Chapter Two

JUSTIFICATIONS OF THE INTELLECTUAL PROPERTY RIGHTS
Chapter Two

JUSTIFICATIONS OF THE INTELLECTUAL PROPERTY RIGHTS

I. Introduction

The basic justification of the patent system emerges from the argument that an inventor who invents something new should be adequately rewarded, for it confers great benefits to society. The reward is in the form of an exclusive grant to own the property in the invention for a limited duration in time. After its completion the invention falls within the public domain.

This approach has however not gone unquestioned. Consider, for example, the following argument advanced more than a century ago: "Since inventions are there to be discovered, industries that have progressed to a certain point will inevitably make them, and so artificial aids are unnecessary". The reward theory was also found to be disputable as it stood on some degree of fallacy: there was no apparent justice in giving the reward to the man who stumbled upon the solution first, since he probably owed a great deal to what he had learned from his precursors. However, others have dismissed this line of argument as concerning simple mechanical developments in the earlier evolutionary stages of the patent system. In their view, increasingly systematic

---


2Ibid.
organization of research and development, and the extensive process of education which
precedes it, necessitates a well-oiled patent system.¹

Justification of the patent system has come from the traditions of the civil law
systems of Europe which had held an invention to be an appropriate subject of property
by virtue of the fact that it has been created by the skill and labour of an individual.
Consequently, that such a right might be accorded to him along with his other natural
rights such as freedom of association, liberty or equality, by virtue of his essential
humanity.⁴ This approach based in the natural law traditions had its limitations.
According to Penrose, "if the proposition is accepted that pre-existing natural rights
impose upon society the moral obligation to grant an exclusive property right to the
individual who brought an invention to patentable form, then there can be no argument
about the international recognition of this right".⁵ But is it entirely appropriate to treat
property as a natural right, and not as a social institution serving certain social purposes?
As correctly pointed out, to treat ideas as a possible subject of exclusive rights
irrespective of its social consequences and to deny to others the right to imitate may not

¹Ibid. It is interesting to note that research and educational institutions respond to this problem in a more
detached way. Their perception of patenting is more oriented towards the evolution of knowledge.

p.21; Ulf Anderfelt, International Patent Legislation and Developing Countries (The Hague: Martinus

³Penrose, n.4, p.22.
be entirely desirable on the mere ground of natural rights. If the patent grant is justified on this ground, then what is the moral or logical justification in limiting it in time and space. From this arises the more pragmatic approach towards patenting, with its roots deep in the economic criteria. Generally, three aspects are identifiable while enunciating these criteria, namely (a) invention is the outcome of an effort rendered by an individual; (b) the maximum benefit this individual can get could be the measure of his reward; and (c) the monopoly creation through a patent grant is balanced by its usefulness to the society.

The inventor is the one who first formulates an invention in a patentable form and files a claim at the patent office. There may be many who would be working on the same invention, but are unable to bring it to the patent office in time for claiming protection. It is also increasingly difficult to identify the exact nature of an invention without referring to the series of experiments and discoveries preceding the perfecting of an invention. In view of this, creation of absolute monopolistic provisions for patent claims would be unjustified. The creation of monopolistic position, has however, shifted from the invention to innovation. In this age, this endeavour has not only become extremely difficult, it is posing numerous problems of interpretation. So the eventual grant of patent

"Thomas Jefferson who was the United States' first Patent Commissioner had stated: "That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his conditions seems to have been peculiarly and benevolently designed by nature, when she made them, like fire, expansible over all space, without lessening their density in any point, and like the air in which we breathe, move, and have our physical being, incapable of confinement or exclusive appropriation. Inventions, then cannot, in nature, be a subject of property". Quoted in Penrose. n.4, p.22.

'The "maximum benefit" to be measured in terms of monopolistic position in the market assured to patentee by a patent; See Penrose. n.4, p.28.
protection is dependent on the monopolistic position in the market and it clearly follows that the size of that reward depends on the total revenue that one can extract from the exploitation of the monopoly.

