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INTELLECTUAL PROPERTY RIGHTS IN OUTER SPACE

By

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ABSTRACT

Issues relating to intellectual properties are by far the most debatable issues on the threshold of this century, not only because of a global attempt to revisit the extent of their application, and their protection (both procedural and practical) within national borders and beyond, but also because of their expanding commercial implications emanating there from.

Space ventures, whether undertaken by governmental or private entities, always involve high technology, ideas and concepts, be it in terms of the hardware of the satellites, its engineering architecture and industrial design or the required software to keep control of the satellites, maintain them in the respective orbits, and perform the functions for which they were sent. Private entities, investing billions of dollars, as a matter of reasonable commercial corporate expectations, want to be protected against undue use, exploitation and copying of their technology and inventions which they have put into their space ventures (often termed as 'theft') by any third party. This makes the issues of intellectual property more complex than when the activities were carried on solely by governments. States, to secure an environment friendly to such generation, use and transfer of intellectual property rights (IPRs) in outer space, have initiated applying and/or extending their national IP laws into outer space either in form of a statute or a multilateral agreement. This may have both commercial and political significance.

It has thus become more challenging to establish a regime for dealing with and protecting IP rights generated in outer space because, unlike the general application of territoriality, space is considered something extraterritorial and extra-terrestrial. It is governed by a different set of international laws (customary or treaty laws) which establish non territorial sovereignty and a universal right of use and exploitation.

It is important to discover a mechanism for such a transition when the world lacks of a global legal regime protecting IP rights in outer space, and is trying to derive benefit from the existing IP laws on the international level.

This thesis deals with IP issues in international perspective (with reference, however, to some leading national IP legislation when and where it is necessary) with special reference to the contemporary legal regime governing outer space. While emphasizing the existing legal regime relating to IPRs in outer space, it explores the possibility of commercial exploitation of IPRs made in space and on ground through the existing international trade system. The increasing importance of cooperation between the World Intellectual Property Organization and World Trade Organization in this regard is also examined, against the back drop of space activities and the outer space legal regime relating to IPRs.

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RÉSUMÉ

Les questions relatives aux droits de la propriété intellectuelles (IPR) sont de loin les plus controversée dans ce siècle. La communauté mondiale repense l'étendue de l'application de ce droit et de la protection (aussi bien au niveau de la procédure que de la pratique) à l'intérieur des frontières nationales et au-delà, mais aussi de son rôle grandissant dans le commerce.

Les missions spatiales, effectuées par les gouvernements ou des parties privées, comprennent nécessairement l'utilisation de haute technologie, de nouvelles idées et des concepts innovateurs, que ce soit dans la fabrication du satellite, dans son design et son architecture. De plus, il faut aussi des programmes informatiques adaptés pour maintenir en orbite les satellites et pour assurer l'exécution de leurs fonctions. Les entités privées, investissant des milliards de dollars, veulent être protégées contre l'utilisation indue, l'exploitation et le plagiat de leur haute technologie et de leurs inventions par une tierce partie. Ainsi, les questions relatives aux IPR dans le domaine spatial se sont complexifiées en raison du rôle grandissant de ces entités privées. Les États, voulant encadrer cette nouvelle orientation, ont procédé à l'élargissement de la portée de leur législation respective sur les droits de propriété intellectuelle par le biais de traités et de conventions multilatérales. Cette situation pourrait engendrer des conséquences tant au niveau commercial que politique.

Il est très difficile d'établir un régime légal pour assurer la protection des IPR dans le domaine spatial. En effet, le sens commun de territorialité prend une nouvelle dimension, car l'espace est extraterritorial. Le droit s'y appliquant est régi par des lois internationales spécifiques (droit coutumier et traités) qui libèrent l'espace de toute souveraineté, garantissant ainsi le droit universel d'utilisation et d'exploitation.

Il est très important d'aménager un mécanisme de transition, car le régime mondial actuel est déficient sur la question de propriété intellectuelle dans l'espace. La tendance actuelle dans l'appréciation de cette déficience est de s'inspirer des IPR au niveau international.

Ce mémoire traite du droit de la propriété intellectuelle dans un contexte international, en faisant référence toutefois à certaines importantes législations nationales. L'attention sera spécialement portée sur le régime juridique actuel de l'espace. En mettant l'emphase sur le régime juridique des IPR, ce texte explorera la possibilité d'exploitation commerciale des IPR dans l'espace et sur la terre par le biais du système de commerce international actuel. L'importance accrue de l'Organisation Internationale de la Propriété Intellectuelle et de l'Organisation Mondiale du Commerce sera aussi étudiée, en regard à leur implication dans le régime juridique du IPR dans l'espace.

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INTRODUCTION

From the world of fiction, outer space is now a reality. In resonance with the words of K.E. Tsiolkovsky that "Man will not stay on earth for ever, but in pursuit of light and space, will first emerge timidly from the bounds of the atmosphere, and then advance until he has conquered the whole of circumsolar space"¹, ... His dream of a manned flight into outer space came true, and with it came the plethora of related issues both technical and more importantly commercial. Due to the enormous amount of financing that is required for space ventures the commercialization of space activities were quite fast to follow, and as such the highly guarded, restrictive and conservatively sovereign protectionism of States gradually had to give in.

As the Associate Administrator for Commercial Space Transportation, FAA, Patricia G. Smith observed, ".... consumer demand for services - such as mobile telephony, data communications, remote sensing imagery, etc. - have led to the emergence of new commercial space markets in low earth orbit (LEO), medium earth orbit (MEO), and geo-stationary earth orbit (GEO)."² This connotes not only commercial utilization /exploitation of outer space but also the commercialization of outer space too. The growth of the intervention of private enterprises in space transportation, scientific research, mobile telephony, remote sensing and direct broadcasting, to name a few from the list, swept the market for the last decade. Even States, to promote and encourage private cooperation participation in space ventures and activities, have liberalized the earlier existing rules which were stringent to prohibit private participation. The attraction for private corporate participation ranges from relaxation of the licensing procedures for space transportation to encouragement in space tourism.

It goes without saying that private participants will invest only in cases where there are both opportunity of secured financial returns and gaining market advantage over their



¹ Yuri Gagarin, Road to Stars (Moscow: Foreign Languages Publishing House) at p.35.

² P. G. Smith (ed P G Smith), 1999, "Concept of Operations in the National Airspace System in 2005", at 3 For text see online:

http://www.spacefuture.com/archive/concept_of_operations_in_the_national_airspace_system_in_2005.sht ml (acc. on 24.10.2002.).

competitors. They will also need a stable and guaranteed legal environment in which they can feel their investment is protected.

The Outer Space Treaty of 1967 [hereafter OST67], the Magna Carta of space law, also contemplated the active participation of the private entities in the outer space activities .The express mention of the phrases "whether such activities are carried are carried on by governmental agencies or by non governmental entities" and " The activities of non-governmental entities in outer space including moon and other celestial bodies...." in Article VI of OST67 is an approval of their participation, which was anticipated during its elaboration. Private participation entails commercialization and, as such, extrapolation of facts will show that States, while elaborating the OST67, were conscious of the anticipated commercialization of outer space.

The largest and most expensive venture ever taken in the history of space activities is the construction of the International Space Station [ISS]. To meet the budgetary needs to complete it, besides other problems, the States encouraged private participation in the ISS also. Apart from the scientific utility as a platform for micro-gravity research, it turned out to be a highly commercial venture between the participating Partner States. It is natural, if not inevitable, that these micro-gravity researches or data will generate intellectual properties in different forms and thus there will also be a need to take benefit out of them be it commercial or otherwise. This will require streamlining a uniform procedure with minimum impediment and more importantly their protection.

The commercialization of these intellectual properties or rights accruing there from loses is true purpose if not exploited through commerce and so is inseparable from the international trade laws in the world order today. Thus their transfer is not only important for the purpose of commerce and economic benefits but also for getting strategic market access to inaccessible markets which are kept inaccessible either due to active government intervention by other States or due to other political reasons. So intellectual property rights transfer in the 21st century will be utilized as an instrument for gaining both economic and political benefits by every State. It is therefore important and necessary to explore the subject.

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The world of intellectual property is as vast as its diversity. Each of its elements can result in a field of study in itself. Unless otherwise mentioned this thesis will talk about inventions made in outer space. Obviously, the issues of patent will thus come in.

IP rights are territorial in nature. It can be exploited and protected within the territory where the right has been registered. International cooperation resulting in evolution of World Intellectual Property Organization and its initiatives in the formulation and adoption of international treaties have only extended the concept of territoriality across the border by evolving a common mode of registration and protection. However, there has been an inherent conflict in respect of the nature of IP rights on the surface of Earth and in Outer Space. Extraterritoriality in the context of this thesis has been used to mean *terra nullis*. In other words- where the concept or claim of territoriality does not apply. The conflict of two opposite characteristics of IP rights and the international legal regime of outer space. The thesis will show how a gap was bridged by the international community so that the concept of territoriality, which remained the basis of IP rights, has been extended, applied and made extra-territorial in respect of outer space.

The thesis is divided into two Parts and each Part has chapters and further sub-chapters for the sake of convenience for the readers. Part I discusses about IPs, their characteristics, their applications vis-à-vis their position in respect of outer space including the legal regimes involved and governing them. Part II *inter alia* discusses about the two specialized UN organizations WIPO and WTO and their relations with IPRs in outer space centering around the TRIPS Accord. The question of Territoriality and extraterritoriality has been discussed from different perspectives. It is shown how the concept of territoriality has been extended to outer space by the States. The thesis tries to establish two premises and tie them together:

- (1) That the Declaration for Space Benefits is the basic international document that reflects the global attitude for commercialization of outer space. It opened for the States, the gate through which States can extend their domestic IP laws to outer space reiterating the *opinio juris* in this regard.
- (2) Ascertain that IP s generated in outer space can be traded through the conventional TRIPS accord under the GATT system.

PART-I CHAPTER -1

INTELLECTUAL PROPERTY AND THE INTELLECTUAL PROPERTY RIGHTS

1.0 INTRODUCTION

The study of 'Intellectual Properties' and their related issues have gained importance in recent past. The emergence and development of an outer space legal regime in the last three decades has raised questions in respect of application in outer space for intellectual property rights. It is pertinent first to have an idea on basic parameters of intellectual properties (e.g. definition, nature, types, the acquisition of rights, protection and remedies against violation of rights) before a discussion on issues emerged for intellectual properties due to outer space legal regime. Therefore, the chapter outlays an overview on the basic parameters of 'Intellectual Properties' and rights accrued there from.

1.1 INTELLECTUAL PROPERTY

1.1.1 Definition

Intellectual Property [hereinafter referred to as IP], signifies any property created form the human intellect or mind. However, to this author, in stricter legal terms IP is the property resulting from, created by or conceived by applying the intangible intellect or qualities of and by a particular human being or a group of them either in the capacity of a natural person (s) or [acting] on behalf of some juristic person as the case may be.

The World Intellectual Property Organization [hereafter called WIPO] broadly refers to IP as a creation of the mind.³ However, an inclusive and authoritative

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³ See online:<http:// www.wipo.org> (acc. on 8.9.2002).

definition can be found in Article II (viii) of the Convention establishing WIPO in Stockholm in 1967:

"Intellectual property shall include rights relating to:

- *1. literary*, *artistic*, *and scientific works*;
- 2. performances of performing artist, phonogram, and broadcast;
- 3. inventions in all fields of human endeavor;
- *4. scientific discoveries;*
- 5. industrial design;
- 6. trademarks service marks, and commercial names and designations;
- 7. protection against unfair competition; and
- 8. all other rights resulting from intellectual activity in industrial, scientific, literary or artistic fields".

This 'treaty definition' has been the most acceptable one not only from the point of view of its adoption by the States who are parties to WIPO but also for its exhaustiveness. For the purpose of the thesis, this definition will be adopted and/or followed.

1.1.2 Types of Intellectual Properties

The WIPO divides IP into two categories. Category one includes IP of inventions (patents), trademarks, industrial designs and geographic locations of source and category two is IP of copyright including literary and (novels, poems and play, films and musical works) and artistic works (drawings, paintings, photographs, sculptures and architectural designs).⁴ However, intellectual properties can broadly be categorized as illustrated in **Figure 1.** A brief explanation for different types of IP is given thereinafter.

⁴ see online :< <u>http://www.wipo.org/about-ip/en/</u>> (accessed on 12.3.2002)



FIGURE 1 – CATEGORIZATION OF INTELLECTUAL PROPERTIES

<u>Patent</u>: A patent is an agreement between a State and an inventor under which, in return for a full disclosure of the invention, the inventor is granted a certain number of exclusive rights for a fixed period of time. (e.g. 17 years).

<u>Copyright</u>: It grants authors and other creators or works of the mind (literature, art, and music), certain rights to authorize or prohibit, for a certain limited time (generally 50 years after the creator's death) certain uses made of their works.

<u>Trademark</u>: A trademark is a sign, word, picture or other symbol, which is used to differentiate *goods produced* by different *manufacturers or merchants*.

<u>Design</u>: In the context of intellectual property 'design' refers to ornamental or shape related aspects of useful objects. Design itself is intangible but refers to a drawing or plan which is tangible.

<u>Utility Models</u>: It is a registered industrial property right which confers protection similar to patents but, unlike patents, protection is granted without a novelty search and the exclusive rights granted here is shorter than in case of patents (normally 4 yrs).

<u>Geographical Indications of source</u>: It is a sign used on goods that have a specific geographical origin and possess qualities or a reputation that are due to that place of origin. E.g. 'Darjeeling' tea, 'Tuscany' olive oil, etc.

<u>Industrial designs</u>: are the visual features of shape, configuration, pattern or ornament (or any combination of these) applied to a finished article of manufacture. It is an ornamental or aesthetic aspect of an article. The design may consist of three dimensional features, such as the shape or surface of an article or of two dimensional features such as patterns, lines or colours.

Integrated Circuit Topographies: In Canada, this refers to the three dimensional configuration of the electronic circuits used in microchips and semiconductor chips in integrated circuit products or layout designs.

<u>Trade name</u>: A symbol used to differentiate *companies*, unlike a trade mark and service mark used to identify goods or services.

<u>Service mark</u>: A service mark is a sign, word, picture or other symbol, which is used to differentiate *services provided* by different *enterprises*.

1.2 INTELLECTUAL PROPERTY RIGHTS

It does not make a sense to create anything without having a right over it. To this author, "*Intellectual Property Rights*" are the bundle of rights or a set of legal relations acquired, as an incidence of such derivation or creation of the intellectual property. These rights come into effect only by operation of or by protection of law under certain legal regimes following and/or complying with certain well established legal norms.

Generally speaking the 'Right' of the owner to his created intellectual property is called an 'Intellectual Property Right' (hereinafter also referred as IPR). The importance of IP arises when the creator or owner of such property gets some right over that property. These rights are only acquired by way of getting the IP registered under a particular set of laws specifically adopted for that purpose.

"The IPR is a competitive weapon, whose practical goal is to secure and enforce a temporary monopoly for the owner".⁵ All IPRs generally exclude third parties

⁵ Bradford Lee SMITH, Towards a Code of Conduct for the Exercise of Intellectual property Rights (IPR) in Space Activities—Moderation of the Monopoly?, Colloquium organized by CERADI-LUISS-GUIDO CARLI and European Centre for Space law/European Space Agency, November 11, 1996, Roma.

from exploiting the protected subject matter without explicit authorization of the right holder only for a certain duration of time. In case of some IPRs, e.g. trademarks, geographical indications and trade secrets, this time period may be unlimited under certain circumstances.⁶

1.2.1 Apparent Overlaps

At times, readers may come across texts where the two terms-IP and IPRs are used interchangeably to mean the same thing. These overlaps of uses are to be understood in the particular context but they essentially intend the same result. Some authors believe that, "In theory, the term 'property' does not refer to any object or to any necessary set of legal rights that always inheres in a property relationship. Instead the term refers to a bundle of rights –rights that define singly or collectively, the relationship of an individual to a resource. Sometimes the particular rights in a bundle may be spread among many individuals".⁷

To others, "the expression 'intellectual property' is compendious of a number of areas of laws and policy of which copy right, registered trade mark and related common law principles and patent law are the core components"⁸.

"The term property can thus be used to mean two different senses—the first, as the legal theorist will use, will refer to mean the relevant set of legal relations and secondly, as its ordinary use, to refer to have in mind a thing, a *res*, which implies a owner. Rarely do the two senses come into conflict, although [when] they do, we get the more interesting cases..."⁹.

⁹ Carter, *supra* note 2 at 2.

⁶ Jayashree Watal, Intellectual Property Rights in the WTO and Developing Countries (The Hague: Kluwer Law International, 2001) at 1. [Watal].

⁷ Stephen L. Carter, "Does it matter whether intellectual property is property?" (1999) 68 Chi-Kent L Rev. 715. [Carter]

⁸ Robert G. Howell & Linda Vincent & Michel D. Manson, *Intellectual property Law :cases and materials* (Toronto: Edmond Montgomery Publications Limited, 1999) at xxi .[Howell]

It is, however, interesting to note that according to WIPO 'very broadly, intellectual property *means* the *legal rights* which result from intellectual activity in the industrial, scientific, literary and artistic fields.'¹⁰

1.3 REGISTRATION, PROTECTION, INFRINGEMENT, ENFORCEMENT AND TRANSFER

1.3.1 General

The three terms 'registration', 'protection' and 'infringement' are so closely connected that an attempt to separate the nexus between them will result in failure to understand the modus of intellectual property law and practice. It may be right to establish a correlation between the three by stating that law prescribes registration to ensure protection against infringement to facilitate transfer/trade.

1.3.2 Registration

Registration means entering or recording the name of the owner and his/her creation in the statutory Register in prescribed form. The owner acquires a legally enforceable right over the IP only after he/she gets his/her creation registered. The registration culminates into actual accrual of rights over such IP in favour of its owner (the applicant). Registration establishes legal right and ensures protection against its violation by any third party. Registration thus enables the owner to acquire a legally enforceable right over his/her intellectual property.

It is pertinent to mention here that under the auspices of the WIPO a treaty (Patent Cooperation Treaty)¹¹ was elaborated to provide a common application procedure regarding registration internationally between the member States of the treaty¹². Under this treaty, for getting an IP registered, a single application procedure

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¹⁰ World Intellectual Property Organization, *Introduction to Intellectual Property: Theory and Practice* (London: Kluwer Law International Ltd., 1997) at 3.[WIPO Introduction]

¹¹ Patent Cooperation Treaty, done at Washington on June 19, 1970, amended on October 28, 1979, and modified on February 3, 1984. The text of the treaty is available online <<u>http://www.wipo.int/clea/docs/en/wo/wo021en.htm</u>> (acc. on 23.6.2002) [**PCT**]

¹² For more discussion on PCT see Chapter 5.1.

would enable the owner to have the same effect as if it has been filed on that same day in all the other member States.

To this author, the process of registration has three purposes:

- a) the owner gets protection against infringements,
- b) the State gets revenue by fees and other incidental charges, and
- c) the world get to know and appraised of the latest inventions and the individuals who are or planning to work on a particular field get to know about the options that are excluded.

Thus not only loss, wastage or drainage of human resources in terms of labour but also in terms of intellect can be saved, checked and blocked. The same can then be diverted and utilized to other unexplored areas of IP research. Human resources and intellect can therefore be optimized to get the most fruitful results.

1.3.3 Protection

The importance of the IPR rests on its protection. Protection means the legal remedy available to the owner of the intellectual property owner. Protection implies and includes (a) prevention of third party to use or exploit the IP of the actual owner without his consent and (b) remedy against its violation or infringement, if caused by third party.

WIPO forwards two reasons as to why countries have laws to *protect* intellectual property: the first "is to give statutory expression to the moral and economic rights of creators in their creations and such rights of the public in access those creations". The second is "to promote, as a deliberate act of Government policy, creativity and the dissemination and application of its results and to encourage fair trading which could contribute to economic and social development."¹³

1.3.4 Infringement

Infringement means 'violation'. In IPR context it means violation of the protected legal right of the owner which he acquired by way of registration of his IP. Any act that interferes with the full enjoyment of the monopoly granted to a patentee

¹³ WIPO Introduction, *supra* note 10 at 3.

(owner) may constitute an infringement.¹⁴ "Infringement therefore consists of doing, without the consent of the patentee [owner], during the life of the patent, any act that interferes with the exclusive rights granted by the patent. Since infringement is not defined in the Act, the exact nature of acts that may constitute infringement is not clearly known"¹⁵.

The remedy against infringement is available only by way of a legal proceeding before a competent court of law. That is why the legal regime regarding any IP becomes very critical. The remedies may include injunctions, damages and compensation for loss or profits granted by the Courts or even result in penal actions¹⁶. The definition or the scope of a particular act of infringement is generally determined and decided by the judiciary (by way of interpreting the applicable appropriate IP statutes).

For example, the Patent Act of Canada grants to a patentee the "exclusive right, privilege and liberty of making, constructing, using, vending and importing the invention to others." ¹⁷ However, it does not provide a definition of an infringement. Through a host of judgments, however, it has been established that generally, any act that interferes with the full enjoyment of these rights is considered to be an infringement¹⁸

In the United States, "Infringement of a patent consists of the unauthorized making, using, offering for sale or selling any patented invention within the

¹⁵ *ibid* at 969.

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¹⁴ Howell, *supra* note 8 at 979.

¹⁶ As in case of under Indian Patent Act,1970, Chapter XVIII (Suits Concerning Infringement Of Patents) and Chapter XX (Penalties) as amended by The Patents (Amendment) Act, 1999.

¹⁷ Patent Act, RSC 1985, c. P-4, as amended, s.42.

¹⁸ Wellcome Foundation ltd v. Apotex Inc., (1991, 39 CPR (3d) 289, at 315 (FCTD), aff'd.(1995), 60 CPR (3d) 135, AT 153 (FCA); and Lishman v. Erom Roche Inc. (1996), 68CPR (3d) 72, at 77 (FCTD), aff'd.(1996), 71 CPR (3d) 146 (FCA).

United States or United States Territories, or importing into the United States of any patented invention during the term of the patent"¹⁹.

As Stone JA has stated in *TRW Inc.* -Vs. - *Walbar of Canada Inc.*²⁰, "the language in which a patentee has cast his claim has been referred to by the courts as a 'fence' in which he claims protection from trespass and outside of which others are free to roam." An infringement therefore, can be considered a trespass on an area defined by a particular claim.²¹

1.3.4.1 Exception to protection against infringement

It is relevant for the purpose of this thesis to note that there is *inter alia* an exception to the principle of exclusivity of enjoyment and ownership that patent confers on its owner. This is known as the 'temporary presence doctrine'. This renders a limitation against the enforcements of such exclusive right against its enforcement. For example, a ship, vessel, aircraft or land vehicle of any country 'X', 'Y' or 'Z'(using on board an invention patented in the country 'A' where it entered) enters the country 'A' temporarily or accidentally , such temporary presence is not considered or taken into account as an infringement of the patented invention which the said vessel was using. Even if the said aircraft, vessel or vehicle was exclusively using the invention for its own need but not amounting to manufacturing it for selling it to the country it entered temporarily,

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¹⁹ US Patent and Trademark Office, Infringement of Patent, see online: <<u>http://www.uspto.gov/web/offices/pac/doc/general/infringe.htm</u>> (acc. on 30.10.2002.)

²⁰ TRW Inc. v. Walbar of Canada Inc., (1991), 39 CPR (3d) 176, at 188 (FCA).

²¹ Howell, *supra* note 8 at 969.

it is protected under this doctrine. In Canada, section 23 of the Patent Act^{22} and in the US, 35 USC 272^{23} provide for application of this doctrine.

The question of applicability of this doctrine arose in *Rosen v. NASA*²⁴ where the Supreme Court, considering spacecraft based on "integrated instrumentality" criterion, held that US patent law applies to an invention on an orbiting spacecraft because the control stations are located on US territory. The US Congress, by way of enacting 42 USC 2457, ²⁵ adopted that "Any object intended for launch, launched, or assembled in outer space shall be considered a vehicle" and thus established that spacecraft are vehicles. This 'vehicle' as defined under section 2457 will have such meaning for the purpose of 35 USC 272²⁶ and consequently, by application of section 272 their presence is temporary. Thus a spacecraft also enjoys this exemption or immunity.

1.3.5 Enforcement

Unless there is enforcement there cannot be rendition of any protection of the IPRs and unless there is such protection the registration under respective IP laws

²⁶ *ibid*.

 $^{^{22}}$ R.S., c. P-4, s. 23: Patented invention in vessels, aircraft, etc., of any country : "No patent shall extend to prevent the use of any invention in any ship, vessel, aircraft or land vehicle of any country entering Canada temporarily or accidentally, if the invention is employed exclusively for the needs of the ship, vessel, aircraft or land vehicle, and not so used for the manufacture of any goods to be sold within or exported from Canada." Online:<http://laws.justice.gc.ca/en/P-4/84167.htm> (acc. on 30.10.2002).

²³ TITLE 35, PART III, CHAPTER 28, Sec. 272 : "The use of any invention in any vessel, aircraft or vehicle of any country which affords similar privileges to vessels, aircraft or vehicles of the United States, entering the United States temporarily or accidentally, shall not constitute infringement of any patent, if the invention is used exclusively for the needs of the vessel, aircraft or vehicle and is not offered for sale or sold in or used for the manufacture of anything to be sold in or exported from the United States. Online: <<u>http://www4.law.cornell.edu/uscode/35/272.html</u>> (acc. on 29.10.2002).

²⁴ 152 USPQ 757 cited in Isabelle Bouvet, Certain Aspects of Intellectual Property Rights in Outer space, (LL.M. Thesis, McGill University, 1999), [unpublished] at 28. [Isabelle]

²⁵ TITLE 42, CHAPTER 26, SUBCHAPTER I, Sec. 2457 (k) : "Any object intended for launch, launched, or assembled in outer space shall be considered a vehicle for the purpose of section <u>272</u> of title <u>35</u>." online: <<u>http://www4.law.cornell.edu/uscode/42/2457.html> (acc. on 30.10.2002</u>)

by the IP owner will be an empty formality and will in the long run be a deterrent to the entire registration process.

Again, without effective enforcement machinery, be it national or international, protection against infringement is a myth and is more of a legal fiction than reality. Therefore, like each part of the body acting in unison to keep the body active, healthy and self-sustaining, there has to be a system where every element which is incidental and integral to the entire system of the acquisition, protection, preservation and development of the IP rights is synchronized and/or harmonized. The enforcement of IPRs and their protection has gone a long way, transcending the narrow boundaries of individual States, into an international framework under the auspices of the WIPO. With the coming into existence of another UN organization namely World Trade Organization, the trading or commercial aspects of IPRs have reached another dimension with the adoption of an international multilateral Agreement on Trade Related Aspects of Intellectual Property Rights (commonly known as TRIPS). While WIPO looks after the preservation and development part of IPRs, TRIPS try to ensure protection and enforcement by affording the countries a more effective means of international enforcement of intellectual property rights.²⁷

1.3.6 Transfer

The incentive or rationale behind any creation of an IP is a derivation of some material benefit out of it by the owner. This material benefit is gained through commercial transfers.

IPRs are only secured and commercially exploitable by the owner for the entire period of its grant. (e.g. a patent granted in the US is valid for 20 years from its filing date²⁸). The commercial exploitation can thus only be effectively carried out till/during the validity period of the grant or protection.

²⁷ Howell, *sup*ra note 8 at xxi.

 $^{^{28}}$ If the application is filed after June 7, 1995, and it will be more than 20 years if the same is filed before that date.

There are generally two modes by which exclusive IP rights are commercially transferred by the owner (be it an individual, a corporate entity of a government): (a) selling or assigning and (b) licensing. The right to an IP can be assigned or licensed in entirety or in parts. Selling, as the term itself signifies, means absolute transfer of ownership of the IP right by the holder to the purchaser for a one time payment of valuable consideration. The purchaser then becomes the owner of the IPR and simultaneously acquires the right to absolute transfer. 'Assignment' is used in different statutes and documents to imply the same effects of a sale. *Licensing*, which is also known as 'commercialization of inventions' is a contract whereby an owner grants to a third party some rights to such IP against some valuable consideration generally called 'royalties'. The third party does not acquire an absolute right to transfer the IPR to another party unlike sale. This mode is mostly accepted and practiced as it generates tremendous commercial benefits "by licensing out, a party can receive royalties, enter new markets, and increase its goodwill. By licensing in, a company can diversify its business, acquire technology and benefit from the goodwill developed by others"²⁹(emphasis supplied). The license may be exclusive giving extensive right of exploitation of the IP or non-exclusive signifying limited right of exploitation to the licensee.

IPRs are inherently territorial in nature, which implies that they can be effectively exploited for material benefits only in the areas over which their registration secure their protection. Consequently, the need to understand issues regarding the importance, nature, scope and extent of territoriality becomes relevant.

1.4 TERRITORIALITY AND EXTRA-TERRITORIALITY OF IP

The word 'territorial' according to Black's Law Dictionary means "having to do with a particular geographical area" and territorialism in legal context means the traditional approach to choice of law whereby the place of injury or contract

²⁹ Howell, *supra* note 8 at 1027.

formation determines which States' law will be applied in a case. ³⁰ 'Extraterritorial' on the other hand is used to mean: 'beyond the geographic limits of a particular jurisdiction'.

Territoriality connotes sovereignty or a claim thereof. Extra-territoriality is the lack of competence to claim and exercise sovereignty, and is thus a very important term in international polity also. This, in other words, implies the applicability of the domestic laws of the sovereign States over its territory and not in a place outside (deemed as extra-territorial in respect of that State).

