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SOVEREIGNTY AND JURISDICTION IN THE AIRSPACE AND OUTER SPACE: LEGAL CRITERIA FOR SPATIAL DELIMITATION

By

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Doctor of Philosophy in Law (Ph.D.)

August 2002

SOVEREIGNTY AND JURISDICTION IN THE AIRSPACE AND OUTER SPACE: LEGAL CRITERIA FOR SPATIAL DELIMITATION

Submitted by **OLUGBENGA ODUNTAN** to the University of Kent at Canterbury for the degree of Doctor of Philosophy in Law, July 2002.

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I certify that all material in this thesis, which is not my own work has been identified and that no material has been included for which, a degree has previously been conferred upon me.

(Signed) .....

DEDICATION

TO MY PARENTS

DR. REVEREND **EMMANUEL KOLAWOLE** AND REVEREND MRS. **MARY EBUN ODUNTAN** FOR REMAINING UNDYING BEACONS OF LOVE IN A WORLD THAT IS ALWAYS CHANGING.

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Gbenga Oduntan

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ABSTRACT

Sovereignty and jurisdiction are legal doctrines of a complex nature, which have been subject to differing interpretations by scholars in legal literature. The relationship between the two with respect to all the manifestations of territory has also not been fully worked out by lawyers. The tridimensionality of state territory recognised under customary international law subsists till the present. The idea of sovereignty and jurisdiction over the airspace has developed over the centuries and is even older then the history of human flight. Under prevailing treaties on air law particularly the Chicago Convention (1944) the principle of complete and exclusive sovereignty over the superincumbent airspace is unassailable. Airspace sovereignty is delimited *ratione loci* in respect of the space above national territories and not *ratione materiae* in respect of the air, which may at any given time, be filling this space. Quasi-territorial jurisdiction and personal jurisdiction may, however, be exercised by other states with respect to aircraft, spacecraft and their citizens which they have granted legal personality even when found in foreign airspace. However, unsettled jurisdictional problems persist in relation to control over aircraft, criminal jurisdiction, and airspace trespass

While national sovereignty and exclusive jurisdiction can be exercised over the airspace relating to all parts of national territory, sovereignty is completely inapplicable to outer space and its celestial bodies. Certain comparable jurisdictional competencies found in air law are also exercisable in outer space in relation to spacecraft, scientific stations, instrumentalities and personnel. Central to the discussion of the application of jurisdiction and control in outer space is the concept of 'common heritage of mankind' -a political and legal doctrine, which reinforces outer space as the province of mankind. This creates ideological problems among lawyers and statesmen particularly across the developing and developed states divide regarding the operation of familiar notions of ownership and possession.

The legal distinction between airspace and outer space and the two bodies of law governing them is not only factual but also ultimately very necessary. In spite of the acknowledged commercial, strategic, political and environmental importance of air and space activities, the province of the applicable laws have not been determined. What remains to be done is to determine where in spatial terms exclusive sovereignty ends and where the province of all mankind begins. Indeed the determination of a demarcation line is primarily of legal significance. Views and literature on the subject abound; however, no satisfactory consensus has been reached. It is from this medley of ideas that the thesis attempts to distil and formulate legal criteria for the resolution of the spatial delimitation dispute.

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PRINCIPAL ACRONYMS AND ABBREVIATIONS

AC	Law Reports: Appeal Cases
ADIL	Annual Digest and Reports of Public International Law Cases
ADIZ	Air Defence Identification Zone
AER	All England Law Reports Reprint
AFDI	Annuaire Francais de Droit International
AJCL	American Journal of Comparative Law
AJIL	American Journal of International Law
All E.R.	All England Law Reports
ASIL	American Society of International Law
ATS	Australian Treaty Series
BYIL	British Yearbook of International Law
CL	Current Law
CLP	Current Legal Problems
Cmnd.	United Kingdom Command Papers
COSPAR	Committee for Space Research
Cr. App. R.	Criminal Appeal Reports
Crim. L.Q.	Criminal Law Quarterly
Crim. L.R.	Criminal Law Review
EEA	European Economic Area
EEZ	Exclusive Economic Zone
ESA	European Space Agency
EU	European Union
FAA	Federal Aviation Administration
FCO	Foreign and Commonwealth Office
FIR	Flight Information Region
GA	General Assembly
GAOR	UN General Assembly Official Records
HL	House of Lords
HSC	High Seas Convention
Hudson	International Legislation (Hudson)
IAF	International Astronautical Federation

IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
ICJ	International Court of Justice
ICLQ	International and Comparative Law Quarterly
ICLQ	International and Comparative Law Quarterly K 1.I6A6
ICLYB	International Law Commission Year Book
ICSU	International Council of Scientific Unions
IGA	Intergovernmental Space Stations Agreement (1988)
IGY	International Geophysical Year
IISL	International Institute of Space Law
ILC	International Law Commission
ILM	International Legal Materials
ILM.	International Legal Materials
ILR.	International Law Reports
ITU	International Telecommunications Union
JALC	Journal of Air law and Commerce
LFN	Laws of the Federal Republic of Nigeria
LNTS	League of Nations Treaty Series
LOSC	Law of the Sea Convention.
LT	Law Times
MEZ	Maritime Exclusion Zone
MOU	Memorandum of Understanding
NASA	National Aeronautics and Space Administration
NATO	North Atlantic Treaty Organisation
NY Times	New York Times
O.R	Official Records
PCIJ	Permanent Court of International Justice
Proc. Coll.	Proceedings of the (..) st/nd th Colloquium on the Law of Outer Space
RdC	Recuiel des Cour de l'Academie de droit international de la Haye.
RFDA	Revue Fraincais de Droit Aerien.
RIAA	Reports of International Arbitral Awards
SC	Security Council

TIAS	Treaties and other International Agreements of the United States
TLR	Times Law Reports
TSC	Territorial Sea Convention
UK	United Kingdom
UKTS	United Kingdom Treaty Series
UN	United Nations
(UN) COPOUS	(United Nations) Committee on the Peaceful Uses of Outer Space
UN Doc	United Nations Document
UNGA	United Nations (General Assembly)
UNISPACE UN	Conference on the Exploration and Peaceful Uses of Outer Space
UNTS	United Nations Treaty Series
US	United States
USTS	United States Treaty Series
WLR	Weekly Law Reports

General Introduction

Today 44 years after the first space flight in 1957, there exist good grounds for the proposition that international space law has become both a branch of science and a branch of international law in its own right. Air law also prescribes the rules and principles of international law regulating the activity of states in the use of national and international airspace. Both branches of law have grown nearly independent of each other and have different legal and historical development. Air flight by powered manned aircraft is at least a century old but the law regulating it has from its inception been principally dictated by the technologically advanced states. On the other hand, international regulation of outer space activities is barely four decades old. However, it has developed at a very fast rate again with the over riding influence of the technological powers.

From the outset of space exploration in 1957 the following queries have been presented: What is outer space from a legal point of view? What are the permissible acts of jurisdiction allowed therein? Where does outer space begin? Where do the principles and rules of international airspace law cease to operate? The separate laws developed to regulate both airspace and outer space respectively have tended to be very general in nature. So also has the treatment of the rules in legal literature. It is to be noted that there is a huge difference between the legal status of the airspace and that of outer space. Sovereignty and exclusive jurisdiction is granted in the former whereas in the latter there can be no exercise of sovereignty. Outer space generally remains not only the 'province of all mankind' but parts of it such as the Moon are regarded by states as the 'common heritage of mankind'. However, it is crucial to note that presently international documents that establish the regime of airspace have not determined the upper limit to the spread of a state's sovereignty over its airspace. Likewise the international treaties that establish the regime of outer space have not pinpointed the exact lower limits of outer space or its outer limits. Thus while there is today an appreciable amount of literature on air and space law, there is very little work done connecting these two branches of international law together within the

scope of the principles of state sovereignty and jurisdiction on one hand and the resolution of the spatial demarcation of boundaries problem. Whereas the resolution of these issues is assuming increasing and immediate importance due to an upsurge in air and space activities the central problems remain of divisive value among states and scholars. Aerospace activities having a bearing upon different aspects of public international law presently span commercial transportation, military and defence activities, meteorite mining, satellite communications, remote sensing, reconnaissance, space manufacturing, scientific exploration etc. Yet the exact geophysical scope of the application of both air law and space law will appear not to have been determined. It is an indisputable fact that undefined frontiers only create a potential source for confusion and conflict in the international system.

This thesis is therefore undertaken as a pre-emptive exercise and aims at comparing and contrasting the application of sovereignty and jurisdiction to the conduct of air and space activities. In sum, the thesis sets to determine three central questions. (1) The legal status of the airspace. (2) The legal status of outer space. (3) The possibilities of attaining workable criteria for the legal demarcation between the two territories.

A central problem to the resolution of this issue is the opposing views of the developing and developed states over the demarcation issue. Scholars from the developing states particularly from Africa have, however, not produced any appreciable contribution in legal literature relating to this unresolved issue. Their contributions have in most part only been stated at United Nations conferences and this may eventually prove insufficient in shaping the law. It is in realisation of the crucial need to fill this gap that the present research was undertaken. Thus the thesis seeks to present the diverse and sometimes conflicting legal and scientific theories and considerations, which have been proffered by leading authorities on the subject of permissible manifestation of sovereignty in air space and outer space and the precise scope of their applicability. The desired aim is to synthesise the divergent positions into a single, consistent legal theory, which would not only satisfy air lawyers and space lawyers on the one hand but also bridge the perennial divide between developing and developed states on the issue.

The thesis seeks to offer alternative views to some of the central assumptions in air law and space law which are based on or at least represent evidence of the political realities inherent in prevailing international law. Such an enquiry is topical in light of the noticeable trend among scholars both from the developed and developing world to question the content of international law. In any case what is regarded as law whether municipal or international has been in many instances exposed as the product of vested interests. Therefore, in a study like this we are obliged to consider whether or not the present rules of air law and space law perpetuate the myth of legal objectivity and political neutrality in a world where the law is increasingly identified as ideology and as politics facilitating a capitalist world.[1]

Effort is exerted to present the views and contributions of the developing states and legal scholars therefrom on the developments in air and space law. It is also hoped that the case would be made for the rights of protection for nations, which are at present not sufficiently technologically advanced to be able to launch space objects into orbit. More importantly, the virtual monopoly of the regulation of air and outer space by the technologically advanced countries for their commercial use and social convenience is examined. If the thesis succeeds in creating awareness for an urgent need to arrest the virtual monopoly of legal and scientific discussion over air and outer space activities by the western nations, as well as presenting a coherent theory for resolving the demarcation problem, the thesis will have achieved its purpose.

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[1] For wider perspectives of this issue see the following: Wade Mansell et.al., A Critical Introduction to Law, (London: Cavendish Publishing Ltd., 1995) pp. 1-27 *et passim;* P. Sinha Surya, Legal Polycentricity and International Law, (Carolina: Academic Press, (1996); N'zatioula Grovogusi Siba, Sovereigns, Quasi sovereigns and Africans: Race Self Determination in International Law, (Minnesota: University of Minnesota Press, 1996). As a writer puts it, "a major research theme that unites this diverse anti-colonial intellectual tradition is its primary focus on arguing about the limits within which the newly independent nations of Africa would embrace an international; law that was Eurocentric in its geographic origin." James Thuo Gathii, "Review Essay: International Law and Eurocentricity: Introduction", Vol. 9 European Journal of International Law No.1 (1997) p. 185.

Scope and Plan of the Study

The territorial scope of the research naturally embraces all sovereign states since there is no state without an airspace and an accompanying natural and legal entitlement to outer space. The scope of the thesis includes an examination of the development of the concepts of sovereignty and jurisdiction particularly in relation to air law and space law. Thus the first chapter of the thesis deals with the epistemology of the terms and their legal and political connotations. However, the concepts receive continuous examination throughout the thesis with references to the manifestation of these concepts in analogous situations, such as in the law of the seas and in relation to the Antarctic continent.