It is argued that "a patent deliberately decreases the utilization of an invention by society in order to create an economic rent". The issue of making patent grants useful to the society has constantly bothered the law-makers. One way to make the monopoly grant more viable is to introduce certain restrictions on its use itself. In the course of IPR regulation four levels of protection have been listed, namely, (a) absolute monopoly; (b) qualified monopoly; (c) compulsory licence; and (d) a body of principles linked together by the concept of unfair competition. The rights conferred by patents are considered to be the best examples of absolute monopoly, at least for a limited duration. The qualified monopoly is directed essentially towards copyright protection where the enjoyment of the right is limited to expression. The compulsory licence, although strictly speaking not a protection, is termed as a "licensed trespass". The protection is granted to the licensee to get a definite amount of fees in return for the use. The use is not gratuitous. Nevertheless, the provision of compulsory licence is regarded as a sort of anti-thesis to the whole idea of patenting. But, it is not so for the following reasons: One, the society allows the patent holder to enjoy the monopoly right. In such a situation

---


10Jeremy Phillips, n.4, p.11.

it is the concomitant obligation of the patent holder to provide the society with the fruits of his invention. In other words, the patentee has an obligation to make available the consumers the adequate quantity of products. The question of issuing a compulsory licence arises when the patentee crosses the limits of exercising his monopoly rights. Although there are conflicting interpretations as to what actually constitutes the abuse of monopoly rights and the level of restriction required to regulate this situation, the fundamental nature of compulsory licence remains unaffected. And lastly, the creation of regulations concerning unfair competition concerns the effective utilization of the invention through a reasonable monopoly right. This is interpreted in a different way also: it is stated that "Now, rather than encourage the establishment of monopolies which will never be commercially utilized, ...why not dispense with the grant of a monopoly and simply render unlawful those activities by others which unfairly prejudice the ability of the intellectual property creator to get a fair profit from such intellectual property as he wishes to exploit". While outlining the scope of a patent grant it is necessary to consider the increasing diversification of the process of invention and innovation which has given rise to many crucial issues in formulating a legal approach.

---


12Jeremy Phillips, n.4, p.15.
II. Justifications for a Viable Patent System

As is evident from the above discussion, rewarding of the inventor is not the sole justification for the viability of the patent system. Inventor does not operate in vacuum. His inventive activity draws its sustenance from various sources. In order to acknowledge this, patent institutions introduced some limitations on the absoluteness of the patent right. Recent developments, particularly the agreement relating to TRIPs, does not fully subscribe to this understanding. Creation of a strong patent protection mechanism however, lacks justification.\(^{13}\) In the following analysis we do not intend to question the very justification of the patent institution itself. Assuming that it could be justified with certain limitations woven around it, we propose to find out whether a strong patent system as envisaged in the TRIPs text is justifiable. Furthermore, this thesis seeks to identify and sustain the idea that the patent institution has certain social objectives to fulfil. Accordingly, it attempts to find out whether the evolving norms and standards, particularly as envisaged in the TRIPs text, relating to patents incorporate this. The justification of a patent grant is generally classified into two categories, namely (a) desert based justifications; and (b) utility based justifications.

A. Desert Based Justifications

The desert based justification of the patent grant essentially deals with the efforts undertaken by the inventor himself to involve with the process of invention. It does not

consider other extraneous factors. The roots of the desert based justification have been traced in the Lockean proposition that mixing one's labour with something makes one the owner of it.\textsuperscript{14} The logic inherent in this proposition is examined in the following way also. Consider the following illustration: "Why isn't mixing what I own rather than a way of gaining what I don't? If I own a can of tomato juice and spill it in the sea so that its molecules (made radioactive, so I can check this) mingle evenly throughout the sea, do I thereby come to own the sea, or have I foolishly dissipated my tomato juice".\textsuperscript{15} Although 'appropriation' of unowned objects is different from acquiring a patent grant, the similarities are sharply evident. The effect of a patent grant, for instance, is sure to affect the process of research itself. In other words, it may curtail the possibilities of an independent invention once the patent is already granted. Even if somebody invents it independently, he may have to prove such an invention. Even if he proves his independent invention, there will be restrictions on its usage as it is already patented. So, it is concluded that a known inventor drastically lessens the chances of actual independent invention. However, a fact which needs assertion is that in the absence of the original invention, sometime later someone else would have come up with it.\textsuperscript{16}

Seen in the above light, the provisions incorporated in the TRIPs text militate against developing countries. The strong patent protection granted in the text does not

\textsuperscript{14}Ibid.


\textsuperscript{16}Ibid.
take into account the creation of a congenial surroundings for the evolution of
independent research abilities, particularly in the developing countries. Emphasis, as
could be seen from the developments, is more on the appropriation and profit which is
the primary concern of the utilitarian approach.

