank Act* R.S.C. 1985, c.B-1.

[241] Post-judgment interest follows at the rate of five percent (5%) established by the *Interest Act* R.S.C. 1985, c.I-15 s. 4.

[242] The parties have asked that I reserve as to any order respecting costs until after they have received and considered these Reasons and I do so. I ask that the parties provide, within ten (10) days from the date of these Reasons, submissions as to costs. These submissions should address those matters listed in Rule 400(3), as well as experts, disbursements, number of counsel, any offer as to settlement and any other matter considered relevant.

[243] The parties have also asked that I reserve as to the form of the Judgment to be issued until after they have received and considered these Reasons. I have drafted a proposed Judgment and submit that draft for comment by the parties. Comments by counsel for all parties should be provided within ten (10) days from the date of these Reasons following which an appropriate Judgment will be issued.

"Roger T. Hughes"
Judge

FEDERAL COURT

NAMES OF COUNSEL AND SOLICITORS OF RECORD

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