The regime governing sovereignty and jurisdictional spheres in the airspace and in the conduct of aviation activities is one of the most important areas of contemporary international law. These considerations present in microcosm nearly all the fundamental problems of international law as a whole. These include: the relationship of states and other international legal entities, nationality, unification of private laws, many problems of conflict of laws, crimes on board aircraft, liability for damage to third states, aerial warfare and trespass. Judge Moore whilst pointing out the consequences of the 'protective principle' of nationality in his individual opinion in *The Lotus* in 1927 very aptly stated: "in this way an inhabitant of a great commercial city in which foreigners congregate may in the course of one hour unconsciously fall under the operation of a number of foreign criminal codes."[2] It would appear that without being aware of it; he was in fact prophetically describing the legal quagmire of criminal jurisdiction inherent in present day civil aviation activities.[3]

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[2] P.C.I.J Series A 10, 92.

[3] Going by the much touted 'floating island theory' used to explain the quasi-territorial jurisdiction over national crafts and vessels, an aircraft may by a corresponding legal fiction be regarded as a city in which people of various nationalities congregate. If this were so, then in a short time span of one hour, an aircraft may indeed traverse many territories, each with its own unique criminal laws. The imagination can thus hardly conjure to the fullest the possible complexities of criminal jurisdiction, which may arise in a 'simple' international flight. The significance of the recent wave of aerial hijacking and the increasing incident of violent behaviour of passengers and persons on board aircraft must not be lost to us. The new century was entered with a plane hijack incident still unsolved. Within the first two months

Thus chapters two to five of the thesis examine the development of legal jurisdiction over national airspace, questions of nationality of aircraft,[4] jurisdiction over crimes committed in the airspace, jurisdiction over international airspace and the permissible response to aerial trespass.[5] The connecting thread between these aspects is that whilst they have attracted an immense wealth of jurisprudence in legal literature and in various attempts at legal regulation, the resolution of the crucial issues therein are far from complete and still generate a lot of controversy in air law. The ultimate resolution of these controversies is a *sine qua non* to the peaceful conduct of international relations in the 21st Century. The aim is to determine if international legal rules governing these matters are sufficiently explicit and whether or not present regulations are based on equitable solutions involving the necessary balance between national and the general international interests.

Chapters six to nine of the thesis deal with the core aspects of jurisdiction and control in outer space. Working on the basis of the impressive network of treaties developed since 1963 by the United Nations to govern man's activities in outer space, state practice and some national legislation, the thesis makes a comparative analysis with the regime in air law. Examination of the jurisdictional aspects of achievements and prospects of space exploration is made. Jurisdiction and control over persons and flight instrumentalities is discussed in comparative analysis with the regime of air law. The thesis questions the relevance and applicability of ownership, possession

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of the new millennium another aircraft hijack occurred and the horrific events of the September 11 2001 terrorist hijackings for suicidal attacks on the United States may just signal another development in the long list of problems that air law will have to cope with in this century.

[4] Since almost every question of air law assumes some international dimensions and the primary subject of international law is the state, nearly all legal issues relating to aircraft have to do with the principle of nationality. The thesis thus treats the principle of nationality of aircraft as the chief determinant of control in relation to state jurisdiction over aircraft.

[5] Nowhere else has the significance of the concepts of nationality and jurisdiction over aircraft as well as criminal actions in aerial territories been brought into sharper focus than in the reaction of states to trespass in their airspace. Sharp disagreements often occur as to the status and standards of treatment to be accorded to such intruding aircraft. Is such an aircraft completely at the mercy of the territorial sovereign? Does the right to destroy the aerial intruder logically inhere in complete and exclusive sovereignty? Or does international law impose considerable restraint upon the territorial state in dealing with aerial intruders?

and property over outer space in the absence of the concept of state sovereignty in outer space. The legal validity, import and relevance of the concept of 'common heritage of mankind' is examined not only in relation to outer space territories but in terms of its development in international law and in analogous situations. In view of the restiveness of the technologically advanced states to embark on large-scale exploitation of outer space resources the thesis argues for the development of a progressive utilisation regime for outer space based resources based upon equitable considerations and taking into account the needs of developing countries. The positive examples found under the existing regime of jurisdiction over the high seabed and Antarctica are reviewed and the argument in favour of enacting a moratorium on mining on celestial bodies is made.

Lastly chapter ten presents the legal theories on the spatial demarcation boundary plane between airspace and outer space. The arguments of the various schools of thought on the spatial demarcation problem are summarised and discussed with a view to eliminating the solutions least likely to be successful in law and in practice. The special problem of the Geostationary Orbit (a special flight path for satellites) is treated in relation to the developing versus developed states divide. This orbit is directly above the equator at which satellites circle at the same speed as the earth rotates. Just three satellites are enough for continuous coverage of the whole globe at this height. However, since it is the only orbit capable of providing these services, it is a finite resource and a strong point of controversy between developed and developing states on matters of jurisdiction and control. The thesis, therefore, ends on a prescriptive note with a theory which takes into account the major arguments and forms a synthesis of the positive ideas inherent in the submissions of writers on the subject.

CHAPTER ONE

1.0: PRELIMINARY CONSIDERATIONS: SOVEREIGNTY, JURISDICTION AND CONTROL IN INTERNATIONAL LAW

1.0: Sovereignty and Jurisdiction Juxtaposed:

One of the fundamental differences between air law and space law is that in the former a state possesses absolute and exclusive sovereignty over its airspace whereas in the latter national appropriation by claim of sovereignty over outer space is prohibited. Importantly however, jurisdiction as a legal term applies both to the airspace and outer space. This necessitates an examination of these two concepts with a view to distinguishing their applicability in various situations in international law.

Sovereignty in law is often considered to be the essence of the state. It explains the powers of a state over its entire territories and its inhabitants. The normal complements of state rights including the typical case of legal competence are described commonly as sovereignty.[1] The concept is political in conception and is popularly symbolised by the Leviathan of Hobbes. It implies the supreme authority of a state, which recognises no higher authority in the region.[2] Bodin developed the concept in terms of internal strength and external limitation of power.[3] Jowitt picks up on this theme and defines sovereignty as: "[t]he power in a state to which none other is superior".[4] As the respected jurist Max Huber wrote in his opinion in the Island of Palmas Arbitration between the U.S.A and the Netherlands, "[s]overeignty in the relations between states signifies independence. Independence in regards to a portion of the globe is the right to exercise therein to the exclusion of any other the functions of a state..."[5] In modern literature the term sovereignty has been employed in four different ways, which do not necessarily overlap in the sense that a state can have one and not necessarily the other. They are namely -international legal sovereignty, Westphalian sovereignty, domestic sovereignty and interdependence sovereignty. Reference to international legal sovereignty denotes the practices that are associated with mutual recognition, usually between territorial entities that possess formal juridical independence. Westphalian sovereignty refers to political organisation, which is based on the exclusion of external actors from authority structures

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[1] Ian Brownlie, Principles of Public International Law, (Oxford: Clarendon press, 1998) p. 106.
[2] G.S. Sachdeva "Sovereignty in the Air - A Legal Perspective", 22 *Indian Journal of International Law* (1982), p. 398.
[3] Imre Anthony Csbaffi, , The Concept of the State Jurisdiction in International Space Law: A Study in the Development of Space Law in the United Nations, (Hague: Martinus Nijthoff, 1971), p. 50.
[4] Jowitts Dictionary of English Law, 2nd Edition, Vol 2 John Burke (ed.), (Sweet and Maxwell Ltd., London, 1977) p. 1678.
[5] *Island of Palmas Case* (1928) R.I.A.A.; 2 829.

within a specific territory. Domestic sovereignty explains the ability of a state to exercise effective control within its territory and the competence to construct formal organisation of political authority within the polity. Lastly, interdependence sovereignty is used in reference to the ability of public authorities to regulate the flow of information, ideas, goods people, pollutants, or capital across the borders of their state.[6]

The principle of sovereignty is also embodied in various important treaties. Article 2 (1) of the UN Charter gives effect to the concept.[7] It is further elaborated upon in the provisions of the 1970 UN General Assembly Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations, as follows: "All states enjoy sovereign equality...Each state enjoys the right inherent in full sovereignty..."[8] However, Schwarzenberger rightly describes this emphasis on complete independence as negative sovereignty. Negative sovereignty means non-recognition of any superior authority. On the level of legal relations, this situation may be expressed in terms of a right, or freedom not to have to recognise any superior.[9] It is indeed true that the limitation of sovereignty to its absolute extreme is as little justified as the attribution of a necessarily absolute character to any other notion. In fact "... the very contrast of sovereignty of God with any form of worldly sovereignty powers proves sufficiently the necessarily relative character of any type of sovereignty claimed by a temporal authority". [10] The dictates of our modern day international society seem to incline towards interdependence of states more than undue exercise of sovereign powers.

On another level of legal relations, a complete lack of sovereignty over a territory or environment may be dictated by international law. For instance, Article 137 of the

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[6] International legal sovereignty and Westphalian sovereignty centre upon issues of legitimacy and authority but exclude control. However, they are both based on what Krasner calls "certain distinct rules or logic of appropriateness". The rule for international legal sovereignty is that recognition is extended to territorial entities which possess formal juridical independence while the rule for Westphalian sovereignty is the exclusion of external actors both *de facto* or *de jure*, from state territory. On the other hand domestic sovereignty involves both authority and control in the sense that it encompasses the specification of legitimate authority within a given state and the extent to which that authority may be exercised. Interdependence sovereignty is exclusively concerned with control and not authority as it explains the inherent capacity of the state to regulate movements across its borders. See Stephen D. Krasner, Sovereignty: Organised Hypocrisy, (New Jersey: Princeton University Press, 1999) pp. 3-4.

[7] It reads thus: "The Organization is based on the principle of the *sovereign* equality of all its Members". Charter of the United Nations San Francisco, 26 June 1945. In force 24 October 1945. Documents on the UN Conference on International Organisation, vol. 15, p. 336.

[8] Adopted by resolution 2625 (XXV) of October 24, 1970. See UNGA Official Records: Twenty-Fifth Sess., Supp. No. 28 (A/8028).

[9] G. Schwarzenberger, "The Forms of Sovereignty", Vol. 10 Current Legal Problems, (1957) p. 264.

[10] Ibid., p. 276.

Convention on the Law of the Sea 1982,[11] states that no state shall claim or exercise sovereignty or sovereign rights over any part of the Area or its resources, nor shall any state or natural juridical person appropriate any part thereof. Thus, while Schwarzenberger speaks of *negative sovereignty* in terms of absolute and complete independence, modern day international law actually moves in the direction of *negativing* sovereignty. However, wherever sovereignty cannot be exercised, jurisdiction is not excluded. It is a trite observation that in as much as sovereignty remains an abstraction serious impact has been made upon the principle by a host of factors in the modern day international society. Thus, international lawyers are beginning to speak more in terms of 'globalisation'. The term globalisation is one which until fairly recently was unknown to international law but which it may in fact be argued is a natural consequence of the development of that body of law itself. Wherever we look the omnipotent nature of sovereignty is in recession. Whether the focus is on human rights, exchange rates, monetary policy, arms control, chemical weapons, landmines, warfare, environmental control, or minority rights the policy options open to states in any real sense have become increasingly constrained. Challenges to the traditional international law system of sovereignty can be seen in increases in depth and density of rules promulgated by intergovernmental organisations. These organisations are becoming more assertive *vis-à-vis* individual sovereign states both in rule making and in implementation. National courts, administrative agencies, and perhaps even parliamentary bodies are said to increasingly function as parts of cooperative regulatory and enforcement transgovernmental networks and no longer simply as parochial national institutions.[12]

Having said that it must not be assumed that the death knell has been sounded on the doctrine of state sovereignty. Sovereignty remains a crucial element in today's world and its

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[11] U.N Doc. A/CONF. 62/122;(1982) 21 ILM 1261.