Intellectual *properties*, be it patent, trademark, copy right or other rights, are highly territorial in nature. That means they can be acquired, protected and exploited within a particular territory of the State in which they are registered and their method/procedure of acquisition and protection depend on the national legislation of that State.

Intellectual properties *laws* are, consequently, also territorial in nature. Territoriality connotes the applicability and thus protection of those IP rights under the respective IP laws within the boundary of the State in which it is registered. Thus IP rights, their exercise, their protection against infringement as well as their applicability remains confined and limited to the boundaries of the State whose government grants the rights. Thus to get the protection of the IP right in other countries the owner is to register under the respective State's IP laws.

With the evolution of liberalization in world trade and commerce, coupled with the tremendous impetus of technological development, the question of bringing intellectual property into the main stream of trade became very important. A need was felt to globalize the concept of territoriality of the IPs in terms of their acquisition and protection by way of harmonization. The strict approach of territoriality started to loose its rigor, resulting in an expanded version of the concept across State borders.

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³⁰ Black's Law Dictionary, 7th ed., s.v. "territorial".

1.4.1 Extension of territoriality principle

The thinking on the part of the eleven states³¹ in forming a Union for the uniform protection of 'Industrial Property' rights by signing the Paris Convention³² was not only a major revolutionary and historical leap that extended the concept of territoriality of the IP rights across national borders under a common protective umbrella against infringement but also was the initiation of an endeavor of the international community of sovereign States to try to search for a mechanism to formulate and provide guarantee to the IPs from an international perspective.³³

The Paris Convention was followed by a good number of international multilateral treaties and agreements (a list of which is provided in **ANNEX-I** at the end of this thesis) which further made it clear that, though the inherent territorial nature of the IPRs is maintained, the same can be administered under some common uniform legal scheme or environment through international cooperation.

Establishment of the WIPO in 1967 is a milestone in making a collective endeavor by its member States to harmonize the laws across their boundaries in relation to the use and protection of IPRs. The Patent Cooperation Treaty (PCT) under the auspices of WIPO introduced the concept of "international application" procedure, which provided for a uniform filing procedure by filing a common application for getting protection in all the Member States.

1.4.2 Territoriality and Outer space legal regime

Though the concept of territoriality was extended across the borders of States, the basic premise of both IP and IP laws as to their territoriality remained unaffected.

³¹ The small Union of eleven states in 1883 has now become a large community of 164 States (as of August 2002) see online:<<u>http://www.wipo.org/treaties/documents/english/pdf/d-paris.pdf</u>> (accessed on 15.9.2002).

³² Paris Convention for the Protection of Industrial Property, March 20, 1883; U.N.T.S. No. 11851, vol. 828, pp. 305-388. [Paris Convention 1883]

³³ Paris Convention, 1883 was revised at Brussels on December 14, 1900, at Washington on June 2, 1911, at The Hague on November 6, 1925, at London on June 2, 1934, at Lisbon on October 31, 1958, and at Stockholm on July 14, 1967, and amended on September 28, 1979.

It faced a major challenge with the emergence and establishment of the legal regime of Outer space. With rapid development of science and technology the creations of human mind which used to take place on the ground also found their place in outer space. The IP issues in outer space became a growing issue.

While the basic premise of Intellectual Property rested on the concept of territoriality, that of the legal regime of outer space not only established prohibition of claim of territoriality by any State in outer space but treating the same as *res communis*.

From another perspective outer space is a *terra nullis* and is *extra territorium* as it is beyond or outside the conventional meaning of a physical territory³⁴.

With this back drop the discussion of IPs issues and their nature became very significant.

Two important problem factors come into play in any discussion relating to IPs: the **Nationality** of the inventor and the **Territoriality** to be exercised for protection (since this determines which national law will be applicable).

Nationality: Under the nationality approach the location where infringement takes place is totally irrelevant, only the nationality of the infringer will be of importance. Again there is a problem as regards domicile since some countries like the UK stress domicile rather than nationality.

Besides nationality versus domicile, an additional problem with nationality appears in case of multiple nationalities or in case of a team who invents or infringes the rights. To take care of it prior to launch of a space object, agreements amongst the participating crew are concluded provided those agreements are treated as valid under the respective national laws. Another problem of nationality comes in when there is a financier for the invention.

For example, an invention in outer space is patented in Canada. Now there has been an infringement of the patent in outer space of the patent by (a) a Canadian astronaut and (b) a Dutch astronaut .Therefore the Canadian astronaut will be

³⁴ Terra nullis (Latin "the land of no one) means a territory not belonging to any particular country. Extra territorium in Latin means 'beyond or outside the territory'. In this Chapter terra nullis has been used as synonymous to extra territorium. The virtual territory which resulted from the claim of States by way of extending the concept of physical ground territory into outer space resulted in the overlap of the use of the above two terms

liable for infringement whereas the Dutch will not be liable for the same infringement as it is not registered in the Netherlands. It will get worse if the infringement is caused by a team comprising a number of nationalities. This is an undue advantage taken by all those small States where the invention is not registered.

<u>*Territorial approach*</u>: Any space activity carried out in outer space is deemed as an activity carried on in a specific location or territory on the Earth. This is inconsistent with the non-territoriality principle of the outer space. Thus creates an apparent contradiction.

In this author's view, the notion of location should be equated with the space objects itself where the invention or its infringement is done. Because space objects are registered in the name of a State and the State is responsible for all actions made by its personnel on board the spacecraft as well as on the spacecraft itself, it is easier to fix liability to individuals for such infringements.

Since space activities are carried out by only a very few nations, IPRs can be registered in those countries to give maximum protection.

1.4.3 States' endeavour in Extending IPs to outer space

The first systematic study towards harmonization of the different existing IP laws in different European States regarding their application in the outer space context was made by the European Centre for Space Law [hereafter ECSL] operated under the auspices of the European Space Agency [hereafter ESA] back in the early 1990s.

In 1992, ESA legal affairs, in cooperation with ECSL issued a questionnaire concerning the IP and space activities to European space entities (industries, universities, research labs and government (space) agencies). The results of the questionnaire were analyzed at its workshop in Madrid in 1993.³⁵ The study revealed that then "existing systems did not provide any rule which can be considered as directly applicable to inventions realized [made] or used in outer

³⁵ First ESCL/Spanish Centre for Space law work shop on Intellectual Property Rights in Outer space, Madrid, May 26, 1993. [Madrid ESCL]

space". The study further revealed that European and International Patent Conventions are not directly applicable to the inventions realized or used in outer space.³⁶

The continuing process of extending the IP laws finally culminated in their extension to outer space, in the form of domestic legislation and multilateral international agreements.

The first of such legislation is the Patent in Space Act by the US (enacted by the Bush Administration , s.459, on November 16, 1990, as Public Law 101-580, 35 U.S.C. 105)³⁷ which is applicable to inventions realized and used in outer space. Among the members of the European Union, it is only the Patent law of Germany that allows patents to inventions made in outer space. However, it suffers from some limitations.³⁸

As regards extension of the concept of territoriality in outer space, the most important multilateral document to be considered is the Inter Governmental Agreement of 1998 [hereafter referred to as IGA98]³⁹. This international multilateral agreement between the partner States of the USA, Russian Federation, Canada, Japan and ESA (representing the European partners) has made it amply clear that the modules belonging to the respective States (and registered in their registry) would be deemed as the territories of those respective countries, thus in effect extending the principle of territoriality to outer space. It

³⁶ 'Questionnaire on IPRs in Outer space', Annexure 3 to the First ESCL/Spanish Centre for Space law work shop on Intellectual Property Rights in Outer space, Madrid, may 26, 1993. Annex-4 at p. A.3.5.

³⁷ The law applies to space objects or components thereof launched into outer space on or after November 16, 1990. The first paragraph of the Act states: "Any inventions made, used or sold in outer space on a space object thereof under the jurisdiction and control of the U.S. shall be considered to be made, used or sold within U.S. for the purpose of this title.....".

³⁸ An invention made in space was patentable in Germany. But as regards the use or infringement of nationally protected inventions in outer space, the situation was different, the patentee was protected within the State borders and national air space.< source: First ESCL/Spanish Centre for Space law work shop on Intellectual Property Rights in Outer space, Madrid, may 26, 1993. Annex-4 at A.4.5.

³⁹ The Agreement among the Government of Canada, Governments of Member States of the European Space Agency, The Government of Japan, The Government of the Russian Federation, and the Government of the United States of America Concerning Cooperation on the Civil International Space Station, January 29, 1998. [IGA98]

also provides that the inventions made on those modules will be treated as an invention made in the particular country to which that module belongs.

Article 21 (2) of IGA98 says "an activity occurring in or on a space station flight element shall be deemed to have occurred only in the territory of the partner state of that element's registry". Therefore, each partner can apply its own domestic law to its element and over its personnel. Thus the domestic legislation is extended extraterritorially. Nationality of the inventor is not taken into account.

1.5 CONCLUSION

It is apparent from the above discussion and/or overview that a drastic transformation of the nature of IPs has taken place over the last three decades. In general, the harmonization of IP laws on one hand and their extended application in outer space on the other induced such changes. These acts inevitably warrant the need for determining outer space, the legal regime governing it and the IP issues relating thereto.

CHAPTER 2

INTERNATIONAL LEGAL REGIME OF OUTER SPACE AND IPRs

2.0 INTRODUCTION

The increasing commercialization and privatization of space activities have given rise to questions of IPRs in outer space. The issues raised include the applicability of national legislation in outer space, the acquisition, use and transfer of IPRs generated in space activities, contacts and licensing. Therefore, unless we have a clear idea about what outer space is, any discussion regarding IPRs in outer space will be incomplete and unproductive.

2.1 DEFINITION OF OUTER SPACE

In simple words, outer space implies the existing space above the super adjacent air space (be it over the physical territory of a State, over its territorial waters or over High seas). The scope and relevance of knowing and discussing what is outer space, in this chapter, is limited to its relation with the IPRs that are generated, used or transferred in outer space. The question of defining outer space and delimiting it has been a major issue among the States for quite some time. The initiative taken up by United Nations Committee for Peaceful Uses of Outer Space [hereafter also referred to as 'UNCOPUOS' or 'Committee'] to complete the task of defining or delimiting outer space is still in its preliminary stage. This issue is now struggling to maintain its place in the agenda of the next UNCOPUOS meeting because of the States' reluctance to take up the issue, now. However, to strike a balance between the two opposing views regarding

delimitation, discussed below, after extensive deliberations and after considering the scientific and technological criteria along with the issues of security of the States, the Spatialists have suggested the inner boundary of outer space as $100 \pm$ 10 kms. above sea level⁴⁰. However, this is not a strictly defined delimitation, which appears in any formal text.

2.1.1 UNCOPUOS and definition of Outer Space

There have been repeated initiatives by UNCOPUOS to define and delimit outer space but due to two schools of sharp, diverging opinions prevailing among the member States it has, until now, not been possible to achieve its objective.

The problem dates back to 1959 when the Ad Hoc Committee on Peaceful Uses of outer space felt the need to address the issue. Even at its first session of the LSC in 1962 the divergence of opinion surfaced. Australia and Romania opposed it. Mexico and France, however, continued to support it even at the fifth session of LSC in 1966 supported for the need of delimitation,.⁴¹ By a resolution [2222(XXI)] on December 19, 1966, the UNGA requested UNCOPUOS to begin study regarding delimitation. The first to forward a quantitative approach in terms of distance, in considering the limits of outer space, was Canada who suggested the same to be around 100 kms. .It was supported by Italy and Iran while France wanted 80 kms. to be the treated as the lowest perigee. Thus, a unwritten compromise was arrived regarding any distance as the lowest perigee of an orbiting satellite at a lower boundary of outer space at 90 km above sea level This was also to confirm the norm of customary law whereby all artificial Earth satellites placed in Earth orbit are considered to be in outer space.⁴² The second view was that there was no need for establishing a boundary between air space and outer space since the lack of boundary had so far not led to any practical problem and that the utmost freedom in the peaceful exploration of outer space is required.

⁴⁰ Source: Class notes of Prof. Ram S. Jakhu, McGill University, Montreal, Canada.

⁴¹ Back ground Paper Prepared by the Secretariat on May 7, 1970, U.N.Doc. A/AC. 105/C.2/7 at page15.

⁴² U.N.Doc. A/AC. 105/C.2/7 at pp.20-25

There were repeated discussions in the Legal Sub Committee of UNCOPUOS which was initiated by the working paper,⁴³ involving questions concerning aerospace objects by delegation of the Russian Federation at the 31st session of Legal Sub Committee in 1992. A number of attempts to reach a consensus on the basis of analysis of the results of the questionnaire, entitled "Questionnaire on possible legal issues with regard to the aerospace objects" ⁴⁴ and finalized by the working group at the 34th session in 1995, were also made but there was no effective discussion until 2001. This may be attributed to the reluctance of States in replying to the said questionnaire⁴⁵. However, from 2001 onwards there has been a visible drift in the argumentation of the two opposing schools of States, though the impasse continues. A tilt towards a definition or delimitation of outer space was noticed for the first time in the history of its negotiation, when the opposing group acknowledged that 'questions of choice of law, liability and sovereignty in relation to the term "aerospace object" did exist⁴⁶. Overall, there was no noticeable improvement of the situation except that the arguments of the groups became more directed to and oriented with the LSC's internal procedure including the questionnaire prepared by it.

The thrust of the argument of the 'supporting group' rested on the need of fixation of liability in case of collision between aerospace objects and aircraft and balancing the two emerging legal regimes governing air and outer space in view of rapid technological developments. Thus they argued that the replies to the questionnaire and the comprehensive analysis of those replies prepared by the Secretariat provided the basis for moving towards consensus on the issue of the delimitation and definition of outer space. The thrust of the argument of the

⁴³ U.N.Doc. A/AC.105/C.2/L.189.

⁴⁴ U.N.Doc. A/AC.105/C.2/1995/CRP.3/Rev.3 of March 31, 1995.

⁴⁵ During 1995-96, replies to the said questionnaire were given by only 9(nine) states- The Czech republic, Germany Iraq, Italy, Mexico, Pakistan, Philippines, Republic of Korea and Russian Federation In 1996-97 another 7 members replied Argentina, Chile, Greece, India, Kazakhstan, Syrian Arab republic and Turkey.

⁴⁶ see Chapter V, paragraphs 59 at page 10 of the report of LSC (UN Doc. A/AC.105/763) .For the entire text see online: $<\underline{http://www.oosa.unvienna.org/Reports/AC105_763E.pdf > (acc. on 25.10.2002)$.

"opposing group', on the other hand, rested on the lack of apparent link between the questionnaire and need to define or delimit outer space. They argued that differing legal regimes applicable in respect of airspace and outer space operated well in their respective spheres and that this lack did not impede development of activities in either sphere. Consequently, they argued that replies to the questionnaire on aerospace objects would not necessarily contribute to the discussion on the question of defining and delimiting outer space⁴⁷. They even raised the competency of the Legal Sub Committee to determine the issue.

However, out of the entire exercise a view emerged that the time might have come for the Scientific and Technical Subcommittee to be given the responsibility of considering the matter of the definition and delimitation of outer space on scientific and technical grounds, taking into account technological developments that had occurred in the past decade.⁴⁸

Thus to sum up the lengthy debate between two opposing groups with diametrically opposing views, for defining or delimiting outer space, it can still be said that the polarization remains. It is not yet possible authoritatively and internationally to define and delimit outer space.

Until such time a consensus is reached, it is safe to presume the existence of three zones or spaces above any State:

- (a) An 'Exclusive Air Space' where the States can exercise their sovereignty, having a specified legal regime⁴⁹;
- (b) An 'Exclusive Outer Space' where the States are prohibited to exercise their sovereignty and also governed by a legal regime⁵⁰ and
- (c) An 'Overlapping Space' between the above two, where there is no particular international legal regime to govern and which is at the mercy of a State's own interpretation and the race for political dominance.

⁴⁷ see Chapter V, paragraphs 59 at page 10 of the report of LSC (UN Doc. A/AC.105/763).

⁴⁸ see Chapter II.D.3 paragraphs 156 at page 21 of the report of Committee(44th session); For the full text of the report of the 44th session of the Committee (UN Document: A/56/20) see: <<u>http://www.oosa.unvienna.org/Reports/gadocs/pdf/A 56 20E.pdf> (acc. on 25.10.2002)</u>

⁴⁹ Articles 1 and 2 of Convention on International Civil Aviation, signed on December, 1944(commonly known as Chicago Convention, 1944)

⁵⁰ Article I and II of the Treaty on Principles Governing The Activities of States In The Exploration And Use Of Outer Space, Including the Moon And Other Celestial Bodies, of January 27, 1967, Entered into force on October 10, 1967 (commonly known as outer Space Treaty, 1967).

The IPR issues in the first case will be under the exclusive jurisdiction of the State and consequently the domestic IP laws will apply. For the second, the IPR issues can also be extended and applied in outer space as already seen in Chapter 1 and thus the domestic laws of the countries having jurisdiction and control over the space object where such IP rights are generated or transferred will apply. In the third case the conflicting claims may result over any IPR that is generated in such a space.

2.1.2 Law making process in UNCOPUOS

From the preceding section, we now know what outer space is. The activities carried out in/or in relation to outer space are called outer space activities.

Outer space activity, needless to mention is an international issue and inevitably space law is also international in character. Space activities are thus carried out with respect to international law, including the Charter of the UN, in the interest of international peace and security and promoting international cooperation and understanding (Art III Outer Space Treaty of 1967⁵¹).

There are five international documents either in form of treaties or agreements elaborated between 1967 and 1979 which are treated as the existing principal international legal regime of outer space, comprising general international space law.⁵² It is thus important to recall the pivotal role that the United Nations played through its Committee on the Peaceful Uses of Outer Space [UNCOPUOS] in elaborating these space treaties/documents. It is in this forum that these treaties,

⁵² Treaty on principles governing the activities of States in the exploration and use of outer space including the moon and other celestial bodies, 27 January 1967, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty – in short- **OST67**]; Agreement on the rescue of astronauts, the return of astronauts and return of objects launched into outer space, 22 April 1968, 672 U.N.T.S. 119 [hereinafter Rescue Agreement –in short-**RA68**]; Convention on the international liability for damage caused by space objects,29 March 1972, 961 U.N.T.S. 187 [hereinafter Liability Convention -in short-LC72]; Convention on registration of objects launched into outer space,12 November 1974, 1023 U.N.T.S. 15 [hereinafter Registration Convention –in short- **RC74**]; Agreement governing the activities of States on moon and other celestial bodies,18 December 1979, UN doc. A/RES/34/68 of 5 December 1979 [hereinafter Moon Treaty –in short- **MT79**]



⁵¹ Treaty on Principles Governing The Activities of States In The Exploration And Use Of Outer Space, Including the Moon And Other Celestial Bodies, of January 27, 1967, Entered into force on October 10, 1967.
agreements, principles or declarations are elaborated and formed. It is thus relevant to have an overview as to how these international space law documents came into existence.

2.1.2.1 Mechanism of treaty formation in UNCOPUOS

UNCOPUOS (also called Committee) consists of two sub committees: the Legal Sub Committee [hereafter LSC] and the Scientific and Technical Sub Committee [hereafter STSC] which has working groups to help them. Whenever a proposal is tabled by the member states through their representatives to the General Assembly [GA] regarding or involving issues of space law or space activities, the same is sent to UNCOPUOS by the GA with guidance on the preparation of a treaty or an agreement. The UNCOPUOS, in turn, sends it to its LSC for preparation of a draft. It may happen that the tentative draft when forwarded to the Committee is routed back to the LSC for further preparation and finalization via the STSC for their views after an examination of the technical aspect of the legal issue. Thus there is an interaction between scientists, lawyers and diplomats. The drafting process is detailed, laborious, time consuming, involving formal statements of positions, general discussions, detailed negotiations, editorial reviews and most importantly numerous informal consultations/negotiations (allowing the delegations to make compromises without having formally departing from the stated position). The informal negotiations are mostly helpful to sort out sensitive political issues which are often crucial to treaty negotiations as a whole. This mechanism has proven successful in the negotiation of several UN space treaties and agreements.

The periods between the annual sessions are not only to make national assessments and policy making with respect to such negotiations but also for consultation among governments to resolve disagreements.

Therefore the UN space law making process is a continuous one punctuated by formal meetings and consequently all the decisions in the UNCOPUOS and its sub committees are made by 'consensus' and not by unanimous voting. It is noteworthy that difference between consensus and unanimous voting *lies in the*

<u>process</u> used to achieve the end result. Consensus is achieved without voting, whereas voting is required for a unanimous record. Consensus may, however, also result when no serious objection is raised to the adoption and this is generally known as "reverse consensus" (i.e. in other words there is a presumption that everyone is in consensus when nobody objects, unlike a "general consensus" where everyone is to express their affirmation).

Once the consensus is reached in the Committee, the document in question is sent to the UN General Assembly with a recommendation for adoption. With the adoption on the floor of the Assembly in the form of a resolution recommending it to the Member States for signature and eventual ratification, it assumes an international legal character.

2.2 INTERNATIONAL LEGAL REGIME GOVERNING OUTER SPACE AND IP

The Statute of the International Court of Justice under Article 38(1) lists the sources of International law⁵³. They include, among other things, international conventions, international customs, general principles of law and judicial decisions.

"International Space Law is essentially conventional in nature. Conventions: treaties negotiated by States, Agreements, Arrangements, MOU, Exchange of Letters, Contracts etc. "A treaty means an agreement concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation"⁵⁴. Treaties are negotiated on a bilateral and/or multilateral basis,

⁵³ Art. 38 (1) : "The Court, whose function is to decide in accordance with international law such disputes are submitted to it, shall apply: (a) international conventions, whether general or particular, establishing rules expressly recognized by the contesting states; (b) international custom, as evidence of general practice accepted as law,(c) the general principles of law recognized by civilized nations; (d) subject to the provisions of Article 59, judicial decisions and the teachings of the most qualified publicists of various nations, as subsidiary means for the determination of rules of law."

⁵⁴ Art. 1, the 1969 Vienna Convention on the Law of Treaties, Done at Vienna, 23 May 1969, 1155 U.N.T.S. 33; 8 International Legal Materials 679. [Vienna Convention]

generally through international organizations (international consultative fora; e.g. UNCOPUOS; ITU)".⁵⁵

Apart from the five principle space **treaties** as mentioned above⁵⁶, the GA has adopted five sets of legal **principles** for governing space activities. They are:

- (a) Outer space declaration 57
- (b) Principles on Direct Television Broadcasting⁵⁸
- (c) Principles on Remote Sensing⁵⁹
- (d) Principles on Nuclear power sources 60 and
- (e) Principles on Declaration on space benefits 61 .

The last of them, being the declaration, is relevant for the present thesis as it for the first time expressly spoke about intellectual property rights in respect of outer space and thus will taken up for discussion in the next section (2.4) of this Chapter.

Thus we can see that the international space law regime not only comprises of the treatises on the subject but also international customs/practices or in other words, State practice.

An established **State practice** regarding IPRs is the territorial sovereignty that a State exercises over them. Its protectionism provides for a particular set of municipal IP laws typical of that State for both acquisition and protection of the IPRs registered under the particular State.

⁵⁵ Personal Notes For Lectures on General Principles of Space Law, Ram Jakhu, 2001, McGill University

⁵⁶ See chapter 2.1.2.1.

⁵⁷ See GA resolution 1962 (XVIII), UN GAOR, 18th Sess., Supp. No. 15, UN Doc. A/5515 (1963)

⁵⁸ The Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting, GA Res. 37/92 (XXXVII), UN GAOR, 37th Sess., Supp. No. 51, UN Doc. 1981 (1982)

⁵⁹ The Principles Relating to Remote Sensing of the Earth from Outer Space, GA Res. 41/65 (XLI), UN GAOR, 41st Sess., Supp. No. 53, UN Doc. A/41/53 (1986)

⁶⁰ The Principles Relevant to the Use of Nuclear Power Sources in Outer Space, GA Res. 47/68 (XLVII), UN GAOR, 47th Sess., Supp. No. 49, UN Doc. A/47/610 (1992)

⁶¹ Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of all States, Taking into Particular Account the Needs of Developing Countries, GA. Res. 51/122, 51st Sess., UN DocA/AC.105/L.211.

The general set of laws specifically addressed to the issues of outer space also form part of the outer space legal regime. Some of the major national statutes contributing to the space legal regime are: Space Activities Act, 1998⁶² (Australia), The Law Partially Amending the NASDA Law⁶³ (Japan), The Laws of Russian Federation on Space Activity 1993⁶⁴ (Russia), Space Affairs Act, 1993⁶⁵ (South Africa), The Act on Space Activities, 1982⁶⁶ (Sweden), Outer Space Act, 1986 (the United Kingdom), Commercial Space Launch Act and Patent in Space Act, 1990⁶⁷ (the United States of America). However, the most relevant of them for the purpose of IP issues in outer space is the Patent in Space Act, 1990 in the US and as such this will be discussed in Chapter 4 of this Thesis. International **agreements**, be they bilateral or multilateral, on the subject are also treated as contributors towards the legal regime of outer space. The Inter Governmental Agreement of 1998 which specifically deals with IP issues in outer space will be discussed in Chapter 4 of this thesis. The United Nations conferences on outer space also contributed heavily towards creating a legal regime.

Under the auspices of the UN, international **conferences**, such as the United Nations Conference on the Exploitation and Peaceful Uses of Outer Space [UNISPACE- I(1968),II(1982)⁶⁸,III(1999)⁶⁹], are held to discuss various issues

⁶⁶ the Act (1982:963).

⁶⁷ 35USC Sec.105

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⁶² Act. No. 123, 1998, Assented to December 21, 1998.

⁶³ Japan Government submitted a bill which was passed unanimously both in the House of Councilors on May 28, 1998 and promulgated as the law (law no. 87) on June 3, 1998 and became effective as of same day.

⁶⁴ August 20, 1993.

⁶⁵ Statutes of Republic of South Africa no. 84 of 1993. Assented to 23 June 1993; date of Commencement: September 6, 1993.

⁶⁸ The conference (held in August 1982, Vienna, Austria) was primarily a technical conference centered around space technology. The purpose of this conference was to exchange information on recent development in space technology. The conference also assessed and set in motion new ways of strengthening UN space activities.

relating to the space activities . UNISPACE is the forum attended by top level government representatives or ministers, top executives from space agencies and companies, as well as scientists and engineers. Thus, the UN, while seeking to foster the peaceful use of the outer space for humanity, also provides a legal framework and a forum to discuss future developments and cooperation for space activities.⁷⁰ The most notable of these conferences is the UNISPACE III,⁷¹ which discussed the issues of IPRs and law regarding outer space; and thus it is important for consideration in this thesis.

The Technical Forum, which is an integral part of UNISPACE III, after thoroughly discussing and assessing the contemporary situation (up to 1999), came out with its conclusions, proposals and recommendations at the end of the conference.⁷² They concluded among other things that, while effective and appropriate protection of IPRs should encourage and facilitate transfer of technology, there is a need for harmonization of international property standards and legislation, due to the increasing number of international cooperative programmes in outer space. Among the recommendations, four require special mention:

- (a) Protection and enforcement of IPRs should be considered together with the international legal principles developed by the United Nations in the form of treaties and declarations;
- (b) A feasibility of harmonization of international IP standards and legislation relating to IPRs in outer space should be further explored with a view to enhancing international cooperation and coordination at the level of both the state and private sector.
- (c) States should provide appropriate protection of IPRs involving space related technology, while encouraging and facilitating free flow of basic science information;
- (d) Involvement of Intergovernmental Organizations like the WIPO is highly desired in view of highly technical aspects of the IPRs.

⁷¹ UNISPACE III had 3 main elements: a Technical Forum, a Space Generation Forum and a Space Exhibition. It is this Technical forum which was empowered to study about the IP issues.

⁷² See Report of UNISPACE III, Chapter IV (E) [Report of Technical Forum] paragraphs 534-555 at p. 84; Annex I [A/CONF.184.6] (A) [Basic conference documentation]; Annex III [A/CONF.184/C.1/L.18] [Conclusions and proposals of the workshop of Intellectual Property Rights in Space].

⁶⁹ Held in Vienna from 19 to 30 July, 1999.

⁷⁰ See online: http://www.space-generation.org/faq/index.html#u3_2 (accessed on 23.9.2002)

The first recommendation emphasizes both the need for protecting and enforcing IPRs as well as the importance of the UN treaties and declaration, while reiterating that these are international legal principles. The second, while expressly admitting the need of enhancing private sector cooperation and coordination, prescribes harmonization of both standards and laws relating to IPRs in outer space. The uniformity of standards and laws will lead to a certain and protected environment, and secure private entity participation. It will also directly contribute to further commercialization of outer space activities. This has a nexus with the fourth point since the process of harmonization of IPRs internationally has long been initiated by the WIPO and since the practice of extending domestic IP laws extraterritorially to outer space has long been commenced. A harmonization of the ground IP laws will automatically be extended in outer space by application. The third one however, reiterates the territorial sovereignty of the States who give "appropriate" protection to IPRs involving space related technology. In fact, regarding protection of space related technology, each State is very cautious and tries to restrain any such transfer either in the name of national security, through its export control mechanisms, or through its competition and antitrust laws.