B. Utility Based Justifications

The utilitarian justification of the patent grant, on the other hand, has its primary
focus on the 'uses' and 'disclosures'. In other words, it views IPRs as a means towards
encouraging invention and innovation in society. This, in fact, is the traditional concept.
The utilitarian factor in any invention is dependent on the uses to which it could be put.
At this level, innovation plays an important role. The current trend is to analyze the
importance of invention and innovation separately. Although both of these concepts have
a complementary role to play, certain inherent factors in the process of patent grant need
greater elaboration. According to one view "there is not a shred of evidence that any
patent system has provided an incentive which leads an otherwise uninventive person to
perform acts of invention". On the contrary, it is pointed out that there is sufficient
evidence to show that inventive minds had been inspired by the challenges to solve new
and emerging problems. But, the aspects of the IPR justification on these grounds
are not that simplistic. The concepts which constitute the basis of IPR such as invention,

---

7This will be the focus of examination in the remaining chapters.
8Jeremy Phillips, n.4, p.90.
9Chinmi, n.13, p.315.
innovation and disclosure need closer scrutiny in the light of utilitarian approach. The growing importance of technology, it should be noted, has also brought into focus a new set of situations.

i. Invention

Increasing specialization has resulted in creating two clear stages in the exercise of exclusive rights conferred by the patents. Invention, the first stage, is an activity conducted in relative isolation, albeit often within large research organizations. Innovative activity i.e., to make the invention practically viable, has assumed greater importance than inventive activity in view of the complexities involved in the process. Some times more money and effort is spent on innovation than on invention. Even the nature of inventive activity is now increasingly decided by the requirements of innovation. In this sense, the dichotomy existing between invention and innovation is fast disappearing. The lonely inventor is being replaced by corporate entities. In this scenario, it would be appropriate for us to go back to our basic justification of the patent system i.e., an inventor who invents something new should be adequately rewarded. Does this reward really encourage more inventive activity? There are instances where reward has not played any role in the process of inventive activity.

Stanley Cohen and Herbert Bayer, for instance, who hold the patent for recombinant DNA technique have foregone the royalties accruing from the patent.\(^{20}\)

\(^{20}\)Ibid.
In fact, they never thought they would patent it. Another crucial example from the field of biotechnology concerns the hybridoma technology which was never patented by the inventors Caesar Milstein and Georges Kohler. It is not particularly important as to what prompted them to not to accept the possible financial gain. In other words, rewards solely did not inspire their inventive urge. According to one view, "there is sufficient evidence that hitherto the inventive individual has been spurred on by the challenge to solve particular problems and the desire to benefit the mankind rather than by the objective of taking out patents." Individual and university research, for example, has for very long time been producing path-breaking inventions without bothering for the reward. The objectives set for the research activities in the universities is markedly different from the goals set by the commercial establishments. The following table clearly shows the differences existing between the objectives of industry and university in pursuing research.

Table 2.1: Contradictions Between Objectives of Industry and University

<table>
<thead>
<tr>
<th>Industry</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Applications</td>
<td>New discoveries</td>
</tr>
<tr>
<td>Added value</td>
<td>New knowledge</td>
</tr>
<tr>
<td>Financial benefits</td>
<td>New financial means for additional research</td>
</tr>
<tr>
<td>Applied Research</td>
<td>Basic research</td>
</tr>
<tr>
<td>Short term</td>
<td>Long term</td>
</tr>
<tr>
<td>Product-driven</td>
<td>Know-how, what, why?</td>
</tr>
<tr>
<td>Secrecy</td>
<td>Publications</td>
</tr>
<tr>
<td>Protection, patents</td>
<td>Free, public good</td>
</tr>
<tr>
<td>Commercial approach</td>
<td>Academic freedom</td>
</tr>
</tbody>
</table>


As could be seen from the above table, the objectives of the industry and university research are clearly at variance. The ongoing efforts to commercialize university research is sure to impede the free flow of information, closing all the possible avenues of open and cooperative pursuit of knowledge. There are other notable problems also. Firstly, there will be an unusual delay in the disclosure of results. This delay is not conducive to the purposeful research endeavour. Secondly, it may reorient the research priorities. It is noted that "while there may be room for both pure and applied research within universities, and while the line between the two may not be sharp in some areas
of disciplines, it seems clear that the profit motive, even when exerted indirectly by connection with a foundation, can slant the direction of research toward those areas in which it can be fulfilled". Thirdly, financial aspects may decide the goals to be pursued by the research programmes. The current trends in the inventive activity have been described in the following way: "if there are no arrangements with industry to bring in patent-generated money, or licensing fees, one is looked upon as an outcast, not doing one's share to keep the university viable. Thus, increasingly, the scientific endeavour is being looked upon by young scientists as a way of making money while gaining scientific acclaim on the side.  