[12] See Phillip Alston, "The Myopia of the Handmaidens: International Lawyers and Globalisation", European Journal of International Law, No. 3 (1997) p. 435. See also Benedict Kingsbury, "Sovereignty and Inequality", Vol. 9 European Journal of International Law, No. 4 (1998), p. 611. Other authors like Krasner believe that international legal sovereignty and Westphalian concepts of sovereignty have always been characterised by' organised hypocrisy'. He agrees with the mainstream view, that with changes to the basic nature of the international system, the scope of activities over which states can effectively exercise control is declining. These include atmospheric pollution, terrorism, the drug trade, currency crisis, and the immunodeficiency syndrome (AIDS). He notes for instance, that technological changes have drastically reduced the costs of transportation and communication, which in turn, has prompted independent states to enter into conventions and contracts (a manifestation of international legal sovereignty) some of which have led to a compromise of their Westphalian sovereignty by establishing external authority structures like international institutions. He however, thinks that contemporary scholars are overstating the newness of globalisation in that "Rulers have always operated in a transnational environment; autarky has rarely been an option; regulation and monitoring of transborder flows have always been problematic.... There is no evidence that globalisation has systematically undermined state control or led to the homogenisation of policies and structures. In fact, globalisation and state activity have moved in tandem". Krasner *op. cit.*, pp. 12, 222-223.

manifestation remains particularly relevant within the airspace. Conceptualisation of sovereignty is definitely not a zero-sum game. What a state loses in one respect in the exercise of its sovereignty it obviously gains in some other respect. For instance, the *Lockerbie case* shows that the reach of state power to deal with the perpetrators of aerial crimes is becoming more formidable even as we lament the decline of sovereignty.[13] This paradox is aptly captured in the interesting submission of a text writer who wrote that sovereignty should not be thought of "as the object of some kind of zero sum game, such that the moment x loses it y necessarily has it. Let us think of it rather more as of virginity, which can in at least some circumstances be lost to the general satisfaction without anybody else gaining it".[14]

The doctrine of jurisdiction emerged in the seventeenth century from the concepts of sovereignty and territoriality. Its development led through the *statute theory* to the *Huber Storyan maxim* and it became established in the nineteenth century.[15] Jurisdiction in a strict legal sense denotes the particular rights or accumulations of rights quantitatively less than the

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[13] *Questions of Interpretation and Application of the 1971 Montreal Convention arising from the Aerial Incident at Lockerbie (Libyan Arab Jamahiriya v. United Kingdom) (Libyan Arab Jamahiriya v. United States of America.* On 3 March 1992, Libya filed in the Registry of the Court two Applications instituting proceedings against the United Kingdom and the United States of America concerning disputes on the interpretation or application of the Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation signed in Montreal on 23 September 1971. Libya referred to charges made by the Lord Advocate of Scotland and an American Grand Jury against two Libyan nationals suspected of having caused the destruction of Pan Am flight 103 over the town of Lockerbie, Scotland, on 21 December 1988, in which 270 people died. Following these charges, the United Kingdom and the United States had demanded that Libya surrender the suspects for trial either in Scotland or in the United States. The Security Council of the United Nations subsequently adopted three resolutions (731, 748 and 883, two of which imposed sanctions) urging Libya "to provide a full and effective response" to the requests of the United Kingdom and the United States "so as to contribute to the elimination of international terrorism".) After a protracted case, which is in fact, still continuing the parties agreed to a novel procedure, which is a significant victory for the long arms of national courts. This witnessed the transfer to the Netherlands, for trial by a Scottish court, of the two Libyan nationals suspected of having caused the Lockerbie incident. See also *Infra* chapter 3.

[14] Alston *op. cit.*, p. 435 note 4. For further discussions on the shrinking of the concept of sovereignty in modern day International Relations see MacCormick, "Beyond the Sovereign State", Vol. 56 Modern Law Review, (1993) pp. 1 at 16; Walter B. Wriston, The Twilight Of Sovereignty : How The Information Revolution Is Transforming Our World Publisher, (New York : Maxwell Macmillan International, 1992) *et. seq.*; J.-M. Guehenno, The End of the Nation State, (Minneapolice: Univeristy of Minnesota Press, 1995) p. 435.

[15] One of the leading Roman jurisconsults, (of the early third century A.D.) J. Paulus, formulated the term *Statute theory* and it has for a long time influenced the doctrine of jurisdiction. In Italy the concept "*statutum non ligat nisi subditos*" became accepted around 1200 A.D. In effect it denied the absolute power of *lex fori* and around the 16th century writers like Bertrand d'Argentre spelt out the essence of the *statute theory* by distinguishing between *potestas* and jurisdiction. The *Huber Storyan maxim* refers to the theory developed in Ulricus Huber's work titled *De Conflictu legum diversarum in diversis imperiis*, which was written in 1948. In terms of the *Storyan maxim*, territorial jurisdiction means that each State has exclusive jurisdiction within its own territorial domain over persons, property, things and legal transactions done within it, including the extraterritorial activities of such persons. See Csbaffi *op. cit.*, pp. 49-51, notes 51-52.

norm, which the omnibus term of sovereignty covers. In other words, while the term 'sovereignty' covers the total legal personality of a state, jurisdiction refers to particular aspects of the substance, especially rights (or claims), liberties and powers.[16] Thus, jurisdiction is the authority a state exercises over natural and juristic persons and property within it. It concerns mostly the exercise of this power on a state territory or quasi-territory; however, some states exercise a measure of their jurisdiction both exterritorially and extra-territorially. States which claim exterritorial jurisdiction threaten punishment for certain acts either against the state itself, such as high treason, forging bank- notes, and the like or against its nationals, such as murder, arson, libel and slander.[17] States that claim extra-territorial jurisdiction, chiefly the United States, have taken the view that whenever activity abroad has consequences within the state which are contrary to local legislation then that state may make orders requiring such things as the disposition of patent rights and other property of foreign corporations, the reorganisation of industry in another country, or the production of documents.[18] It need only be said that this sort of jurisdiction (mostly in the context of economic issues) is a source of serious controversy between the very few states that practice it or acquiesce to its exercise and the majority of states, which are opposed to it.[19]

Beale narrowly defined the concept of jurisdiction in the following words: "The power of a sovereign to affect the rights of persons whether by legislation, by executive decree, or by judgement of a Court".[20] This definition is narrow in that it restricts jurisdiction to powers over persons alone. In *McDonald v. Mabee,*[21] Justice Holmes said that the ultimate basis of jurisdiction is 'physical power' and in *Wedding v. Meyler*[22] he equated jurisdiction with 'authority'. It can, thus, be said that state jurisdiction refers to the capacity of a state to exercise certain powers. That is the state's right to regulate or affect by legislative, executive or judicial measures the rights of persons, property acts or events within its territory. But such actions are not always entirely and exclusively of domestic concern.[23] Fawcet, thus, correctly noted that in exercise of its sovereignty a state has the jurisdiction to forbid the entry into any part of its territory any person or thing such as aircraft or pesticide. In equal manner, such jurisdiction is forbidden outside territorial limits especially within the jurisdiction of another

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[16] Brownlie, *op. cit., p.* 85.
[17] See L.F.L. Oppenheim, International Law A Treatise, Vol. I eighth edition (London: Longmans, 1963) p. 331. See also U.O. Umozurike, Introduction to International Law, (Lagos: Spectrum Publishing, 1993), p. 85.
[18] See for example the case *U.S. v. Aluminium Co. of America,* 148 F. 2d 416 (1945) and *U.S. v. Watchmakers of Switzerland Information Center Inc.*, 133 F. Supp. 40 (1955); 134 F.
[19] See Brownlie *op. cit.*, pp. 310-312; M.N. Shaw, International Law, Fourth Edition (Cambridge: Grotius Publication, 1997) pp. 483-484.
[20] Joseph Beale, "Jurisdiction of a Sovereign State", Vol. 36 Harvard Law Review, (1922-23) p. 24.
[21] 90 U.S. 230 (1916).
[22] 192 U.S. 573, 584 (1904).
[23] Csabafi, *op. cit.,* p. 49.

state without its consent.[24] These assertions inevitably bring us to a discussion of state territory within the context of the principle of state territorial supremacy or sovereignty.

1.0.1: The Principle of Territorial Jurisdiction.

Territorial jurisdiction is seen as the sum total of the state's powers in respect of a portion of *terra firma* under its governmental authority including all persons and things therein, and the extra-territorial activities of such persons.[25] It denotes the power of legislation, executive and judicial competence over a defined territory.[26] It is generally derived from territorial sovereignty, but it may also be derived from treaties, as in the case of mandated, trust or leased territories. It may also derive from *occupatio pacifica* or *bellica.*[27] The principle of territorial supremacy arises from the view that a state has absolute and exclusive authority over people, things and events within its own territory and therefore may exercise jurisdiction over them in all cases.[28] But the problem of what may properly be considered state territory for purposes of jurisdiction is not always clear. This brings us to the concept of territory itself.

The corpus of state territory and its appurtenances (airspace and territorial sea together with the population and government), comprise the physical and social manifestations of the state, which is the primary type of an international legal person.[29] The territory of a state is separated from those of other states by boundaries. A boundary may be natural or artificial.[30] Apart from land territory, which is permanently above low-water mark, territorial sovereignty may be exerted over all the geographical features associated with or analogous to land territory. Permanence, accessibility and natural appurtenance are naturally essential qualities. Furthermore, it is clear that, no one knowledgeable in international law can deny that the territory of a state including its earth surface, "... a sector of the earth below and a sector of

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[24] J. Fawcet, "Domestic Jurisdiction" 132 Recuell Des Cours (1971), p. 431.
[25] B. Cheng, "The Extra-Territorial Application of International Law," Current Legal Problems (1965), p. 135.
[26] Umozurike, *op. cit.*, p. 86.
[27] Cheng, *op. cit.*, p. 135.
[28] Some authors like Starke choose to refer to these overwhelming powers as territorial sovereignty. The question then arises as to whether there is a possible distinction between territorial sovereignty and territorial jurisdiction. Oppenheim seems to have effectively answered this query by stating that he sees "Independence and Territorial as well as personal Supremacy (which Starke seems to have referred to as territorial sovereignty) as aspects of Sovereignty". (Brackets mine). *Cf.* Brownlie, *op. cit.*, pp. 105-106. See J.G. Starke, Introduction to International Law (London: Butterworths 1984) pp. 151-152. Oppenheim *op. cit.*, p. 286. See also DH Ott, Public International Law in the Modern World, (Britain: Pitman Publishing, 1987), p. 135.
[29] Brownlie, *op. cit.*, p. 107.
[30] Umozurike, *op. cit.*, p. 107.

space above"[31] are within the areas of exercise of jurisdiction permitted by international law. Indeed, the tridimensionality of state territory is recognised in customary International Law. A state's territory is considered to consist of three sectors;[32] (1) legitimately owned land mass within its borders, including the internal water territories, rivers, lakes, reservoirs, canals and the territorial sea; (2) the land mass below the surface of the soil (including its mineral resources) down to the centre of the earth and; (3) the airspace and atmosphere above the ground level up to an extent which is still the subject of intense debate in academic circles.