2.3 THE 'DECLARATION'

"The Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of all States, Taking into Particular Account the Needs of Developing Countries"⁷³ [hereafter referred to as the 'Declaration'] promoted the commercialization of IPRs in outer space is the first of its kind on IPR issues and emerged through the regular process of treaty formation in UNCOPUOS.

⁷³ U.N. Doc. A/AC.105/C.2/L.211 of June 11, 1996; And the resolution by the GA: U.N.G.A. Res. 51/122. of December 12, 1996.

2.3.1 The Genesis of the Declaration:⁷⁴

This unique international document resulted from a consensus, reached in UNCOPUOS through the convergence of the diverging opinions of the two blocks of States having opposing views towards exploitation and commercialization of IPRs in outer space. The genesis of the declaration depicts such process of the coming into existence of such convergence.

The process commenced when a group of 77 paper⁷⁵ was submitted at the 26th session of the LSC in 1987.⁷⁶ This session and the 28th session of the LSC in 1989 considered and finalized the choice of this new item^{77,78} The first *version* of the working paper ⁷⁹ was only submitted at the 31st session of the LSC in 1992.⁸⁰ There were two *revisions* of this Working paper .The first revision ⁸¹ was submitted at the 32nd session of the LSC in 1993⁸². The issue was taken up for discussion at the 33rd session of the LSC in 1995⁸⁴. This revised version initially mentioned a set of principles (therein mentioned as I to V), and aimed at "meeting

⁷⁹ U.N.Doc. A/AC.105/C.2/L.182

⁸⁰ See Report of the 31st session of the Legal Subcommittee- (U.N.Doc. A/AC.105/514), p.50.

⁸¹ U.N.Doc. A/AC.105/C.2/L.182/Rev.1

⁸² See Report of the 32nd session of the Legal Subcommittee- (U.N.Doc. A/AC.105/544), p.32.

⁷⁴ See generally : Nandasiri Jasentuliana , International Space Law and United Nations, (The Hague: Kluwer Law International, 1999) at pp.46-50. [Nandasiri]

⁷⁵ U.N.Doc. A/AC.105/C.2/L.162 of April 1, 1987.

⁷⁶ See Report of the 26th session of the Legal Subcommittee- (U.N.Doc. A/AC.105/385) p. 411.

⁷⁷ The full title of this agenda item was: "Consideration of the legal aspects related to the application of the principle that he exploration and utilization of outer space should be carried out for the benefit and in the interest of all States, taking into particular account the needs of developing countries".

⁷⁸ See Report of the 28th session of the Legal Subcommittee- (U.N.Doc. A/AC.105/385), p.430.

⁸³ U.N.Doc. A/AC.105/C.2/L.182/Rev.2 of March 23, 1995. This was jointly cosponsored by Brazil, Chile, Colombia, Egypt, Iraq, Mexico, Nigeria, Pakistan, Philippines, Uruguay and Venezuela and later Cuba joined it at the 34th session to this paper.

⁸⁴ See Report of the 34th session of the Legal Subcommittee- (U.N.Doc. A/AC.105/607 of April 19, 1995).

concrete needs and expectations of all countries...and the central thrust of the draft principles was that of the means of access by all countries to the benefits of space technology^{**85}. There was also another working paper submitted to the LSC by France and Germany⁸⁶ at the 34th session pursuant to discussions on the issue initiated at the 33rd session. "This paper rested on three short parts⁸⁷ and two basic considerations⁸⁸".⁸⁹

A close look at the considerations of that working paper would reveal the demand towards giving unfettered power to the contracting party States entering into a 'cooperation venture' to lay down any commercial terms that suit them. It is obvious that, to conclude any such cooperative ventures, no party would allow the other any additional commercial benefit without being adequately compensated. The phrase 'development cooperation' would only 'develop' when both parties agreed to it, meaning mutual commercial benefits in one form or the other. The parties "choice of selecting the most efficient and appropriate mode of cooperation", as allowed by the working paper, only goes to strengthen such argument.

Towards the end of the 34th session, the Chairman of the Working Group, combined the texts of the two working papers mentioned above and further added

⁸⁹ Nandasiri, *supra* note 74 at 48.

⁸⁵ Nandasiri, *supra* note 74 at 47.

⁸⁶ U.N.Doc. A/AC.105/C.2/L.197 of March 27, 1995. This paper entitled: "Consideration of the legal aspects related to the application of the principle that he exploration and utilization of outer space *should be carried out for the benefit and in the interest of all States*, taking into particular account the needs of developing countries".[emphasis added].

⁸⁷ (a) which laid out general elements of international cooperation in the peaceful uses of space; (b) which described the mode of such cooperation and (c) which listed possible areas in which the cooperation could be carried out.

⁸⁸ (i) States are free to determine all aspects of their cooperation, whether it is bilateral or multilateral or whether it was commercial or non-commercial, including, of course, development cooperation; (ii) States should have the choice of selecting the most efficient and appropriate mode of cooperation in order to allocate resources efficiency.

his own language therein to produce an informal working paper⁹⁰, "with a hope to facilitate debate in the Working Group, in order to progress on the issue at its session in 1996".⁹¹

The discussions during the 34th session of the LSC in 1995 culminated in two *revised* drafts from the two groups as mentioned above (one revised draft⁹² by the developing countries group and the other revised draft by France and Germany⁹³ – the so called developed counties group). While the revised draft of France and Germany resembled their previous draft, it is interesting to note that the revised draft of the developing countries was different from their earlier draft and substantially resembled the France-German revised draft. As for the draft of the developing countries, "[i]t indicated a willingness of the developing countries to alley the concerns of the developed countries and strike a compromise to resolve the issue"⁹⁴

In this author's view, this sudden change in the attitude of the developing countries may be partially attributed to the then successfully negotiated Inter Governmental Agreement of 1988 [IGA88]⁹⁵. The IGA88 clearly represented a document of "implemented cooperation" on paper which was, until that time, perceived more as a vague concept and subject to diverse and/or diametrically opposite interpretations between the developed and the developing States. IGA88 might have been instrumental in convincing the developing countries that it might be a way to secure commercial interests in an environment of international cooperation. The developing countries might have visualized, in form of IGA88,

⁹⁰ U.N.Doc. A/AC.105/C.2/1995/CRP.5 of April 6, 1995. This paper entitled: "Working paper on a declaration on international cooperation in the exploration and use of outer space for the benefit and in the interest of all States, taking into particular account the needs of developing countries".[emphasis supplied]

⁹¹ Nandasiri, *supra*, note74 at pp. 48-49.

⁹² U.N.Doc. A/AC.105/C.2/L.182/Rev.3.

⁹³ U.N.Doc. A/AC.105/C.2/L.197/Rev.1.

⁹⁴ Nandasiri , *supra*, note 74 at p. 49.

⁹⁵ In September 1988, an Inter Governmental Agreement (IGA) was signed among participating countries Canada, European partners (through ESA), Japan and the USA.

the feasibility or viability of, and a means to achieve, the notion of 'international cooperation' that they were striving for.

Both the papers that were submitted by the developing and the developed country groups as mentioned earlier, were thoroughly discussed (even extensive informal consultations took place) by the sponsors of them and finally they, with very few disputed elements (to be decided in future discussions), agreed to a Chairman's consolidated text ,which was then submitted as an informal working paper⁹⁶ of the Chairman of the Working Group and annexed to the report "with a hope that it could be adopted at the 1997 session of the LSC or the June 1996 UNCOPUOS meeting"⁹⁷.

At the June 1996 session of the UNCOPUOS, apart from discussion on the consolidated text, the Committee discussed those elements on which the Subcommittee's Working Group could not agree. The first of those elements, which was in the form of a paragraph and relevant for this thesis, is the one that concerned 'contractual terms of international cooperative ventures in the exploration and use of outer space'. The paragraph noted that these terms should be fair and reasonable and they should be "in full compliance with the legitimate rights and interests of the parties concerned, as, for example, with intellectual property rights"⁹⁸.

From the discussion which followed, it appeared that the developing countries wanted to drop the reference to intellectual property rights from the text of the declaration since according to them *IPRs are already covered* under the phrase 'legitimate rights and interests of the parties concerned', and its repetition in the declaration was merely superfluous.⁹⁹ "The developed countries, however, insisted that the phrase be retained, in order, to give a specific example of what

⁹⁶ U.N.Doc. A/AC.105/C.2/L.202 of March 27, 1996. This paper entitled: "Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of all States, Taking into Particular Account the Needs of Developing Countries".

⁹⁷ Nandasiri , *supra* note 74 at 49.

⁹⁸ See paragraph of the Annex.

⁹⁹ For details see Nandasiri, *supra* note 74 at 50.

they had in mind when they spoke of the rights and interests of the parties involved in space cooperative ventures. This was accepted and the reference to intellectual property rights was retained^{"100}.

Therefore, since all of the States wanted to agree, a consensus was reached easily regarding the retention of the phrase. This goes to show that the developing countries already understood and accepted the declaration in a way similar to that contemplated by the developed States in terms of commercial space cooperative ventures.

As stated above, the Committee at its next session (the 39th session of UNCOPUOS) in 1996 held informal consultations on the basis of that consolidated text and the differences as described in the earlier paragraphs above. After the reaching of the consensus as described above, during such consultation, the Chairman of the Working Group submitted a text containing a draft Declaration¹⁰¹ for consensus recommendation by the Committee for adoption by the General Assembly. The committee after reaching a consensus on the basis of Chairman's text attached the said text as annexure IV to the report of the UNCOPUOS before the General Assembly. The Committee recommended that the UNGA, at its 51st Session, adopt this declaration (which was annex IV to its report).¹⁰²

The Declaration was formally adopted by the General Assembly in December 1996 as a resolution¹⁰³.

The Report of Committee on the on the report of its 35th session LSC¹⁰⁴ which contained the results of the LSC's deliberation on the terms assigned to it by the

¹⁰⁰ Nandasiri, *supra* note 74 at 50.

¹⁰¹ U.N.Doc. A/AC.105/C.2/L.211 of June 11, 1996.

¹⁰² See II, C (3) paragraphs 141-143 of the Report of COPUOS to the UNGA p.24. Available at: <<u>http://www.oosa.unvienna.org/Reports/gadocs/pdf/A_51_20E.pdf</u>> (acc. on 23.9.2002).

¹⁰³ U.N.G.A. Res. 51/122. of December 12, 1996.

¹⁰⁴ U.N.Doc. A/AC.105/639 of April, 11, 1996.

UN General Assembly in resolution 50/27 is also a helpful source of what took place within the Committee in reaching the final Declaration.¹⁰⁵

An international outer space law relating to IPR issues was thus born¹⁰⁶, justifying future joint venture cooperative agreements reiterating and confirming the liberty of the parties to agree to decide on any commercial terms and conditions relating to IPs in outer space. No guidelines or limitation being set to restrict the State parties in deciding the terms or cooperative ventures, it implied an unfettered scope of exercise of absolute discretion by the States to set any term and condition according to their convenience, in respect to IPR issues in outer space.

2.3.2 The Declaration and International space law:

The first internationally official acknowledgement, recognition or mention of intellectual property rights in respect to space activities was reflected with the adoption of the "Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interests of All States" by the UN General assembly in its 51st Session. ¹⁰⁷

The above is the most important international document establishing and/or dealing with the IPRs of States in outer space by the United Nations General Assembly for the first time (on the basis of the Report of the UNCOPUOS). The State practice of exercising freedom to enter into international cooperative

¹⁰⁷ The report of UNCOPUOS placed before the UN General Assembly on its 51^{st} Session contained a report of legal subcommittee on work of its 35^{th} session (agenda item no. 6) wherein it mentioned (under paragraph no. 141,142 and 143) about annex IV which provided for the recommended draft of the said declaration. In paragraph 2 of the annex to the said Annex IV, it is specifically mentioned that: "States are free to determine all aspects of their participation in international cooperation in the exploration and use of the outer space on an equitable and mutual acceptable basis. Contractual terms in such cooperative ventures should be fair and reasonable and they should be in full compliance with the legitimate rights and interests of the parties concerned as, for example, with <u>intellectual property rights</u>." Online <<u>http://www.oosa.unvienna.org/Reports/gadocs/pdf/A_51_20E.pdf</u>> (accessed on 12.3.2002)



¹⁰⁵ See II, C (3) paragraphs 117, 137 to 143 of the Report of COPUOS to the UNGA pp. 20, 23-24. Available at: <<u>http://www.oosa.unvienna.org/Reports/gadocs/pdf/A_51_20E.pdf</u> > (acc. on 23.9.2002)

¹⁰⁶ "...after several years of intense debate and negotiations, COPUOS had yet another space law feather to add to its cap" see Nandasiri Jasentuliana in Nandasiri , *supra* note 74 at 46.

ventures is a settled practice. It has become a customary rule of international law thereby satisfying both the conditions of being qualified as an *opinio juris*¹⁰⁸.

The UN Declaration has endorsed and recognized this long standing State practice (*opinio juris*) of exercising their sovereignty in deciding about the terms and conditions relating to IPR issues regarding their transfers, protection or even acquisition¹⁰⁹. The Declaration reiterated the freedom of States to enter into international cooperation on their own terms. In fact the Declaration put an end to the long standing controversy regarding the degree of access to and sharing of space benefits arising out of IPRs in outer space between developing and developed countries. A consensus was reached where all States accepted a State's sovereignty to decide on its own the terms and conditions to be set in cooperative space ventures, especially relating to IPRs in outer space¹¹⁰.

From a different perspective, the legal status of a Declaration in form of a UN resolution may be interpreted to be that of customary international law, in the light of the observation made by the International Court of Justice in *Nicaragua v*. *USA* that "the effect of consent to the text of such resolution may be understood as a acceptance of the validity of the rule or set of rules declared by the resolution by themselves."¹¹¹ This Declaration of UN is evidence of the concurrence of the States and reflects the 'acceptance of the validity of the rules declared by the resolution itself" and thus has resulted in customary international space law.

This Declaration has put an end to the ongoing conflict between the developing countries and the developed ones on issues of IP laws in outer space. The developing countries' demand of equal access to the benefits of IPRs in outer

¹¹¹ 1986 ICJ Rep. 14 at para 188.

¹⁰⁸ The necessary elements of *opinio juris* was expressed in the North Sea Continental Shelf Cases that: 'Not only must the act concerned amount to a settled practice, but they must also be carried out in such a way, as to be evidence of a belief that this practice is rendered obligatory by the existence of a rule of law requiring it" (1969 ICJ Rep. 3 para 77).

¹⁰⁹ For details about different State restrictions over acquisitions of IPRs, see Raja Bhattacharya, "Intellectual Property rights in outer space" (2002), [unpublished, archived at McGill University, Faculty of Law].

¹¹⁰ also see J.S. Thaker, "The Work of the Committee on the Peaceful Uses of Outer Space (COPUOS) in 1996, A Report", (1996) XXI:II Ann. Air & Sp. L. at 363.

space had over time weakened and gave in to a claim of equitable access to such benefits. From their inception, however, these demands were vehemently opposed by the developed space faring nations who strongly believed and supported that as IP laws are essentially based on territorial sovereignty, any issue arising there from is entirely a State's dominion to decide. The international law which developed by State practices (opinio juris)¹¹² also allows the States to decide the terms and conditions of the acquisition, protection and transfer of IPRs. That is precisely the reason one would find that each State has its set of IP laws to guide and control IP issues within the States. With the coming of the WIPO into existence, endeavors were and still are being made to harmonize IP laws and even still the protectionism of the States to give up their sovereign rights and jurisdiction over the IP issues and laws only made it possible for WIPO to come up with a procedural harmonization in the field of patents only. The filing procedure has been streamlined by way of establishing a mechanism under a treaty, the Patent Cooperation Treaty, whereby an application filed will have the effect of a single common application been filed in all the member States. This achievement provides the applicant an advantage regarding priority. However, it does not allow the common acquisition, protection or transfer of IP rights which are exclusively in a State's jurisdiction.

Therefore, the international law which prevailed in respect of IPR issues still remained. The United Nations Declaration, while expressly extending it to outer space, acted as an international recognition of that fact. The Declaration neither changes the attitude of the States to expose their well protected domestic IPR laws to a common harmonization exercise nor did it change State practices. It acts as a document showing the convergence of the divided opinion which prevailed before the declaration on IP issues, between the developed and developing world. Thus it will foster the execution of documents in joint cooperative ventures regarding IP issues in outer space activities between States or entities, with even more certainty, where the parties will exercise their discretion to incorporate whatever

¹¹² Article 38 of the Statute of ICJ contemplated two requirements for establishing an international custom.(i) that there is a constant and uniform practice and (ii) that the states act according to this practice because they are of the opinion that they are following a rule of law – the *opinio juris sive necessitates*.

commercial terms they need to protect their interest. The question of equitable access or other benefits in IPs in outer space being given away will not arise.

Under the OST67 no state can claim sovereignty over outer space. Sovereignty connotes and encompasses territoriality. Thus no State can claim territoriality in outer space.

However, a close look at the phrasing of the different provisions of the outer space treaties and documents shows an endeavor of the States to apply the effects and/or application of territoriality in outer space¹¹³ from as far back as 1967.

The application of territoriality extraterritorially in outer space has been a unique development of State practice in the last decade where the States, by taking advantage of provisions in the OST67 (implying the right of States to retain control of and apply jurisdiction over the space object and the personnel therein), the resolution and the UN Declaration, subtly and at times expressly extended the application of their IP laws extraterritorially to outer space. The glaring example of the point is 35USC Sec. 105 {discussed below} ¹¹⁴ whereby the USA has extended its Patent Laws to Outer Space and the Inter Governmental Agreement of 1998 [IGA98] ¹¹⁵ relating to the International Space Station [ISS].

2.4 CONCLUSION

The inherent nature of 'territoriality' of IPRs may be said to have remained in place but through application, their functionality has been extended extraterritorially and/or extra -terrestrially. While the international treaties made it applicable across the borders, the final extension resulted from extending this terrestrial concept of territoriality, extra- terrestrially into outer space. With the

¹¹⁵ IGA98, *supra* note 39.

¹¹³ Article V OST67(according to which such astronaut have, e.g. after emergency landing, to be returned safely and promptly to the State of Registry of their space vehicle); Article VI OST67(ensuring and requiring authorization and continuous supervision by a State party on the activities in outer space by any nongovernmental entities); Article VIII OST67 (which refers to retaining jurisdiction and control over an object lunched into outer space and over any personnel thereof by the state of registry).

¹¹⁴ The Patent in Space Act, 1990. For text see online: <<u>http://uscode.house.gov/usc.html</u>> (accessed on 14.3.2002)⁻ for discussion and analysis see Chapter 4.1.

extension of functionality, the approach towards derivation of commercial benefits from the IPRs generated in outer space also got extended to outer space. The Declaration added a dimension of universality to this.

The States, realizing, that 'international cooperation" can only result with a strong affinity towards a commercially viable and mutually common platform of 'give and take', have shown their preferences. UNCOPUOS, or for that matter the GA of the UN was instrumental in making it public with its endorsement or seal, thereby adding the flavor of internationality to it.

The need to delimit outer space or to define it becomes apparent in the face of the said UN documents which elaborate IPR issues. The simple approach of commercialization of space as contemplated during OST67 has changed its dimension due to rapid technological advances and privatization. This is opening up new venues of commercial exploitation of outer space in the form of joint ventures. In this complex environment, if outer space is not defined, the controversy and conflict over the IPRs generated on a space object in a place falling into the "overlapping zone" will grow in number. To apply their respective IP laws by way of extension of territorial jurisdiction in outer space, States will try to extend their control over certain places (such as outer space) which may, in the opinion of another State belongs to them by way of territorial sovereignty. Consequently, controversies not only regarding place of inventions, because of its economic implications, but also of interference to territorial sovereignty, will arise. Attempts will reasonably be made by States to materialize commercial benefits by claiming the generation of space IP rights in a place which is otherwise claimed to be air space under the sovereign jurisdiction of another State. In other words, in the absence of the delimitation of outer space a reasonable apprehension cannot be ruled out that some States will try to derive commercial benefit by claiming rights over the IPs which may be created in a particular location that is claimed by another State to be in its airspace.

CHAPTER-3

COMMERCIALIZATION OF OUTER SPACE – ISS AND IGA

3.0 INTRODUCTION

Creation of a tangible or intangible property out of any research in any outer space setting (whether be it on a stationary space station, a moving space object, outside any space object or even on a celestial body) would inevitably entail intellectual property rights questions. Being highly territorial by the nature of their application and protection, IPRs have implications of commercial importance that could be derived from their use or exploitation. The use may be in the terrestrial setting as well as in the outer space setting.

The environment under which the entire process of generation, use and transfer of these IPRs takes place has thus to be provided with, if not protected by, a set of rules, regulations or laws. These sets of rules, regulations and laws are the instruments of jurisdiction of the States or Parties who sponsor the generation and commercial exploitation of these IPRs in such settings.

Therefore the question and relevance of State jurisdiction plays the most important part and is closely connected with IPRs themselves.

Normally, the systems of law and State authority applicable in the cases of inventions made in outer space in any space station, including the personnel thereof, would be those of the State to which the space station including the personnel thereof are subject to, under international law. "A number of Treaties have been concluded relating to the outer space, and some of their provisions are directly relevant but unfortunately these are not always consistent"¹¹⁶.

This chapter, while establishing a nexus between the Declaration and the OST67, tries to view from a different perspective and analyze how commercialization in

¹¹⁶ Bin Cheng, "Liability Regulations applicable to Research and Inventions in Outer Space and their Commercial Exploitation", in Sa'id Mosteshar, ed., *Research and Invention in Outer Space, Liability and Intellectual Property Rights* (The Netherlands: Martinus Nijhoff Publishers and International Bar Association, 1995), Chapter 9 at p.71.[**Bin Cheng**]

respect to the outer space activities were promoted through the International Space Station [hereafter ISS] project.

3.1 COMMERCIALIZATION OF OUTER SPACE AND OST67

Though there has been an express message emanating form the OST67 against claiming territoriality in outer space, international practice, which is primarily considered as the outcome of the "will" of the States has shown a negative drift - a drift to move away from the expectations and intentions with which the said treaty was adopted.

An unofficial way to apolitically circumvent the rigors of OST67 started long ago when the States tried to involve and disseminate the competency of space activities to private enterprises. Sovereign privilege and accountability gradually lost its rigor. The seeds sowed by way of allowing private enterprises to exploit and use outer space has well ripened and with the Declaration by the GA of the United Nations in its 51st session , enabling the States to apply the principles of intellectual property rights in outer space through mutual cooperation, actually made it politically acceptable. It not only gave the States international permission to carry on with their commercialization ventures of outer space activities but also allowed the States to formulate laws claiming territoriality in outer space.

A question may, at this point, be raised as to the compatibility of commercialization of outer space activities and the OST67. A critical analysis of the Outer Space Treaty provisions may offer some assistance to find an affirmative answer to this question. Article VI inherently anticipated participation of private entities in outer space activities, which by necessary implication means commercial activities by these private entities. Article VIII, by giving 'jurisdiction and control' to the States over their registered space objects and personnel, envisaged application of territorial jurisdiction and consequently their domestic laws. Commercial activities by private entities will flourish if supported by their respective municipal laws in protecting their interests. Thus, this opportunity under Article VIII became a catalyst in the States' endeavor to extend their

territoriality in outer space. They could thereby create a favorable legal environment for private entity participation in commercial exploitation of outer space.

Taking the cue from the provisions of OST67, four of the then space faring nations entered into an Agreement named the Inter Governmental Agreement of 1988 [in short IGA88]¹¹⁷. The agreement clearly spelled out its commercial nature through its clauses while drawing its sanction from the provisions of OST67, as would clearly be visible from its preamble. It may be said to be the first attempt to commercialize space by act of the States taking advantage of the provisions of the OST67. The tacit acceptance on the part of the international polity of such an agreement towards commercialization of outer space acted as a boost not only to the application of domestic laws in outer space, but also on IPR issues arising out of IPs in outer space. The US was prompt to respond and react. We thus have the first domestic legislation exclusively applicable to commercialization of outer space -- The US Patent in Space Act, 1990 {discussed below}¹¹⁸. This Act not only expressly extended the concept of territoriality of the US to outer space but also equally provided an effective gateway in establishing a procedure to exploit and/or protect the intellectual property rights that will result in and from outer space activities.

In 1996, the adoption of the Declaration by the General Assembly of the UN officially started the process. The compatibility of the Declaration and Article III OST67 fostered rapid commercialization. The mandate of "international cooperation" in article III acquired a new dimension from the Declaration which permitted the negotiation of commercial terms and condition to achieve such a mandate between its members. This landmark event opening the floodgate of commercialization by way of allowing pure rules of commercial market principles to be applied during cooperative ventures among the States, more particularly in the IP sector in outer space.

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¹¹⁷ This agreement was entered into by the Governments of Canada, Japan, the European countries through ESA and the USA.

¹¹⁸ See Chapter 4.1.

Shortly thereafter in 1998 the next step was taken towards this end with the execution of another international multilateral agreement. This was similar to the IGA88 in basic content and approach. This multilateral agreement was executed between Canada, Japan, the European partner States, the Russian Federation and the US. The States therein, with a clear view to exploit and commercialize the outer space signed and endorsed the various provisions of the Agreement.

3.2 ISS AND SPACE LAW

On the ISS the Partners apply their contractual terms and obligations in a commercial setting but trying to keep themselves within the precincts of the international space law regime, which are in form of space treaties. "By their very nature intellectual property rights are jurisdictional both in terms of their recognition and existence and the protection they may be afforded to the owner of such rights"¹¹⁹.

As per the OST67, the State of registration shall "retain jurisdiction and control" both over objects launched into outer space and over the personnel thereof¹²⁰ while in outer space or on a celestial body. This apparently straight forward approach in the exercise of jurisdiction by a State of registry faces some inherent challenges. What will be consequence if the space object is not registered?¹²¹ A probable answer may be that under OST67 the space objects are to be mandatorily registered by the States in their registry. Any IP claim connected with that space object is thus accountable. However, in the case of activities carried in or on the said space object (e.g. Canadarm on the ISS) having a chance of generating IP rights, the State of registry makes it public for obvious commercial reasons.

¹¹⁹ Sa'id Mostehasar, "Issues Arising in Determining the Legal regime Applicable to Intellectual Property Rights in Outer Space", in Sa'id Mosteshar, ed., *Research and Invention in Outer Space, Liability and Intellectual Property Rights* (The Netherlands: Martinus Nijhoff Publishers and International Bar Association, 1995), Chapter 12, at p. 134.

¹²⁰ According to Bin Cheng the word 'thereof' and not 'thereon' has been used deliberately to include personnel even when he is outside the space object. See Bin Cheng, *supra* note 116 at 75.

¹²¹ Since there is merely no obligation to register it in UN Registry many States does it according to their sweet will.

Under the Outer Space Treaty, the "personnel" will always remain under the jurisdiction and control of the State of registry of the module or space object which provides him even when he is on board a module registered in another State. A research worker is "personnel" and will be under the jurisdiction and control of the State of registry of a research module, even if he visits, works and/or commits any mischief in or on another module which is registered to another State. The State of registry of the research module have jurisdiction and control (the primary ownership) of the IP generated therein or thereon since it is authorized and competent under OST67 to exercise jurisdiction and control over the space object under its registry.

It is interesting to compare the situation that may result, in applying this principle (discussed in the preceding paragraph) in the case of ISS or for that matter IGA98, which is deemed to be the unique and unparallel feat of international cooperation in outer space between sovereign States.

IGA98, in Article 5 (2), while acknowledging compliance with Article VIII of OST67 and Article II of the Registration Convention, provides that "each Partner shall retain jurisdiction and control over the elements it registers.... and over its personnel in or on the space Station who are its nationals". Therefore, this makes it clear that for the purpose of the Agreement, the "personnel" which a particular State of registry supplies might be treated or deemed as its national over whom the said State of registry have jurisdiction and control (whether he be inside or outside the space station). This same principle has been retained and applied in case of Intellectual Property issues and for the Criminal jurisdiction issues under the agreement. Article 21 (2) in effect provides that "for the purposes of IP law, an activity occurring in or on a Space Station flight element shall be deemed to have occurred in the territory of the Partner State of that element's registry". The use of the word "law" in this context implies and signifies territorial jurisdiction since the later part of the sentence makes it clearer as to the application of law for such activity. For an activity giving rise to any intellectual property, it is the law of the land/territory of the State of registry of that element/module that is applicable. In other words, the State of registry will apply its territorial IP laws for any activity in its element/module which generates an intellectual property.

The agreement goes a step further to make it expressly clear that this territorial jurisdiction (and thus territorial sovereignty) of the State of that element's registry will not be altered or even affected in any manner and thus the IP laws of that State will be applicable regarding activities generating IPs in that element. In other words, even participation of any other State in such activity which is occurring in the element of a particular State will not alter or affect and have no bearing on the activities generating IPs in that element and the same will be under the territorial jurisdiction of the State of the element's registry.

Mere participation in any activity which may result in generation of IPs will give no right over such activity, no matter who are the participants. It is the element's State of registry that will have the right to apply its territorial jurisdiction and consequently its domestic IP laws for such IP generating activities. For example: In space station XY, A is the element under State A's registry and element B is registered in State B's registry, together comprising XY. Any activity generating IP in A will be under the jurisdiction of State A even if State B has participated in such activity. State B's participation will not alter or affect the territorial jurisdiction of State A to apply its own territorial or domestic IP laws.