**ii. Alternative Reward Structures and Inventions**

Nevertheless, there are other kinds of rewards which may provide adequate incentives to the efforts undertaken by inventors. These rewards place less emphasis on the commercial aspects of the inventive activity. The issuance of inventor's certificates could be cited as an example wherein reward was granted by the State. Although the requirements that an invention has to fulfil in order to qualify for an inventor's certificate are generally the same as for an invention for which a patent for invention is available. The difference between the two lies in the fact that whereas in the case of a patent for invention the invention may be exploited by the patentee, in the case of an inventor's certificate the State has an exclusive right of exploitation of the invention and the

---

21Ibid., p.7.

inventor has a right to a fixed remuneration. Furthermore, inventor's certificates facilitate the availability of information in the new invention freely to everyone without any hindrance. A nominal fee may have to be paid to the entity which registers the inventor's certificate on behalf of the inventor. Inventor, on the other hand, will receive remuneration from the concerned State entity.

There is also a practice to grant patents' pending the final examination for the patentability criteria. This is called "deferred examination".

In this system 'patents' are granted to an invention after some preliminary examination. The final grant of patent will, however, take effect only after the complete examination of the patentability criteria. This, however, has not been accepted by majority of the countries on account of its uncertainty in granting the final patent. Moreover, patent officials also find this kind of "deferred examination" too cumbersome as it ends up in creating two distinct systems of operation. On this ground, its inclusion in the Diplomatic Conference to revise the Paris Convention was opposed, even by the developed countries.2

"Utility models" constitute another alternative reward system, particularly to small improvements made or what could be termed as "patents of additions". However, utility models differ from patents in two respects. First, the technological progress required in the utility models is stated to be less than the complete technological progress required

---


3This aspect is discussed in greater detail in Chapter Four.
in the case of an invention for which a patent is granted. Second, the term of protection in the cases of utility models is relatively shorter. 26

Despite the facility of having immediate accessibility to the information described in the inventor's certificates, this method of protecting patents did not get any recognition. The Paris Convention which has a long history of revision conferences did not even refer to inventor's certificates while outlining the objects of the protection of industrial property. It only made reference to patents and utility models. 27 The Diplomatic Conference to revise the Paris Convention in its "Basic Proposals" however, introduced the definition of inventor's certificates. This was, in consideration of the fact that nearly one-third of the humanity was practising this system.

The concept of inventor's certificate, however, did not go well with the logic of the market place. The market place mechanism, in our view, may not always provide right kind of incentive to an invention. This is true particularly when the utility of an invention is not immediately known. Adequate reward, in such instances, may not be forthcoming. One view is that

the market will generally offer for services of any kind the value they will have for those who benefit from them; but it will rarely be known whether it was necessary to offer so much in order to obtain these services, and often, no doubt, the community could have had them for much less. The pianist who was reported not a long ago to have said that he would perform even if he had to pay for the privilege probably described the

26Background Reading Material, n.24, p.9.

27Paragraph (2) Article 1 of the Paris Convention for the Protection of Industrial Property.
position of many who earn large incomes from activities which are also their chief pleasure.\textsuperscript{29}

The aspects concerning how inventors base their new invention on the basic research done by others has already been dealt with in the beginning. Accordingly, the argument in favour of monopolistic exclusivity in a patent grant looses all its strength. There is a clear demarcation in the present context as to who should own the invention and consequently the patent. In other words, an inventor could be a mere employee. In these cases, the owner of the patent grant could be a corporate entity. The rationale of rewarding the inventor for his efforts, intellectual efforts for that, gets completely obliterated. Reward theory maintains this fallacy while operating in the market place.\textsuperscript{29}

As mentioned above, the innovative activities and its profitability in the market place is sure to guide the research programmes of inventors. Large firms, according to some, consider the creation and the ownership of new, high technologies as one of their most intangible, or firm-specific assets that enable them to be competitive and to achieve high performance.\textsuperscript{30} Accordingly large firms are viewed more importantly as innovators than inventors.


\textsuperscript{29}Anderfelt, n.4, p.30.