In spatial terms the law knows two other types of regime, which must be highlighted. They are the *res nullius* and the *res communis.* The *res nullius* is that land territory or environment legally susceptible to acquisition by states but not as yet placed under any state's territorial sovereignty. The European powers made use of this concept which though legal in form was often political in application in that it involved the occupation of areas in Asia and Africa which were often in fact the seat of previously well organised communities.[33] There have also been some unsuccessful attempts to forge a link between this concept and outer space territory. In fact it would appear that with or without the use of the technicality of *res nullius* certain states are set to embark on the introduction of property rights over outer space based resources for national and private ends despite the position of current international law on this issue. The *res communis* is that territory or environment such as the high seas or Antarctica, which is not capable of being legally placed under state sovereignty. In accordance with customary international law and the dictates of practical convenience, the airspace above and subsoil below each of the three categories, state territory, *res nullius* and *res communis* are included in each category.[34]

It suffices to mention that territorial jurisdiction also determines the appropriate forum in civil actions. A total lack of territorial connection may remove a dispute from the competence of a state. The Court in the US case of *Aviateca, S.A v. Friedman*[35] issued a writ of prohibition that prevented a state court trial judge from hearing a wrongful death action brought against Aviateca arising from the crash of one of its aircraft. The court looked to Article 28 (1) of the Warsaw Convention, which states that actions for damages, which arise out of international air travel, must be brought in one of four places.
(1) The domicile of the carrier;

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[31] J.C.Cooper, "High Altitude Flight and National Sovereignty", Explorations in Aerospace Law: Selected, (Montreal: McGill Univ. Press, 1968) p. 157.
[32] G.I. Tunkin, ed. International Law, (Moscow: Progress Publishers, 1988), p. 400.
[33] Ian Brownlie, Principles of Public International Law, (Oxford: Claredon Press, 1966), p. 118.
[34] *Ibid.*, p. 98.
[35] *Aviateca, S.A. v. Friedman,* 678 So. 2d 387 (Fla. App. 1996).

(2) The principal place of business of the carrier;

(3) The carriers place of business through which the contract of carriage was made; or

(4) The place of destination.

The court rightly held that since in this instance the US was not one of the four places, the trial court judge lacked subject matter jurisdiction over the matter.

1.0.2: Quasi Territorial Jurisdiction

Where an incident occurs not within state territory, such as in foreign airspace or in outer space on a spacecraft the powers of a state may be exercised quasi territorially. Cheng aptly defines this as:

> The sum total of the powers of a state in respect of ships, aircraft and spacecraft (to the extent to which they are also granted legal personality) having its nationality. Its powers over pirate vessels *jure gentium* come also under this heading. Quasi-territorial jurisdiction differs from personal jurisdiction in that it extends not only to the craft in question but also to all persons and things on board the craft or elsewhere.[36]

Csbaffi Anthony correctly explains that "in this context we are concerned with the operations of rules of jurisdiction *ratione instrumenti.*[37] Vessels (i.e. ships, aircraft, spacecraft) bearing the flag of a state are subject to the jurisdiction of the flag state".[38] The flag flown by such a ship vessel establishes a *prima facie* presumption that the ship has the nationality of the state whose flag it carries.[39] Schwarzenberger, however, warns that only the ship's (and by extension aircraft and spacecraft's) papers are real evidence of such nationality. In other words, such vessels must have been properly registered. That is the reason why it is left for every state to determine in accordance with its own municipal law to which ships and aircraft it is prepared to grant its own nationality. Such registration is usually granted to state owned vessels and those owned by citizens or nationals of the state concerned. In conclusion, maritime vessels, aircraft and spacecraft that are navigating or flying under the legally assigned distinctive mark or flag of a given state and are located within international territory are viewed in a sense as state territory. In addition by convention, pipelines and any other construction or equipment belonging to a state and which are located within the framework of international territory are also viewed as state territory.[40]

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[36] Cheng, *op. cit.*, p. 135.
[37] Csabafi, *op. cit.*, p. 57.
[38] *Ibid.*
[39] Schwarzenberger, Manual of International Law, (London: Stevens and Sons Ltd., 1952), p. 60.
[40] Brownlie, *op. cit.*, p. 401.

1.0.3: Personal Jurisdiction

By this, we refer to the sum total of the powers of a state in respect of individuals or corporate bodies on business enterprises having its nationality or otherwise enjoying its protection or owing allegiance to it, wherever they may be situated. Pirates *jure gentium* may be said to come under the extraordinary personal jurisdiction of all states.[41] It is left to every state to determine to whom it wishes to grant nationality. International customary law, however, recognises that every state is entitled to protect its own nationals. Whenever such nationals are abroad and within the territory of another sovereign, the sovereign of their home state has to share its personal sovereignty with the territorial sovereign.[42]

In fact it would seem not to matter under what circumstances the national finds himself in the territorial state. For the purposes of personal jurisdiction, involuntary extradition, while it may lead to considerable controversies between states does not appear to be of much help to a defendant under municipal laws. Thus, in the recent case of *U.S. v Rezaq*[43] the fact that the defendant had been abducted from another country to the United States (US) for the express purpose of prosecution for aircraft piracy did not warrant the reversal of his conviction for that offence. The Court took the view that the fact that he had been brought within its jurisdiction involuntarily and by forcible abduction did not impair the jurisdiction of US courts. It was pointed out that neither the 1970 Hague Convention nor the US piracy provisions created a statutory exception for such powers: since the US provision's applicability to defendants that are afterwards found in the US means only that the hijackers must be physically in the US and not that they must first be detected there.

This line of reasoning follows very much the Israeli decision in the celebrated *Eichmann case*. Eichmann a German national was during the Nazi era head of the Jewish Office of the German Gestapo under whose command a substantial part of the 'final solution' was executed. This included acts of torture, murder, extermination, enslavement, starvation, deportation and other inhumane acts together amounting to crimes against humanity, which were committed principally against millions of Jews. He was apparently abducted by Israeli agents from Argentina and arraigned before an Israeli District Court. The Supreme Court of

[41] Cheng, *op. cit.*, p. 135.
[42] Schwarzenberger, *op. cit.*, p. 43.
[43] US Court of Appeals District of Columbia Circuit 6 February 1998, Avi 15.404.

Israel dismissed his appeal against the consequent conviction and death sentence on the following grounds *inter alia:*

> ...contention of learned defence counsel was that the trial of the accused in Israel following upon his kidnapping in a foreign land is in conflict with international law and takes away the jurisdiction of this Court...[i]t is an established rule of law that a person being tried for an offence against the laws of a state may not oppose his trial by reason of illegality of his arrest or of the means whereby he was brought within the jurisdiction of that state.

It was added quite revealingly that;

> The courts in England, the United States and Israel have constantly held that the circumstances of the arrest and the mode of bringing of the accused into the territory of the state have no relevance to his trial, and they have consistently refused in all instances to enter upon an examination of these circumstances.[44]

The US courts, however, have been more consistent in their support for this expansive approach to the founding of jurisdiction. Even more recent cases such as *U.S v. Alvarez-Machain* continue to affirm this view. In that case US Drug Enforcement Administration agents abducted a Mexican national to the US from Mexico to face murder charges for the death of one of their officers. Mexico requested his return for trial. Although the Supreme Court expressed some level of displeasure at the abduction it went ahead to decide that the exercise of criminal jurisdiction in the US was not unconstitutional since there had been no breach of the US –Mexican extradition treaty (which did not prohibit abductions).[45] Although the British Courts had indeed held conflicting decisions upon the point the prevailing position is contained in the decision reached by the House of Lords in *R. v. Horseferry Road Magistrates Court, ex p. Bennet*[46]. In that case a New Zealand national who was wanted for fraud committed in England was found to live in South Africa. With the collusion of the South African police force he was forcefully brought back to England for trial without the benefit of any extradition process. Lord Griffiths view as held by the Court was that, "where process of law is available to return an accused to this country through extradition procedures our courts will refuse to try him if he has been forcibly brought within our jurisdiction in disregard of those procedures by a process to which our own police prosecuting or other executive

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[44] *A.G. of the Government of Isreal v. Eichmann* (1961) 36 I.L.R. 5 District Court of Jerusalem. For further discourse see D.J Harris,Cases and Materials on International Law London: Sweet and Maxwell (1998), pp. 280-288; Fawcett (1962) Vol. 38 BYIL p. 181; Schwarzenberger, Vol. 15 CLP (1962) p. 248; Helen Silving, "In Re Eichmann: A Dilemma of Law and Morality", Vol. 55 The American Journal of International Law, (1961) p. 307.

[45] (1992) 119 L.Ed. 2d 441.

[46] [1994] 1 A.C. 42, HL.

authorities have been a knowing party". This represents a departure from the US position although Lord Griffiths tries to distinguish it from the *Alvarez* case by saying that it ruled on the question whether criminal jurisdiction was exercisable whereas *Bennet* dealt with the exercise of judicial discretion not to take a case where jurisdiction in fact exists.

In the *Pinochet case* the issues are slightly different. There was no forcible abduction of the infamous defendant. Rather, the central issues in this case border on whether any form of personal jurisdiction may be exercised on the person of a former head of state of another country for acts done when he was in power which constitute 'crimes against humanity.' The answer to this legal riddle was given in the *Pinochet Case* No. 3.[47] By an impressive vote of 6 to 1, the House of Lords confirmed the earlier majority ruling that a former head of state enjoys no immunity in extradition or criminal proceedings brought in the U.K in respect of the international crime of torture. Warbrick and McGoldrick however, argue correctly that the real ratio of this decision is that while territorial jurisdiction may be asserted as exclusive and comprehensive over all persons and acts within the territory it relates only to persons in breach of municipal law. This has been the position since Marshal CJ's judgement in the *Schooner Exchange*[48].

Thus, while British and US courts in particular may have taken very different views of the significance of how a defendant has been brought before the court, where the acts in question border on international crimes exclusive personal jurisdiction is no longer sacrosanct. In effect the inability of the territorial state to exercise jurisdiction over another state or its officials in respect of acts committed outside its territory is not attributable to immunity but to lack of jurisdiction. Thus, a court which refuses to pronounce on the validity of the acts performed by another state does so not by reason of the latter's immunity but by reason of the forum state's incompetence to exercise territorial jurisdiction beyond its territory.[49] It is, therefore, to be noted that the jurisdiction of states under international law is exercisable in relation to domestic or municipal law and jurisdiction over subjects of municipal law and not over other states at all.

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[47] See *R. v. Bow Street Metropolitan Stipendiary Magistrate, ex parte Pinochet Ugarte.* (Amnesty International intervening) (No.3) 1999 2 All E.R. 97.
[48] (1812) 7 Cranch 116 (US).
[49] Colin Warbrick and Dominic McGoldrick, "The Pinochet Case No. 3", Vol. 48 ICLQ, part 3 (1999) p. 698.

1.1: Criminal Jurisdiction of States

International law does not actually impose restrictions on the civil jurisdiction of states' courts; it is their criminal jurisdiction that international law controls by evolving rules and principles of competence. It follows from this that before considering crimes in the airspace and in outer space it is necessary to concentrate briefly on the criminal jurisdiction of the states under contemporary international law. It must be observed from the outset that the rules of international law on the criminal jurisdiction of the state are either permissive or prohibitive; they are not prescriptive. In other words a state is normally not compelled by international law to exercise its criminal jurisdiction;[50] but when it decides to, then it has to comply with these rules which form the bases upon which its courts will be competent to entertain criminal cases. This also applies by extension to the exercise of criminal jurisdiction over acts committed in the airspace and on board aircraft.

These bases (also called principles or grounds) of criminal jurisdiction are, broadly speaking, five in number. They are; (1) territorial (or territoriality) principle; (2) nationality principle; (3) protective (or security) principle; (4) passive personality principle; (5) universality principle. Since territory is relevant only in respect of the first basis while all the others have to do (as we shall see shortly) with the person of the offender or of the victim, or with the character of the offence, some writers classify these bases into two major groups, namely, the territorial and the extra territorial or personal grounds of jurisdiction. But the misleading nature of this latter expression should not be lost sight of. For if personal jurisdiction is, as Schwarzenberger defined it "the authority asserted by a sovereign over individuals on grounds of allegiance or protection",[51] it will be difficult to see how a person who has committed an offence such as piracy on the high seas or hijacking of an aircraft in international territory could be tried on the basis of the personal jurisdiction of the forum state. Therefore, it is really better to refer to the specific basis of jurisdiction relied upon in each case rather than simply make reference to the blanket category of extra territorial jurisdiction. These principles will now be considered separately.