3.3 ISS AND COMMERCIALIZATION:

'The International Space Station (ISS), which is being developed through the international cooperative efforts of various governments, is intended to contribute to the economic growth of each partner country through commercialization'.¹²²

3.3.1 Commercialization and ISS through IGA98

The ISS is a joint or collaborative commercial venture. The ISS, when originally conceived, was a scientific facility. Because of the huge cost of construction and

¹²² See online <<u>http://www.jamss.co.jp/ehtml/issbf/whitepaper.pdf</u>> at 1. (acc. on 24.9.2002).

recurring cost of maintenance, coupled with the fact of reduction of fiscal resources by the space faring nations and the increasing pressure from their constituents to justify the huge cost of the ISS, commercialization was not only logical but inevitable¹²³. This is heavily reflected through the different provisions of IGA98.¹²⁴

International Space Station Commercialization Workshops are organized¹²⁵ to facilitate the further commercialization of the ISS, to develop recommendation to continue to proceed with such facilitation and also to establish communication about the commercialization of ISS among the decision makers, governments and the academia. These form internal working groups to achieve their goals in a very systematic manner; the second of such work shop (namely Work Shop II) was held from 9-11 August, 2000.¹²⁶

NASA from its inception was mandated to encourage the commercial use of space to its fullest extent. This is expressly mentioned under its declaration of policy in section 102(c) of the National Aeronautics and Space Act of 1958 (Public Law No. 85-568)¹²⁷ which established NASA¹²⁸.

However, the commercialization of the ISS by NASA was initiated with its response¹²⁹ to the Commercial Space Act, 1998¹³⁰. The mandate of this Act is to

¹²⁷ Sec. 202 (a) of National Aeronautics and Space Act of 1958 (Public Law No. 85-568).

¹²⁹ NASA Commercial Development Plan of the ISS (November, 1998).

¹²³ Also see online: <<u>http://www.csa.gc.ca</u>> (acc. on 24.9.2002).

¹²⁴ For the entire text of the IGA98, See online : <<u>ftp://ftp.hq.nasa.gov/pub/pao/reports/1998/IGA.html</u>> (acc. on 21.9.2002).

¹²⁵ The first Work shop held in Bremen from 8-10 March, 2000.It brought together the decision makers to discuss commercialization and highlighted the difference of opinion between the agencies (vendors) and the users (customers) and discussed about full utilization of ISS.

¹²⁶ For more details see online: <<u>http://www.unitedspacealliance.com/isscw/Resource/Approach.pdf</u>> and <<u>www.unitedspacealliance.com/isscw</u>> (acc. on 11.9.2002).

¹²⁸ Sec. 102 (c): The Congress declares that the general welfare of the United States requires that the National Aeronautics and Space Administration (as established by title II of this Act) seek and encourage to the maximum extent possible the fullest commercial use of space.

promote commercial space opportunities, establishing as national policy, that a priority goal of constructing the ISS is the economic development of Earth orbital space ¹³¹. The Act, as would appear from its preamble, principally was to encourage the development of a commercial space industry in the United States ¹³². Section 101 deals specifically with 'Commercialization of Space Station' ¹³³. This section while spelling out the US policy of engagement of commercial providers and participation of commercial users to the fullest extent in the ISS, imposes a duty upon the Administrator of NASA to submit a report to the Congress interalia mentioning "the potential role of State governments as brokers in promoting commercial participation in the International Space Station program.

On November 16, 1998, NASA came up with a comprehensive commercial development plan for the ISS which not only provides its long term *objective* "to establish the foundation for a marketplace and stimulate a national economy for space products and services in low-Earth orbit, where both demand and supply are dominated by the private sector", but also provides a short term objective "to begin the transition to private investment and offset a share of the public cost for operating the space shuttle fleet and space station through commercial enterprise in open markets." It provides strategies for achieving its objectives which expressly mention its participation with the private sector in order to achieve profitable operations. ¹³⁴ The said plan clearly tasks the NASA office of the General Counsel to complete a reference guide discussing the statutory,

¹³⁰ US Public Law 105-303. The President signed it on October 28, 1998. The mandate of this Act is to promote commercial space opportunities, establishing as national policy, that a priority goal of constructing the ISS is the economic development of Earth orbital space.

¹³¹ see online :<<u>http://commercial.hq.nasa.gov/policies.html</u>> (acc. on 24.9.2002).

¹³² see online:< <u>http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=105_cong_public_laws&docid=f:publ303.105</u> > (acc. on 24.9.2002).

¹³³ For the text of sec. 101 see <<u>http://commercial.hq.nasa.gov/files/comml_act_1998.txt</u> > (acc. on 24.9.2002).

¹³⁴ For details see online <http://commercial.hq.nasa.gov/files/cdp.html> at 1. (acc. on 22.09.2002) [NASA commercial plan].

regulatory and programmatic strictures on the deployment, utilization and ownership of intellectual property within the space station program¹³⁵. While tasking the same office to review agency policy related to the handling and treatment of proprietary data, the said plan gave power to the said office to issue a NASA Policy Directive to correct any deficiencies in that field, if the office felt it necessary.¹³⁶

The thrust towards commercialization of ISS could also be felt from the document developed by an ad hoc group, the Strategic Planning Working Group ("SPWG") convened by the ISS Commercialization Workshop II, as mentioned above, to provide the ISS partner governments with a common perspective on commercialization. The participants were nothing less than the private commercial mega business houses in this field¹³⁷. The document, capturing their expectations, and outlook from a private commercial perspective in respect to the ISS, was named "Commercialization of the ISS: An Industry Perspective"¹³⁸. Their vision resonated that "Space commerce in the future is envisioned as a web of commercial activity in and in support of Earth orbital space that is identical to terrestrial commerce in every respect except location. All of the commercial mechanisms that function on the ground will be at work in space commerce. ISS can move toward this vision by following a methodological path that develops maximum commercial utilization as soon as possible, leads to privatized operations, and ultimately concludes at full commercialization of human activity in low Earth orbit." 139

¹³⁶ *ibid*.

¹³⁵ *ibid* at 4.

¹³⁷ The signatories were :Director of Infrastructure and Operations, Astrium, GmbH; Vice President, Business Development, MD Robotics; President, Lockheed Martin Space Operations; Vice President/General Manager, Aerospace Division Mitsubishi Corporation; President and Chief Operating Officer, Spacehab, Inc. ; Vice President/General Manager, International Space Station, The Boeing Company; President, Japan Manned Space Systems Corporation; and President and Chief Executive Officer, United Space Alliance, L.L.C.

¹³⁸ Signed on April 20, 2001. For the entire text see online : <<u>http://www.jamss.co.jp/ehtml/issbf/whitepaper.pdf</u>> (acc. on 31.10.2002).

¹³⁹ See online: <http://www.jamss.co.jp/ehtml/issbf/whitepaper.pdf> at 1.(acc. on 31.10.2002).

In Japan, shortly thereafter on May 18, 2001, the Executive Committee of "ISS Business Forum" decided to endorse SPWG's Report (Commercialization of the ISS: An Industry Perspective) and to establish Japan Strategic Working Group in ISS Business Forum with a proposal to the government that it "should maintain the environment and make an enough investment to support private sector's activities in the initial phase of ISS commercialization". Japan's SPWG's approach for the commercialization of ISS rested on their intended performance of outreach activities for supporting private sector's market development and also integration of the user's requirements in Japan to use NASA, ESA and RASA's modules commercially¹⁴⁰.

3.3.2 ISS is a Commercial Venture

ISS is a technological marvel but it is equally a commercial venture between a group of space faring nations. The agreements guiding the different modalities of operation is more of a private commercial venture agreement rather than an international treaty in the classical sense of the term.

Like other commercial agreements where one finds a principal contract aided by a series of sub contracts and MOUs, the IGA98, with close scrutiny, will be found to have followed the same structure and/or scheme. The way in which the provisions in the articles ¹⁴¹ have been worded also clearly supports this contention.

Millions of dollars have already been spent and many more are to follow. ISS is no longer an attempt at the vaulting ambitions of participating nations, but is something more practical than that. A gigantic amount of money is being spent with a clear intention of exploiting outer space commercially. It has been made

¹⁴⁰ See online <http://www.jamss.co.jp/ehtml/issbf/JapanSPWG.pdf> (acc. on 31.10.2002).

¹⁴¹ In Article 19, which deals with highly commercial implication of transfer of data and goods that would be generated on ISS imposes an obligation on Partners to authorize expeditious transfers of technical data and goods to and at the request of persons or entities other than the Partner or its cooperating agencies. It also envisages the development of company to company exchanges which emphatically points towards IGA's commercial objective.

clear that ISS will act as a research centre for all future space activities. The micro gravity research will yield some result, howsoever negligible or substantial may it be with regard to its balancing of political equations, it surely has a positive connotation as regards the researches are concerned.

The NASA commercial mandate which started it also clearly spells out that "The 1998 Commercial Space Act (Public Law 105-303) promotes commercial space opportunities and establishes as national policy that a priority goal of constructing the ISS is the economic development of Earth orbital space. To this end NASA has created a process for working with companies to make ISS economic opportunities available."¹⁴²

There are, however, writers who feel that ISS "...is an intergovernmental project which will not be profitable, and of which the cost and operations are not a useful model for a commercial facility. In addition, the legal environment is quite different from what is required in a commercial facility ..."¹⁴³. This author, however, strongly feels the contrary because of the following reasons:

- (1) NASA 's declaration that "the general welfare of the United States requires the National Aeronautics and Space Administration...seek and encourage to the maximum extent possible, the fullest commercial use of space"¹⁴⁴
- (2) Many of the areas of research on ISS "particularly those involving effect of gravity on biotechnological and pharmaceutical processes, and those exploring alternative energy and transportation could generate a wealth of potentially patentable information, at the very least it may spark considerable 'conceptions' of patentable subject matter"¹⁴⁵.
- (3) The IGA98 framework will be instrumental in bringing a change in the domestic laws of the Partner States, the provisions of which are to be made compatible to this multilateral commercial agreement. This is in

¹⁴² International Space Station Commercial development, NASA, see online: <<u>http://commercial.hq.nasa.gov/comop/summary.html</u> > (acc. on 31.10.2002).

¹⁴³ P Collins & Y Funatsu, *Collaboration with Aviation - The Key to Commercialization of Space Activities*, IAF Congress paper no IAA-99-IAA.1.3.03, 1999. for the text see online :

<<u>http://www.spacefuture.com/archive/collaboration_with_aviation_the_key_to_commercialisation_of_spac</u> <u>e_activities.shtml</u>>. (acc. on 28.9.2002).

¹⁴⁴ 42 USC 2451.

¹⁴⁵ J.H.Shoemaker, The Patents in Space Act: Jedi Mind Trick or Real protection for American Inventors on International Space Station, 6 J. Intell. Prop. L. 395, 1999.[Shoemaker]

order to achieve the maximum protection of the IPs generated on it, so as to encourage private investors to invest more on this commercial project. IGA has a overriding effect on even the specific domestic legislation of the US [Patent in Space Act (35 USC 105)], to the extent it is incompatible. "[I]ntellectual property provisions of IGA seems thorough enough to preclude any real assertion of the Patents in Space Act in the context of the ISS"¹⁴⁶.

The statement from NASA can be said best to describe the commercial nature of the space station: "The ISS Commercial Opportunity, first and foremost, is about stimulating business investment in the development of new markets and industries in low Earth orbit"¹⁴⁷.

In the recent past a new dimension has been added to this gamut of ISS commercialization. The Russian partner has spelled out through its action¹⁴⁸ that space tourism can be one of the major areas of exploitation of the ISS commercially.

The recent financial crisis¹⁴⁹ that the Partners are facing to upkeep the space station will act as a catalyst to expedite commercialization through private enterprise participation. More private participation will entail more aggressive strategies of commercial exploitation of the ISS which will evolve more IPRs issues in outer space as a consequence thereof.

3.4 CONFLICT WITH INTERNATIONAL SPACE LAW REGIME

There is an ongoing debate as to the legality of such an agreement(IGA98) in public international law as, according to many international jurists, IGA98 is in

¹⁴⁶ *ibid*.

¹⁴⁷International Space Station Commercial development, NASA, see online: <<u>http://commercial.hq.nasa.gov/comop.html</u>> (acc. on 31.10.2002).

¹⁴⁸ The Russians have carried out two space tourism missions with the commercial space traveler Dennis Tito from the US and Mark Shuttleworth from South Africa. And there are more to follow, see online: www.spacedaily.com/news/020122143959.qz3jsqlw.html (acc. on 22.01.2002).

¹⁴⁹ Human space flight, 2020 Vision, Economist print edition, online: Economist.com, Science and Technology, see online: < <u>http://www.economist.com/science/displayStory.cfm?story_id=1441752</u>> (acc. on 18.11.2002).

direct contravention with one of the majors instrument in the present space law regime—the Liability Convention.

International law is what the States desire. The world polity, by virtue of their using the UNCOPUOS, acknowledged and, by not raising an iota of objections whatsoever to the execution or operation of IGA98, have accepted the legality of such a document. It is therefore a major instrument that the present day space faring nations rely upon to conduct their outer space activities in the ISS.

However, for academic purposes, it may be discussed whether provisions of IGA98 are in direct conflict with the existing space law regime. Article 16 should be read with article 2(2)(a). Article 2(1) and (2)(a) provides that the ISS shall be developed, operated and utilized in accordance with international law, including the space treaties [OST67, LC72, RA68 and RC74] and that, except for Article 16 no provision in the IGA 98 could be interpreted so as to modify the rights and obligation of the Parties provided in any of the Space treaties [OST67, LC72, RA68 and RC74]. This means, except Article 16 (discussed in the next section), all the provisions are in conformity with the outer space treaties and no interpretation of any provision of the IGA98 would be permissible which are contrary to them. Under this article there is a express prohibition and ban on the interpretation of the clauses of the Agreement in any manner that will be contrary to the rights and obligations of the partners under the OST67, RA68, LC72, RC74. Article I of IGA98 is in conformity with Article III of the OST67 as it establishes 'a long term international cooperative framework' for the 'development and utilization of a' Space Station for peaceful purposes'.

Apart from expressly adopting the principle of "peaceful use" in its preamble and article 1 and of 'non appropriation' in article 2(2) (c), the IGA98 also, under article 5, adopts the obligation of States to register under the Registration Convention (Article II) and the right of a State of registry to retain jurisdiction and control over those registered space objects and personnel thereof. "The possibility of exercising jurisdiction and control only over space elements (article

5 of IGA98) does not infringe upon Article II of Outer Space Treaty, which bars any claim of sovereignty^{,150}.

3.4.1 The IGA98 is inconsistent with and contrary to the Liability Convention, 1972

For proper appreciation of the contradiction one has to also look into Article XXIII¹⁵¹ of The Liability Convention 1972. It makes it permissible to all its State members to enter into and conclude international agreements which will reaffirm, supplement or extend the provisions of the Liability Convention.

Thus the member states are allowed to extend, supplement or reaffirm the provisions of the LC72. However, IGA98 which has been adopted by some of its member State to LC72, *curtails, narrows, avoids* or *negates* the application of the provisions of LC72, therefore it no way extends or supplements or reaffirms the provisions of LC72 and is thus is inconsistent. The IGA98 prevents and cuts in bringing down a number of liabilities which is permitted in LC72 and is thus further adding to the inconsistency. The argument also finds its support from Article 2 (2) (a)¹⁵² of IGA98. It expressly curves out Article 16 as an exception so as to be used as modifying the rights and obligation of the Partners as provided in Liability Convention .This express modification of any right and obligation is prohibited by Article XXIII(2)¹⁵³ of the Liability Convention.

¹⁵² Article 2(2)(a) of IGA98: "Nothing in this Agreement shall be interpreted as *modifying* the rights of the partner States *found in the Treaties listed* in paragraph 1 above { i.e. the Outer Space treaty, the Rescue Agreement, *the Liability Convention*, and the Registration Convention}, either towards each other or towards other States, *except as otherwise provided in Article 16*". [emphasis added]



¹⁵⁰ Anna Mario Balsano, "The European Space Agency: Intellectual Property Rights and International Cooperation", in Sa'id Mosteshar, ed., *Research and Invention in Outer Space, Liability and Intellectual Property Rights* (The Netherlands: Martinus Nijhoff Publishers and International Bar Association, 1995), Chapter 14 at p.161.[**Balsano**]

¹⁵¹ Art XXIII (2) of LC72 says 'No provision of this Convention shall prevent States from concluding international agreements reaffirming, supplementing or extending its provisions'.

To some author,¹⁵⁴ the wording of Article 5 poses a problem and conflict since it does not clarify the situation regarding "personnel" of one of the Partners who are not nationals of the corresponding Partner States or who are nationals of more than one partner. In view of this author, the use of the term 'personnel' which a particular State of registry supplies will be treated or deemed as its national over whom the said State of registry have jurisdiction and control and as such no such conflict occurs¹⁵⁵.

Both the issues regarding 'personnel' and cross waiver of liability, as discussed above has a bearing on the IP issues in outer space. If a personnel, makes some inventions while carrying on an experiment or research in outer space, the host of legal question will crop up. This has led the Partners of ISS to come up with a Code of Conduct for the crew as well as they tried to deal with the issue through other provisions, which are discussed in Chapter 4.2. There cross waiver of liability under Article 16 of IGA98 has a close nexus with IPRs in outer space. Cross waiver of liability is not applicable in case of IP claims .This has been discussed in the next chapter.

3.5 CONCLUSION

Commercialization of outer space, which necessarily encompasses the IPRs issues and essentially IPs which are generated, used or transferred on space objects, was and has been clearly the objective of the ISS venture. The Partner States, by a clear and conscious move, executed the IGA98. This document is the only document laying down a modus or mechanism, besides other issues, on the ISS which is most relevant for this thesis. Therefore a detailed discussion on the IP issues and interpretations thereof is necessary and has consequently been done in the next chapter.

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¹⁵⁴ Andre Farand, "Space Station Cooperation and Intellectual Property matters", Colloquium organized by CERADI-LUISS-GUIDO CARLI and European Centre for Space law/European Space Agency, November 11, 1996, Roma. [Farand Roma]

¹⁵⁵ See discussion in Chapter 3.2 above.

CHAPTER-4

LEGAL MATERIALS ON INTELLECTUAL PROPERTY RIGHTS IN OUTER SPACE

4.0 INTRODUCTION

The first legal document dealing directly with the IPRs in outer space is IGA88, a multilateral treaty drawn and concluded between the USA, Canada, Japan and the eleven European Countries, represented through ESA. This is the first time that the Flagship principle was applied in any multilateral document dealing with IPR issues arising out of outer space activities and establishing legal consequence there from. IGA88 contained quite comprehensive provisions concerning IPRs that would be generated and related to the ISS project in outer space. Shortly thereafter, the US was the first to legislate directly in the form of an amendment to add a section in its existing Patent laws for use of inventions made in outer space. This Act is the first of its kind in the history of IP legislation arising out of outer space activities. However, the IGA88 was later discarded resulting in the execution of another IGA in 1998 after the inclusion of a very important strategic Partner, the Russian federation in the ISS project, in 1993. The provisions of IPRs as drafted in IGA88 are substantially identical with those appearing in the new IGA98¹⁵⁶ and, to avoid repetitive discussion, the latter will be discussed in this chapter.

The wording of the first statute in history extending the territoriality of IP laws into outer space has been analyzed in the back drop of the then existing scenario to let the reader understand the context of its legislation. The brief history of the creation of the ISS has been included in the first section not only as an attempt to establish a nexus between the two sections herein but also as it is equally important and relevant for the second section. There is a brief discussion

¹⁵⁶ For the entire text of IGA98 see online: <<u>ftp://ftp.hq.nasa.gov/pub/pao/reports/1998/IGA.html</u>> (acc. on 17.11.2002).

regarding the structure of existing US Patent laws to make the representation more reader friendly and meaningful (the Annex includes a schematic structure). The IGA98, which has been discussed here, is therefore the latter version of the IGA88 in terms of the IP provisions. An occasional mention of other provision has only been made to make reader appreciate and understand the context better. The mention and analysis of the Patent in Space Act of the US has thus been taken up first superceding the chronology to IGA88 which has finally given its way to IGA98 (discussed later in the second section-4.2) and almost became redundant necessitating a separate discussion.

4.1 THE PATENT IN SPACE ACT- 35 USC

For better understanding, it is imperative to review the basic structure of the domestic Patent provisions in the US. Title 35 of the United States Code¹⁵⁷ deals with Patents. It is divided into four Parts (I, II, III and IV) which have "Chapters" and "Sections" there under, each of which deals with some particular aspects of Patenting .A Schematic representation of this classification is given in ANNEX – II to this Thesis

For the purpose of this thesis, the most important and relevant provision of the said Act is section 105, of Chapter 10 under Part II of this Code which deals with patents in outer space.

To understand the true purport of this section the perspective which led to its enactment needs to be evaluated, and for that reason, we have to take a short tour of the history of ISS and some relevant paralegal provisions related to it.

¹⁵⁷ The *United States Code* is the codification of the general and permanent laws of the United States. It is prepared and published by the Office of the Law Revision Counsel, U.S. House of Representatives, every six years. Also see online :<<u>http://www.access.gpo.gov/su_docs/help/hints/uscode.html</u>> (acc on 23.10.2002).

4.1.1 Background to section 105 158

It was in May 1982 when NASA, while establishing the Space Station Task Force, started conceptualizing a Space Station design as an extension of the Space Shuttle initiative. The venture continued with the commencement of construction of the ISS in 1985 with the active participation of Canada, Japan and the ESA, they being formally invited by President Ronal Regan in 1984. These Countries had their own reasons and inclination to join the project for furtherance of their domestic space policies. NASA developed the plan of ISS construction in two phases. Negotiations to promote Phase 1 of the ISS (then called "Freedom" deriving its name from and having some political bearing with the then cold war between the USA and the USSR), with the development with space experiment as its primary target, were then conducted. In September 1988, an Inter Governmental Agreement (IGA88) was signed among participating countries. Later, a Memorandum of Understanding (MOU) was signed between NASA and executing organizations of each country towards that end.

At this juncture a conscious move was made by the US to reform their Patent laws in conformity with the future space ventures and their obligation arising out of the IGA88. Thus, the existing patent law of the land was amended to add section 105, incorporating specific provisions regarding inventions in outer space. Section 105 appears just after section 104 dealing with inventions made abroad. Thus, the placement of the section in the statute is meaningful in the sense that it apparently also deals with inventions which are made, used or sold "abroad" in outer space outside the physical boundary of the US.

It may be relevant to keep in mind that, during the enactment of the statute, there was an obligation on the part of all the contracting States to the Outer Space Treaty that none could claim territoriality in outer space in any form. It was only after 1996 with the Declaration of the United Nations, as discussed in the earlier chapters, that a dimension of international legality has been attributed to this Statute (besides the IGA98).

¹⁵⁸ For details see: History of ISS Project, International Space Station and Japanese Experiment Module 'Kibo', see online :<<u>http://jem.tksc.nasda.go.jp/iss/index_e.html</u>>. (acc. on 21.10.2002).

4.1.2 The Section¹⁵⁹

"Section. 105 (Inventions in outer space) provides, as follows:

- (a) Any invention made, used or sold* in outer space on a space object or component thereof under the jurisdiction or control of the United States** shall be considered to be made, used or sold within the United States for the purposes of this title*** [meaning Title 35], except with respect to any space object or component thereof that is specifically identified and otherwise provided for by an international agreement to which the United States is a party****, or with respect to any space object or component thereof that is carried on the registry of a foreign state in accordance with the Convention on Registration of Objects Launched into Outer Space*****. [emphasis added].
- (b) Any invention made, used or sold in outer space on a space object or component thereof that is carried on the registry of a foreign state in accordance with the Convention on Registration of Objects Launched into Outer Space, shall be considered to be made, used or sold within the United States for the purposes of this title if specifically so agreed in an international agreement between the United States and the state of registry****." [emphasis added] [Asterisks denotes separate discussion of phrases after which they appear, in the later part of this section]

This section was added on November 15, 1990.¹⁶⁰

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¹⁵⁹ Also viewable at online:

<<u>http://www.oosa.unvienna.org/SpaceLaw/national/united_states/35_USC_chapter_10_sect105E_pf.html</u> > (acc. on 19.10.2002).

¹⁶⁰ Public Law 101 - 580, sec. 1(a), 104 Stat. 2863, An Act to amend title 35, United States Code, with respect to the use of inventions in outer space. The amendment was effected by adding what now appears as section 105.

4.1.3 Analysis of section 105

*invention made, used or sold: Here, as per the definition under section 100 invention means invention or discovery. The word "made" is not defined under the section and does not appear under any of the sections under this Part [except twice in section 102(g)(1) to convey a definitive meaning. Reliance may, however, be placed on the definition of "made" as supplied in 42 USC, Chapter 26, Subchapter-I, Section 2457 (j) (3) ["Property Rights in inventions"], which provides that "the term 'made', when used in relation to any invention, means the conception or first actual reduction to practice of such invention"¹⁶¹. However, the word "made" may also mean the "outcome" from a process [as used section 103(b)(2)(A)¹⁶²].¹⁶³ The meaning of the word "use", going by its usage under that Chapter, means "that which is employed by others" [i.e. a literal meaning as under section 102 (a) and (b)]and also connote "consumed matters or ingredients" in a biotechnological process [as under section 103(b)(2)(A)]. The word "sold" or in its other form "sale" appears in section 102(b)¹⁶⁴ to mean availability in the market against money without restriction. In the context of the section, the word "sold" may encompass transfer, either against money or against other consideration with other States, be it under a specific agreement or otherwise.

<u>**under the jurisdiction or control of the United States</u>: this phrase has its origin from Art. VIII of OST67 where a State of registry is authorized to exercise its jurisdiction and control over its registered space object and over personnel thereof. Unlike the obligatory "shall exercise" used in the text of OST67, here it

¹⁶¹ For entire text see online : <<u>http://www4.law.cornell.edu/cgi-bin/empower</u>> (acc. on 23.10.2002).

¹⁶² Section 103(b) (2) (A): "A patent issued on a process under paragraph (1) (A) {i.e. a biotechnological process using or resulting in a composition of matter} shall also contain the claims to the composition of *matter used* in or *made by that process*". (emphasis added)

¹⁶³ The term "process", as defined under section 100, means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.

¹⁶⁴ Section 102(b): "A person shall be entitled to a patent unless--the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States".
has been accepted that the obligation imposed by the OST67 upon the State of registry is already present upon the US. However, the State of registry may not be a launching State. It may also happen that the US is neither a launching State nor a State of registry but somehow has control of the space object. It is to be noted that to take care of these circumstances there has been a conscious use of a disjunctive "or" in between the words "jurisdiction" and "control" unlike a conjunctive "and" in article VIII of OST67, which only means its application by the State of registry. "Jurisdiction", by implication, means territorial jurisdiction and thus application of the domestic law of the US.¹⁶⁵ Further support to this contention is derived from the statement made by Mr. Gimeno, the NASA representative in a workshop in Paris convened by ECSL and ESA in December, 1994, in IPRs and space activities. Mr. Gimano noted that "in the rare event that there is neither registration nor an international agreement governing the issue, the US may be by virtue of physical control (such as ownership. Launch, and exercise of telemetric commands) factually establish that an invention was made, used or sold on an object under US control and therefore the US for patent law purposes."166

<u>***within the United States for the purposes of this title</u>: Title 35 provides for the patent provisions. The word "within" signifies the territorial jurisdiction of the US so as to connote the extended application of its IP laws to outer space. Any IP in space will be treated as if they are generated on the physical territory of the US for its domestic legislation to apply, including questions of export control, national security and competition laws.

¹⁶⁵ The chances of applying the interpretation that 'any space inventions occurring on a space object carried on the registry of a foreign State will be deemed to under control of US', was negated by the Official Senate Report 101-266 dated April 19, 1990. This report, on this nature of the Space Act firmly excluded such an interpretation of the text when it actually carried on a space object registered by a foreign State. Thus it is not applicable in ISS modules. See: First ESCL/Spanish Centre for Space law work shop on Intellectual Property Rights in Outer Space, Madrid, May 26, 1993 at p. A.3.6.

¹⁶⁶ Michael A. Gorove et al , ECSL and ESA Provide World wide Perspective on Intellectual Property Rights and Space Activities, a Report, 1995 Journal of Space Law , Vol.23 (1) p.67.

<u>****that is specifically identified and otherwise provided for by an international</u> <u>agreement to which the United States is a party</u>---- This "identification" envisages determination and is succeeded by the word "and" to imply its usage in respect of the IGA. The open wordings, however, keeps open any other agreement that may be entered into by the US with others at a later stage and sets in advance a prerequisite of the application of this Act in any of its negotiations.

*****that is carried on the registry of a foreign state in accordance with the <u>Convention on Registration of Objects Launched into Outer Space</u>—the use of this phrase in context with the paragraph is a balance between the OST67 and the IGA. It is to be kept in mind that this amendment came into being in 1990 after the execution of IGA88. Where OST67 ensures exercise of jurisdiction and control in respect of the State of registry, the internal clauses of the IGA made it possible for the US to exercise overall control and management over the elements of ISS. The US, not being the State of registry for all the other modules, such exercise of management or control would have otherwise been contrary to OST67 unless it is specifically agreed by the Partners in IGA. This has been reflected in the wording of this paragraph [section 105 (b)].

Thus, the US approach is to consider "any object launched into outer space to be a facility that is under the jurisdiction of the launching nation for the purpose of determining the IPRs that are applicable to any activities occurring on the object and, consequently, US jurisdiction may be established either by US registration or via international agreement".¹⁶⁷The Act, while extending the protection of US intellectual property legislation to outer space and respecting the restrictions of the OST67, accommodated the scope of private entity participation and commercialization of IPs in outer space.

