TECHNOLOGICAL DEVELOPMENTS AND INTERNATIONAL LAW

Dr. R. C. Hingorani

I. INTRODUCTION

Property has played a pivotal role in any society whether it be agricultural or industrial, urban or rural, ancient or modern, developed or under-developed, communist or capitalist. Gone are those days of St. Augustine who considered property as an evil. Today of course, the institutions of "sate" and "property" alike have come to stay and wield enormous influence. One may have noticed that developed nations have influenced a number of policies of the developing nations by virtue of their wealth and capacity to aid the latter. Resultantly, in an era of interdependence, richness of one State has its vibrations across the borders of other States.

The purpose of this paper is a limited one. It does not purport to deal comprehensively with the impact of technological developments on property relations in the domain of international law. This study is confined to the problems of technological developments which have been witnessed in the field of outer space, sea and patents. In the process, it may also be examined as to how far these developments have affected the property relations in general and with particular reference to its reactions in India

Before embarking upon discussing the above aspects, it is necessary to explain the concept of property as I mean by it. Students of Jurisprudence are well aware that the word "property" has been interpreted differently; sometimes too narrowly; at other times, widely.[1] In *Amar Singh* v. *Custodian of Evacuee Property*,[2] the Supreme Court gave a narrow interpretation of the word "property." This writer has differed elsewhere from the Supreme Court's above decision.[3] In the writer's opinion, any right in *rem* which is valuable in terms of money may be termed as property. We will, therefore, start from this premise.

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1. Salmond, *Jurisprudence* 451-2 (11th ed. 1957).

2. (1957) Supreme Court Journal 574.

3. Hingorani, "Concept of Property as a Fundamental Right," 1958 *Supreme Court Journal,* 199.

II. Outer Space

Ever since the first sputnik was fired in 1957, international lawyers have struggled to determine the sovereignty in outer space.[4] This question assumed exaggerated importance because we were until recently conversant with air-space only. It was thought that eventually when man has perfected the science of satellite launching and reached other planets like moon etc., the problem may be posed, as to who owns the moon and other celestical bodies. It has been thought that these celestical boies may be rich in minerals, apart from being important due to defence strategy.

At first, attempts were made to apply normal rules of acquiring property in this arena also. It was, therefore, thought that whosoever entrenched his flag first on any celestial body and controlled the same would own it on the basis of *occupation.* However, by lapse of time, statesmen of the world have come to realize that normal rules relating to acquisition of property would not be applicable to celestial bodies. Thus, advent of technocracy in this arena has resulted in the departure from normal rules relating to property.

Insted, the United Notions General Assembly has resolved in 1963 that there shall be freedom of exploration of outer space for the benefit of mankind. It shall also be not subject to national appropriation by any state. Besides, outer space shall be used for peaceful purposes in accordance with the rules of international law and the United Nations Charter.[5] The outer space has, therefore, been likened to high sea which is open to all the powers of the world on basis of equality. The history of outer space has also some similarity with that of the high sea in as much as the powers until sixteenth century tried to appropriate the same to the extent they controlled it. Small powers eventually prevailed upon the big powers to make high sea open to all. It was left to Grotius, a Dutchman, to champion the cause of small nations. Today also, small powers, who cannot launch satellites or control celestial bodies, have been responsible to make outer scape a common property for all to be used for the benefit of mankind. Otherwise, perhaps, the big powers may have

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4. See Hingorani, "An attempt to Determine Sovereignty in Upper Space", December 1957 *Kansas City Law Review* 5; Mingorani, "Legal Problems Relating to Space Exploration", 1963 *Proceeding of the Indian Society of International Law.* Also see the bibliography of other writers on this subject in the above two articles.

5. See United Nations General Assembly Resolution 1962 of 13-12-1963. This resolution, however, does not fix the roof of airspace or the starting point of outer space.

tried to partake in the spoils of space research and treated outer space as their private property.

Apart from the problem of ownership of outer space, which has been settled satisfactorily, at least temporarily, the property on surface below has been made vulnerable due to frequent launching of satellites. It is possible that either due to defective launching or defective orbitting, some damage may occur to some property on surface below or to another space instrumentality orbitting there. The damage in such cases may sometimes be enormous.

There is fair consensus among international elites to make the launching state or agency responsible for such loss. The United Nations General Assembly by its resolution in 1963, envisages international responsibility of launching States for national activities in outer space.[6] This was also the writer's opinion which he expressed in 1962 in an article on the subject.[7] It is but natural that the launching state should be made absolutely responsible fo rany damage which may ensue to any property due to defective launching or defective orbitting. This liability is well-established on the basis of ultra-hazardous activities and principle of strict liability. The only difference which is sought to be made here is that instead of strict liability, absolute liability is attached to the launching state.