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[50] The possible exceptions to this rule exist as a result of treaty obligations voluntarily entered into by states such as in the prosecution of offenders with respect to the crime of unlawful interference with the safety of civil aviation as established in certain air treaties as discussed below.

[51] Schwarzenberger *op. cit.*, p. 74.

1.1.1 The Territorial Principle

This principle operates upon the basis of the aforementioned principle of territorial jurisdiction. It explains a state's exclusive and absolute criminal jurisdiction over persons, things and events within its territory. Therefore, once an offence is committed on the territory of the state, its courts are competent to entertain the case arising therefrom. It is generally agreed that this principle is the most basic one, as it seems more logical that a state on whose territory a crime is committed should assume jurisdiction over it.

There is no complication in the application of the territorial principle as long as the crime is wholly committed within the state's territory. But where due to the special nature of the crime it commences for instance in the airspace of one state and is consummated in the territory of another then a conflict of jurisdiction may arise. To resolve these sorts of problems, international lawyers have formulated the doctrine of constructive presence, the application of which enables both states to exercise jurisdiction. As the 1935 Harvard Draft Convention formulated it, a state may exercise territorial jurisdiction when a crime is committed "in whole or in part" within its territory.[52] Judge Moore, who dissented from the Permanent Court of International Justice decision in *The Lotus Case* nonetheless, agreed that:

> It appears to be now generally admitted that where a crime is committed in the territorial jurisdiction of one state as a direct result of the act of a person at the time physically present in another state, international law, by reason of the principle of constructive presence of the offender at the place where his act took effect does not forbid the prosecution of the offender by the former state, should he come within its territorial jurisdiction.[53]

Elaborating further on the theory of constructive presence, writers have developed two sub-principles out of the territorial principle. They are the subjective territorial principle (according to which the state on whose territory the offender started committing or perpetrated the offensive act has jurisdiction); and the objective territorial principle (according to which the state where the offence was completed or had its effects has jurisdiction because, although the offender was not physically present on this territory when the crime started he may be considered present there when all the constituent elements of the

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[52] See Text of the Draft convention With Respect to crime in Vol. 29 AJIL (1935) p. 439. It is to be mentioned that the Harvard Research Draft Convention of 1935 was the product of the unofficial work of a number of American international lawyers. It is not binding upon states as a treaty and is not state practice. Yet it is widely accepted that the Draft Convention adequately reflects customary international law and its suggestions *de lege feranda* have been accepted as being of considerable value reflecting the thorough study that was put into the preparation of the text.

[53] P.C.I.J. Reports 1927 Series A. No. 10.

crime are put together and for the purpose of his trial).

A good illustration of the foregoing is the often given hypothetical case of the gunman shooting from the territory of state A across the border and killing a person in the territory of state B. In this case state A possesses jurisdiction on the basis of the subjective territorial principle, whereas state B also has jurisdiction on the strength of the objective territorial principle, since the offender is seen as constructively present on state B's territory.

Thus, in *D.P.P. v. Boot*[54], the respondents who were aliens were convicted for the crime of conspiracy to import cannabis resin into the United Kingdom, even though the agreement, which amounted to conspiracy, was made outside the United Kingdom. In the process of carrying it out, the respondents were arrested in the U.K. Justifying the jurisdiction of English courts, Lord Wilberforce said:

> [t]he present case involves 'international elements' - the accused are aliens and the conspiracy was initiated abroad - but there can be no question here of any breach of any rules of international law if they are prosecuted in this country. Under the objective territorial principle (I use the terminology of the Harvard Research in international law) or the principle of universality (for the prevention of the trade in narcotics falls within this description) in both the courts of this country have a clear right, if not a duty to prosecute in accordance with our municipal law.

It must be observed that the scope of application of the objective territorial principle has greatly expanded since the *Lotus Case*. What the PCIJ said in this case was indeed that:

> [t]he courts of many countries.., interpret criminal law in the sense that offences the authors of which at the moment of commission are in the territory of another, are nevertheless to be regarded as having been committed in the national territory, if one of the constituent elements of the offence, *and more especially its effects*, have taken place there. [55] (Emphasis supplied).

As a result of this pronouncement, it became sufficient in order to invoke the objective territorial principle that the offensive act produces some effects on the territory of the forum state, whereas it was initially required that an actual element of the criminal act should occur in the territory of the forum state. David Ott notes that it can be argued that the effect principle is very difficult to control. This is because it "goes beyond the realm of direct physical injury in the affected state, it opens the door objectionably to an almost limitless

[54] [1973] AC 807.
[55] P.C.I.J. Reports 1927 Series A. No. 10.

exercise of jurisdiction, if any effect, however remote, can be found".[56]

It is necessary to note that there are certain exceptions from and restrictions upon criminal jurisdiction founded upon the territorial principle. The entities normally exempted include foreign states and heads of foreign states (i.e. sovereign immunity),[57] diplomatic and consular agents of sovereign states,[58] public ships and aircraft of foreign states, Armed Forces of foreign states, as well as some International institutions. It may, thus, be asserted that a diplomatic agent would be exempt from the criminal jurisdiction of the Receiving State if he commits a crime aboard an aircraft navigating in its territorial airspace or on board an aircraft having its nationality. [59]

1.1.2 The Nationality Principle

Jurisdiction here is assumed by the state of which the accused is a national. The competence of the state's courts is based on the allegiance owed by the accused who can be a physical or juristic person to his state of origin. It is generally admitted that jurisdiction may be founded on nationality at the time of commission of the offence or nationality at the time of prosecution, provided this does not violate the principle of non-retroactivity of criminal laws.

In cases of double nationality, both states have equal jurisdiction. Thus, in *Tomoya Kawakita v. U.S.*[60] the U.S. Court of Appeal (9th Circuit) sentenced for high treason the accused who was a national of both the U.S. and Japan, and who was accused of having tortured U.S. soldiers in Japanese prisons. Article 4 of the Hague Convention on the Conflict of Nationality Laws 1930 provides specifically that "a state may not afford diplomatic protection to one of its nationals against a state whose nationality such person also possesses".[61]

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[56] Ott, *op. cit.*, p. 137.

[57] This is based on the principle that *"par in parem non habet jurisdictionem"* (two equals cannot be tried in each other's courts).

[58] The immunities and privileges enjoyed by this category of people are regulated by the Vienna Convention on Diplomatic Relations 1961 (UKTS 19 (1965), Cmnd 2565; 500 UNTS 95) and the Vienna Convention on Consular Relations (of 24 April 1963. 523 UNTS 117. In force 19 March 1967; 126 parties) respectively.

[59] For an interesting reading of the doctrine of sovereign immunity in relation to outer space activities see Lauren S. B. Bornemann "This is Ground Control To Major Tom... Your Wife Would Like to Sue But There's Nothing We Can Do... The Unlikelihood That the FTCA Waives Sovereign Immunity for Torts Committed by United States Employees in Outer Space: A Call for Preemptive Legislation", Vol. 63 Journal of Air Law and Commerce, No 3 (1999).

[60] Reported in Vol. 46 AJIL, (1952) p. 147.

[61] 1930 Hague Convention on Certain Questions Relating To The Conflict of Nationality Laws 179 LNTS 89.

Some difference has been noted between common law countries and civil/continental law countries with respect to the extent to which they invoke the nationality principle to found jurisdiction. It would appear that in legal systems based on the civil European mode, the claim for jurisdiction on ground of nationality is more frequent than in legal systems of the common law tradition.[62] The latter would seem to reserve its use to offences considered as more serious, such as treason or murder. In *Skiriotes v. Florida,*[63] Hughes C.J. stated that "The United States is not debarred by any rule of international law from governing the conduct of its citizens upon the high seas or even in foreign countries, when the rights of other nations or their nationals are not infringed".

Under English case law the possession of a British passport is sufficient proof of British nationality and duty of allegiance to Britain. Thus, in *Joyce v.DPP*[64] the House of Lords allowed the hanging of the appellant for treason on the ground that while in possession of a British passport, to which in reality he was not entitled he went to the German side during the Second World War and made pro-Nazi propaganda broadcasts.

1.1.3: The Protective (or Security) Principle

Here a state assumes jurisdiction over aliens for acts done on foreign territory but which affect the security or other interest of the forum state. Thus, currency, immigration and economic offences committed by aliens abroad are punished by the state offended. *Joyce v. D.P.P.* represents also a classic application of the protective principle. The appellant (primarily a US citizen by birth and of naturalised Irish parents) having been convicted for propaganda broadcast for the enemy in war time, his nationality was actually immaterial and the protective principle was also considered in the trial.

The protective principle has served as the basis for different criminal legislation in various countries. Thus, the French Code of Criminal Procedure provides in Article 694 that a foreigner who outside the French territory renders himself guilty either as a perpetrator or as accomplice of a felony or misdemeanour against the security of the state or the counterfeiting of the seal of the state or current national monies may be prosecuted and tried according to

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[62] Shaw, *op. cit.*, p. 466.
[63] 313 US 69, 73(1941).
[64] [1946] AC 347.

French law if he is arrested in France or if the government obtains his extradition.[65] The protective principle was so widely used in the 20th century that as far back as 1935 the commentary of the Harvard Research Draft Convention on Jurisdiction with respect to Crime (1935) stated that "in view of the fact that an overwhelming majority of states have enacted such legislation (i.e. legislation relying on the protective principle), it is hardly possible to conclude that such legislation is necessary in exercise of competence as recognised by contemporary international law".[66]

The most significant reading of this principle to date can be found in the law reports of the Eichmann case earlier referred to. In this case, defence counsel had contended that the protective principle could not apply to the Israeli laws used against Eichman because that principle is designed to protect only an existing state, its security and its interests, whereas the state of Israel did not exist at the time of the commission of the said crimes. In Eichman's submissions the same applied to the principle of passive personality, a corollary of the protective principle. In a forceful statement the Court held that:

> In our view learned counsel errs when he examines the protective principle in this retroactive law according to the time of the commission of the crimes, as is usual in the case of an ordinary law. This law was enacted in 1950, to be applied to a specified period which had terminated five years before its enactment. The protected interests of the state recognised by the protective principle is in this case the interests existing at the time of the enactment of the law, and we have already dwelt on the importance of the moral and defensive task which this law is designed to fulfil in the state of Israel...

The dynamics of the operation of the protective principle is underscored by its inclusion in treaties providing for multiple jurisdictional grounds relating to aerial offences, which shall be

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[65] French Code de la Procedure Penal adopted 1975. See also *U.S. v. Archer* (1943) where a Federal District court referred to the protective principle to justify a U.S. statute which made it a crime for an alien to commit perjury before a U.S. diplomatic or consular official outside the U.S. territory, even though this act might not be a crime in any other country. Similarly, the U.S. courts relied on the protective principle to assume jurisdiction for the prosecution of aliens who outside the U.S. swear falsely before a U.S. consul for the purpose of obtaining the necessary documents to enter the U.S. territory. See *U.S. v. Roduguez,* 182 F, Suppl. 479 (1960). *Cf. Attorney-General of Israel v. Eichmann* (1961) where the Israeli court held that Israel although it was not in existence during the Second World War could exercise jurisdiction over a Nazi war criminal on the basis of the protective principle, because of the defendant's "crime against the Jewish people" which fact is the "linking proof" between the forum state (Israel) and the accused (Eichmann). Israeli agents without the knowledge of the Argentine authorities abducted Eichmann from Argentina in 1960. He was tried, convicted, sentenced to death and executed after his appeal to the Israeli Supreme Court was dismissed. The Bustamante Code, Convention on private international law adopted in 1928 and in force between several South American states also provides in Article 305 that "those committing an offence against the internal or external security of a contracting state or against its public credit, whatever the nationality or domicile of the delinquent person, are subject in a foreign country to the penal laws of each contracting state".