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¹⁶⁷ Statement made by NASA representative Mr. Gimeno, as cited in Michael A. Gorove et al , ECSL and ESA Provide World wide Perspective on Intellectual Property Rights and Space Activities, a Report, 1995 Journal of Space Law, Vol.23 (1) p.67.

4.2 ANALYSIS OF THE DIFFERENT PROVISIONS IN IGA98 REGARDING IPS.

The venture, which started as long ago as 1982, ended its first round in 1988 with the execution of IGA88 and President Clinton's declaration to thoroughly reconsider the ISS project due to national budgetary constraints. During this period the cold war ended. With the end of the cold war there was an inevitable reorientation of world politics and international relations with a consequent impact on the ISS project. The US- Russian Federation negotiations, conducted in an environment of cooperation, to allow Russians to join the ISS project came out successful. "On December 6, 1993, in the IGA conference held in Washington, an official decision was made to invite Russia as one of the Partners of the ISS program, and later, Russia accepted the joint invitation by Japan, Europe, and Canada. In March 1994, the total ISS structure and development schedule, including elements provided by Russia, were decided. On January 30, 1998, in Washington, DC, a new ISS IGA with new members,- Russia, Sweden, and Switzerland,- was signed. Under this IGA, the total number of countries participating in the ISS program grew to fifteen.¹⁶⁸

"The new IGA is still consistent with the closed partnership approach"¹⁶⁹ and therefore a "closed treaty". There is no provision or liberty for other States to joining it. IGA was the *primary* framework under which different agreements were signed; those agreements are the *secondary* bilateral Memorandum of Understandings [MOUs] signed between NASA and CSA, NASA and ESA, NASA and RF, NASA and Japan and supported further by the *tertiary* implementing arrangements.

The Legal hierarchy ensured that in case of any conflict, MOU provisions will prevail over the implementing arrangements. In case of inconsistency between IGA and a MOU –the IGA will prevail.

¹⁶⁸ NASDA, International Space Station (ISS) and Japanese Experiment Module (Kibo); For details see online: <<u>http://jem.tksc.nasda.go.jp/iss/index_e.html</u>>. (acc. on 21.10.2002).

¹⁶⁹ A. Farand, "Space Station Cooperation", in ESA Bulletin, (No. 94, May 1998) at p.51.

For the purpose of this thesis, the most important set of provisions which the IGA put forward are the ones on intellectual properties and those on the exchange of data and goods. The provision relating to utilization (article 9) of the ISS is also relevant and has some bearing to this discussion.

4.2.1 Intellectual property:

Article 21, provides for the Partners' concerns to protect the Intellectual Property Rights arising out of International Space Station activity. "The Partner's main objective in this respect was to prevent, and if necessary provide remedies for, the infringement of rights owned by a Partner"¹⁷⁰.

Apart from using the same definition of 'Intellectual property' as used by the WIPO Convention¹⁷¹, Article 21 attempts to resolve problems regarding the IPRs generated, developed and used on board the Space Station in conformity with the principles laid down in OST67. However, Article 20 also provides for technical data and goods which also can be considered relevant for the purpose of discussion relating to IPRs. The adoption of the same definition of IP as that of WIPO Convention, in this author's view, has two points of significance. Firstly, it will not leave any ambiguity in categorization and interpretation of what possibly could have generated misunderstanding and confusion in the Space Station in regard to the space activities therein. Secondly, the Member States who are parties to the WIPO Convention are the Partners in IGA98 and adopting a definition which was previously agreed by all will not only enhance the sense of cooperation but strongly secure a bond of a miniature closed union.

The basic principle on which the provisions on IPRs proceed in the ISS is the extension and applicability of the territorial jurisdiction of the State of registry of the element where IPs would be generated, used or transferred. Therefore the domestic laws of the State of registry of the element will apply for both its acquisition and protection against infringement.

¹⁷⁰ Farand, *supra* note 154 at 41.

¹⁷¹ For definition of IPs in WIPO Convention, 1967, please see Chapter 1.1.1.

"The two main questions dealt with [in IGA98] are acquisition of Intellectual Property Rights over the results obtained from the activities carried out on board the space station and protection against infringement on intellectual property rights granted on Earth occurring on board the Space Station"¹⁷².

There is, however, a legal fiction when Article 2 (2) reads that "for any elements registered by ESA, any European Partner may deem the activity to have occurred within its territory". Fifteen sovereign States, who comprise this "European Partner", can not have a single territory as the other Partners in the Agreement. To convert this legal fiction into reality there has to be harmonized and standardized European national legislation. Steps have long been initiated towards that end. The process of such harmonization started in 1973 with the signing of European Patent Convention [EPC]¹⁷³ in Munich on October 5 and continued thereafter with Community Patent Convention [CPC]¹⁷⁴. "In the area of intellectual property rights, it [EEC]¹⁷⁵ plays a very important part in the convergence of national legislation required for the proper functioning of the common market"¹⁷⁶ In case of an invention by a person who is not a national or resident of the flight element where he has made the invention, the Partner of the said element where such invention is made shall not apply it's law concerning secrecy of inventions to prevent the filing of a patent application in any other Partner State that has

¹⁷² Balsano, *supra* note 150 at 161.

¹⁷³ A European patent confers on its proprietor, in each Contracting State for which it is granted, the same rights as would be conferred by national patent granted in that State, If the subject-matter of the European patent is a process, the protection conferred by it extends to the products directly obtained by that process. Any infringement of a European patent is dealt with by national law. The term of the European patent is from the date of filing of the application. See online: as twenty years http://www.hpo.hu/Magyar/gl/eesze.html.acc on 30.10.2002.> (acc. on 21.9.2002).

¹⁷⁴ Community Patent Convention of 12/15/1975 as modified O.J. L 401/10 (Dec. 30/1989). For details see: http://www.law.nyu.edu/weilerj/unit10/UnitX08.htm> (acc. on 31.10.2002).

¹⁷⁵ See Under Part III (Community Policies), Title VI (Common Rules on competition, taxation and approximation of law), Chapter 3 (approximation of law), the Treaty Establishing the European Community, Article 94 :" The Council shall, acting unanimously on a proposal, from the Commission and after consulting the European Parliament and the economic and Social Committee, issue directives for the approximation of such laws, regulations or administrative provisions of the Members States as directly affect the establishment or functioning of the common market".

¹⁷⁶ Balsano, *supra* note 150 at164.

similar security laws which provides for the protection of the secrecy of the patent application (containing classified information or information that is otherwise protected for national security reasons)¹⁷⁷. However, "every Partner country in which a patent application is first, or subsequently, filed has the right to control the secrecy of such patent application or restrict its further filing"¹⁷⁸.

For example a Japanese astronaut makes an invention on the US module /element. This act will result in the following:

- (i) Right of the astronaut to file the application for patent without consideration of US Secrecy Act^{179} ;
- (ii) Obligation on the part of the US not to apply US Inventions Secrecy Act on him;
- (iii) Obligation on the astronaut to choose any of the Partner countries to file application for patent whose law contains provisions for the protection of the secrecy of the patent application if it contains classified information or information that is otherwise protected for national security purposes;
- (iv) Rights of the Partner State where the astronaut has filed the Patent application first, to either (a) control the secrecy of such patent application or (b) restrict its further filing; and
- (v) Rights of the Partner state where the astronaut has filed the Patent application subsequently (if there has not been any restriction already imposed by the Partner State of the earlier filing), to either (a) control the secrecy of such patent application or (b) restrict its further filing.

There has been a conscious effort by the drafters¹⁸⁰ to negate the possibility of multiple recoveries against the same act of infringement by a person or entity, taking advantage of the different set of domestic laws in European Partner States. The patentee has to choose the country where he will bring action for infringement. "...the difference between national laws will have a great impact, because the patentee will choose the State whose legislation is the most

¹⁸⁰ See article 21 (4) IGA98.

¹⁷⁷ See Article 21(3) of IGA98.

¹⁷⁸ O. Vorobieva, "Intellectual Property Rights with Respect to Inventions created in Space", in Sa'id Mosteshar, ed., *Research and Invention in Outer Space, Liability and Intellectual Property Rights* (The Netherlands: Martinus Nijhoff Publishers and International Bar Association, 1995), Chapter 15 at p.181.

¹⁷⁹ US Invention Secrecy Act, 35 USC 181-184.for details about US secrecy policy discussions see online: http://www.fas.org/sgp/othergov/invention/program.html (acc. on 31.10.2002).

favourable for him. In a case when the invention is owned by two or more European Partners, the court may grant a temporary stay of proceedings in a latter filed action pending the outcome of the earlier filed action"¹⁸¹. To ensure uniform protection of the IPRs in each of the European States and to avoid conflict and litigation a license granted by one of the European Partner State should be recognized by another European State as well. This may have been contemplated by the drafters, to arise in case of an activity occurring in or on an ESA-registered element. The agreement under the same paragraph ensures that "compliance with the provisions of such license shall also bar recovery of infringement in any European Partner state"¹⁸².

Article 21(6) ensures application of the "temporary presence doctrine"¹⁸³.

A. Farand has summed up these provisions by observing that "the negotiators also developed provisions in the IGA that would protect each Partner from adverse legal consequences, such as an inventor being prevented from filing a patent application in one particular country because of provision of one Partner State's laws protecting the secrecy of invention, or the initiation of the proceedings for patent infringement based on the temporary presence, in transit on the territory of a Partner State ensuring the launch, of Space Station contribution of another Partner"¹⁸⁴

The last, but not least, important provision relating to protection of the IPRs in the ISS is through the development of a Code of Conduct for the Space Station crew. In this respect Art. 8.4 of the MOU between ESA and NASA needs special mention. It provides that "In order to protect the intellectual property of the Space station users, procedures covering all personnel, including all Space station crew who have access to data will be developed...". The code of conduct has been incorporated by way of an amendment of 14 CFR Chapter V of the US Statute. It extends to "all persons provided by NASA for flight to the International Space

¹⁸¹ Isabelle, *supra* note 24 at 65.

¹⁸² See article 21(5) of IGA98.

¹⁸³ See Chapter 1.3.4.1 for discussion of "temporary presence doctrine".

¹⁸⁴ Farand, *supra* note 154 at 42.

Station, including U.S. Government employees, uniformed members of the Armed Services, U.S. citizens who are not employees of the U.S. Government, and foreign nationals"¹⁸⁵.

The most important provision regarding intellectual property protection binds the ISS crewmembers who is "any person approved for flight to the ISS, including both ISS expedition crew and visiting crew, beginning upon assignment to the crew for a specific and ending upon completion of the post flight activities related to the mission"¹⁸⁶ The code of conduct prescribes that "ISS crewmembers shall act in a manner consistent with the provisions of the IGA and the MOUs regarding protection of operations data, utilization data, and the intellectual property of ISS users. They shall also comply with applicable ISS program rules, operational directives, and management policies designed to further such protections"¹⁸⁷.

"On 15 September 2000 in Washington DC, the Multilateral Coordination Board (MCB), the highest-level cooperative body established by the Memoranda of Understanding (MOUs) pertaining to the International Space Station (ISS) Programme signed early in 1998 by NASA and each of the Cooperating Agencies designated by the other ISS Partners (i.e. the Russian Space Agency, ESA, the Government of Japan and the Canadian Space Agency), approved the Code of Conduct for International Space Station Crews".¹⁸⁸

¹⁸⁵ 14 CFR Chapter V PART 1214-(SPACE FLIGHT), Subpart 1214.4---(International Space Station Crew), Sec. 1214.401 (Applicability).

¹⁸⁶ 14 CFR, Chapter V PART 1214-(SPACE FLIGHT), Subpart 1214.4--International Space Station Crew, Section 1214.403 (Code of Conduct for the International Space Station Crew), I. (Introduction), C. (Definitions), (7) "ISS crewmembers".

¹⁸⁷ 14 CFR, Chapter V PART 1214-(SPACE FLIGHT), Subpart 1214.4--International Space Station Crew, Section 1214.403 (Code of Conduct for the International Space Station Crew), V. (Physical and Information Security Guidelines).

¹⁸⁸ For more details see online: <<u>http://esapub.esrin.esa.it/bulletin/bullet105/faran105.pdf</u>.> (acc. on 23.10.2002).

4.2.2 Transfer of Technical Data and Goods

Article 19, to the extent of its relevance to this thesis, deals with obligations regarding transfer of data and goods. The obligation is apparently limited as it is subject to the fulfillment of certain conditions. "...[T]he obligation to transfer is related to the fulfillment of the requesting Partner's responsibilities, not the responsibilities of the requested Partner, and also such obligation is related to data and goods which are considered by both the Parties to such transfer, to be necessary for fulfilling the above mentioned responsibilities"¹⁸⁹.

Thus, there are two simultaneous interdependent determinations to be done: (a) determination by both the Partners that the transfer of such data and goods is necessary and (b) determination that such transfer is being done towards fulfillment of the responsibilities of the requesting Partner's cooperating agency under the relevant MOUs and implementing arrangements. The third determination option rests on a requested State to determine whether such transfer will be in violation of its domestic laws and regulation, and thus is a tool to restrict and refuse transfer.

The Partners are under obligation to make their best efforts to expeditiously handle requests for authorization of technical data and goods transfer made by and to the person and entities other than the Partners or their cooperating agencies. However, such transfers will be subject to national laws and regulation.

Article 19(3) provides for the applicability of the degree of restriction on the transfer of technical data and goods depending on their nature. Those transfers of data and goods which are done "for the purpose of discharging Partners' responsibilities with regard to interface, integration and safety, ... are without any restrictions unlike those which involve 'detailed design, manufacturing, and processing data and associated software that are necessary for integration, interface and safety purposes' which may be restricted under national laws and regulations". A close look at this paragraph will reveal that there are more restrictions imposed by way of obligations, than freedoms of transfer of data and goods under these provisions. The "furnishing cooperating agency" is under an

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¹⁸⁹ Farand, *supra* note 154 at 40.

obligation to specifically mark with a notice or otherwise make identifiable the technical data or goods which are required to be protected: (a) for export control purposes¹⁹⁰, (b) for proprietary rights purposes¹⁹¹ and (c) as classified¹⁹². Starting from the restriction by specification regarding the mode of use of such data and goods, there are other restrictions such as (i) conformity with "security of information agreement or arrangement" [which the Partners through their Cooperating agencies are obliged to establish under article 19(8)] and (ii) consensus of both the parties to transfer, depending on the particular situation. In this context a mention of a particular provision is quite relevant. Article 13(4) demands each Partner to respect (a) the proprietary rights in and (b) the confidentiality of the utilization data while passing through it's ground network (which includes its contractor's communication systems) when that Partner is providing communication services to another Partner.

The above discussion shows that, in order to give adequate protection to the transfer of technical data and goods, as mentioned earlier, or to the utilization data through communication systems, it is not always the *de jure* implementation through the provisions of the legal hierarchy of Agreement, MOUs and implementing arrangements, but more through *de facto* implementation under the existing corresponding national laws. In the absence of any such national laws which cover such actions or protections, it induces the Partners to formulate or bring their national laws in conformity with and to give effect to IGA98.

4.2.3 Utilization

The relevancy of the "utilization" clause in relation to IPRs will arise when real utilization of the space station will begin, as it will be an important issue in regard

¹⁹⁰ See Article 19 (3)(a) of IGA98.

¹⁹¹ see Article 19 (3)(b) of IGA98.

¹⁹² see Article 19 (3)(c) of IGA98.

to the protection of IPRs. Article 9 of IGA98¹⁹³, will create the necessity of understanding the apparently complex percentage ratios regarding both the share and use of user accommodation and allocation of space resources which the Partner States have to follow in terms of a thoroughly worked out MOU scheme. As clearly mentioned in the last sentence of article 9 (1), "Partner's specific allocations of Space Station user elements and resources derived from Space Station infrastructure are set forth in the MOUs and implementing arrangements". Article 9 (2)¹⁹⁴, while giving a right to the Partners to transfer any portion of their allocation (essentially including IPRs generated therein), imposes some restrictive trade practices. The terms and conditions of such transfer/transactions have to be determined ¹⁹⁵ on a case by case basis including the choice of selection of the users of their allocations¹⁹⁶. Thus, in a way, the freedom of transfer of IPRs in the form of "allocation use" or "allocation barter or sell" is restricted.

The discussion regarding IPs relating to ISS will never be complete without a mention of a relevant provision in the IGA98 relating to IP claims. Article 16 (3)(d) (4) specifically, through its *nonobstant* clause, establishes that no cross waiver of liability will apply in case of IP claims. This, in simple words, means that any IP claims that may arise out of any space operation (be it "protected space operation" as defined under the article or otherwise) between the State Partners or entities under them or the employees thereof will not be waived under this cross waiver of liability article. The *nonobstant* clause ensured a blanket bar to the exercise of such waivers of liability in respect of IP claims arising out of the

¹⁹⁶ See. Article 9 (3), ibid.

¹⁹³ Article 9 (1): "utilization rights are derived from Partner provision of user elements, infrastructure elements or both. Any Partner that provides Space Station user element shall retain use of those elements, except as otherwise provided in this paragraph. Partners which provide resources to operate and use the Space Station, which are derived from their Space Station infrastructure elements, shall receive in exchange a fixed share of use of certain user element.....".

¹⁹⁴ Article 9(2):" The Partners shall have the right to barter or sell any portion of their respective allocations. The terms and conditions of any barter or sale shall be determined on a case-by-case basis by the parties to the transaction".

¹⁹⁵ In authors view the word 'to be determined' entails the determination criteria by the other Partners or by a Partner after consultation with other Partners thus letting into it a strict sense of discretion in the hand of other Partners to restrict a particular transfer.

"genuine partnership" between the State Partners, their entities or employees thereof.

4.3 SOME OTHER NATIONAL LEGISLATION

An appraisal of the other relevant national laws which are not exclusively but to some extent applicable regarding IPRs in outer space is necessary to conclude this chapter.

<u>Germany</u>: An invention made in space is patentable in Germany. In regards to the use or infringement of nationally protected inventions in outer space, the situation is different; the patentee was protected within the State borders and national air space.¹⁹⁷

<u>Russian Federation</u>: "Laws of Russian Federation on Space Activity, 1993 contains several provisions, which give a base to consider the Russian legislation, including the Patent law, applicable to an activity on board a space station and to the result of such activity when the space object is registered in Russia and outside the jurisdiction of any other State."¹⁹⁸

Japan: By virtue of Article 21 of the IGA, Japanese Patent law has been made applicable to space activities, which otherwise would not be the case.¹⁹⁹

<u>India</u>: Though it does not have a direct law applicable to activities occurring on space objects, by analogy to the application of India's law of admiralty, Indian IP laws could be extended to Indian registered spacecrafts or objects.²⁰⁰

¹⁹⁷.Source: First ESCL/Spanish Centre for Space law work shop on Intellectual Property Rights in Outer space, Madrid, may 26, 1993. Annex-4 at A.4.5.

¹⁹⁸ Statement made by O. Vorobieva representing Russian Institute of State and Law, as cited in Michael A. Gorove et al, ECSL and ESA Provide World wide Perspective on Intellectual Property Rights and Space Activities, a Report, (1995) Journal of Space Law, Vol.23 (1) p.67.

¹⁹⁹ This view has been expressed by Mr. Takayuki Yokoo representing NASDA in the workshop convened by ESA and ECSL in December 1994, Source: ECSL and ESA Provide World wide Perspective on Intellectual Property Rights and Space Activities, a Report, (1995) Journal of Space Law, Vol.23 (1) p.67.

It is, however, the view of this author that the national IP laws of many countries in the world are compatible for extended application regarding IPRs in outer space because of two fundamental reasons:

- (a) their domestic laws does not prohibit such extension, and
- (b) they follow the first-to-file system and consequently the place of invention becomes irrelevant for patent protection.

4.4 THE TWO LEADING CASES

It will be incomplete to end this chapter without mentioning about the two leading cases involving IPRs and space activities. They are, in view of this author, relevant in the context of this chapter in as much as they involved issues of IPRs and outer space activities. However, for reasons narrated below, this author feels, the cases do not necessitate analysis but a contextual consideration.

The leading case of TRW²⁰¹ regarding patent protection, and having some bearing on IPRs in space, is an example of an inefficient monitoring system of IP practices and grants. If a State intends, attempts or continues (by way of allowing a domestic system to operate and function in the form of IP grants) to violate the principles of a treaty to which it is a party, it is more of a diplomatic problem involving international political sanctions (as is generally done in Public international law enforcement by way of cross retaliations or block sanctions) than of general IP issues. The legitimacy of such a grant is subject to the effective implementation and enforcement of foreign judgments. There are two interlinked methods of achieving that according to the author. Firstly, Countries may disallow such patent grant by the inclusion of a particular provision in their domestic legislation, that any grant which is a threat to the violation of the principles of the international documents to which they are a party will be refused. This will not

²⁰¹ TRWv. ICO Global Communications is based on a claim by a company TRW who planned to launch 12 satellites at a particular altitude in MEO. Another company named ICO Global Communication was planning to do the same. TRW filed the first patent with the US Patent and Trademark Office to protect its systems and decided to sue ICO Global Communications in Los Angeles Court claiming that ICO had infringed on its patent.



²⁰⁰ According to Pravin Anand. He represented India in the workshop convened by ESA and ECSL in December 1994, Source: ECSL and ESA Provide World wide Perspective on Intellectual Property Rights and Space Activities, a Report, (1995) Journal of Space Law, Vol.23 (1) p.69.

only discourage such patent grants but also send a message to the world as to the obligations to live up to commitments under the international documents to which a State is a party as well as also foster international cooperation an understanding. This may also send a message to the countries indulging in such unfair practice to think twice before bringing an action against any national of that other country for any alleged violation of any of such patents granted and recognized by them. Secondly, the country by clearly prohibiting such grants will be able to block any such grant under an international common application under the Patent Cooperation Treaty. Thus, there is a reasonable possibility that if all countries are determined to preserve the sanctity of their treaty obligations and enforce or implement the blocking of patent grants which are in violation of treaty obligations in the manner stated above, or by other cross retaliatory measures (maybe in international trade relations), the offending State will do necessary reforms to ensure compliance with their treaty obligations.

The second case that is relevant here is that of Hughes Aircraft Company (HAC)²⁰² where a patent concerning a method for orbiting and maintaining satellite attitude on orbit was granted. In the author's view, this is a reasonable grant in the commercial aspects. It does not violate the non appropriation principle. It may, however, put some questions as to the ethical values related to the OST67. Is this a violation of any of the treaty obligations arising out of OST67? The answer may be in the negative because of the fact that such invention is more of a technological advancement of a particular method of doing something relating to the function of a particular type of engineering device or object. A person (be it a national or a State) who develops such a thing is entitled to take benefit out of it and commercially exploit it under the classical definition of IP law which ensures "the IPR is a competitive weapon, whose practical goal is

²⁰² Hughes Aircraft Co. v. United States, 29 Fed. Cl. 197 (1993). In this case Hughes, who patented on a particular system which could stabilize a space vehicle, sued NASA for infringing Hughes's patent right by using the same technology in many of its spacecrafts.

to secure ad enforce a temporary monopoly for the owner."²⁰³ This will encourage and even compel others to come up with a parallel invention and development. An invention involving millions of dollars is surely commercial in nature and any expectation (in whatever form involving ethics and values) that a State should hand over its well-earned technology to others without any benefit is mere wishful thinking.

The conflict between IP laws and OST67 in terms of IP issues has been supported by scholars like Bradford Lee Smith, but to the author it has really became a moot point after the indirect sanction of the world community in form of UN resolution as discussed in this thesis, and State practices, by starting to extend domestic IP laws into outer space.

It must also be noted that IGA 98, which remained the only multilateral document reflecting international cooperation in space, also follows OST67 and has no direct conflict with it regarding its IP provisions. It has through Article 2(c) spelled out that nothing in that Agreement (for that matter ISS) is to be treated and deemed to assert a claim to national appropriation over outer space or any part thereof. It has harmonized the principles of OST67 into the agreement in regard to IP laws, too. Under article 21(2) it provides that the State owning an element will have territorial jurisdiction over such element and it will not be altered or affected by any other State's participation in that element in such activities. Therefore, not only territorial sovereignty is maintained but also the laws of that State will apply in that element and for materials produced, used or sold in it.

²⁰³ Bradford Lee SMITH, Towards a Code of Conduct for the Exercise of Intellectual property Rights (IPR) in Space Activities—Moderation of the Monopoly?, Colloquium organized by CERADI-LUISS-GUIDO CARLI and European Centre for Space law/European Space Agency, November 11, 1996, Roma.

4.5 CONCLUSION

The commercialization potential of IP rights generated (including production and utilization of technical data and goods), made or transferred in, on or even at ground stations relating directly to outer space activities necessitates application of a high degree of IP protection and information security. For extra level of protection may also result either by formulation of or amendments to national laws.

The examples set out by States in applying their territorial laws in outer space, as Bin Cheng thinks, "is because most systems of municipal laws are designed to apply domestically within the territory of the State. And often have no extra territorial application, with the result that, as in the early days of civil aviation, aircraft flying over the high sees or no man's land were frequently without any system of general criminal law applicable on board. The now is true for the spacecraft." ²⁰⁴ With the commercialization of outer space it has become increasingly important for States to extend and apply their domestic laws in outer space.

However, it has to be done with the utmost caution for the organized and disciplined utilization and exploration of space since application of the territorial domestic laws in outer space may bring with it a reasonable apprehension of a claim of sovereignty in outer space. Such a claim is expressly prohibited under OST67. The formulation of those laws should be such so as to ensure appropriate applications that are not only compatible with the principles laid down in the OST67 but also for the establishment of uniformity in the applied rules.

The generation, use and trading or marketing of IPs in Outer space will require laws, too. For all practical purposes, and to minimize the chances of conflict of laws which may result due to divergence (intra-territorially or inter-territorially or

²⁰⁴ Bin Cheng, *supra* note 116 at 94.

extraterritorially) of different set of laws, it is more justifiable to extend the territorial laws into outer space and to strike a balance between them. That, however, should not be done with a view or attempt to claim sovereignty or appropriation, but only for a proper administration of outer space activities.

IGA98 and the US Patent in Space Act may be said to lay down the framework and platform from where future developments in drafting more comprehensive and detailed, non-conflicting, uniform laws and regulation may start to emerge, extending applications of more national legislation into outer space. It also lays down a platform of trading with the IPs not only in outer space but also the same IPs on the ground. This, however, entails two important consequences: (a) to understand the present framework in regard to modern day international trade and (b) to find an answer to the question as to whether the present WTO framework is sufficient to accommodate the trading of space inventions or IPs between States. If not, then whether it can be interpreted in a manner to make such trading possible within such a framework.

PART-II CHAPTER- 5

WORLD INTELLECTUAL PROPERTY ORGANIZATION AND IPS IN SPACE

5.0 INTRODUCTION

The WIPO has 177 member States. It is based in Geneva and is responsible for all matters related to intellectual property, including the promotion of intellectual property protection around the world. The mandate of the WIPO is "to promote the protection of intellectual property worldwide". IPRs in space are surely an international IP issue and the WIPO, as the organization equipped with the expertise, experience and resources, is the competent body to address them.

5.1 WIPO—HOW HELPED FORMING INTERNATIONAL COMMON IPRS SYSTEM AND HARMONIZING THEM.

The desire to protect and commercialize industrial inventions, trademarks drawings and copyright beyond the territorial boundaries of a single nation led to the creation of the Paris Union system in 1883. The Berne convention of 1886, devoted to protection of literary and artistic works, was the next major international treaty on IPs.

With the establishment of the WIPO, on July 14, 1967 the first international organization of the United Nations system dedicated to promoting the use and protection IPRs throughout the world, harmonization has been attempted to make IP laws uniformly administered through out its member States.

The Paris Convention provided for a uniform protection within the Union but failed to provide a uniform filing procedure. Thus the owner had to file separate applications to register for a patent in each foreign State. This gap was bridged by virtue of the Patent Cooperation Treaty of June 1970 [hereinafter PCT]²⁰⁵ under the auspices of the WIPO when the concept of an "international application" procedure was introduced, thereby laying a procedure for filing a common application in order to get protection in the foreign States that are signatories to the Treaty. It also created a similar "international search" system regarding "novelty" and "inventive step" of an invention.

The most successful and widely used treaty under the WIPO auspices is the Patent Cooperation Treaty (PCT) which implements the concept of a single international patent application having the legal effect in the countries which are bound by the treaty and which have designated by the applicant. This system consolidates and streamlines patenting procedures and reduces costs providing applicants with a solid basis for important decision making. Therefore, if any inventor, be it the government, a government agency or an individual natural or juristic person, wants to acquire patent rights by way of registration in foreign countries without losing the valuable time which is generally lost due to procedural hazards in different countries, he is afforded an opportunity to take advantage of this mechanism and get the benefit of the uniform date of registration throughout those foreign countries. This harmonization of procedure in the process of acquisition of Patent rights for inventions (including those made in outer space) has led to a global consolidation of IP acquisition procedures and paved the way toward the harmonization of registration procedures of other IP rights as well.

The Countries (like Canada) that are parties to the Paris Convention for Protection of Industrial Property enjoy some extra advantage. This treaty allows to invoke what is called "Convention Priority", which means that the "filing date" in one of the member States will be recognized by all the others, provided the applicant files the application in those countries within one year of the first filing.