Although presently, no national appropriation is claimed, (nor is it possible in present situation) future events cannot be accurately predicted. As is well known, the bipolarized powers are spending billions of dollars on space research. This has a double purpose. The first and prime purpose is the military aspect of research. Satellites can be good spy vehicles as is admitted by U.S. authorities when they said that their satellite is having constant watch over atomic installations in China. It may also be possible very soon to undertake atomic testing in outer space in view of the fact that testing in atmosphere has been prohibited under Test Ban Treaty.

The second purpose is to probe into the mysteries of the universe and other celestial bodies. This scientific space research promises two immediate benefits to mankind. In the first instance, meteriological forecasts may be more accurate and this may ensure more safety in the flight of aircraft. Secondly, these forecasts may give advance notice of coming

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6. Ibid.

7. Hingorani, "Damage By Satellite", Summer, 1962 *Kansas City Law Review;* Hingorani, "Legal Problems Relating to Space Exploration", 1963 *Proceedings of the Indian Society and International Law.*

cyclones. Therefore, some avoidable damage may not occur. Thus, technological strides in outer space may save surface property from loss or destruction.

There is also possibility of eventual revelation of the contents of moon and other celestial bodies. If and when these revelations are made available by our space technocrats, problems may arise when there are competing claims either between (or among) the launching states or between the launching state on one hand and rest of humanity on the other. This competition may become keen if something of value is discovered.[8] Currently, we are told that space exploration is made for the benefit of mankind and there is no question of national appropriation. But what will happen if valuable property has been discovered. Will it be *res nullius* or *res communes* or *res* of the individual launching nation. It is natural that the launching state may claim the property on the basis of discovery or *occupatio* and no less on the ground that it has spent billions of dollars on space research with a twin view to help the humanity and also to derive some material benefit therefrom when it is possible. Will the launching state be denied the property rights which it may be eager to acquire and which have been discovered by her scientific efforts.

Therefore, it is quite impredictable as to what will be the impact of technological developments on property relations in outer space. In my opinion, competition will be between *res communes* and *res* of the individual launching state. Claim of the launching state will indeed be formidable in view of huge expenditure undertaken by it in space research as well as its liability in case of a mishap and consequent damage to property on surface. Perhaps, it may be possible that the Legal Sub-Committee of the Committee on Peaceful Uses of Outer Space may find out an equitable solution with regard to question of property rights in outer space.

III. The Sea

Property relations pertaining to sea have made enormous advances due to technological developments in the field. As is well-known principle of international law is that territorial waters are considered as the property of the coastal state. The extent of territorial waters, which was until recently three miles, was then deterimned by the rule of cannon

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8. Myres S. McDougal and others, "Perspectives For a Law of Outer Space," (1958) 52 *Am. Jour. of Int. Law.* 417.

shot.[9] However, with the advance of technology, states began to claim more and more sea as part of territorial waters. The result was that while some However, with the advance of technology, states began to claim more and until recently three miles, was then determined by the rule of cannon shot.[9] States claimed six to twelve miles the other states claimed as many as 200 miles as part of their territory.[10] Eventually, the United Nations called the Geneva Conference in 1958 to settle this uncertainty. This was followed by second Conference in 1960 at the same place.

Technological advances are responsible for the extension of territorial waters. The invention of long range artillery has made the coastal state more vulnerable to attacks from across the sea. Modern strides in the speed of aircraft would hardly give time to the coastal state to resort to air raid precautions if three mile limit had to be adhered to in case of territorial waters. In India's case, it has further been prompted to extend territorial waters in order to check large scale smuggling which has been taking place through the seas.

There has also been realization among states that due to scientific advances, seas present an enormous channel for entering into business of fisheries for their livelihood as well as for their foreign trade. For example, Ireland's 97 per cent exports consist of fisheries products and it imports necessities of life from other countries through the foreign exchange earned from exports.[11] Same is the case with Peru. The Union of Socialist Soviet Republics has recently embarked upon extensive fishing trade by investing $ 270,000,000 in fishing fleet.[12] Japan has also an annual fish catch of over 5½ million tons[13] and this makes Japan, perhaps, the biggest fishing state in the world. India on its part also is trying to explore the fishing prospects for purposes of balancing food shortages and earning foreign exchange wherever possible.[14] All these statistics would show that coastal states are bound to extend their fishing activities as they promise to be a good business proposition and add to the national wealth of the country.