[66] (1935) Vol 29 AJIL Supp. 443.

discussed below. Similarly with regard to space law, the protective principle forms the basis of the questionable insistence of some legal theorists that the territorial jurisdiction of states ought to extend infinitely in spatial terms.[67]

1.1.4: The Passive Personality or Passive Nationality Principle

Under this principle an alien may be prosecuted for acts done abroad which are harmful to the nationals of the forum state. This is the most controversial basis of criminal jurisdiction. In the *Cutting Case (1887),* a Mexican Court exercised jurisdiction in respect of the publication in a Texas newspaper of material adjudged defamatory of a Mexican. Cutting, a citizen of the U.S. and the paper's editor was thus, prosecuted in Mexico when he subsequently travelled there. The United States demanded his release, but the decision on appeal by which he was discharged from custody justified his release on grounds of public interest, as "the offended party... has withdrawn from the action".[68] It must be noted in this case that the U.S. protested against the court's assumption of jurisdiction until the court changed its theory to jurisdiction based on circulation of the libellous publication in Mexico.

All the dissenting judges in the *Lotus Case* rejected the passive personality principle (and the Harvard Draft Convention 1935 did not retain it either). In his dissenting opinion, Judge Moore said of the passive personality principle that it would mean that the national of one country while travelling to another takes with him for his protection the law of his own country, which is contrary to the well settled principle that such a visitor ought to put himself under the protection and dominion of the law of the receiving state, except that his government may intervene in case of denial of justice. Yet many states assert jurisdiction (through legislation) on the basis of the passive personality principle. This can be found for example in Article 4 of the Mexican Penal Code, and Article 5 of the Swiss Penal Code. O'Connell in supporting this basis of jurisdiction wrote that it is "a corollary of the rule that any state may protect its own citizens abroad". [69] States are tempted to adopt this principle for various reasons, not the least of which is their perceived laxity of the domestic laws of other states as compared to their own in certain matters.

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[67] *Infra* Chapter 10.
[68] *(1887)* US For Rel., p. 751.
[69] D.P. O'Connell, International Law, 2nd Edition, Volume 2 (London: Stevens and Sons, 1970) pp. 901, 902.

1.1.5: The Universality Principle

According to this principle, certain crimes are of such nature and seriousness as to justify their repression by all states as a matter of international public policy. Universal jurisdiction over piracy for example is well known under both customary and conventional international law: wherever committed and whatever the nationality of the criminal, a piratical act against a ship falls under the jurisdiction of any state that detains the pirate. Anybody who contributes to the committing of a piratical act is also a pirate.

The power to arrest pirate ships and watch out for them is based on the principle that there is a duty on all states to repress piracy. Piracy is defined in Article 101 of the Law of the Sea Convention (1982)[70] as consisting of:

> (a) any illegal acts of violence or detention, or any act of depredation committed for private ends by the crew or the passengers of a private ship or a private aircraft and directed: (i) on the high seas, against another ship or aircraft, or against persons or property on board such ship or aircraft, (ii) against a ship, aircraft, persons or property in a place outside the jurisdiction of any state;
>
> (b) any act of voluntary participation in the operation of a ship or of an aircraft with knowledge of facts making it a pirate ship or aircraft.
>
> (c) any act of inciting or of intentionally facilitating an act described in sub-paragraph (a) or (b).

Viscount Sankey L.C. in *Re Piracy Jure Gentium* has accurately expressed the total abhorrence of the act of piracy in international law thus:

> ...whereas according to international law the criminal jurisdiction of municipal law is ordinarily restricted to crimes committed on its *terra firma* or territorial waters or its own ships and to crimes by its own nationals wherever committed, it is also recognised as extending to piracy committed on the high seas by any national on any ship, because a person guilty of such piracy has placed himself beyond the protection of any state. He is no longer a national, but *hostis humani generis* and as such he is justiciable by any state anywhere.[71]

In consequence of this it was also held in this case that "actual robbery is not an essential element in the crime of *piracy jure gentium.* A frustrated attempt to commit a piratical

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[70] United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982 xxi ILM 1245 (1982). Hereinafter referred to as LOSC (1982).
[71] *Re Piracy Jure Gentium* [1934] A. C. 589.

robbery is equally *piracy jure gentium*".[72]

There have been efforts to extend the scope of application of the universality principle beyond piracy as it is known under customary international law to include other acts such as aerial hijacking and other acts regarded as *delicta jure gentium.* Such would include slave trading, and genocide.[73] It is possible to suggest possible extensions to cover similar acts that may occur on board spacecraft and on space stations.

The principle surely applies to war crimes. The United Nations War Crimes Commission stated in its Digest of Laws and Cases that: "According to generally recognised doctrine... the right to punish war crimes is not confined to the state whose nationals have suffered or on whose territory the offence took place, but is possessed by any independent state whatsoever, just as is the right to punish the offence of piracy".[74]

It is notable that in the *Eichmann Case (1962)*, the Israeli courts relied not only on the protective principle, but also on the universality principle in trying the accused.

1.2: ***Jurisfaction* and *Jurisaction***

Bin Cheng introduced two terminologies in the 1960s, which did not seem to have received sufficient analysis in academic literature. This, however, is not for the reason of the falsity of his analysis. In this discussion however, it is appropriate to revisit these terms because they still represent a unique and important way of looking at jurisdiction. State jurisdiction as a whole suggested Cheng, may be separated into two complementary elements:

(a) Jurisdiction to prescribe (prescriptive legislative jurisdiction or *jurisfaction*) and
(b) Enforcement prerogative jurisdiction or *jurisaction* (that is jurisdiction to enforce).

Jurisfaction denotes the normative element of jurisdiction and it represents the powers a state has to adopt valid and binding legal norms and to concretise them with binding effect through its appropriate organs, whether judicial or otherwise. The spheres of validity or operative force of these norms may be realised *ratione loci* (territorial), *ratione instrumenti* (quasi

[72] Umozurike *op. cit.*, p. 112.
[73] *Infra* Chapter 3.
[74] Vol. XV Law Reports of Trials of War Criminals (1949), p. 26.

territorial) or *ratione personae* (personal).[75] *Jurisaction* on the other hand, is the formal element of state jurisdiction and it encompasses the powers a state possesses to, at any place or time, physically perform the acts of making, concretising or enforcing laws. That is it can hold legislative assembly, set up courts or tribunals or even arrest wanted persons. From this point of view, "the validity of jurisaction presupposes jurisfaction, but it is possible to have jurisfaction without jurisaction".[76]

In respect of aircraft and spacecraft and all persons and things therein, including the activities of such persons individuals or corporate bodies, state jurisdiction is exercisable quasi territorially. The primary source of such jurisdiction is based on the principles of international customary law, which recognised state jurisdiction over flag-craft and even pirate vessels *jure gentium*. *Jurisfaction* here is on a par (i.e. in terms of hierarchy and precedence) with the other types of *jurisfaction* (i.e. territorial and personal) identified above, and the geographical scope is of course limitless. Therefore, it can be exercised on an aircraft or spacecraft whether on earth, airborne or in outer space. *Jurisaction* is also relevant in relation to flagships, national aircraft and spacecraft. In case of conflict between quasi-territorial *jurisfaction* and territorial *jurisaction*, the latter overrides but the former as well over-rides personal *jurisaction*.[77] This, of course is because though personal *jurisaction* may be exercised from outside territorial sphere or quasi-territorially, such jurisdiction is clearly limited to its legislative and judicial forms. As Cheng aptly puts it:

> [a] state may, in its own territory (or in territorium nullius) pass laws applicable to its nationals who are in foreign countries or on board foreign craft that are not in its territory and even try them in absentia, but it may not send its officers to where they are in order to arrest them.[78]

Summary and Conclusions

Sovereignty and jurisdiction are legal doctrines of a complex nature, which have been subject to differing interpretations by scholars in legal literature. Both concepts have been central to the development of international law. The relationship between the two with respect to all the manifestations of territory has also not been fully worked out by lawyers. Yet there exists a basic kernel of understanding as to these two concepts in international law. While the term

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[75] Cheng, *op. cit.*, p. 136.
[76] *Ibid.*
[77] For a clearer picture of these submissions, see Diagram on state Jurisdiction drawn up by Cheng, *op. cit.*, pp. 138-139.
[78] *Ibid.*, p. 137.

'sovereignty' covers the total legal personality of a state, jurisdiction refers to particular aspects of the substance, such as rights, liberties and powers of a state. Sovereignty explains the authority of the state over its populace, territory and affairs and operates in the international system along with the principle of equality of states. Jurisdiction also explains the right of the courts of a state to hear civil and criminal matters such as that which may arise with respect to damages caused during travel through airspace or by space activities or by acts committed on board aircraft and spacecraft.

Due to the usefulness of the concepts of sovereignty and jurisdiction and the wealth of jurisprudence developed in relation to them over the centuries, it is inevitable that useful analogies will link them to control over the sea, Antarctica, the airspace and outer space. Hence it is necessary to compare and contrast the manifestations of the concepts in these areas. Such exercises will not only reveal similarities but will also help fill any possible lacunae that exist in the development of the law in any of these areas.

In the treatment of crimes in airspace as well as outer space it is necessary to accept the continuing relevance of the common bases of criminal jurisdiction of states which are: territorial principle, nationality principle, protective principle, passive personality principle and the universality principle. It is probably crucial for states to ascertain the specific basis of jurisdiction relied upon in each case when it desires to exercise jurisdiction. Furthermore, immunities and privileges, dual citizenship and the total abhorrence of piratical acts are to be taken into consideration by states when exercising jurisdiction over persons and activities in the airspace and outer space.

It is clear that sovereignty has traditionally been claimed over *res nullius*. However, once a territory is recognised as *res communis* the exercise of sovereign rights is out of the question. In the nature of things it is doubtful that there remains any territory on earth or indeed anywhere else which is *res nullius*. In any case the legal status of a territory as *res nullius* or *res communis* is determined promptly after discovery. In other words there can be no change in the legal classification of any territory once it has been recognised as falling into one of the two categories. With particular reference to outer space and its celestial bodies the significance of these findings is that the legal status of outer space has already been determined upon the commencement of outer space activities. Since it has been the practice in international law to grant the status of *res communis* to all international commons[79] such as

[79] International spaces have been defined by John Kish (who was an early advocate of the development of a separate branch of international law for these spaces) as "the high seas, the polar regions and the cosmic spaces". The fundamental legal status of these spaces as international spaces he explains is in

the high seas and Antarctica it is reasonable to conclude at this stage that *res communis* also applies to outer space. Any attempt to introduce activities therein, which cannot be properly founded within this principle, will be difficult to reconcile with international law.

The tridimensionality of state territory recognised under customary international law subsists till the present. The idea of sovereignty and jurisdiction over the airspace has developed over the centuries and is even older than the history of human flight. The operation of this principle, however, presupposes that at some point there is an upper ceiling to the dimensions of a state's territory. That point, however, has not been determined under international law.

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consequence of the incapability of national appropriation and the absence of effective national control. See John Kish, The Law of International Spaces (Netherlands: A.W. Sijthoff International Publishing Company, N.V., 1973) p. 196.