Innovation refers to an activity concerning practical utility of the invention. Its objective, primarily is profit-maximization. In recent times it has also assumed an independent existence from the process of inventive activity. For instance, large firms with specialized skills in marketing prefer to innovate. Recent trends in this regard need careful examination. According to one scholar the strategy of the large firms "appears to be to combine in-house R and D with the acquisition of those inventions produced by relatively small firms that do not have the market power or comparative advantage in the production and marketing of the new product or simply do not have those complementary assets required for the successful commercialization of the new technological innovation". The commercialization of the new invention, on the other hand, is not easy. There are many uncertainties involved in the whole process of marketing new invention. Innovation, it has been noted, besides product and process changes, includes changes with widespread social and marketing impacts which generally may have a low technological content. In view of these uncertainty factors the process of innovation is considered not only to be the most cumbersome, but also expensive and

[31] Ibid.

frustrating. Large firms, particularly multinational corporations, have the necessary infrastructure and the financial strength to absorb the shocks of innovative process.

Technological innovations in the new and emerging technologies have been posing entirely unique set of problems. There is no uniform standard to identify as to how much R and D would be essential to produce a viable technological innovation. All the prominent and resourceful multinational corporations effectively integrate the R and D factors within the long-term production strategies. It gives them a competitive advantage and continued technological superiority. It is argued, accordingly, that the patent system guarantees a measure of stability in the process of innovation by creating a temporary monopoly. In other words, the patent monopoly allows firms to reap reasonable profits from investment by excluding imitations and copying.

At this stage, it is important to address one of the conceptual questions which attempts to bridge the gap between the process of invention and innovation. Let us begin by outlining the criteria of patent grants. These are essentially, novelty, inventiveness and industrial applicability. A patent granted to a technological innovation should satisfy the concerned authorities as to its practical industrial application. This satisfaction and the proof provided to adduce this are notional in character. A notable feature of the

38 Ibid. For instance, if the process of innovation does not result in a saleable product, the innovator may lose the funds which he would have committed to the development of the products in the hope of future profits. On the other hand, a saleable product without market may also create the similar problem.

39 Yankey, n.32, p.20.

3 For an elaborate discussion on these criteria see Chapter Six.
patentable invention, it could be concluded, is its innovative aspect. Innovation inherent in an invention, although in conceptual terms, is one of the preconditions to grant a patent. The role of a patent grant is not just to preserve the monopoly of an innovation. It should also offer new avenues for its flowering.

There is no doubt that the technological innovation provides the necessary competitive edge in capturing the new markets. At the international level countries will have to find proper mechanisms to adapt and diffuse the new technological innovations. This is particularly difficult in a developing country where inventive activity is on a low key. On the other hand, a lot of inventive activity without much innovative measures is also not conducive for the overall development process. There are various models to outline this process. We shall deal with two of these important models in the following discussion.

Innovation calls for adaptation. A developing country with less or no inventive activity, may find it difficult to adapt itself to the process of new and emerging technological innovations. In other words, for a developing country, the effectiveness of a technological innovation is dependent on its ability to diffuse the new technology itself. The rate of diffusion of an internationalized technological innovation needs to be considered as a yardstick for the successful adaptation of a new invention. There are
various model theoretical assumptions to measure these yardsticks. Some of these could be, albeit briefly, referred. 36

(a) The Product Cycle Theory

According to Raymond Vernon who propounded this theory, any given industry in an advanced industrialized country will pass through the following stages:

1. Innovation of a product, introduction in the domestic market, and growth of local sales.

2. Saturation of the domestic market, and exportations to foreign markets. The first export markets will be countries similar to the domestic market (i.e., other industrialized countries), followed by countries with dissimilar demand structures (i.e., developing countries).

3. Foreign investment by the industry, for provision of the product in foreign markets.

4. Export of the product from the foreign countries to the original home market. 37

These four stages of Vernon's Cycle essentially referred to the regulation of technological innovation. It is assumed that the innovation remains profitable so long as

36According to one view, although the immense impact of technological innovation and change on international trade cannot be denied, relatively little theoretical work has been undertaken to consider explicitly technological innovation as a crucial factor in international trade and world economic expansion. For an elaborate reference to these see Bifani, n.30, p.157.

exportation from foreign countries into their home market begins. However, the third and fourth stages of the product cycle may be entirely different. It is stated that

the new production established abroad may be founded by foreign imitators, rather than by the innovating corporations, and these imitators might eventually compete in both the home and foreign markets. In order to prevent the product cycle from moving against their interests, the original innovators will naturally insist that foreign countries respect their intellectual property rights. This conflict is likely to be particularly intense with those developing countries that are making the most rapid transition to industrialization.\(^{38}\)

It is evident that there are various factors, such as the ability to absorb the new inventive processes, wages and the emergence of the new technology in the set up of oligopolistic character of international trade which decide the nature of the diffusion of technological innovation. The ‘technology-gap theory’ considered some of these elements.