In fulfilment of these aspirations, nations have been claiming more

9. But see Arthur Dean, "The Second Geneva Conference on the Law of the Sea: The Fight for the Freedom of the Seas," (1960) *Am. Jour. of Int. Law* 759.

10. *Id.* at 763.

11. Arthur Dean, Supra, 755.

12. *Id.* at 762.

13. New York Times, June 16, 1960.

14. By Presidential Proclamation on November 29, 1956, India has claimed power to establish fishing conservation zones 100 miles beyond territorial sea.

and more sea as part of their territorial waters. The importance of the regime of seas was recognized by the International Law Commission which established by the United Nations General Assembly under article 13(1-a) of the Charter which requires of the General Assembbly to "initiate studies and make recommendations for the purpose of..... encouraging the progressive development of international law and its codification."

In pursuance of this task, the International Law Commission at its first session in 1949 selected the regime of seas as a topic for codification. By 1951, the Commission prepared draft on Continental Shelf; this was followed by draft on territorial sea in 1954. In 1955, it completed the revised drafts on the regime of high seas and territorial sea. In 1956, it presented a final draft on the regime of seas to the General Assembly which by its Resolution 1105(xi) of February 21, 1957, called for a Conference of its members to "examine the law of the Sea, taking account not only of the legal but also of the technical, biological, economic and political aspects of the program....." Accordingly, the Conference was held in Geneva from February 24 to April 27, 1958. The Second Geneva Conference was held from March 17 to April 27, 1960.

In both the Conferences, although the delegates did not agree as to the breadth of the territorial sea, the consensus was that the territorial waters could extend upto 6 miles, with 6 more miles for exclusive fishing rights.[15] Besides, there was Convention on fishing and conservation of living resources on the High Seas in 1958.

Continental shelf is a recent innovation based on technological progress. United States of America was the first country when its President announced in 1945 that

> the Government of the United States regard the natural resources of the sub-soil and the sea-bed of the Continental Shelf beneath the high seas but contiguous to the coasts of the United States as appertaining to the United States..... and subject to its jurisdiction and control.[16]

This was followed by a spate of similar announcements by other governments claiming the continental shelf.

The reason for such announcements was that as the science has progressed it has been found that submarine areas near the coast but beyond the territorial waters contained rich natural sources in the form

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15. India has declared its territorial waters to the extent of 6 miles by Presidential Proclamation dated March 22, 1956.

16. Announcement made on September 25, 1945.

of oil, minerals and sedentary fisheries which can now form part of national wealth of the coastal state. Only recently, the Government of India has entered into contract of collaboration with an American firm to explore off-shore oil in the Gulf of Cambay.[16a]

Conscious of this development, the President of India proclaimed on August 30, 1955:

> Whereas valuable natural resources are known to exist on the sea-bed and in the sub-soil of the Continental Shelf and the utilisation of such resources is being made practicable by modern technological progress;
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> And whereas it is established by international practice that for the purpose of exploring and exploiting such resources in an ordinary manner every coastal state has sovereign rights over the sea-bed and sub-soil of the Continental Shelf adjoining its territory;
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> Now, therefore, I, Rajendra Prasad, President of India, in the sixth year of the Republic do hereby proclaim that India has, and always had, full and exclusive sovereign right over the sea-bed and sub-soil of the Continental Shelf adjoining its territory and beyond its territorial waters.

Necessary amendment of article 297 of the Constitution was made by the Constitution (Fifteenth Amendment) Act of 1963.

This has, however, been done after the Geneva Convention of 1958 on Continental Shelf has recognized the institution and defined it as

> sea-bed or sub-soil of the submarine areas adjacent to coast but outside the area of the territorial sea to a depth of 200 meters or beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas.

Article 2 clause 4 of the above Convention defines the natural resources as consisting of mineral and other non-living resources of the sea-bed along with living organism belonging to sedentary species.

IV. Patients

Patent is yet another product of technological age which has given rise to property rights. Perhaps, it may be necessary to define patent to understand its impact on property relations locally as well as internationally.

Patient is yet another product of technological age which or company which is responsible for a novel and original invention which is sought to be exploited by that person or company.

16a. Indian Express, November 16, 1966.