It is noteworthy that, in whichever way one applies, he is bound by respective national patent statute and rules where he applies(which may differ from the

²⁰⁵ Patent Cooperation Treaty, done at Washington on June 19, 1970, amended on October 28, 1979, and modified on February 3, 1984. The text of the treaty is available at online: http://www.wipo.int/clea/docs/en/wo/wo021en.htm> (acc. on 20.10.2002)

domestic laws of the inventor). Only nationals and/or residents can file an application under PCT in their own country.

At present, the WIPO administers some 23 treaties in the field of intellectual property. the WIPO has classified these treaties into three groups²⁰⁶:

- (1) Intellectual Property Protection Treaties²⁰⁷- this group of treaties defines internationally agreed basic standards of intellectual property protection in each country
- (2) Global Protection System Treaties²⁰⁸ –this group of treaties ensures that single international registration or filing will have effect in any of the relevant signatory States thus reducing the cost of making a number of applications and filings in all the countries in which protection is sought for a given intellectual property right.
 (3) Classification Treaties²⁰⁹—this group create classification systems that
- (3) Classification Treaties²⁰⁹—this group create classification systems that organize information concerning inventions, trademarks and industrial designs into indexed, manageable structures for easy retrieval.

The role of the WIPO is not limited to ground IPs. It is widening in every field of IP including those relating to outer space.

The WIPO's endeavor to harmonize the existing regulations or to develop a common practice regarding protection of IP through elaborated study, research and analysis of the problems which characterized IP protection and space

²⁰⁶ For details of all the treaties see online:< <u>http://www.wipo.org/treaties/</u>> acc. on 20.9.2002

²⁰⁷ 1. Berne Convention for the Protection of Literary and Artistic Works; 2. Brussels Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite; 3. Geneva Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of Their Phonograms; 4. Madrid Agreement for the Repression of False and Deceptive Indications of Source on Goods; 5. Nairobi Treaty on the Protection of the Olympic Symbol; 6. Paris Convention for the Protection of Industrial Property; 7. Patent Law Treaty (PLT); 8. Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations; 9. Trademark Law Treaty (TLT); 10. WIPO Copyright Treaty (WCT); 11. WIPO Performances and Phonograms Treaty (WPPT).

²⁰⁸ 1.Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure; 2. Hague Agreement Concerning the International Deposit of Industrial Designs; 3.Lisbon Agreement for the Protection of Appellations of Origin and their International Registration; 4. Madrid Agreement Concerning the International Registration of Marks ; 5. Patent Cooperation Treaty (PCT)

²⁰⁹ 1. Locarno Agreement Establishing an International Classification for Industrial Designs; 2. Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of the Registration of Marks; 3. Strasbourg Agreement Concerning the International Patent Classification; 4. Vienna Agreement Establishing an International Classification of the Figurative Elements of Marks.

activities is effected through its organization and participation in different conferences, workshops. Notable instances of them are:

- (i). the 1994 workshop in $Paris^{210}$;
- (ii). WIPO's program for the 1996 97 biennium²¹¹
- (iii). WIPO-IFIA International Symposium on Inventors and Information $Technology^{212}$.

It is pertinent here to mention that WIPO in 1994 established the WIPO Arbitration and Mediation Center to offer arbitration and mediation services *inter alia* for the resolution of international commercial disputes between private parties involving IPRs involving space activity²¹³.

The forthcoming events include WIPO-IFIA International Symposium in the 2002 Seoul International Invention Fair on December 4, 2002.

According to WIPO's Revised Draft Program and Budget for 2002-2003 (WO/PBC/4/2)²¹⁴, the Standing Committee will investigate the desirability and

²¹² Jointly organized by the World Intellectual Property Organization (WIPO) and the International Federation of Inventors' Associations (IFIA) with the cooperation of the Association of Hungarian Inventors and the Hungarian Patent Office, Budapest, March 16 to 19, 1998: WIPO/IFIA/BUD/98/1A; The symposium admitted that the IT age itself is the product of a series of diverse discoveries and inventions, which in turn are intellectual products and leads to intellectual properties. It expressed the need of broad and strong education policies and programs support, to foster future inventions and discoveries in the field of IT, which is primarily becoming a space activity. See online: <<u>http://www.wipo.org/eng/meetings/1998/ifia_98/pdf/ifia_1a.pdf</u>> (acc. on 16.11.2002).

²¹³ Disputes regarding domain names necessarily encompass IPRs related to space and are arbitrated or mediated here. Fore details see online: <<u>http://arbiter.wipo.int/domains/index.html</u>> (acc. on 14.11.2002).

²¹⁴ For details see online : <<u>http://www.wipo.int/eng/document/govbody/budget/2002_03/rev/pbc4_2.htm</u>> and <<u>http://www.wipo.int/eng/document/govbody/budget/2002_03/rev/toc.htm</u>> (acc. on 16.11.2002).

²¹⁰ Organized in December 1994 in Paris by ESA and ECSL. The Workshop focused on the global aspects of IPRs and space activities and aimed at identifying the requirements of the various players in the space area, with respect to intellectual property protection. ECSL News No. 15.*Published September 1995.* online: <<u>http://esapub.esrin.esa.it/ecsl/ecsl15/ecsl15/ba.htm</u>> (acc. on 25.10.2002)

²¹¹ Provides for an activity concerning inventions and artistic creations made or used in outer space. The International Bureau of WIPO will study the desirability and feasibility of adopting rules and/or recommending principles, common to all countries and interested intergovernmental organizations, for the intellectual property protection of inventions and literary and artistic works created or used in outer space. ESA was invited to participate in this study. ECSL News No. 16 *Published May 1996*. online : http://esapub.esrin.esa.it/ecsl/ecsl16/other16.htm> (acc. on 25.10.2002)

feasibility of providing rules relating to the industrial property aspects of space law.²¹⁵

5.2 WHETHER IP ARISING OUT OF OUTER SPACE ACTIVITIES COMES WITHIN WIPO DEFINED IP RIGHTS

The IPs which may be generated in outer space may be qualitatively somewhat special due to the unique environment of outer space. The results of micro gravity may attribute some uniqueness to them unlike similar ones generated on the ground. There is, however, a host of new trend setting experiments in different fields which will obviously need special treatment. As to the question of the application of IP laws to cover these space generated IP rights, the answer until now is in positive. The countries, by extending their IP laws into outer space, have brought the ambit and scope of application of the same definitions of the IPRs as terrestrial ones. The WIPO Convention, having the most number of memberships, was prudent enough to forward an inclusive definition of IP rights. The IGA98, which may be treated as the only accepted multilateral document having an international flavour and dealing with Space generated IPRs at its outset, adopted the same definition of IPs as of the WIPO Convention. Thereby, the State Partners to the Agreement have unambiguously accepted that the IPRs generated in outer space could be defined and come under the WIPO umbrella of defined IPRs. The Patent in Space Act of the US, though, does not expressly adopt any definition, but considering that it is the principal managing partner of the ISS and its dominant participation in the IGA98 negotiation and implementation only goes to prove that they have accepted the same definitions of space generated IPs as defined by the WIPO.

²¹⁵ See online:<<u>http://www.law.unimelb.edu.au/ipria/intdev/wipo.html#8</u>> (acc. on 16.11.2002).

Past experience in successfully harmonizing patent filings into one international procedure, will surely be WIPO's advantage towards harmonizing legislation in IP protection. Work on harmonization of ground IP protection laws, which has been taken up by WIPO some time ago along with the research and analysis of the problems which characterized IP protection and space activities taken up by it after 1994, will simultaneously address the IP issues more effectively. Even a success in one direction will lead to an opportunity to find the answer for the other. The uniformity in protection is required for a progressive and liberalized commercial environment where these IPRs can be traded or converted into commercial benefits. In light of the growing uniformity of international trade practices, such a uniformity or harmonization of protection is becoming necessary.

CHAPTER-6

IPRs IN OUTER SPACE, THE WORLD TRADE ORDER AND THE TRIPS ACCORD

6.0 INTRODUCTION

There has been a drastic transformation in the general approach towards intellectual properties both in respect of its procedure of registration and protection. The importance of IPRs lies in their convertibility into economic benefits and their simultaneous protection against infringements. Economic benefits mean material gain by way of transfer. From the earlier days of barter to modern e- commerce the functionality has not changed. It is only the perspective and the treatment that has undergone a drastic transformation. Again from the ancient days when one-to-one barter of merchandise was the order of the day to modern times where States are actively participating in the international forum to gain material and even political benefits out of IPR transfers, the importance of IPRs has evidently changed and so has the mode of transaction.

The evolution of the global, liberalized, modern trade system of GATT from the staunch protectionism of individual States has been the result of endless painstaking negotiations. Today's multilateral international trade system where States deal or transact their IPRs globally under some well defined mechanism is under a specialized United Nation body known as 'World Trade Organization'' [in short WTO].

An accomplishment was achieved when the issues of IPRs were brought out from the strict protectionism of the States and placed under a liberalized environment under a common trade framework under the WTO. This was done by way of a negotiated international multilateral trade agreement called Trade Related Aspects of Intellectual Property (commonly known as the TRIPS agreement) under the GATT system of international trade. To appreciate the mechanism of how IPRs are dealt with under the present GATT/WTO system through the TRIPS accord, an overview of the genesis of GATT leading to TRIPS accord is relevant. This Chapter will thus give a brief overview of these beginnings.

This thesis, will explore whether the TRIPS Agreement is able to cater the needs created by space inventions. The answer to the question as to the applicability of the TRIPS accord in cases of space inventions largely depends on the interpretation of the clauses of the said Agreement. Thus, this chapter deals with the various interpretative modalities that are followed in TRIPS including the dispute settlement scheme which may also contribute to such interpretation if any question relating to interpretation is referred to a panel. The most relevant provision in the TRIPS agreement on this issue has been thoroughly discussed in this chapter.

6.1 GENESIS OF GATT/WTO

How international trading system on intellectual properties came into being [Changing phases of world/international trade laws, policies and practices]²¹⁶:

The existing international trading system between developed States, based on laissez faire liberalism, drastically transformed at the outbreak of the First World War. States became highly protectionist in the state of economic crisis which resulted in the Great depression of the 1930s and used mechanisms such as resorting to some stringent economic measures like sharp rises in import duties and other tariff and non-tariff trade barriers.

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²¹⁶ See generally M. R. Islam, *International Trade law*, (Australia: LBC Information Services, 1999) at 3. [hereafter Islam]; Daniel Gervais, *The TRIPS Agreement: drafting history and analysis*,(London:Sweet & Maxwell, 1998); Jayashree Watal, *Intellectual Property Rights in the WTO and Developing Countries* (The Hague:Kluwer Law International, 2001) and Par Hallstrom, The GATT Panels and the Formation of International Trade Law, (Stockholm: Juristforlaget, 1994).

"International trade policy and practice that emerged at this time were dominated by adherence to absolute unilateralism, extreme nationalism and aggressive protectionism"²¹⁷.

To create a competitive advantage, many countries devalued their currency leading to destabilization of the exchange rates. The 1932 Ottawa Agreement²¹⁸ between Great Britain, Canada, Australia and South Africa accorded unconditional preference to imperial trade between Britain and its dominions, which afforded protection to their trade and industries against outside competitors. "The cumulative effect of these measures pushed trading nations from crisis to crisis, accumulating costs to the total volume of world trade until the system collapsed".²¹⁹

After the Second World War the time felt need and urgency of States to reconstruct their economies was the driving force towards their sharp attitudinal change towards international economic co-operation. The emergence of a new era marked by international economic collaboration and collective efforts appeared.

The developed countries were determined and committed to prevent the revival of the interwar period crisis by developing a framework which could give them a chance to formulate common and uniform policies and rules to guide their trade relations. Thus, from the end of the Second World War a new trend emerged whereby the States were interested and inclined to adopt more interactive and collective effort to accomplish their goals in an environment of liberalism. The two major powers –Britain and United States, who believed that liberalism would not only increase trade volumes but would also encourage political freedom, took up the initiative. The League of Nations gave birth to the present day United Nations and was provided with a Economic and Social Council [ECOSOC].

²¹⁷ M. R. Islam, International Trade law, (Australia: LBC Information Services, 1999) at 3. [Islam]

²¹⁸ This agreement established imperial trade relations between great Britain, Australia, Canada and South Africa and was based on unconditional preference and affording protection to the trade and industries of the British Imperial powers and its dominions against its outside competitors.

²¹⁹ Islam, *supra* note 217 at 4.

In March 1946 the Preparatory committee of UN conference on Trade and Employment drafted a new text for an agreement called General Agreement on Tariffs and Trade [hereafter called GATT]. It embodied certain principles of tariff negotiations and subsequent operations of GATT. In April 1947 the first tariff negotiation round began with 15 countries and an agreement was reached on 10.4.47. at Geneva²²⁰. In October 1947; 23 countries signed the Final Act adopted including the text of GATT. The Preparatory committee of UN conference on Trade and Employment prepared a Protocol of Provisional Application of GATT (pursuant to this protocol the temporary application of GATT was made contingent upon signature of 8 key countries: Australia, Belgium, Canada, France Luxemburg, the Netherlands, the UK and the US.

During the 1960s and 70s due to gradual change in economic and political conditions, the volume of trade increased considerably during those decades and so did the production of goods and productivity. The attitude of governments also drifted toward more welfare states. Trade was liberalized by way of minimizing barriers, both tariff and non tariff, through vast trade negotiations- the "Rounds, the "Dillon Round" (1960/61), the "Kennedy Round" (1964-67) and the "Tokyo Round" (1973-79).

Then came the Uruguay Round of negotiations of 1986. The Uruguay Round negotiations not only became the new negotiations extending over tariffs, non-tariff measures, textiles safeguards, subsidies, new emphasized agriculture, but also new areas such as "trade in services" and "trade in Intellectual Property rights".

Negotiations took place within three main "negotiating groups" and in the "group on institution".

Three negotiating groups:

Group 1: This group has dealt with questions of market access i.e. tariffs, textiles & clothing including multifibre agreement, tropical products and agriculture.

²²⁰ This tariff negotiations was conducted on voluntary basis between the leading trading partners to reduce the existing levels of tariffs and margins of preference, and to bind them against any new increase: these results were annexed to GATT schedules vide Article II.

Group 2: This group carried on the negotiations on rulemaking.

- They have: (a) considered the question of extending the prohibition of subsidies to not only include export subsidies but also some domestic subsidies (in particular some subsidies on agricultural production);
 - (b) discussed the strengthening of GATT provision covering anti dumping and countervailing duties (this question involves unfair trade practices); and
 - (c) dealt with rules of origin.

Group 3: This group has dealt with the new issues:

- (a) 47 participants here have negotiated the General Agreement on Trade in Services (GATS). The participants felt that liberalization should be made applicable in 6 sectors telecommunications, construction, transportation, tourism, financial services and professional services.
- (b) Trade related IP rights, including trade in counterfeit goods, was the second new issue and negotiations have lead to an independent agreement (TRIPS).
- (c) The third new area comprised Trade related investment measures (TRIMS).

Negotiating group on Institution:

They mainly dealt with dispute settlement mechanisms.

6.1.1 The coming into existence of WTO

The establishment of an organization to monitor world trade, was the one of the ideas of the Uruguay Round. After a short period of negotiation, the Secretariat summed up the results in mid 1992 in a Draft Agreement and established "Multilateral Trade Organization" (MTO). This MTO would succeed GATT and would respect the rules, decisions and customary practices of GATT (including voting practices of the GATT) and its associated legal agreements (including the Tokyo Round agreements). The GATT 1994, which resulted from the Final Act of

the Uruguay Round, was legally distinct from the GATT 1947. Its existence was not to be conditioned by the "Protocol of Provisional Application". In the last days of negotiations MTO was named as "World Trade Organization" [WTO].

6.2 TRIPS AND ITS NATURE

Intellectual property encompasses many elements which are individually and respectively major subjects in and of themselves. During the last decade the ambit or realm of intellectual property law and practice not only transcended, national boundaries of territoriality but also visualized a drastic transformation as to its outlook and treatment.

The most important factor adding to such change is the recognition of minimum standards in the field of intellectual property within the regional and international trade agreements. The most important of these agreements is the Agreement on Trade Related Aspects of Intellectual Property (the TRIPS agreement). The TRIPS accord affords countries a more effective means of international enforcement of intellectual property rights.²²¹. "The TRIPS Agreement entered into force on January 1, 1995 at the same time as the WTO came into being. It was one of the outcomes of the Uruguay Round. The agreement specifies minimum standards of protection for each of the main categories of intellectual property, building on the main WIPO conventions. The agreement also deals with the effective enforcement of intellectual property rights. Under the TRIPS Agreement, developed countries had to comply with its provisions by January 1, 1996; while developing countries are required to comply by January 1, 2006 (with the possibility of an extension)"²²².²²³

²²¹ Howell, *supra* note 8 at xxi.

²²² Background Notes (this was however based on the press release dated 21.7.98 to the WIPO-WTO joint Press Release PR/2002/276 dated Geneva, June 14, 2001. for text see online: http://www.wipo.org/pressroom/en/releases/2001/p276.htm (acc. on 21.10.2002).

²²³ The background notes are modifications of the WTO -WIPO press release dated July 21, 1998 at Geneva and made available to The Unites States Mission to The European Union, Brussels, Belgium who

6.2.1 Basic functioning of the TRIPS system:

To appreciate the functioning of the TRIPS agreement it is equally important to know, the obligations of the WTO Members under the TRIPS Agreement and the premises on which this Agreement rests (found in the preamble of the text). The obligations of Members arising out of this Agreement are related to their objectives, desires and aspirations and have a close nexus with the preamble.

From the Preamble it would appear that the Members ,desiring to "reduce distortions and impediments to international trade and feeling the need to (a) promote effective and adequate protection of IPRs and (b) ensure that measures and procedures to enforce IPRs do not themselves become barriers to legitimate trade", entered into this Agreement. To achieve such objective the Members felt the need to frame rules and procedures keeping in mind, however, the existing International IP Agreements and Conventions and the different sets of national/domestic legal systems. They also realized that to enforce the trade related IPRs, not only an effective and appropriate means but also provisions of adequate standards and principles concerning the availability, scope and use needed to be formulated. There is an express "objective" and "principle" clause in the form of Article 7^{224} and 8^{225} respectively, augmenting and emphasizing the importance of them.

According to the WTO "The agreement's main principles are:

made it available in Washington on 21.7.98. For text see online: <<u>http://www.useu.be/archive/wipo721.html</u>> (acc. on 21.10.2002).

²²⁴ Article 7: "the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of products and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations".

²²⁵ Article 8 : "1. Members may, in formulating or amending their laws and regulations adopt measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development, provided that such measures are consistent with the provisions of this Agreement; 2. Appropriate measures, provided they are consistent with the provisions of this Agreement, may be needed to prevent the abuse of intellectual property rights by right holders or the resort to practices which unreasonably restrain trade or adversely affect the international transfer of technology".

- (a) minimum levels of protection for each of the above
- (b) effective procedures and remedies for enforcing intellectual property rights
- (c) non-discrimination (national and most-favoured-nation treatment)
- (d) enforcement through WTO dispute settlement"²²⁶

<u>Principles</u>: The principles are laid down to ensure a systematic and effective compliance of the procedure provided in the Agreement, to achieve the objective and goal of harmonization and the reduction of conflicts arising out of trade related IPR protection issues. The principles may also be said to lay down the rationale behind the obligations. These are the basic principles that serve as the platform or pillars. Based on and around them, other obligations crystallize.

The principles, which ensure non-discrimination among countries, are the "national treatment" and the "Most Favoured Nation" treatment [MFN].

The "national treatment" principle implies that each Member would imperatively give or extend similar treatment that it gives to its own nationals. Article 3 of the Agreement, in applying this principle, imposes an obligation on a Member under the Agreement to "accord, to the nationals of other Members, treatment no less favourable than that it accords to its own nationals with regard to protection of Intellectual property". Apart from this positive obligation, there has been another obligation that limits the relaxation of this principle and qualifying the extent to which any deviation from this principle and obligation is permissible (under Article 3(1) and (2)).

The "MFN principle" implies that if a Member grants some advantage, benefit or privilege to a national of another Member the same treatment has to be granted immediately to the nationals of all other Members without any discrimination or condition. Article 4 applies this principle and imposes an obligation of each member that "with regard to the protection of Intellectual property, any advantage, favour, privilege or immunity granted by a Member to the nationals of any other country shall be accorded immediately and unconditionally to the

²²⁶ See online: < <u>http://www.wto.org/english/thewto_e/minist_e/min99_e/english/about_e/10trips_e.htm</u>> (accessed on 18.10.2002)

nationals of all other Members". The exemptions to this article are also guarded by specific, expressed restrictive obligations.

Apart from the natural meaning, the term "nationals" has also been extended in respect of separate custom territories of Members of WTO, now to include "persons, natural or legal, who are domiciled or who have a real and effective industrial or commercial establishment in that customs territory."²²⁷

The well defined obligations under TRIPS are found under Article 1, which speaks of the nature and scope of the obligations. An apparent relaxation by way of permitting non-implementation of extensive protection regulations in a member's domestic legislation is, however, subject to some restriction. Such relaxation must not contravene the provisions of the Agreement. Therefore, while the article imposes a general obligation on the Members to give effect to the provisions of the Agreement, it allows some relaxation as well. However, the conscious use of the word "may", give a tool to the Council to oblige a member to implement in its domestic law more extensive and strict provisions than required by the Agreement. "The general thrust of the first paragraph is to indicate that insufficient protection of intellectual property rights will lead to distortions, but that excessive protection could have a similar effect"²²⁸

All the standards set by this Agreement is quite subjective, allowing a varied scope of interpretation by the members to their convenience which may give rise to innumerable disputes.

6.2.2 Interpretation of TRIPS Agreement

The answer to the question as to the applicability of the TRIPS accord in cases of space inventions largely depends on the interpretation of the clauses of the said Agreement. Interpretation of TRIPS accord holds a pivotal position in deciding whether space inventions will come under the purview of TRIPS or not.

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²²⁷ Article 1(3) of the TRIPS Agreement.

²²⁸ Daniel Gervais, *The TRIPS Agreement: drafting history and analysis*, (London: Sweet & Maxwell, 1998) at p. 37.[Gervais]

The authoritative interpretation is only made in the WTO dispute settlement process through the panel and the Appellate Body. However the later panels or Appellate Bodies are not bound by the earlier panel's or Body's decision as the case may be. Other than that, the national implementation by other WTO members, especially those who have already defended their implementation in reviews in the TRIPS Council, act as guidance to the interpretation of TRIPS.²²⁹ The first TRIPS panel decision resulted when the United States complained that India had not conformed to the transitional provision of Article 70.8 of the TRIPs Agreement. This provision requires that if a developing country has made use of the exception to delay full application of the Agreement, (i.e. extending product patent protection to pharmaceutical and agro-chemical products), it must create a means for filing of patent applications and ensure that rights can be effectively exercised at the end of the transition period²³⁰. The conclusion of the first TRIPS panel decision ²³¹ was that:

".....the TRIPS Agreement must be interpreted in good faith in light of (i) ordinary meaning of its terms, (ii) the context and (iii) its object and purpose. In our view, good faith interpretation requires protection of legitimate expectations derived from the protection of intellectual property rights provided for in the Agreement...... We find that, when interpreting the text of the TRIPS Agreement, the legitimate expectation of the WTO Members concerning the TRIPS Agreement must be taken into account as well as the standard of interpretation developed in the past panel reports in the GATT framework, in particular those laying down the principle of the protection of conditions of competition flowing from multilateral trade agreements."²³² (emphasis added)

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²²⁹ Watal, *supra* note 6 at 75.

²³⁰ See online: <<u>http://ksghome.harvard.edu/~.chandap.students.ksg/tradedisputes.htm</u>> (acc. on 23.10.2002)

²³¹ Quoted from Watal, *supra* note 6 at 76.

²³² Para 7.22 of the Report of the panel: WT/DS50/R.

While the Appellate authority sitting in appeal over this panel report went through the legal aspects of the interpretation of the TRIPS Agreement, it made some interesting observations elucidating and unfolding some important aspects of the interpretation of TRIPS.

A combined reading of paragraph 36 and 37 of the said Report Of The Appellate Body²³³ [hereafter Appeal Report] is suggestive that past GATT 1947 practice with respect to Article XXIII is pertinent to interpretation of the TRIPS Agreement, but at the same time interpretation of two concepts from the previous GATT practice (GATT 1947) are to be separately and distinctly considered .The Body clarifies that "One is the concept of protecting the expectations of contracting parties as to the competitive relationship between their products and the products of the other contracting parties. This is a concept that was developed in the context of *violation* complaints involving Articles III and IX, brought under Article XXIII: 1(a) of the GATT 1947. The other is the concept of protection of reasonable expectations of contracting parties to market access concessions. This is a concept that was developed in the context of *non-violation* complaints brought under Article XXIII: 1(b) of the GATT."²³⁴

It also observes in paragraph 42 of the Appeal Report that ".....Whether or not 'non-violation' complaints should be available for disputes under the TRIPS Agreement is a matter that remains to be determined by the Council for TRIPS pursuant to Article 64.3 of the TRIPS Agreement. It is not the matter to be resolved through interpretation by panels of by the Appellate Body". Therefore, the Body clearly sets or restricts its interpretative jurisdiction or competence in deciding and/or interpreting whether non-violation complaints should be available for disputes under TRIPS Agreement or not.

"The Appellate Body confined the question of interpretation of TRIPS to the guidance available under the Article 31 and Article 32 of the Vienna Convention

²³³ For the text of the Appeal Report [WT/DS50/AB/R (19 December 1997) AB-1997-5] see online: <<u>http://www.wto.org/english/tratop_e/dispu_e/tripab.pdf</u>> (acc. on 24. 10.2002) [Appeal Report]

²³⁴ *ibid*, Para 36 at 14.

of the Law of Treaties, 1969²³⁵ and Article 3.2 and article 19.2 of the DSU without adding to or diminishing the rights and obligations provided in the WTO Agreement²³⁶, 237

The Body categorically asserted in paragraphs 45 and 46 that the concept of legitimate expectation, as appearing in the Agreement, should not be misunderstood in the context of customary rules of interpretation of public international law. The legitimate expectations of the parties to a treaty are reflected in the language of the treaty and are to be interpreted in accordance with principles set out in Article 31 of the Vienna Convention of the Law of Treaties and not otherwise. The Body emphasized that the same set of rules which it had set in United States-Standards for Reformulated and Conventional Gasoline²³⁸ as a proper approach for interpreting WTO Agreement.²³⁹

Through paragraph 47 of the Appellate Report the Body clarified, while drawing its support from and strengthening its previous observation, that as per Article 3.2 of the Understanding on the Rules and Procedure Governing the Settlement of Disputes [hereafter DSU] "....the dispute settlement system of WTO...serves to preserve the rights and obligations of the members under the covered agreements ,

²³⁷ Watal, *supra* note 6 at 76.

²³⁸ Adopted 20 May 1996, WT/DS2/AB/R, p. 16-17. For text see online: : <<u>http://www.wto.org/english/tratop_e/dispu_e/gas1.htm</u>> (acc. on 24.10.2002)

²³⁹ Also see the Appellate Body Report in the United States - Import Prohibition of Certain Shrimp and Shrimp Products ("United States - Shrimp-Turtle"), WT/DS58/AB/R, footnote 82 and accompanying text, citing United States - Standard for Conventional and Reformulated Gasoline, ("United States - Gasoline") adopted 20 May 1996, WT/DS2/AB/R, p. 17; Japan - Taxes on Alcoholic Beverages, ("Japan - Alcoholic Beverages") adopted 1 November 1996, WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R, pp. 10-12; India - Patent Protection for Pharmaceutical and Agricultural Chemical Products, adopted 16 January 1998, WT/DS50/AB/R, paragraphs. 45-46; Argentina - Measures Affecting Imports of Footwear, Textiles, Apparel and Other Items, adopted 13 February 1998, WT/DS56/AB/R, paragraph. 47; and European Communities - Customs Classification of Certain Computer Equipment, adopted 22 June 1998, WT/DS62/AB/R, WT/DS67/AB/R, WT/DS68/AB/R, paragraph. 85.



²³⁵ Done at Vienna, 23 May 1969, 1155 U.N.T.S. 33; 8 International Legal Materials 679.

Article 31(1): "A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose".

²³⁶ Marrakash Agreement Establishing the World Trade Organization, done at Marrakash, Morocco, April 15, 1994.

and to clarify the existing provisions of those agreements in accordance with the customary rules of interpretation of public international law. Recommendations and rulings of the DSB can not add or diminish the rights and obligations provided in the covered agreements". Going further, the Body also relied upon and cited article 19.2 of the DSU which imposes a restriction on the panel and the Appellate Body from adding to or diminishing the rights and obligations provided in the covering agreements

It should also be noted that the Preamble of TRIPS is an integral part of it. "Under GATT law, 'Preambles' are on occasions relied upon to a considerable extent by panels when the wording of a provision is not clear or where it is susceptible to divergent interpretation. The preamble, together with footnotes, should be considered as an integral part of the agreement, a condensed expression of its underlying principles"²⁴⁰

6.2.2.1 Competence for Interpretations

The Contracting Parties [CP] by their decision can make binding interpretations of the GATT. If the CP deriving authority and power under Article XXV adopts a resolution of interpretation of GATT they will not only have the power to interpret GATT but such interpretations will be binding on all the members including those who voted against it.²⁴¹

Under the WTO Agreement²⁴² there is explicit mention of authority of the WTO ministerial Conference and the General Council to interpret GATT.²⁴³ There is however a indirect qualification in exercise of such authority in case of

²⁴⁰ Gervais, *supra* note 228 at 37.