\(b\) \textit{The Technology Gap Theory}

This theory focuses on the time lag between the introduction of a new technological innovation in the innovating countries and its imitation by the followers. It is explained in the following way:

The North-South model of trade is explained through the rate of technological innovation in the North and the rate of diffusion, which determine the differences in wages in industrialized and in developing counties. The wages prevailing in the North include the rent derived from the monopoly for the new technology; however, the transfer of technology to the South and the constant, and even accelerating, rate of imitation tends to limit the capacity of the North to capture this rent. Consequently, in order to try to preserve its monopolistic position in relation to technology production and diffusion, efforts by the North will be directed

\(^{38}\)Ibid.
to the acceleration of the rate of innovation and to slowing down the rate of diffusion, thus maintaining the differential in wages.39

Some of the broad conclusions flowing from the analysis of these theories could be briefly outlined. Countries are not in similar position as regards technology. The labour skills vary and demand for the new product grows, the innovator has an inducement to exploit static economies of scale, thereby offsetting the low-wage advantage of technological followers.40 During the actual production there is a process of learning, which increases the intangible skills of the innovator and thereby creates a new comparative advantage over the imitators. Some of these advantages emerge from the process of patenting itself. The extent of disclosures in the patent specifications may decide the qualitative aspect of technology actually transferred. Hence, disclosures form an important part of the patenting mechanism.

iii. Disclosure

Patents are justified as a reward for disclosure.41 An inventor, it is argued, may not disclose his invention in the absence of adequate incentive. Patent, it is said, acts not only as an incentive but also as a reservoir of technological information. The idea is that once the patent expires anybody can use the information embodied in the patent. Two

---

39 Bifani, n.30, p.159.
40 Ibid.
41 "The issues relating to disclosure standards have been discussed in Chapter Seven. This discussion is in relation to biotechnological inventions. And Chapter 8 deals with this aspect in terms of "abusive practices"."
other considerations have also been noted: "that scientists would learn of the technological advance at the time of the patent grant, when the required description is published, instead of later, if ever, when the product based on the invention appeared; and secondly, that the collection of published patent applications would serve the scientific community as an up-to-date source on the advance of science".42

These considerations may not necessarily serve the purpose when the patents are taken out only to perpetuate the monopoly position. Above all, whatever has been disclosed in a patent specification may not be a complete disclosure. The standard envisaged for a reasonable disclosure is its sufficiency to actually work the invention. In certain other cases patents are taken only when the 'secrecy' was at stake. It is well known that a large and growing part of technology is not subject to patents. The actual disclosures, on the other hand, are tied to large part of know-how and other restrictive requirements.

Disclosure may not necessarily always act as an incentive. In other words, linking disclosure with the right to exclusive use of discoveries as an incentive may not present the correct picture. Inventions are disclosed, as noted above, irrespective of the availability of patents. For instance, it has been pointed out, scientists working at IBM on superconductivity published their paper four months before filing the application in Europe in the process almost jeopardizing the grant of a patent.43 The regime

4Anderfelt, n.4, p.36.

4Chimni, n.13, p.315.
dominated by patents is sure to hinder the scientific venture for the following reasons: Firstly, patent disclosures may be years later than disclosure through publication; secondly, it inhibits systematic and free exchange of materials within the scientific community either between individual researchers or between groups; and lastly it has been pointed out that disclosure through patents may mean less than full disclosure for it would be to the evident advantage of the patentee not to disclose fully and courts tolerate a large amount of non-disclosure."