Essentially, patent is granted in the country where the invention has been made. Once granted, it becomes the private property of the patentee. He is all allowed to exploit his invention as a reward and incentive for research and thus earn money therefrom. Grant of patent is normally governed by some rules which are incorporated in national legislations in different countries. Currently, patents in India are governed by the Indian Patents Act of 1911.[17] However, this Act is sought to be replaced by another legislation which is before the Parliament.

In some cases, the patent may be with respect to an invention which is of utility in other countries. Otherwise also, patentees are eager to exploit there novel inventions beyond their national frontiers with a view to have more profits for their investment on research. It is also possible that a given invention may be utilitarian in as much as the same may be of immense use in foreign countries. This is particularly true with regard to medicines, drugs, consumer goods and war material.

Need for protection of patents at international level was felt as early as in 1870. The United States of America and Great Britain were the main countries intrested in international protection of patents. In those days, there were mainly two schools—one asking for international protection of patents and the other against such protection. While United States of America and Great Britain were champions of the former, Germany, Holland and Switzerland belonged to the category of countries which were not in favour of protection of patents.[18] Paradoxically then, the famous German companies of to-day Siemens and Farben—were against international protection of patents.[19]

Nevertheless, Convention on the Protection of Industrial Property was signed on March 20, 1883 which purported to guarantee international protection of patents within the territory of contracting parties. Germany became party to this convention and member of the Union in 1901—almost two decades after the Convention was first signed.[20]

It must be admitted that patents must be protected at national as well as at international level. In the modern echnological age, patents form an important specie of private property. Perhaps, no specie of private property is as compensative or lucrative as some patents may be.

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17. This Act has been amended by Act 19 of 1920 titled as "The Indian Patents and Designs (Amendment) Act" of 1920 and Act 7 of 1930 titled as above.

18. Heinrich Kronstein and Irene Till, "A Revaluation of the International Patent Convention", 1947 *Law and Contemporary Problems,* 766-7.

19. *Id.* at 773-4.

20. *Id.* at 776.

But unfortunately patents have been abused in the same manner as the institution of private property.

It may be of interest to mention here that contrary to what St. Augustine had said, St. Thomas Acquinas had permitted the institution of private property as an incentive provided it was utilised for the benefit of mankind. This should also be the purpose of patent system. This may mean that while the patentee may be rewarded for the invention as an incentive for his research and investment, patent must not be utilized as an instrument of oppression as is being witnessed presently in India and other under-developed countries.

The state of affairs prevailing in newly independent countries is that foreign firms which get their patents registered under the Paris Convention of 1883 seek to derive maximum profits within the shortest possible time. This has been at least the complaint with regard to firm's dealing in drugs and medicines. In India, foreign firms operate under the Indian Patent Act of 1911 which gives them 16 years term to exploit the patent. During this period, due to monopolistic position of the firm, it charges exorbitant prices for its products. These prices are disproportionate to the cost of manufacture of the drug and the desirable profit thereon. In some cases, the prices are beyond the purchasing capacity of an average Indian. Besides, it is a drain on foreign exchange reserves in an under-developed country.

If the patent system were to be examined in its proper perspective, it will be noticed that it is a luxury which a poor country can hardly afford. The history of patent law will bear out that there have always been two schools of thought operating in the field.[21] In 1870 when Germany was comparatively backward in technology, it opposed international protection of patent. England and United States of America were most enthusiastic for international protection because they were technologically advanced in the field of science. When Germany also became fairly advanced and monopolized dyestuff industry it pleaded for international protection of its patents and joined the Union consisting of countries party to the Paris Convention.

The same situation operates today. The under-developed countries are the great sufferers under patent system. The reason is obvious. Patentees from highly technological countries are eager to exploit their patents throughout the world. They have invented something useful and they want to reap bumper harvest. For this they do not have any com-

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21. Peter Meinhardt, *Invention, Patents and Monopoly* 22-30, (1946).

petition in the field. It is a monopoly for some time. That is why Pencillin was so costly when it first came in market in India. Same is the case with other drugs. The underdeveloped countries, however, are not able to export their patents to developed countries, because the former lag in science technology. Patent system, therefore, becomes one way traffic from developed countries to underdeveloped countries but not vice versa.

Patent is not a natural right as is sometimes alleged in some quarter.[22] It is a privilege given by state to promote science and give incentive for technological advancement. In its absence, there may be scientific stagnation. Even the socialist Soviet Republics and others have recognized the reward system for any scientist who has invented something and new product which may be of use to his country and others. One can only imagine what would happen if the invention is not rewarded. All these technological developments like the launching of sputniks and satellites or flight of aircraft or atomic energy would have been withheld from us if the scientists had not been rewarded in one or the other way for their discoveries.