²⁴¹ Par Hallstrom, *The GATT Panels and the Formation of International Trade Law*, (Stockholm: Juristforlaget, 1994).at p. 152. [Hallstrom]

²⁴² The Agreement Establishing the World Trade Organization, done at Marrakash on April 15, 1994. [hereafter WTO Agreement]

²⁴³ Article IX of WTO Agreement: "The ministerial Conference and the General Council shall have the exclusive authority to adopt interpretation of this Agreement and the Multilateral Trade Agreements. In case of an interpretation of a Multilateral Trade Agreement in Annex 1, they shall exercise their authority on the basis of the recommendation by the Council overseeing the function of that Agreement. The decision to adopt an interpretation shall be taken by a three-fourths majority of the Members...,"
interpretation of a Multilateral Trade Agreement listed under Annex 1²⁴⁴ to WTO Agreement. The WTO Ministerial Conference and the General Council is under an obligation to exercise their authority of interpretation only on the basis of a recommendation by the Council overseeing the function of that agreement. Therefore, for the Ministerial Conference or the General Council to exercise their authority to interpret any provision of the TRIPS Agreement, it can only do so on the basis of a recommendation by the Council for TRIPS who oversees the functioning of the TRIPS Agreement²⁴⁵.

The third manner of interpretations comes from the panel decisions or appellate body reports. However, there are two schools of thoughts as to the strength of such interpretations as GATT laws. The US represents the first school which argues that "when the Council adopts a [appellate body] report those interpretations become GATT law".²⁴⁶ This is followed by the Republic of Korea, which observed that "these reports are not limited to Koreas Beef export only, but would, once adopted, constitute a precedent with regard to the invocation of Article XVIII: B"²⁴⁷. The EC representative in 1989 adopted a similar approach when it observed that "the panel report of the Japanese customs duties, taxes etc, constituted a precedent applicable in the present instance to Chilean taxation of sprits"²⁴⁸.

The other school represented by most of the developing States find it to their inconvenience that such precedence would affect them in future. Their view can



²⁴⁴ Annex 1 includes three multilateral agreements : Annex 1A-Multilateral Agreements on Trade in Goods (General Agreement on Tariffs and Trade (in short GATT 1994) is one of them) ; Annex 1B- General Agreement on Trade in Services(in short GATS) and Annex 1C- Agreement of Trade-Related Aspects of Intellectual Property Rights (in short TRIPS)

²⁴⁵ Under Article IV (5) of the WTO Agreement, The Council for TRIPS shall oversee the functioning of the Agreement of TRIPS.

²⁴⁶ This was the statement of the US representative made in Council discussion in 1981 on Panel Report on "Spain-Measures Concerning Domestic sale of Soyabean Oil".see Hallstrom *supra* note 241 at 152.

²⁴⁷ This was the statement of the Korean representative made in Council discussion in 1989 in relation to the cases on "Republic of Korea –Restriction on Importation of Beef".see Hallstrom, supra, note 241 at 152.

²⁴⁸ Hallstrom, *supra* note 241 at 152.

also be supported from the existing GATT practice of interpretation and the adoption of a Panel report. A panel report on the same issues between the same parties decided earlier does not act as precedence over the subsequent panel. It does not have an *erga omnes* effect unless adopted by the Ministerial Conference or General Council. This is supported by Article 3:9 of the Dispute Settlement Undertaking of 1994, where it is provided that the right of the members to seek authoritative interpretation of provisions of a covered agreement is a separate action and that shall be carried out by the WTO Ministerial Conference or the General Council, which are not administering the dispute settlement process.²⁴⁹

"An adopted panel report would consequently both generate a general practice and the opinion 'opinio juris' that its interpretation of GATT law was binding. The panel report will be binding as part of a customary law '*intra legem*'. A panel report which has not been adopted can not have this legal character".²⁵⁰

A panel which applies an extensive interpretative method risks, however that its report will not be adopted, or that it will be left out unimplemented, in case it is in variance with important political interests. This may happen also when the panel applies more restrictive teleological method of interpretation.²⁵¹

"The family of GATT Agreements 'were meant to be observed, of course, but the legal provisions were really seen as points of reference and subordinate to the general principles of balanced benefits. A principle which could be ascertained only by legal means, but rather according to what the parties agreed upon applying legal as well as political and economic criteria'."²⁵²

The ministerial conference, comprising of the entire membership takes the final decision in cases of disputes. It is therefore, a consciously political decision rather than a judicial one. "The provisions of the General Agreement authorizing the CONTRACTING PARTIES to pass on disputes are so drafted as to make clear

²⁴⁹ *ibid* at 153.

²⁵⁰ *ibid* at 154.

²⁵¹ See "US-Restriction of Tuna" case on extra territorial application of environmental legislation.

²⁵² Hallstrom, *supra* note 241 at 27.

that decisions are not to be taken on narrow legalistic grounds²⁵³. In the words of Hallstrom "…law was subordinated to the economic and political interests of the member States to uphold the principle of balanced economic benefits²⁵⁴

The principle task of before any interpretative body is to identify the issue and then apply different interpretative methods. The DSU or the panels apply generally the following three methods of interpretation based on the established principles of treaty interpretation ²⁵⁵under the Vienna Convention of the Law of the Treaties; ²⁵⁶ These are the text method, the intention method and, the teleological method.

<u>*Text method*</u>: this method proceeds on an assumption that the text that appears express the intention of the parties with utmost clarity. Thus ordinary meaning is to be given to the terms of the treaty in their context.²⁵⁷.

<u>Intention method</u>: here the object is to find out the "what the intention is of the parties to this treaty". This may include venturing into the legislative history, preparatory works, and subsequent practices²⁵⁸.

<u>Teleological method</u>: it is an offshoot of the first and second method and primarily calls for interpretation based on good faith and the parties' object and purpose in executing the treaty²⁵⁹. The overlap with the intention method comes in when trying to interpret by the first method either leads to a absurd result or gives rise to an ambiguous or obscure meaning. While applying this method, "the

 258 see Article 31(3)(4) and article 32.

 259 see Article 31 (1) and article 32.

²⁵³ Keneth W. Dam, The GATT law and International Economic Organization, Chicago and London, 1970, pp.351,352. as cited by Hallstrom, *supra*, note 241 at 29.

²⁵⁴ Hallstrom, *supra* note 241at 29.

²⁵⁵ 1994 DSU under article 3.2 specified that the customary rules of interpretation of public international law shall be applied.

²⁵⁶ U.N.T.S., vol. 1155, p.331, adopted on 22 May 1969 and opened for signature on 23 May 1969, entered into force on 27 January 1980, in accordance with article 84(1). For online text see: <<u>http://www.un.org/law/ilc/texts/treaties.htm</u>> (acc. on 1.11.2002).

 $^{^{257}}$ The Context is comprised of the entire text, the preamble, annexes and also agreements or instruments *"in pari materia"* concluded by the parties subsequently (article 31 (1) (2)).

interpreter can give meaning to ambiguous articles, fill in the lacunae by applying principles deduced from the treaty and its object and assure that the treaty reaches a minimal or even a maximal effect."²⁶⁰ This method, according to Hallstrom, has been applied in the areas of TRIPS as "the panel has in front of it imprecise and multilateral treaty whose aims and purpose are often more concrete than material rules, and because of the fact that the result of the panel is to be adopted by the Contracting Parties [ministerial conference or the council], which is connected with the political and economic ambitions of the GATT".²⁶¹

In the "Declaration on the TRIPS agreement and public health" adopted on November 14, 2001²⁶² in the DOHA WTO Ministerial Conference 2001²⁶³, the Ministerial Conference observed that "while reiterating our commitment to the TRIPS Agreement, we affirm that the Agreement can and should be interpreted and implemented in a manner supportive of WTO members' right to protect public health and, in particular, to promote access to medicines for all"²⁶⁴. This goes to show how the Ministerial Conference can set the standard of interpretation of provisions of the Agreement. It can also allow the rules of interpretation to be flexible if it desires. The Doha Declaration also is an example on that point. On that point, the Ministerial Conference while "reaffir[ming] the right of WTO Members to use, to the full, the provisions in the TRIPS Agreement, which provide flexibility for this purpose" made an observation. It clearly observed about paragraph 5 of such Declaration that "Accordingly and in the light of paragraph 4 above, while maintaining our commitments in the TRIPS Agreement, we recognize that these flexibilities include:(a) In applying the customary rules of interpretation of public international law, each provision of the TRIPS Agreement

²⁶¹ *ibid*.

²⁶² WT/MIN(01)/DEC/2 dated November 20, 2001. for text see online: <<u>http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_trips_e.htm</u>> (acc. on 18.10.2002).

²⁶³ The Fourth WTO Ministerial Conference was held in Doha, Qatar from 9 to 14 November 2001.

²⁶⁴ Paragraph 4 of the Declaration on the TRIPS agreement and public health' adopted on November 14, 2001.

²⁶⁰ Hallstrom, *supra* note 241 at p.171.

shall be read in the light of the object and purpose of the Agreement as expressed, in particular, in its objectives and principles..... (d)The effect of the provisions in the TRIPS Agreement that are relevant to the exhaustion of intellectual property rights is to leave each Member free to establish its own regime for such exhaustion without challenge, subject to the MFN and national treatment provisions of Articles 3 and 4."

Last but not the least is the importance of the dispute settlement mechanism under the WTO system, which can play a substantial role in interpretation affecting the function of TRIPS. The stages at which the adoption of any panel report as discussed in this chapter by the Ministerial Conference or the Council are effected constitutes an integral part of the TRIPS rule making.

In the past the parties affected by the panel report was able to comment on *the facts of the case*. In this review stage the parties will be able to comment on *the panel's interpretation of the GATT*. The panel now has to take position on all objections raised by the parties²⁶⁵.

It may be worth while to know of the mechanism through which the cases or clauses of the TRIPS Agreement reaches different stages of interpretation and finality. This procedure of dispute settlement is unique under the GATT system and also represents the scope of different bodies to exercise their right to interpret (e.g. at the level of a panel, appellate body or by adoption by DSB). The mechanism is depicted in the form of Figure 2 below.

²⁶⁵ Stephen Woolcock, *The Uruguay Round: Issues for the European Community and the United States*, RIIA Discussion Papers 31, London, 1990, at p.20.

and also: Pierre Pescatore, The GATT Dispute Settlement Mechanism, Journal of World Trade, Vol. 27, No. 1, 1993, at p.19.



FIGURE 2 – The mechanism

6.3 IS TRIPS READY TO CATER NEEDS ARISING OUT OF SPACE INVENTIONS?

OR

Whether a patent made in Space comes under the present world trade order i.e. within the TRIPS Agreement

Space inventions generate intellectual property which can be protected through patents. Article 27 of TRIPS [under section 5] provides generally about the subject matter that can be patented. Therefore, the most important and relevant provision regarding this aspect is Article 27 [Patentable subject matter]. The Article runs as follows:

"1. Subject to the provisions of paragraph 2^{266} and 3^{267} , patents *shall* be available for *any* inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step (*synonymous to non-obvious- as per note appended to this article*) and are capable of industrial applications(*synonymous to useful-as per note appended to this article*). Subject to paragraph 4 of Article 65, paragraph 8 of Article 70 and paragraph 3 of this Article, patents *shall* be *available* and patent rights *enjoyable* without discrimination *as to the place of invention*, the field of technology and whether products are imported of locally produced." [emphasis supplied]

The use of the assertive "shall" rather than persuasive "may" in places in the Article places an obligation upon the States for mandatory compliance.

⁽b) plants and animals other than micro organisms, the essentially biological process for production of plants or animals other than non biological and micro biological processes. However members shall provide for the protection of plant varieties either by patents of by effective *sui generic* system or by any combination thereof. The provisions of this subparagraph shall be reviewed four years after the date of entry into force of the WTO agreement



²⁶⁶ Members may exclude from patentability inventions, the prevention within their territory the commercial exploitation of which is necessary, to protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law.

²⁶⁷ Members may also exclude from patentability :

⁽a) diagnostic, therapeutic, and surgical methods for the treatment of humans and animals;

Equally important are the exceptions which are themselves embedded expressly within the Article itself giving liberty to the States where to take liberties in not granting patents. For the appreciation of the context, the exceptions and the excepted articles are reproduced as footnotes. This in other words means that the States under Article 27.2 are at liberty not to grant (i.e. to refuse grant of) Patents for inventions which according to the State may affect public order and health. 27.2 allows/permits/gives liberty to the member countries to prohibit inventions that:

- (a) are contrary to law, morality, public order and public health
- (b) harm animal and plant life or health and
- (c) cause serious prejudice to the environment.

This liberty is to be exercised under some restrictions, however. Thus, there has to be a presence of a "commercial exploitation" of the inventions. In order to be excluded, the inventions which *ipso facto* are contrary to domestic law have to have another qualification of being contrary to morality and public order. There has to be a likelihood of degradation of public health and morality out of such commercial exploitation of those inventions necessitating such prohibition.

It is important to note that there is not only an The inclination towards granting of patents is evident from two reasons. Firstly, the exception is allowed to be exercised subject to some qualitative restrictions and secondly, to prevent discrimination or to ensure 'national treatment'. Thus, the provisions under 27.2 "[were] meant to prevent countries from excluding inventions from patent grant on the grounds of being contrary to public order or morality only to allow others to exploit these commercially within the territory."²⁶⁸

"The terms "necessary" and "human, animal, plant life and health" are drawn from Article XX of GATT and would therefore be subject to strict and narrow interpretation made in the past by the GATT/WTO panels that have dealt with the disputes on trade in goods."²⁶⁹

²⁶⁸ Watal, *supra* note 6 at p.97.

²⁶⁹ ibid.

There has been a conscious ignorance on the part of the negotiators of TRIPS in defining the standards of "novelty", non obviousness or inventive step and industrial applicability of use as pre conditions of patentability. It has left it open for their interpretation by the WTO members since such standards differ from country to country.

6.3.1 Explanation of 'as to the place of invention':

A plain reading of the Article may give rise to a reasonable belief that the phrase "as to the place of invention" encompasses and includes outer space. In other words, patents for any invention made in Outer Space *shall* be *available* and patent rights enjoyable without discrimination.

They are, on the first reading of the article, subject to some exceptions [Article $65(4)^{270}$, Article $70(8)^{271}$ and Article $27(3)^{272}$].

"It has been the constant practice in GATT Law to consider the evolution of a text as one of the elements to understand its meaning, where this is not entirely

²⁷² Article 27(3) of the TRIPS Agreement: "Members may also exclude from patentability: (a) diagnostic, therapeutic and surgical methods for the treatment of humans or animals; (b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof .The provisions of this subparagraph shall be reviewed four years after the date of entry into force of the WTO Agreement."



²⁷⁰ Article 65(4) of TRIPS Agreement: "To the extent that a developing country Member is obliged by this Agreement to extend product patent protection to areas of technology not so protectable in its territory on the general date of application of this Agreement for that Member, as defined in paragraph 2, it may delay the application of the provisions on product patents of section 5 of Part II to such areas of technology for an additional period of five years."

²⁷¹ Article 70(8) of TRIPS Agreement: "Where a Member does not make available as of the date of entry into force of the WTO Agreement patent protection for pharmaceutical and agricultural chemical products commensurate with its obligation under Article 27, that Member shall: (a) notwithstanding the provision of Part VI, provide as from the date of entry into force of the WTO Agreement a means by which applications for patents for such inventions can be filed; (b) apply to these applications, as of the date of application of this Agreement, the criteria for patentability as laid down in this Agreement as if those criteria were being applied on the date of filing in that Member or, where priority is available and claimed, the priority date of the application; and (c) provide patent protection in accordance with this Agreement as from the grant of the patent and for the remainder of the patent term, counted from the filing date in accordance with Article 33 of this Agreement, for those of these applications that meet the criteria for protection referred to in subparagraph (b)."

clear²⁷³. Thus the earlier version may also help to derive and explain the origin of a particular word or expression. On that note a look at the Brussels Draft and Negotiating Group Draft of July 1990 (W/76) may be helpful to explain the meaning of the phrase under consideration.

In the Brussels Draft, the reference phrase appears in this form: "Patents shall be available without discrimination as to where the inventions were made". The Draft of July 1990 is even more explicit where the context of the phrase under consideration appears: "2. patents shall be available according to the first-to-file principle; 3. Requirement such as filing of an adequate disclosure in a patent application and payment of reasonable fees shall not be considered inconsistent with the obligation to provide patent protection".²⁷⁴

The texts of the earlier drafts in which the present phrase under consideration is formulated or drafted, leads us to a different perspective. This perspective has nothing to do with or bring within it questions of patentability of inventions made in outer space. On the contrary, it clearly shows the issues of the different approach of places (countries) where two different systems were in vogue. In other words, the phrase "*as to the place of invention*" does not bring within it the literal sense of place of invention so as to mean the physical place of the invention (i.e. territory of a State, High Sea , or Outer Space) but says about the system /principle (first-to-file or first-to-invent) which exists in different places (countries) .The emphasis is not on the geographical location of the place of invention but on the system/principle applicable to it. The reading of the article in this context reveals that the Members wanted no discrimination on patentability on inventions whether they are made in a country where there is first-to file system or first –to- invent system²⁷⁵.

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²⁷³ Gervais, supra note 228 at ix.

²⁷⁴ *ibid* at pp.145-146.

²⁷⁵ There are two major systems in the world for the protection of IPRs. These are "first –to-invent" and "first-to-file" While the first system awards a patent to the first person to invent (he may or may not be the first person to file the patent application for the said invention), the latter awards it to the first person to file the patent application (he may not be the first to invent). Thus, in case of a dispute, when two persons independently claim patent on the same subject matter, US and Canada, who practices the first system

This argument draws further support from the commentaries by Daniel Gervais, who was one of the elite members working in the negotiating teams under the Council for TRIPS. He, while throwing lights on how the negotiations developed from an insider's view, clearly observes "Article 27.1 the drafting of which was inspired in part by Article 10 of draft WIPO Patent Law Treaty. Indeed Article 27.1 is 'subject to' a number of other provisions of this section, confirming that it establishes such a general principle of eligibility to be patented. [An] important element is the elimination of discrimination *'as to the place of invention'*. *This* may concern more directly the United States, which insisted on maintaining its so called 'first-to-invent' system, as opposed to the 'first-to-file' system'' ²⁷⁶[emphasis supplied].

6.3.1.1 <u>Relation between -"First-to-file"</u>, "first-to-invent" and "as to the place of invention".

This issue has a nexus with the first part of the paragraph which specifies the criteria for patentability. The three criteria determining patentability under Article 27.1 are novelty, non-obviousness (or inventive step) and utility (or industrial application). These criteria remained identical in all the patent systems across the globe in one form or another.

While "Non obviousness" and "Inventive step" are synonymous and mean that the invention should not be evident to a ordinary skilled person in that particular field or sub-field of technology, "Utility" and "Industrial applicability" (though used as synonymous under TRIPS) do have some basic differences. The difference lies in the treatment. "Utility applied in the United States and Japan, is broader (to include any credible future use even if this does not yet exist as on date of filing or the priority date) than 'industrial applicability' which is the standard applied in Europe although the two terms are treated synonymously

needs proof as to identity of the first to invent, all most all the other countries will not go into consideration of such proof. The date of filing is for that matter important for them.

²⁷⁶ Gervais, *supra* note 228 at 147.

under TRIPS."²⁷⁷ This criterion allows patents for materials and processes which, though novel and non-obvious, may not have an immediate use.

Out of the three criteria, "novelty" requires special attention for its relevance in the present context. "'Novelty' in this context, generally means that the patentable invention should not have been known before, or in technical terms, should not have been anticipated in the 'prior art' anywhere in the world."²⁷⁸ There are differences in treatment in different jurisdictions with respect to this criterion. There are clearly two schools from treatment perspectives both regarding "prior art" and "first to file or invent". Regarding "prior art" searching, one school represented by Europe and followed by all developing countries allows a world wide search for both written and oral "prior arts". The other school represented by the US, Japan, Korea and Malaysia requires and allows a world wide search for written prior art but restricts the search for oral 'prior art' within their territory.

Additionally, in the US the novelty is determined, in theory, from the date of invention, whereas in all other jurisdictions it is from the date of filing of the patent application. To avoid subjectivity, US law establishes a one-year time limit prior to the filing date for determining novelty. This grace period is not usually granted elsewhere. Japan has a 6 months grace periods along with the first to file system. These differences follow from the first-to invent system of the US and the first to file system everywhere else. The issue of first to invent was raised by the European Union and others in the TRIPS negotiations but was dropped towards the end of 1990 because the US was intransigent on this issue. Instead, Art 27.1 now contains an obligation on nondiscrimination as to the place of invention which is aimed at the same concern. ²⁷⁹ It is aimed to put this controversy and conflict at rest by harmonizing and providing a nondiscriminatory environment irrespective of the filing system. In other words, it ensures that no discrimination would result because of disparity of the two existing filing systems.

²⁷⁷ Watal, *supra* note 6 at p.92.

²⁷⁸ *ibid* at 90.

²⁷⁹ ibid ..

With respect to patent protection for pharmaceuticals and agricultural products, certain specific obligation is found in Articles 70.8 and 70.9 of the TRIPS Agreement.

6.4 CONCLUSION

From the above discussion, it seems that the only phrase that could have been interpreted to bring space inventions into the TRIPS accord in fact has taken a completely different meaning. It only ensures non discrimination of a patent filing in regard to the two different patent systems in the world. It may appear that the space inventions or the issues of patenting arising there from are outside the purview of the TRIPS agreement or, for that matter, the WTO framework. However, it can at any moment be brought under it if the Members so desire or if adopted by a consensus of panel reports by the General Council or even the Ministerial Conference upon the recommendation of the Council for TRIPS. It may seem like an easy process, but in reality it is far more difficult. As it has a bearing on the strategic political influence which every country tries to exercise over another, an attempt to bring such issues within the framework will result in another round of negotiations. As of this time Members may apply Article 8 of the TRIPS agreement against the withholding of such IPRs by way of protectionism as an abuse of such IP rights arising out of Space activities, conducted by the right holders (which will be the individual governments in many cases). They can even make an effort to establish that such withholding is nothing but the Member State resorting to practices which unreasonably restrain trade or is adversely affecting the international transfer of technology, but such attempts can be defended as some special case of exclusive rights which does not conflict with normal exploitation of work and do not unreasonably prejudice the *legitimate expectation* of the right holder.

Each and every term or phrase used above (in italics) is in itself provided under different provisions of the TRIPS Agreement .The scope , extent and competence of interpretation of each and every term is debatable and will compel Member States to fierce negotiations on the floor of the every forum through out its hierarchy. The major issues which may impair such negotiations are questions of national security, competition laws, export control issues and, last but not the least, attempts at subtle political dominance.

CHAPTER-7

IPRs IN OUTER SPACE – WIPO OR TRIPS?

7.0 INTRODUCTION

As we have seen in the earlier chapters, the admirable presence of WIPO in the international IPRs scenario and the coming up of WTO as the major player dealing with trade related aspects of IPRs inevitably have overlaps of functions. The degree of interaction, however, involves and centers around the TRIPS Agreement. IPRs in space, by State practices, are becoming subjects of domestic legislation and accordingly becoming compatible and comparable in treatment under the TRIPS accord. Global harmonization in the field of development, protection and transfer will only result with the concerted action of these two principal UN organizations.

7.1 RELATION BETWEEN WIPO, WTO AND TRIPS

It is very simple and yet difficult to say in a single sentence about the relation between the three. It is simple because both WIPO and WTO are two UN organizations having developed a relation between them on the issues of intellectual property which centers around the TRIPS accord. It is difficult because their relationship is far more intricate due to the overlap of varied legal prevailing systems and attitude of States which these two organizations is trying to harmonize. Their mutual action, sometimes, is complementary to each other, resulting in improvements or incorporation of provisions either in TRIPS or WIPO administered conventions.

The interplay of provisions

The preamble of the TRIPS Agreement reflects the desire of the Members "to establish a mutually supportive relationship between WTO and WIPO". It also

recognizes the various international IP conventions and agreements adopted under the auspices of WIPO. Article 2.1 of the TRIPS Agreement requires WTO members to comply with Article 1 to 12 and Article 19 of the Paris Convention- a convention which is now administered by WIPO. It also mentions the Berne and Rome Conventions, which basically function under the WIPO umbrella.

WIPO administers international IPRs through the different international IPRs treaties under its auspices²⁸⁰. the "WIPO Copyright Treaty"²⁸¹ [WCT], which was concluded in December 1996, incorporated some provisions of TRIPS into international copyright law as administered by the WIPO, while bringing within it some "TRIPS plus provisions, notably with respect to online interactive communication through internet".²⁸² Another treaty which was concluded under the auspices of WIPO and is relevant here is the "Performances and Phonograms which "replaces the Rome Convention in respect of Treaty" ²⁸³ [WPPT] performers rights of phonogram producers and at the same time clearly updates TRIPS in some respects"²⁸⁴. The two treaties (WCT and WPPT) are also known as "Internet treaties". After the adoption of these treaties, the WTO Ministerial Conference, the highest body in the WTO, decided that these new intellectual property treaties which are related to trade need to be incorporated. Accordingly, one of the topics on the table for the Seattle WTO Ministerial Conference of 1999²⁸⁵ was the incorporation of new trade-related intellectual property treaties adopted outside the WTO while reviewing the TRIPS Agreement. The review of

284 Watal, ibid..

²⁸⁵ Held in Seattle (US) from November 30 till December 3, 1999.

²⁸⁰ See Chapter 5.

²⁸¹ Adopted on December 20, 1996 by the Diplomatic Conference On Certain Copyright And Neighboring Rights Questions, Geneva, December 2-20, 1996. [WIPO -CRNR/DC/94] for the text see online: <<u>http://www.wipo.org/eng/diplconf/distrib/94dc.htm</u>> (acc. on 18.10.2002).

²⁸² Watal, *supra* note 6 at 392.

²⁸³ WIPO Performances and Phonograms Treaty adopted in Geneva on December 20, 1996. for the test see: http://www.wipo.int/clea/docs/en/wo/wo034en.htm#P186_28519 (acc. on 18.10.2002).

the TRIPS Agreement can be done by the TRIPS Council under Article 71.1²⁸⁶ whenever there is a perceived need to do so in view of relevant new developments.²⁸⁷ The same, however, could not be done either during the Seattle Ministerial Conference of 1999 or the Doha Ministerial Conference of 2001²⁸⁸. This is because both the treaties (WCT and WPPT) were supposed to enter into force three months after 30 instruments of ratification or accession by States have been deposited with the Director General of WIPO.²⁸⁹ The WCT only came into force after March 6, 2002 and WPPT came into force on May 20, 2002, ²⁹⁰ well after the Doha Ministerial Conference, which ended on December 20, 2001. It may be pertinent to mention here that "[u]nder the rules of WTO (article X (6) of WTO Agreement²⁹¹), amendments to TRIPS incorporating new treaties that adjust to higher level of IPR protection and are accepted by all WTO members, once referred to the WTO ministerial conference on the basis of a consensus proposal by the TRIPS Council, can be accepted without any further formal acceptance process"²⁹².

There are some shortcomings of the TRIPS in respect to *trademarks, industrial* designs and geographical indications as it does not provide standards for judging

²⁸⁸ The Fourth WTO Ministerial Conference was held in Doha, Qatar from 9 to 14 November 2001.

²⁸⁹ Article 21 of WCT and Article 29 of WPPT.

²⁹⁰ WIPO Press Release Pr/2002/313 Geneva, May 20, 2002. also see online: http://www.wipo.org/pressroom/en/releases/2002/p313.htm (acc. on 18.10.2002).

²⁹¹ Article X(6) of WTO Agreement: Notwithstanding other provisions of this Article, amendments to the Agreement on TRIPS meeting the requirements of paragraph 2 of Article 71 thereof may be adopted by the Ministerial Conference without further formal acceptance process

²⁹² Watal, *supra* note 6 at 393.

²⁸⁶ Article 71.1 of TRIPS Agreement: "The Council for TRIPS shall review the implementation of this Agreement after the expiration of the transitional period referred to in paragraph 2 of Article 65 [which says-a developing country Member is entitled to delay for a further period of four years the date of the application as defined in paragraph 1, of the provisions of this Agreement other than articles 3,4,and 5]. The Council shall, having regard to the experience gained in its implementation, review it two years after that date, and at identical intervals thereafter. The Council may also undertake reviews in the light of any relevant new development which might warrant modification or amendment of this Agreement."

²⁸⁷ The TRIPS Council is authorized to make review the implementation of the TRIPS agreement whether it be on or after a certain specified date and thereafter at intervals or whenever there is a felt requirement to do so in view of relevant new developments

whether a mark is well known in a territory or not. WIPO's Standing Council has worked substantially on this aspect and come up with some standards. Although a joint resolution between the WIPO and the Paris Union assembly members in 1999²⁹³ laid down guidelines for the protection of well known marks, it brings to light the deficiencies of the TRIPS Agreement on that subject. There is a need, therefore, of incorporation of such standards in TRIPS.