CHAPTER TWO

2.0: THE LEGAL STATUS OF THE AIRSPACE

2.0.1: Nature and Character of Rights over Airspace

The air is a gaseous substance of which the atmosphere is composed. It is transparent, perfectly elastic and highly compressible. Although very light, it has a perfectly definite weight in consequence of which it exerts pressure. The entire earth is enveloped by the airspace and may be considered as a gaseous sea at the bottom of which we all live and which extends upwards to a considerable height, which constantly diminishes in density as altitude increases.[1]

The airspace is an area, which for the most part of human existence was not utilised for any other reason than for breathing. Therefore, the early conceptions as Borchard describes it is that air is common public property, that which everybody may enjoy and which cannot be the object of exclusive right on the part of any individual or state, similarly, airspace has never been considered as commercial property. It cannot be considered as an object in strict legal terminology. In fact property according to Windscheid can only mean "any singularised object (*stuck*) belonging to irrational nature".[2] Therefore, adopting this criterion, all property should be individualised as a phenomenon. It is more of an objective reality. For this reason some jurists have found no difficulty in concluding that ownership of a given tract of airspace must be based on occupancy and possession.[3] In support of this view Clement Bouve defines 'ownership' as;

> based upon the possibility of becoming master of a thing, of taking possession of it, disposing of it at will; and when by virtue of characteristics peculiar to itself, a thing escapes from this appropriation further ownership in it is impossible.[4]

Furthermore, he wrote:

> But how much more true is this with respect to the aerial space above us.... There is but one way of appropriating a portion of space, and

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[1] The term gaseous fluid represents the scientific fact that the atmosphere consists of several layers with different properties that flow into each other. G.S. Sachdeva, "Sovereignty in the Air- A Legal Perspective", 22 Indian Journal of International Law, (1982) p. 397.
[2] N.M.Matte, Aerospace Law, (London: Sweet and Maxwell Ltd. 1987) p. 15
[3] Mukerjea, The Problems of Air Law, (Calcutta: Hill Book Co. 1924) pp. 60-61.
[4] Clement L. Bouve, Private Ownership of Airspace", Air Law Review (1930) p. 255.

> that is by occupying it by means of building or plantings... Effective possession - that possession which manifests ownership can be accomplished in space only by works inherent to the soil and which in reality occupy a given tract of space.[5]

To Paul Fauchille, the conception of ownership with respect to any given portion of the super incumbent air column before occupying it by means of construction erected upon the soil is out of the question; "for it is actual possession and not the possibility of it which creates ownership. The permanent possession of a thing is an essential prerequisite of ownership".[6]

These submissions by some European jurists (such as L. Bouve and Fauchille) can be accepted only with reservations. Their assertions may be pertinent if limited to the issue of private ownership of airspace. In reference to state ownership or sovereignty over super incumbent airspace, there need not be any form of overt effective occupation. Possessory rights reside implicitly in statehood. Thus, the correct emphasis is that pointed out by Bin Cheng in holding that airspace sovereignty is delimited *ratione loci* in respect of the space above national territories and not *ratione materiae* in respect of the air which may at any given time be filling this space.[7] Thus, while Grotius remains correct in holding that since the air is not capable of being trapped it is, therefore, out of everyone's claim (indeed no one can hold the air just as no one can hold great expanses of water) that is not to say that ownership or sovereignty cannot be exercised over the oceanic space or airspace. Sovereignty in this sense does not really involve continual presence any more than possession does in private law. A state can exercise sovereignty over a huge desert or the summit of uninhabitable mountains, if it is in *de facto* control and is in a position to suppress internal disorder and repel external attack. Certainly in that sense a state does own and control its airspace.

2.0.2: Development of the Concept of Sovereignty over Airspace

The legal concept that a state has territorial rights above the earth is much older than the history of human flight. There is evidence that Rome did not hesitate to control the use of space whenever deemed necessary to protect public or private rights on the surface of the earth. The airspace over public highways and over sacred ground was kept open by law. The Roman emperors limited the height to which buildings could be erected. Private rights in space above the landowner's property on the surface were carefully kept and protected. The

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[5] *Ibid.*
[6] *Ibid.*
[7] Bin Cheng, "Recent Developments in Air Law", 9 Current Legal Problems, (1956) p. 209.

Roman state indeed made its law as effective above the surface of the earth as it did on the surface.[8] Roman Law accepts private control of airspace above private property, because it considers it inherent in the ownership of the land itself and does not limit such control to low altitudes. It has been correctly suggested that:

> the Romans could have met even the case of air navigation by permitting the aviator to cross a private air column, when it was not used by the land owner himself and provided such a crossing did not cause injury or damage to persons or to property... The upper control of airspace is nothing else but an extension of right of ownership a further exploitation of it, a higher use and enjoyment of property an extension of such use to upper zones. Therefore, the Romans would not have had any difficulty in admitting the private control of the airspace.[9]

The Romans thus developed the principle expressed in the maxim, *cujus est solum ejus usque ad coelum et ad inferos* (whose is the soil, his is also that which is above it into infinity). In the ancient Anglo Saxon law, the principle is found again *cujus es solum ejus est usque ad coelum* (whose is the soil, his is also that which is above it). This principle derived undoubtedly from the existing knowledge of the possibility of the utilisation of space. However, scholars like Arnoldo de Valles, characterise the maxim as a principle simple in its absurdity and even opposed to the conception of ownership. To consider, says Grote, without qualification that the whole of aerial space is subject to property rights vested in the individual, community or the state, is in view of its colossal extent and in the absence of instrumentality competent to occupy a realm so infinite and so wholly *sui generis,* a conception which is not only impossible at present but out of the question for all times.[10]

Again, while rejecting the view that aerial sovereignty should be based on effective occupation, the proposition cannot be accepted as advanced by some writers that international law has adopted *simpicta* the maxim *-cujus est solum ejus usque ad coelum et ad inferos* (whose is the soil, his is also that which is above it into infinity). What international law today recognises is built upon the maxim but is very different from the *ad inferos* (into infinity) and therefore, *ad absurdum* nature of the Roman conception. The reason for the total nature of the earlier conception probably was that no one had any objection to the idea that everyone could stake out a claim in regions of space, for this was at that time of course, a purely academic claim. Through time there have been numerous reasons advanced for determining the status of the airspace. Pufendorf in the later part of the seventeenth century remarked that; "Since

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[8] J.C. Cooper, "High Altitude Flight and National Sovereignty", Explorations in Aerospace Law: Selected Essays, (Montreal: McGill Univ. Press, 1968) p. 258.
[9] Francesco Lardone, "Airspace Rights in Roman Law", II Airlaw Review, (1931) p. 150.
[10] Bouve *op. cit.*, pp. 250-251.

man has been denied the ability to be in the air to the extent that he rest in it alone, and be separated from the earth he has been unable to exercise sovereignty over the air except in so far as men standing upon the earth can reach it".[11]

Thus, in his own view as is still held by some legal theorists today, national sovereignty in the air is limited by the ability for effective control. In other words, once control can be established through any means then sovereign rights can be claimed. Other writers such as Professor Westlake being witnesses to developments in this century making it possible for man "to be in the air to the extent that he rest in it alone," have suggested that the necessity for extension of national sovereignty into the air exists because, "in the air, the higher one ascends, the more damage the fall of objects will cause on the earth".[12] For this reason alone he concludes that, "the right of subjacent state remains the same whatever may be the distance..." It needs be noted that concern for state security remains one of the reasons why there is still a blur today regarding the legal demarcation between national airspace and outer space. Therefore, any resolution of the spatial demarcation dispute will have to take into consideration the security concerns of states as well as their desire to retain complete sovereignty over territorial airspace.

In 1784 when the Montgolfier Brothers succeeded in constructing a balloon, which could take human beings up into the air and bring them back again, the law responded swiftly. On the occasion of the first ascent, on 23 April 1784 a police order was issued in Paris defining in precise terms the conditions under which balloon flights could take place. The stated objective was the protection of the civil populace.[13] In essence it represents one of the earliest concrete attempts to exercise lateral sovereignty and control over movements in the airspace. We may in fact posit that while lateral sovereignty is a much older concept, jurisdiction and control over movement in the airspace is a factor and an off-shoot of the development of 'aircraft'

McNair, reports four prevalent theories on the legal status of the airspace up till the early 20th

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[11] Cooper *op. cit.*, p. 258.
[12] Quoted in Cooper, *lbid.*
[13] Later developments include the 1911 and 1913 Aerial Navigation Acts of the U.K: which instituted prohibited security zones along the British coasts. In 1912 Russia hurriedly proclaimed an absolute prohibition to over-fly its Western frontiers. The Franco German exchange of notes of 1913 (*infra*) established sovereignty over the airspace primarily between both countries. Upon the commencement of the First World War in 1914, Switzerland swiftly prohibited flights into its airspace by foreign aircraft (4 April). By November 1914 the U.S forbade over-flight over the Panama Canal. Sweden in 1916 also prohibited entrance of

century:

1. That the airspace is free, subject only to the rights of states required in the interests of their self-preservation;

2. Upon the analogy of the maritime belt or territorial waters of each state there is a lower zone of territorial air space and a higher and unlimited zone of free airspace;

3. That a state has complete sovereignty in its superincumbent airspace to an unlimited height, thus applying the *cuius est solum* maxim in its crude form

4. The fourth theory is the third with the addition of a servitude of innocent passage for foreign non-military aircraft.[14]

The prevailing law differs in most respects from any of these theories. However, with the benefit of hindsight now it may be said that the first two theories remain alluring and the last two remain unacceptable propositions for all times.

In 1889 the first International Congress of Aeronautics was held in Paris on the occasion of the International Exposition with the participation of Brazil, the United States of America (USA), France, Mexico, The United Kingdom (UK) and Russia. The following year in 1890 there was another International Congress of Aeronautics.[15] In 1900, Fauchille, in an address to the Institute of international law recommended that an International Air Code should be drawn up, and in 1902 he presented a set of regulations consisting of thirty-two articles to the Institute of international law which met in Brussels.[16] Fauchille of course was an ardent defender of freedom of the air and he was in disagreement with the Anglo Saxon views

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foreign aircraft. See Wybo P.Heere, "Problems of jurisdiction in Air and Outer Space", Vol xxiv Annals of Air and Space Law, No. 2 (1999) pp.70-71.

[14] McNair The Law of the Air 3rd ed. (London: Stevens and Sons 1964) p. 5.

[15] Seara Vazquez, Cosmic International Law, (Detroit: Wayne State Univ. Press, 1985) p. 29.

[16] Fauchille's arguments were simple enough. Echoing Pufendorf he argued that real property of the air is impossible because we cannot appropriate it; the same applies to the possibilities of the state to dominate the air. Classically represented it refers to the position that airspace is *res communis omnium* and 'l'air est libre'. However, taking into consideration the arguments of the security school (as we may choose to call it) he approved a safety zone of the first 1500 meters above the ground. Later on, apparently convinced of the correctness of his earlier convictions he brought the ceiling down to 500 meters in 1910. See Fauchille, Le domaine aerien et le regime juridique does aerostats, (Paris: 1901) as cited in Vazquez *ibid.* See also

presented by Westlake, who upheld the right of sovereignty of the underlying state while admitting the right of free peaceful transit.

In the conclusions of the International Law Association at their meeting in Madrid in 1911, the most widely held opinions among the jurists of that period were expressed thus -

1. States have the right to regulate traffic over their territory (Land and Sea).

2. While reserving this right they should permit free transit to airships of all nations.[17]

In 1913, France and Germany signed the first treaty on air law. In it, sovereignty of the state over its airspace was maintained.[18] This development important as it was according to some modern legal historians did not go far enough since it did not result in a clear decision on the liberty of entering foreign airspace.[19] That same year in Madrid the Institute adopted a new theory in its resolution, which states:

> It is the right of every State to enact such prohibitions restrictions and regulations as it may think proper in regard of the passage of aircraft above its territories and territorial waters. Subject to this right of subjacent States, liberty of passage of aircraft ought to be accorded freely to the aircraft of every nation.

This may very well be the beginning of a limitation on territorial sovereignty in the airspace and the recognition of a servitude, which would in any event serve mostly the interests and be to the benefit of those states that have aircraft. It may well be wondered what the benefits of such a regime are to states that do not have aircraft at that stage of events and whether or not their interests were adequately considered. It is perhaps important to note that at that time most of the territories that are now independent states today were colonial possessions of the very states that designed the blueprint for what has today emerged as international air law.