On the other hand, however, is the fear of patent system developing into monopoly which may be abused by its holder. This really happens. The patentee prefers to have maximum profit within the shortest possible period. This is the reason why prices of drugs and medicines in India are by far the highest in the world.[23] Such abuse needs to be checked.

The new Patent Bill which is before the Parliament seeks to check some of the abuses. Initially, the Bill was intended to bring about drastic changes in the Indian patent system. However, there was hue and cry in foreign business interests. The original Bill, therefore, was referred to the Joint Select Committee which has submitted its Report recently.

The Report[24] has watered down the earlier proposals. For example, patents for drugs, medicines and baby food would be valid for ten years fro mthe date of commencement of the Act or for the remainder of the validity period under old law, whichever is shorter. Earlier, patent was sought to be made valid for 10 years fro mthe date of grant. Again, the patent will cover not only the process but also the product. Earlier draft made only the process as patentable. This is a clear departure from

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22. Walton Hamilton and Iren Till, "What is a Patent"? 1948 *Law and Contemporary Problems* 245-6.

23. Indian Express (Editorial) November 8, 1966.

24. See Editorial there on in Indian Express, November 8, 1966.

Justice Rajagopala Ayyangar's Report in 1959 on Patents wherein he had said that the country's interest would be "best served by confining patentability to processes."[25] Perhaps, this drastic departure has been made to appease foreign drug manufacturers, and thus encourage the flow of technical know-how which may help our infant pharmaceutical industry.

How far these recommendations are desirable in the context of our present economy and international relations is yet to be seen. Undoubtedly, patent is a property right which should be reasonably protected. But property should be an instrument of social welfare. Wherever, it works as an instrument of oppression or against public policy or against the fabric of welfare society, such tendencies should be checked.

It will, therefore, be advisable to make few suggestions which may bring sobering effect in the realm of property rights in patent. The Government should think whether it is desirable to make product al o a patentable, in addition to the process. Patent is granted on the basis of invention of process which has resulted in a particular product. Product is just incidental. What is important is the process which alone should be made patentable. It is possible that some other company may manufacture the same product with other process which may equally be novel and new and, therefore, patentable. If the recommendations of the Joint Select Committee were to be accepted, the second person may not be allowed to bring out the same product through other processes because the product is also being made patentable. This patentability of product may, therefore, thwart research instead of encouraging the same. Our pharmacutical industry may perhaps benefit more through indigenous research to produce the same product if it is not made patentable.

Sesondly, it may be desirable if the Government, while granting the patent to a foreign firm, were to assume the power to review the prices of patented products. Thus, the Government may refix the prices, if the Company's price is considered to be exorbitant, after taking into consideration the investment on research, manufacturing charges and reasonable margin of profit. This will not be denial of property rights to the patentee but regulation of the same in national interests in as much as the consumer should not be forced to pay exorbitent price for the drug and there is no unreasonable drain upon Government's foreign exchange reserves due to repatriation of huge profits.

V. Conclusion

I have discussed above three subjects of international law which have secured some importance due to technological developments in respective

25. As reported in Editorial. *Id.*

spheres. Each one of subjects is bound to inflflunce property relations in independent India.

So far as technological strides in outer space are concerned, nothing definite can be said today. We are still in the process of exploratoni. No state, therefore, is putting up its own claim, partly because it is premature and partly because of the fear that it may boomrang upon it. As the space science develops and colonization on celestical bodies become possible, states may put up their claim them according to their convenience. It is also yet to be seen if there are any useful natural resources in outer space which can be exploited by subjacent state. Until them, whatever law or legal principles we may apply to outer space are just ad hoc and speculative.

We are more firm on law relating to the regime of seas although we have not yet agreed upon the breadth of territorial sea. We are, however, fairly agreed as to the exclusive fishing rights upto twelve nautial miles, with the exception of the United States. There is also recognition of the institution of the continental shelf. India, therefore, can exploit the natural resources of the shelf and fishing rights within at least twelve miles from the coast. Free fishing and conservation of living resources on the high seas is also guaranteed under the Geneva Convention of 1958. All these developments add to our national wealth.

Regarding our patent system, we ought to be firm on our policies. We should not let our policies founder on the rock of foreign pressure. While we should recognise the foreign patent we should see that the privilege is not abused. Patent may be granted in India to a foreign firm on condition that no excessive profit can be made on it. Besides, only processes should be made patentable and not the products.