"WIPO has been organizing discussions on the issues (traditional *knowledge*, *biotechnology*, *biological diversity*, *folklore etc*.) with developing country participants. Given the link made by the developing countries in TRIPS between biotechnology and biodiversity, WIPO could play an important role in preparing a meaningful agenda for future negotiations in the WTO or for international instruments in the WIPO"²⁹⁴. "There have been developments [mainly in the field of copyright and related rights, internationally well-known marks and on domain name] in post-TRIPS period in WIPO that have the effect of taking international law on IPRs beyond the TRIPS levels of protection"²⁹⁵. (emphasis added)

"It is WIPO that has enormous resources, both human and financial to devote to these countries (developing countries) with such compliance to TRIPS agreement. Therefore, TRIPS negotiators have envisages cooperation between WIPO and WTO explicitly when they required the TRIPS Council to seek to establish, within one year of its first meeting, appropriate arrangements for cooperation with WIPO"²⁹⁶. The Preamble of the TRIPS Agreement reflects the desire of the Members to "establish a mutually supportive relationship between the WTO and the World Intellectual Property Organization....".

²⁹³ See WIPO doc A/34/13, 34th series of meetings, Assemblies of Members of WIPO, Geneva, September 20-29, 1999.

²⁹⁴ Watal, supra note 6 at 395

²⁹⁵ *ibid* at 392.

²⁹⁶ *ibid* at 396.

7.1.1 WIPO-WTO initiatives/Agreements

<u> 1995:</u>

The first step towards establishment of cooperation between these two organizations was in 1995. "The first meeting of the Council was on March 9, 1995. By December 22, 1995 the WTO and WIPO has concluded an agreement²⁹⁷ that entered into force exactly a year after the entry into force of WTO"²⁹⁸. From the Preamble of this agreement it is clear that it resulted from a desire of both the organizations "to establish a mutually supportive relationship between them", and also to establish "appropriate arrangements for cooperation between them". This agreement enabled (under Article 2) mutual access of WTO (including its secretariat and the TRIPS Council) and WIPO members (including their nationals) to their collections of IP laws, regulations, and databases. "In addition the WIPO had to provide all WTO developing country members not members of WIPO the same legal -technical assistance that it provides to its own members. The WTO and WIPO were to enhance their cooperation on such assistance, particularly on technical cooperation activities to TRIPS [for developing countries] 'so as to maximize the usefulness of those activities and ensure their mutually supportive nature' [art. 4(2)]. To help officials of WIPO to render legaltechnical assistance on TRIPS, WTO officials orally briefed them on the negotiating history and possible interpretations of TRIPS, since there is no written record of this. The WIPO also call[ed] upon international experts on these subjects to participate in its activities, including in helping developing countries in drawing up TRIPS compatible legislations"²⁹⁹(emphasis added). This will be evident from the statement that the Director General of WIPO made during the second session of the WTO ministerial Conference in Geneva on 18.5.1998. He expressed that "WIPO frequently requests professionals from the WTO

²⁹⁷ WTO-WIPO Cooperation Agreement, Done in Geneva on 22 December 1995. For text see online: <<u>http://www.wto.org/english/tratop_e/trips_e/wtowip_e.htm</u>> (acc on 21.10.2002).

²⁹⁸ Watal, *supra* note 6 at 396

²⁹⁹ ibid

Secretariat to speak at WIPO seminars and events, and appreciates the fact the WTO willing offers its cooperation in these endeavors. WIPO reciprocates that same professional courtesy whenever WTO requests any resources or assistance. Implementation of the obligations contained in the TRIPS Agreement is an issue which WIPO includes in all of its seminars, trainings, and especially in its cooperation for development activities"³⁰⁰.

<u>1998:</u>

In July 1998 another significant step was taken by these two organizations towards further cooperation, which was first established with the signing of the WIPO-WTO Agreement in 1995. On July 21, 1998 a joint initiative was announced by WIPO and WTO to provide technical cooperation and support for the "developing countries"³⁰¹, who are members of WTO, to meet the deadline (January 1, 2000) for conforming to the TRIPS Agreement. In other words, the joint initiative was to help these developing countries to bring their laws on copyrights, patents, trademarks and other areas of intellectual property up to the standards of the TRIPS Agreement of these laws in order to deal with piracy, counterfeit goods and other forms of intellectual property infringements. The kinds of technical assistance that was agreed to be made available include aid in preparing legislation, training, institution-building, modernizing intellectual property systems and enforcement of laws, according to the WTO-WIPO press statement.³⁰² "Many developing countries have sought help both from WIPO and

³⁰⁰ For the txt see: the html version of the file see online: <<u>http://www.wto.org/english/thewto_e/minist_e/min98_e/mc98_e/st55.wpf</u>>.(acc. on 22.10.2002).

³⁰¹ There are no WTO definitions of "developed" or "developing" countries. Developing countries in the WTO are designated on the basis of self-selection although this is not necessarily automatically accepted in all WTO bodies. About 100 of the WTO's over 140 members are developing countries. For details see online : <<u>http://www.wto.org/english/thewto_e/whatis_e/tif_e/org7_e.htm</u>> and <<u>http://www.wto.org/english/thewto_e/whatis_e/tif_e/dev0_e.htm</u>> (acc on 20.10.2002).

³⁰² For details See online :< <u>http://www.useu.be/archive/wipo721.html</u>> (acc on 21.10.200).

WTO under this initiative. It was mutually agreed that the WIPO would handle most of these requests"³⁰³.

<u>2001:</u>

The third step of such continuing cooperation was taken with the launching of another new initiative on June 14, 2001. It was to help the least-developed countries³⁰⁴ maximize the benefits of intellectual property protection. There are 49 countries defined by the UN as "least developed countries" (LDCs). 30 (thirty) of them were members of WTO as of September 2002.³⁰⁵ Nine additional least-developed countries are in the process of accession to the WTO.³⁰⁶ Out of 49 LDCs, 49 are members of WIPO³⁰⁷. "However, all least-developed countries can participate in the technical assistance offered; they do not need to be WIPO or WTO members".³⁰⁸

Different thresholds are used for inclusion in, and graduation from, the list. A country qualifies to be added to the list of LDCs if it meets inclusion thresholds on all three criteria. For the list of LDCs and details see online: http://www.unctad.org/conference/> (acc. on. 21.10.2002).

³⁰⁵ Angola, Bangladesh, Benin, Burkina Faso, Burundi, Central African, Republic, Chad, Congo, Democratic Republic of the Djibouti, Gambia, Guinea, Guinea Bissau, Haiti, Lesotho, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Myanmar, Niger, Rwanda, Senegal, Sierra Leone, Solomon Islands, Tanzania, Togo, Uganda, Zambia.

³⁰⁶ Bhutan, Cambodia, Cape Verde, Laos, Nepal, Samoa, Sudan, Vanuatu and Yemen

³⁰⁷ For the list of LDCs and their date of accession to WIPO Convention as of June 2002 see : <<u>http://www.wipo.org/ldcs/en/accession/pdf/status_accession.pdf</u>> (acc. on 21.10.2002)

³⁰⁸ WIPO-WTO joint Press Release PR/2002/276 dated Geneva, June 14, 2001. For text see: <<u>http://www.wipo.org/pressroom/en/releases/2001/p276.htm></u> (acc. on 21.10.2002).

³⁰³ Watal, supra note 6 at 397.

³⁰⁴ As per the last Statistical Profile of LDCs, 2001. The list is reviewed every three years by the Economic and Social Council (ECOSOC). The criteria underlying the current list of LDCs are: (a) *a low income*, as measured by the gross domestic product (GDP) per capita; (b) *weak human resources*, as measured by a composite index (Augmented Physical Quality of Life Index) based on indicators of life expectancy at birth, per capita calorie intake, combined primary and secondary school enrolment, and adult literacy; (c) *a low level of economic diversification*, as measured by a composite index (Economic Diversification Index) based on the share of manufacturing in GDP, the share of the labour force in industry, annual per capita commercial energy consumption, and UNCTAD's merchandise export concentration index.

"The joint initiative envisages assistance in two phases.

- In the first phase, two regional workshops will be organized in 2002, one for sub-Saharan Africa and Haiti, and the other for the Asia-Pacific region. Officials from these countries will be briefed on the basic concepts, principles and obligations of the TRIPS Agreement. They will also be briefed on the challenges of implementing the agreement.
- In the second phase, assistance provided will focus on action plans specific to individual countries."³⁰⁹

The technical assistance available under the joint initiative includes cooperation with preparing legislation, training, institution-building, modernizing intellectual property systems and enforcement.³¹⁰

Scenario 2001 is for the LDCs almost the same as the situation of the developing. Thus, joint assistance would be rendered to the LDCs so that they could bring their laws on copyright, patents, trademarks and other areas of intellectual property into line with the TRIPS Agreement and also manage effective enforcement against IP infringements. They would have until January 1, 2006 to comply with the TRIPS Agreement.

The legislative history also throws some light on what the GATT negotiators contemplated at the inception regarding the presence and cooperation with WIPO. Back in 1994, "GATT delegates said they did not envisage either the current GATT or the future WTO establishing an elaborate technical staff and expertise beyond the limited ones needed to service the TRIPS accord and the TRIPS Council, but rather cooperate and use the expertise available in the WIPO and other organizations, and also to make use of the extensive WIPO registry on all these matters rather than duplicate them. This was... agreed upon in the WTO Preparatory Committee's Sub-Committee on Institutional and Legal matters"³¹¹.

³⁰⁹ Press Release PR/2001/276 Geneva, June 14, 2001, WIPO and WTO LAUNCH NEW INITIATIVE TO HELP WORLD'S POOREST COUNTRIES, For the text see online: <<u>http://www.wipo.org/pressroom/en/releases/2001/p276.htm</u>> acc. on 21.10.2002. [WIPO-Press Release]

³¹⁰ *ibid*.

³¹¹ Chakravarthi Raghavan, WTO Not To Duplicate WIPO Capacities, Geneva 20 July ,1994 for the text see online:< <u>http://www.sunsonline.org/trade/areas/intellec/07200094.htm</u>> (acc on 21.10.2002).

It may be pertinent to mention here that Article 63(2) of the TRIPS Agreement talks about minimizing the burden by the waiving of obligation of the WTO members [under article 63(1)] to publish "laws and regulations, and final judicial decisions and administrative rulings of general application pertaining to the subject matter of the TRIPS Agreement (on availability, scope, acquisition, enforcement and prevention of abuse of IPRs)" by the TRIPS Council on some cooperative arrangements being established with WIPO, which has a common registry of all such laws and regulations. So there has been a conscious endeavor on the part of the GATT negotiators from the beginning to work towards a cooperative arrangement with WIPO, which has expertise(both technical and legal), the extensive data base and registry relating to IP laws (both of its members and international).

Though the success of negotiations in the Uruguay Round resulted in the TRIPS agreement, there was a growing belief that WIPO was loosing its importance. However, now few years after that the increasing memberships in WIPO administered treaties have made such apprehensions or beliefs questionable. Due to the incorporation of pre-existing treaties on IPRs by reference into TRIPS, coupled with the increasing membership in the registration treaties under the auspices of WIPO (e.g. Patent Cooperation Treaty), WIPO's "technical and legal cooperation activities have increased tremendously largely centered around TRIPS implementation"³¹².

There has been, a substantial development as to the dispute settlement system and procedure in WIPO, which may pose a practical threat to the parallel WTO dispute settlement mechanism in terms of disputes arising out of Internet and e-commerce. The launching of a facility in 1998 was announced through a statement circulated by Kamil Idris, Director-General (as an observer) of WIPO during the WTO second Ministerial Conference in Geneva on May 18, 1998.³¹³ According to the statement, the WIPO Arbitration and Mediation Center

³¹² Watal, *supra* note 6 at 400.

³¹³ World Trade Organization: WT/MIN(98)/ST/55, doc. No. 98-2065, dated 18.5.1998, Geneva, 2nd Session Ministerial Conference, May 18 and 20, 1998, Geneva. For the txt see: the html version of the file

[hereafter AMC], which provides independent, neutral and cost-effective services for resolving intellectual property disputes among private parties, developed an on-line, Internet-based facility for administering commercial disputes involving intellectual property.

To end this discussion, it may be appropriate to quote Fredrick Abbot,³¹⁴ who found that the cross linkage between WTO and WIPO involves both horizontal distribution of authority and vertical access. "The horizontal distribution of authority adds capacity and breadth to public policy decision making, allowing more effective implementation of politics, than might be achieved by a single multilateral organization such as WTO. The second aspect [vertical access] enables expanded democratic or representational depth" ³¹⁵ [emphasis added]. According to him, the breadth enabled by horizontal distribution and depth enabled by the vertical access "have manifested themselves contemporaneously in the WTO-WIPO context, and together may provide a more compelling dynamic for multilateral institutional enhancement than either taken in isolation"³¹⁶.

7.2 WHETHER WIPO DEFINED IPRS RELATING TO SPACE SUFFICIENT OR IS THERE SOMETHING EMANATING FROM THE IGA98 ...

The first official international/universal definition regarding IPs came in the wake of signing the Paris Convention, in which the definition of Industrial Property was formulated. This definition of Industrial Property (which then meant patent and trademark generally) is found in the opening provisions of the Paris Convention 1884:

³¹⁶ ibid

<<u>http://www.wto.org/english/thewto_e/minist_e/min98_e/mc98_e/st55.wpf</u>> (acc. on 22.10.2002) Also see online: <<u>http://www.apnic.net/mailing-lists/apple/archive/1998/05/msg00063.html</u>> acc on (21.10.2002).

³¹⁴ Fredrick M. Abbott, *Distributed Governance at WTO-WIPO: An Evolving Model for Open-Architecture Integrated Governance*, Journal of International Economic law (2000), pp. 63-81. [Abbott]

³¹⁵ *ibid* at 65.

Art. 1 paragraph 2: "The protection of industrial property has as its objects patents utility models, industrial designs, trademarks, service marks, trade names, indication of source or appellation of origin, and the repression of unfair competition"

Paragraph 3: "Industrial property shall be understood in the broadest sense and shall apply not only to industry and commerce proper, but likewise to the agricultural and extractive industries and to all manufactured or natural products, for example, wines, grain, tobacco leaf, fruit, cattle, minerals, mineral waters, beer, flower and flour".

The list, as mentioned in paragraph 2 of art. 1 was not exhaustive as the Member States of the Union, (formed for the protection of industrial property), were free to introduce in their national laws different kinds of protection than those given in paragraph 2.

WIPO, as we have already seen, divides intellectual properties into two categories: (1) Industrial Property, which includes inventions (patents), trademarks, industrial designs and geographic locations of source and (2)Copyright, which includes literary and artistic works, such as novels, poems and play, films, musical works, artistic works such as drawings, paintings, photographs and sculptures and architectural designs.³¹⁷

The difference between Intellectual Property and Industrial Property is merely a functional difference. The Paris Convention (1883) defined Industrial Properties at a point in time when by "industrial properties" the Union meant patent and trademark issues. According to the Union, these constituted the "intellectual properties". However, the more exhaustive and authoritative definition can be found in Article II (viii) of the Convention establishing the WIPO in Stockholm in 1967.³¹⁸ This later definition is an inclusive definition and encompasses industrial properties as well. It is therefore mostly accepted.

The reliance upon the latter definition for Intellectual Property in IGA98 has made it relevant for the purpose of this paper, since inventions made in outer space derive therefore definition from it.

⁵⁹ See online :< <u>http://www.wipo.org/about-ip/en/</u>> (accessed on 12.8.2002).

³¹⁸ For the text of the definition see Chapter 1.1.1.

Article 21 refers to Article II of the convention establishing the WIPO (mentioned above) to define intellectual property. IGA, to prevent any ambiguity, clearly expressed in Article 21 that the definition of IP will be that as forwarded by the WIPO. Thus, there will be no confusion regarding the applicability of the definition under the Paris Convention in cases of IPRs arising out of space activities.

The IGA is the first international document to define IPs relating to space activity. It may be a trend setter for future space venture documents, which may apply or follow the same structure. This will result in the importation of the WIPO definition of IPRs in those documents in order to define IPRs in space.

The first question that may arise now is whether WIPO has specifically defined any IP rights regarding outer space. The answer is no. The definitions, as they appear under different conventions, do not classify any invention or for that matter any IP rights to have special status if the same is being generated in outer space.

A few States, for their convenience, have used the definition from the Convention establishing WIPO in Stockholm in 1967 and made it applicable in their multilateral Agreement, which is the first of its kind in the history of the outer space private commercial legal regime. It can be said that the WIPO- defined IP rights which, have been applied by these countries, have some international significance and bearing. This multilateral agreement may act as an example for other States to adopt the same definition of IPRs in respect to its application in all outer space activities.

The importation, adoption and application of the WIPO defined IPRs in IGA established that the said definition is deemed to be sufficient to include all possible IPR issues that may arise out of space activities. In other words, as of this day, the prevailing definition of IPRs in space that emanates from IGA that is holding the field is the same authoritative definition of IPRs as defined by WIPO and is deemed to be sufficient for all practical purposes. It may not be an exaggeration to say, in the present context that, application of the WIPO defined

IPRs in outer space by the IGA have given rise to a *de jure* WIPO defined IPRs regarding outer space.

7.3 WHETHER WIPO DEFINED IPRs REGARDING OUTER SPACE GOVERNED BY TRIPS TOO?

The WIPO defined IPRs regarding outer space are not governed by TRIPS. However, an appreciation of the interplay of various definitions regarding IPRs will help to understand this issue better.

TRIPS acknowledges the Paris Convention and by Article 2.1 requires the WTO members to comply with Article 1 to 12 and Article 19 of the Paris Convention, which is now administered by WIPO. TRIPS, by emphasizing the application of Article 1 of the Paris Convention, actually applied the definition of industrial property, which included Patent and Trade Marks. This results in an apparent dichotomy. It is quite interesting that TRIPS, while relying heavily on the Paris Convention where the other form of definition or description of IPs are not explicitly found, itself provides the categories of IPs that this Agreement (TRIPS) will apply to, but remains silent as to the "primary" definition of IP under the WIPO convention. Thus TRIPS rules out the application of the WIPO defined "primary" definition of IPRs and, in line with the discussion of the preceding section of this Chapter, WIPO- defined IPRs regarding outer space are not governed by TRIPS. However, a solution to this dichotomy, may be found by a close scrutiny of the provisions of the TRIPS Agreement as to which definition of IPRs was contemplated by its drafters -is it the WIPO's "primary" definition of the "secondary" definition of Industrial Property under the Paris IPRs, Convention (which is now been administered by WIPO, too)³¹⁹ or a separate distinct and independent definition according to their own needs? This leads us to the next section of this chapter.

³¹⁹ According to this author, the definition of IPRs under Article II of the WIPO Convention can be treated as a "primary" definition and the one defining Industrial Property (which is used to imply IPRs during those years when the Paris Convention was adopted) is deemed to be a "secondary" definition if IPRs by WIPO (since presently WIPO also administer the Paris Convention).

7.4 APPLICABILITY OF IGA98 GENERATED IP RIGHTS VIS-À-VIS TRIPS...WHETHER A BALANCE CAN BE STRUCK

It is quite interesting to note that Members States, while negotiating and finalizing the text of the TRIPS agreement, did not import of borrow any definition from the earlier international conventions (be it the Paris Convention, the WIPO Convention or otherwise). Apparently, however, there is a mention of the applicability of the Paris Convention, giving rise to confusion regarding the applicable definition of IPRs. Interpretative methodologies may be applied to clear the confusion. It is a well settled principle of interpretation³²⁰ that if there is a confusion that may arise between provisions of an international agreement the context is to be considered. Article I of TRIPS sets the context by specifying the nature and scope of the obligations to which the Members have decided to bind themselves. The context under which Article 2 of TRIPS talks about the international conventions is more functional in nature. It ensures that when the Members under TRIPS will apply the "standards" (part II), "enforcement" (part III) and transitional arrangements (part IV) of IPRs, they are to comply with the prescribed provisions (Art. 1 through 12 and 19) under the Paris Convention. This was incorporated not only to keep a balance but also to secure harmony between the different international IP conventions.

A categorical and express provision in the form of Article 1(2) brushes aside any possible confusion regarding the categories of IPRs the Agreement wants to cater and establish. It pronounces that, for the purpose of the TRIPS agreement, the term "intellectual property" would refer to all categories of IP which are specifically mentioned under sections 1 to 7. They are: Copy Right and related rights (sec. 1), Trademarks (sec. 2), Geographic Indications, (sec. 3), Industrial Designs (sec. 4), Patents (sec. 5), Layout Designs (topographies) of Integrated

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³²⁰ Section 3, Article 31 of Vienna Convention of the Law of Treaties, U.N.T.S., vol. 1155, p.331, adopted on 22 May 1969 and opened for signature on 23 May 1969, entered into force on 27 January 1980, in accordance with article 84(1). For online text see online: <<u>http://www.un.org/law/ilc/texts/treaties.htm</u>> (acc. on 1.11.2002).

Circuits (sec. 6), and Undisclosed information and data relating to any field $(sec. 7)^{321}$.

IGA98, on the other hand, specifies that for its purpose it will stick to the categories of IP as included under the definition of IP under the WIPO Convention³²².

There is a very interesting feature which is relevant to consider at this stage. TRIPS resulted in 1994, which was in between the IGA88 and IGA98. IGA88, in respect to IP provisions, was not changed by IGA98. The parties, when redrafting IGA98, were well aware of the existence of the TRIPS Agreement. But they did not make any attempt to change any single provision in IGA88 with the IGA98. In the opinion of this author, this has significance. The Partners, who are essentially the Member States in the TRIPS Agreement, chose to refrain from adopting the approach of a vague definition of IPRs by implication, as in TRIPS. There were some influencing factors, too. No fresh attempts were taken by the Partners to unify or unilaterally adopt either "first-to-file" system or "first-toinvent" system .This was in accord with the TRIPS Agreement, where discrimination that may arise out of the two systems, had been ruled out by the "non discriminatory clause". Thus it is reasonable to assume that it may have come across the minds of the partners of IGA98 to maintain a similar approach so as to enable them to bring their space generated IPRs into an international trading system which is not incompatible. Thus TRIPS may have been instrumental for the Partners to keep the conformity with this international world trading system. The use of the term "genuine partnership" may be equated with the MFN treatment. The IGA Partners may have thought fit to keep it open by trying to keep a balance between the two. Close scrutiny, however, reveals some major differences. National treatment under TRIPS is not applicable in IPR issues of IGA98 since it is a "closed treaty" with self-imposed restrictions upon the Partners not to trade with the non-partners. There are restrictions embedded in IGA98 which renders any other Partners' intention to freely trade with IPRs in the

³²¹ For details please see the sections of the TRIPS Agreement, *ibid*.

³²² For definition of IP under WIPO convention see Chapter 1.1.1 supra.

ISS context very restrictive and dependent of other Partners' consent. This protectionism is contrary to the spirit of the GATT system as well as TRIPS. A question may thus arise as to whether the Partners wanted to keep space inventions or IPRs outside the purview of the TRIPS system. The answer may be in the affirmative. There may be a functional difference between the two though both are generically "Agreements". The functional difference lies in the very approach of the parties to the agreements. While the TRIPS promotes liberalism and openness IGA98 is protectionist. But again, both the agreements give to their parties, uniform protection against infringement. Both of them try to give a uniform treatment to their parties as regards remedies against infringement. While TRIPS creates allows a dispute settlement system allowing third party intervention in case of dispute between partners relating to issues of IPRs, IGA98 is based on a predetermined format of negotiated MOUs and arrangements prescribing fixed ratio percentages on shares of IP allocations and resources It also rules out third party intervention.

The fact that each Partner is extending its national IP laws as contemplated in IGA98 is a striking point of balance between the two. The application of territorial IP laws by the States, which form the basis of the ground-based trading system as in TRIPS are same. This means there is some commonality in the structure of application of the rules governing IPR issues both under TRIPS and IGA.

7.5 CONCLUSION

The overlap of functions of WIPO and WTO relating to IP issues has brought these two UN organizations closer. The mention of WIPO in the TRIPS agreement goes to show that the importance of joint participation was felt by the WTO members when elaborating the TRIPS accord. The continuous process of development and harmonization of IP laws under the auspices of WIPO are bringing about appropriate changes in the TRIPS provisions and interpretations. So it is very likely that either the *de facto* WIPO-defined IPRs in outer space, or a *de jure* WIPO definition specifically for the IPRs arising out of space activities (if and when it comes into existence), will have a corresponding impact on the TRIPS accord. There may be an express provision included in the future in TRIPS clarifying its application in respect to space IPRs.

CONCLUSION

The Declaration that crystallized from the consensus of the international community permitting the negotiation of terms and conditions relating to cooperative ventures in exploitation of outer space benefits was the first UN document on IPRs in space. The official foundation for the commercialization of outer space was, however, laid long back through the adoption of OST67.

Negotiation of contractual term encompasses all the incidence and consequence of a concluded contract. A series of commercial rights and the corresponding obligations emanates from a negotiated contract and necessarily connotes commercial benefits. Thus the UNCOPUOS and more so the UN were instrumental in adopting a document which paved the road and open the gate for ushering in the commercialization of IPRs outer space while reiterating the *opinio juris* relating to the sovereign rights of States to exercise freedom to decide terms in any transaction.

In the words of Yuri Gagarin, the first human being in outer space, "the human brain is nature's most perfect work, there is nothing to replace it and never will be."³²³ A fruitful discussion in space IPRs is only possible when the first stumbling block is crossed. This hurdle resulted from the growing discontent among scholars and IPR practitioners regarding the conflicting nature of IP laws and the basic tenets of OST67. This, in the view of this author, can be resolved.

There is an analogous situation in the case of registration procedures of the in International Telecommunication Union (ITU), which reserves particular positions in orbit by way of registration. This practice is internationally accepted now. This analogy will show that though apparently there is a conflict of this practice with the non appropriation principle of OST67, still it is understood and accepted that it is not a violation of the non appropriation theory since the particular satellite after its life time will be removed from the place and the place will be available to a third party, preventing appropriation by a particular State. Similarly, a module which under the "flagship principle" is a territory of a State does not affect the non appropriation principle as this structure has a life span after which it will be removed from its place (a glaring example

³²³ Yuri Gagarin, *Road to Stars* (Moscow: Foreign Languages Publishing House) at p.91.

is the Russian Mir station). Furthermore, the space stations or modules are not so large in number as in the case of telecommunication satellites for which the orbital or outer space positions need to be registered. To conduct successful micro gravity research, it is not necessary to have a particular place or orbit in space and so the need of rushing to occupy a particular orbital position is not there.

In the words of Kamil Idris, Director General of WIPO, intellectual property is "a tool for technological advancement, economic growth and wealth creation for all nations, especially for least-developed countries"³²⁴

After a comparative study of the discussion and the inferences drawn through different chapters in this thesis, we have a broader spectrum of appreciation. It can now be said that IPRs arising out of space activities can be can be brought under the TRIPS Agreement.

Using the interpretative approach, which explains that a legal provision of a clause or a contract is deemed to include and encompass other incidences directly relevant to it when they are not expressly excluded. The same is reached here. That is to say, Members, not specifically excluding the applicability of the TRIPS Agreement in regard to Space inventions, have allowed it to be brought within its purview. The Member States, while concluding this agreement in 1994 and subsequently by their acts (the 6 members by executing IGA98 to extend territorial application of their IP laws to outer space, and the other member states by not raising any dispute regarding such application in any forum whatsoever) did not raise the issue or question of the inclusion of Space related IPRs under the TRIPS. This strengthens only this conclusion that it is included under the TRIPS Agreement.

However, it has to be kept in mind that like international law, International Agreements are also what States desire. A general weakness of these agreements is the lack of an enforcing authority. In most cases the provisions allowing for enforcement are either too relaxed or too flexible from exceptions to the obligations. In the case of TRIPS, one will also find that despite the strong will of its Members, there has been too many self-created

³²⁴ WIPO-WTO joint Press Release PR/2002/276 dated Geneva, June 14, 2001. for text see online: <<u>http://www.wipo.org/pressroom/en/releases/2001/p276.htm</u>> (acc. on 21.10.2002).

loop holes in the form of exemptions. This not only helps the Members to take undue political advantage, but at times renders the provisions self-defeating as well.

The act of the WIPO in taking leading steps in the field of IP laws both in terms of evolution and international governance is welcome as it is acting as a path finder with its convincing expertise and enormous resources. Inter organizational cooperation will make it easier for WTO not only to make use of such well laid IP mechanisms but also to apply them suitably into the GATT system of the TRIPS Accord. Such uniformity in the treatment of IP laws, regulations and their common uniform interpretation throughout will not only help the institutional interpreters under the GATT system but also maintain a homogeneity of treatment of IP laws throughout their application, thus ensuring global uniform governance in all fields of IP law (including space inventions). This will rule out any possible conflict that may result from deviations in interpretations by another UN organization and will be more beneficial and acceptable to the Member States at the same time.

Through discussions in the thesis, one can now have a clear and appreciation that the UN declaration for Space Benefits have actually spelled out the scope of commercialization of outer space, which was kept implied in the OST67, by allowing the State parties to decide commercial terms and conditions in case of joint cooperative ventures relating to commercial activities specifically intellectual property rights). Furthermore the Declaration has placed the IGA98 in a firm position and established it as precedence. TRIPS, however, doesn't expressly prevent space inventions from being brought under its purview, thereby allowing possible inclusion. On the contrary, however, it has left so many mechanisms open for it if a situation warrants, and when the member States desire. Therefore, the Declaration for Space Benefits is the basic international document that reflects the global attitude for the commercialization of outer space in respect to IPRs. It opened for the States, the gateway through which they can achieve that through the extension of their domestic IP laws in outer space. The IPs generated in outer space can be traded through the conventional TRIPS accord under the GATT system, since there is no express exclusion and there is a wide scope of interpretation at different levels in the system itself.

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ANNEX - II



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