The contradictions as regards the disclosure could be seen in the TRIPs text also. Article 29 requires an applicant for a patent to disclose the "invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art." In Article 39, the TRIPs text, on the other hand, allows the protection of undisclosed information so long as such information: (a) is secret in the sense that it is not ... generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question; (b) has commercial value because it is secret; and (c) has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret. The justification for the patent grant in the light of this contradiction needs to be carefully examined. It is necessary to be clear as to what amount of disclosure is proper and adequate and that the hard patent regime could be justified on that basis. A sufficiently clear disclosure, it is argued, facilitates technology transfer. This aspect needs further consideration.

iv.  Transfer of Technology

One of the primary reasons for the developing countries to join the mainstream of international patent system is their belief that it facilitates the process of technology transfer. However, there is little evidence to affirm that the patent system strengthens the process of technology transfer. Indeed, as the UNCTAD's *Trade and Development Report, 1991* points out that "the strengthening and expansion of intellectual property protection is viewed as one component of a larger global strategy by developed countries to protect the technological assets of their enterprises and to increase the financial returns therefrom".45

As mentioned before, a large part of the new and emerging technologies are not subject to patents. On the other hand, these are subjected to many restrictive requirements. The UNCTAD's *Trade and Development Report, 1991*, lists some of these practices as: grant-back provisions; unreasonable requirements of exclusive dealings; restrictions on independent research and the use of personnel; price-fixing conditions; limitations in product adaptation; tying arrangements and burdensome exclusive distribution clauses; export restrictions and limitations on advertising; obligations to pay after the expiration of industrial property rights; and other burdensome clauses including unreasonable cross-licensing constraints and post-contractual limitations.46 The traditional reasons which may influence the decision of a foreign patentee to work the

---


46 Ibid.
patented invention in a developing country no longer make much sense. Because, the nature of the new and emerging technology itself has undergone a tremendous change. Accordingly, the reasons for its transfer to developing countries has also changed. According to one scholar,

Of particular importance has been the transition in the 1980s towards a new technological paradigm of which the main element is the use of scientific knowledge and empirical data and information, their collection, storage, processing and transfer for practical applications... The rapid technological changes bring into evidence the non-linearity of technological progress which, on the one hand, implies increasing uncertainty and, on the other, opens up new possibilities with the advent of high technologies such as informatics, telecommunications, biotechnologies and new material applications. In this context the orthodox assumptions and principles used to explain and to regulate international trade are no longer valid.  

Another notable feature of this change is the dependency of the international market for high technology on IPRs to create barriers for new entrants in such way as to protect infant high technology industry. At the same time, these new technological developments were weakening the traditional pattern of a simple technological innovations followed by the developing countries. The possibilities for developing countries to usefully and easily exploit by way of imitation or reverse engineering the

---

"The 1964 UN study outlined the role of patents in the actual transfer of technology. At that time, it was assumed that the actual working of the patented invention was a crucial factor in the transfer of technology. Arguments were generally given to show why a foreign patentee may not agree to work the patented invention in a developing country. See The Role of Patents in the Transfer of Technology to Developing Countries, UNDOC E/3861/Rev.1., March 1964, p.110.


"Ibid., p.160."
new and high technologies with available skills had made the international technological market increasingly dependent on the strong IPR regime.

The role of MNCs, it is pointed out, in the arena of high technology is of crucial importance for the reason that they possess strong, non-codified know-how or else a tacit component which is difficult to transfer without intimate personal contacts, demonstration and involvement. In this regard, MNCs are well organized with vast amount of resources. Lastly, it is identified that the diminishing capacity of innovators to retain the control of new inventions posed a challenge to the appropriability of new markets through the increasing use of new technological developments. As regards high technology considering its fast diffusion rate, few new innovations have been protected for long and even this was made possible only because of the characteristics of the technology itself rather than the legal bindingness inherent within the IPRs. In view of this, MNCs rely more on the applicability of know-how also. Furthermore, for MNCs strict regime of IPRs constituted an indirect way of a monopoly structure within the markets of the developing countries.

Technology and its rate of diffusion forms a crucial element in Foreign Direct Investment (FDI). According to one view FDI has facilitated the transfer of technology; and the flows of information and communication -- a major component of trade in services -- have facilitated innovation, adaptation and invitation of products and services.

\[\text{Ibid., p.165.}\]
thus contributing to the acceleration of the rate of technological diffusion. Further, the rapid technological innovation and diffusion have contributed importantly to the increasing volume of intra-industry and intra-firm transactions in international trade. Has this resulted in the increasing technology transfer? The answer to this should be in the negative. The nexus between FDI and transfer of technology has undergone change. The result is, technology which was considered to be a tool for national development, has now become a strategic element for achieving control of international markets. IPRs serve this purpose and developed countries look for the avenues to create a hard patent regime.

III. Invention and Discovery

The question whether invention and discovery be treated synonymously is gathering importance in the context of wider meaning attributed to the interpretation of patentability. This distinction has assumed importance particularly concerning the patenting of life-forms. A view which is generally accepted and prevalent is that both invention and discovery cannot be treated in the same way. Invention refers to a subject-matter which has been newly created possibly with an element of human ingenuity. The Concise Oxford Dictionary defines the process of invention as "creation by thought, devise or originate". On the contrary, a discovery is defined as "to find out or become

\[^{13}\text{Ibid., p.132.}\]

\[^{14}\text{Ibid.}\]

\[^{15}\text{This aspect of patentability has been examined in greater detail in Chapter Six.}\]
aware of". In other words, a discovery is the process by which an already existing thing was found out for the first time. Many of the living things, for instance, exist without really being discovered or their utility may not be known until then. It is extremely incorrect to bring in the already existing living things into the fold of patentability criteria without really having to consider adequately the degree of human intervention. 4

Invention and discovery overlap in cases concerning the patenting of life forms. An already existing living thing may acquire different characteristic features with a degree of human intervention. To assess patentability criteria objectively, it is difficult to identify exactly the degree of human intervention required. Recent times have seen manipulation of genes enabling the creation of new transgenic animals, peculiar plants and, last but not the least, modified microorganisms. With the Supreme Court decision in the Diamond v. Chakrabarty, the United States patent law deemed the living organisms as the patentable subject matter. The European Patent Convention, on the other hand, expressly excluded the patenting of animal and plant varieties or essentially biological processes for the production of plants and animals. However, it created an exception as regards the microbiological processes or the products thereof.

The practice prevailing in the European system allowed the patenting of modified bacteria or other unicellular organisms. It also allowed the patenting of novel polypeptides or proteins or the DNA precursors. However, these discoveries often ran into rough weather when details were to be worked out. Moreover, these essentially

4The sufficiency of degree of human intervention in patentability criteria has been elaborately dealt with relevant case laws in Chapter Seven
chemical combinations needed adaptation of the requirements of patent system. In other words, there are no concrete criteria to decide the degree of human intervention. Problems also arose in relation to the sufficiency of the disclosure in the sense of enabling the skilled person to reproduce or carry out the invention. For all practical purposes the distinction in all these cases between invention and discovery completely disappear. These issues are important as the vast reservoir of genetic resources existing in the majority of the developing countries could be merely "discovered" by the MNCs. It is estimated that large quantity of varied genetic materials have already been lying in the laboratories of these companies awaiting research and patenting.\(^5\)

**IV Summation**

The initial justification of the patent system was attributed to the reward i.e., in the form of an exclusive grant to own the property in the invention for a limited duration in time. This approach has, however, not been accepted as the sole justification. Moreover, why reward should be given to a person who stumbled upon the solution first? He may owe great deal of his learning to his predecessors. Justifications for the patent system have also been built on the historical traditions which influenced the nature of thinking of the humanity itself. Natural law traditions could be cited as one example which influenced the European Civil Law systems. The pragmatic justification comes from the economic criteria inherent in the patenting itself. This economic criteria

---

recognized three aspects, namely: (a) invention as an individual effort; (b) maximum benefit in the form a limited monopolistic position as the reward; and (c) monopoly created by the patent balanced by its usefulness to the society.

The broad categories of justification of the patent grant conceptually will fall into: (a) desert based justifications; and (b) utility based justifications. The desert based justification deals basically with the inventor's involvement with the whole idea of invention. The utilitarian justification, on the other hand, deals with the uses to which the patent grant could be put. The basic premises of this exercise also considers whether a hard patent regime as envisaged in the TRIPs text is justifiable or not. The perusal of varied concepts such as invention, innovation, disclosure and technology transfer show us the lack of justification in favour of a strong patent regime, particularly from the developing countries' existing priorities and expectations.

The patent system should reflect the philosophy which equally formulates the community approach of a particular State. While outlining the provisions of an international patent system mere commercial values should not take precedence over societal interests. Patent norms although create a monopoly situation have a specific social responsibility to promote and encourage the unhindered process of inventive activity. Although transfer of technology is regarded as one of the factors stimulating developing countries' to participate in the international conventions and negotiations, the real reason for their participation would be that they had limited choice. Accordingly, the UNCTAD's Trade and Development Report, 1991 had noted, "To the extent that a
standard-setting exercise ignores the legitimate needs of the developing countries for differential and more favourable treatment...it may well cause disruption to a system that has survived over a century owing to its flexibility and capacity of adaptation to the needs of countries at different levels of development". This standard-setting exercise covering a period of more than one hundred years will be the focus of next three chapters.