Heere *op. cit.*, p. 22; *Cf. infra* Chapter 10.8: Theories of Arbitrary Distances and our conclusions in chapters 2 and 10.

[17] Seara Vazquez *op. cit.*, p. 30. Having in effect agreed with Fauchille in1906 at its Gent meeting, the Institute in 1911 tried to avoid unnecessary disputes about the word 'sovereignty' by adopting a resolution in which it was said that *la circulation aerienne est libre*.

[18] There had been no agreement on the principle of sovereignty in the 1910-1911 conference. France and Germany agreed to recognise it in the 1913 conference.

[19] Heere *op. cit.*, p. 71.

The War of 1914-18 brought about a realisation of the importance of aerial navigation as well as its potential danger to the subjacent state in military terms. Therefore, it was natural that henceforth the emphasis both in international treaties and by national legislation is the theory of complete sovereignty in airspace subject only to mutual, carefully safeguarded, and easily determinable right of free entry and passage for the non-military aircraft of foreign states.[20]

Therefore, when the first major multilateral treaty codifying the rules of Air Law was written in the guise of the Convention relating to the Regulation of Air Navigation of October 13 (1919)[21] (which was signed by 33 states) the status of the airspace above national territory was stated as follows:

> The High contracting parties recognise that every power has complete and exclusive sovereignty over the airspace above its territory. For the purpose of the present convention the territory of a State shall be understood as including the national territory, both that of the mother country and of the colonies, and the territorial waters adjacent thereto.

This convention entered into force in 1922 and established two principles:

1. The full and exclusive sovereignty of each State over the atmospheric space above its territory. Each State has the right to open or close its airspace including that above its territorial waters to foreign or domestic aircraft as it deems fit.

2. Freedom of peaceful transit for private planes of the contracting States in times of peace.

Note may be taken of the fact that exclusive sovereignty is granted over the airspace above "the colonies and the territorial waters thereto". This may be seen as verifiable evidence of the Eurocentricity of international law as was developed particularly in the 19th and 20th Centuries. Even the principles of jurisdiction in air law were tailored to suit the prevailing

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[20] Michael Akehurst, A Modern Introduction to International Law, 3rd Edition (London: George Allen and Unwin, 1980) p. 183.

[21] To be referred to as the Paris Convention of 1919 League of Nations, Treaty Series, 174, 1919; See also Hudson, International Legislations, (U.S.A.: Oceana Publications, 1989) p. 359. The Convention was signed by the United States of America, Belgium, Bolivia, Brazil, the British Empire, China, Cuba, Ecuador, France, Greece, Guatemala, Italy, Japan, Panama, Poland, Portugal, Romania, the Serb-Croat-Slovene State, Siam, Czechoslovakia and Uruguay. Countries which later acceded include Peru, by declaration dated Paris, 22 June 1920, Nicaragua, by declaration dated Paris, 31 December 1920, Liberia, by declaration dated Paris, 29 March 1922, and Australia by declaration dated Paris 1922.

western interests and to legitimise the spoils of war.

The Ibero-American Convention of Madrid in 1926 was inspired by the same principles as that of Paris in 1919. The Pan American Convention on Commercial Aviation 1928 in like manner conferred in Article I sovereignty over "atmospheric space" *(espace atmospheric)* while the later also in its Article I recognises state sovereignty over the airspace *(espace areo)*.[22]

These principles were again restated and incorporated in the Chicago Convention (1944), which is the most important codification landmark in Air Law to date.[23]

The Convention provides thus:

Article 1: The contracting States recognise that every State has complete and exclusive sovereignty over the airspace above its territory.

Article 2: For the purposes of this convention the territory of a State shall be deemed to be the land areas and territorial waters adjacent thereto under the sovereignty, suzerainty, protection or mandate of such State.

It will be observed that the recognition of complete and exclusive sovereignty granted in Article 1 applies to 'every state'. In other words, it is not confined to contracting states. It is, therefore, clear that notwithstanding whatever controversy that may have existed as to the ownership control and sovereignty over airspace, the question is now settled. The principle of complete and exclusive sovereignty over the superincumbent airspace by the underlying state is unassailable. Therefore, Vazquez concludes; "airspace is that part of space subject to the sovereignty of a state".[24] McNair says "sovereignty in the superincumbent airspace reigns supreme".[25] Bin Cheng sees the principle as "a well-recognised rule of international customary law".[26] For William J. Hughes the principle is now a fundamental tenet of

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[22] Pan American Convention on Commercial Aviation signed at Havana on 20 February 1928. Also referred to as the Havana Convention (1928). Text in Spanish and English 6th International Conference of American States, Report of the Delegates of the United States to Department of State, Washington (1928) 177-1189. See 3 Journal of Air Law, (1932) p. 411.
[23] 78.U.K.T.S. 8 1953 Cmd 8742; UNTS 295. This Convention entered into force on April 4,1947. Adherence by Nigeria to this treaty was on 14 Nov. 1960. See Federal Ministry of Justice, Nigeria's Treaties in Force: June 30 1969 (1971) p. 19.
[24] Vazquez *op. cit.*, p. 27.
[25] McNair *op. cit.*, p. 15.
[26] Bin Cheng, "From Air law to Space Law", 13 Current Legal Problems, (1960) p. 229; and Cheng, "Recent Developments in Air Law", (1956) *op. cit.*, p. 208.

international law.[27] This universal principle underlies other numerous bilateral and multilateral conventions.

What becomes apparent from a study of the development of the regulation of the airspace is that it not so surprisingly reflects particular interests. Dominant scholars and countries dictate these interests from the perspective of prevailing ideas as well as political and economic interests. In fact by sheer reason of colonial subjugation most countries that exist today did not have the opportunity to participate in the creation of air law.

Certain scholars from certain states have had more than a fair opportunity to shape air law at least within the principles of aerial sovereignty and jurisdiction. In fact it may be suggested that the reason why the ensuing legal regime created for the airspace is not more blatantly unfair is due to competition among the few privileged aviation powers and not altruistic motivation nor actual involvement of the majority of states. Again it can only be said that the story of the development of the concept of sovereignty in the law of the air is not very different from the story of the development of international law itself. That is it is a product of western civilisation and hegemonic interests.

Ironically Britain and the US were at cross-purposes around the middle of the 20th century over the conceptualisation of sovereignty and jurisdiction in the airspace. The Chicago Conference in 1944, coinciding as it was with the tail end of World War II became the battleground for two opposing visions. At this time the US possessed a virtual monopoly in the construction of aircraft big enough to navigate the world. Thus, the US, which had not ratified the Paris Convention suddenly found itself in the unenviable position of a leader without a following. It was not able to influence the shape of the law of the air beyond the Havana Convention of 1928.[28] Its agenda at the Chicago Conference for the principle of maximum freedom for civil aviation was viewed with suspicion by the UK, which did not possess nor produce aircraft big enough to cross the oceans. The UK, therefore, pleaded for a controlled use of the airspace. This became the adopted position at the conference since the UK still had the then existing members of the Commonwealth behind its position and most of the colonial territories belonged to it.[29] Thus the provision that passage through airspace and

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[27] William J. Hughes, "Aerial Intrusions By Civil Airliner And The Use of Force", Journal of Air and Commerce, (1980) p.595.

[28] *Supra* note 22.

[29] The origins of the Commonwealth lie in Britain's former colonial empire. As the first colonies - Canada, Australia and New Zealand - evolved into self-governing Dominions, they came to be seen as partners with Britain. The term seems first to have been used by Lord Rosebery in Adelaide in 1884, when he referred to the Empire as 'a Commonwealth of

landing rights are at all times subject to the control of the territorial state became enshrined in Articles 1 and 6 of the Chicago Convention. It does not take much acumen to realise that from the position of developing countries the initial opposition of views between the 'air powers' can be said to be very fortunate. Unity of views at that stage between them would have undoubtedly produced different results for the concept of jurisdiction over airspace. It is worthy of note that up till the present the US still aggressively promotes the principle of 'open skies'.[30] Starting in 1978 when its own internal aviation market was deregulated, the US has offered very liberal bilateral agreements to other states.

Of particular concern to us is the effect this policy will produce on the future of air law when it operates in conjunction with emerging European Union legislation. It was predictable that some of the most effective inputs towards the regulation of the international airspace (at least with respect to civil aviation) would be introduced via EU legislation. In 1987, 1990 and 1993 respectively a liberal structure for civil aviation has been promoted and implemented by the European Commission. The implementation of these measures is based on the aviation policy devised by two memoranda of 1979 and 1984.[31] Thus if from 1978 the US and the EU have been pushing the agenda of deregulation and liberalisation, the tone is already set in an increasingly unipolar world for the operation of these principles on a worldwide basis. This of course is not necessarily a bad development. But it may also not necessarily be in the interest of the developing states. For example the airspace over national territories is becoming freer for big business to operate at a time when the exploitation of outer space resources appears to be more and more the exclusive preserve of those states benefiting most from the 'open skies'. It would unfortunately appear that the majority of scholars particularly from the developing counties have taken no studied position upon these points.

2.1: Nationality Principle and Control over Aircraft in Flight

That state sovereignty to a large extent has territorial limitations has already been alluded to. Indeed, before a state can exercise unchallenged jurisdiction, present an international claim, or confer rights and duties upon a person there must be a determination of nationality that is based upon sovereignty.[32] With respect to aircraft or indeed spacecraft in flight, nationality is

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Nations'. Until 1949, the member states of the Commonwealth were united through common allegiance to the Crown. Until 1949, the member states of the Commonwealth were united through common allegiance to the Crown.

[30] Heere *op. cit.*, p. 72.

[31] *Ibid.*, p. 72.

[32] Despite challenges to the traditional international law system of sovereignty and equality that has been alluded to in chapter one, the traditional account of international law as law between states is still strong and serves useful purposes. 'States' still represent the carving of

the determinant of control. At this stage the principle of nationality of aircraft alone will be examined. The nationality principle has two crucial applications. The first is in respect of the jurisdiction *ratione instrumenti* (i.e. over the aircraft itself) and that of jurisdiction *ratione personae* (i.e. over persons on board the flight). As regards the latter, clearly where there is a concurrence of jurisdictions, the quasi-territorial jurisdiction (or specifically jurisaction) of the state of registry takes precedence over the personal jurisdiction of any state whose nationals may be on board.

Just as in the case of maritime vessels and unlike any other land-based vehicles or craft (such as cars, tractors, cycles etc) an aircraft must have a nationality. Nationality of aircraft is an unassailable legal principle the utility of which is reflected in the fact that it is well entrenched in several multilateral treaties regulating the airspace. For instance, in the Paris Convention (1919)[33] it is stated that aircraft possess the nationality of the state on the register of which they are entered (Article 6). Furthermore, no aircraft shall be entered on the register of the contracting states unless it belongs wholly to nationals of such state. No incorporated company can be registered as the owner of an aircraft unless it possess the nationality of the state in which the aircraft is registered, unless the President or Chairman of the company and at least two thirds of the directors possess such nationality and unless the company fulfils all other conditions which may be prescribed by the laws of the said state (Article 7).[34] It is also stated that an aircraft cannot be validly registered in more than one state (Article 8). The contracting states agree to exchange every month among themselves and transmit to the International Commission for Air Navigation referred to in Article 34 copies of registrations and of cancellations of registrations which shall have been entered on their official registers during the preceding month (Article 9). Lastly, all aircraft in international navigation shall bear their nationality and registration marks as well as the name and residence of the owner

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the world into non-overlapping territorial units, vested with the authority to regulate their territories, and having the responsibility not to harm certain interests of others and the capacity to make claims when they or their nationals are affected by illegality for which other states, corporations or international organisations are responsible. It is for this reason that a reasonably comprehensive if decentralised effort is made to connect every individual, corporation, vessel and aircraft with at least one territorial state. Nationality in this sense refers to the quality or character, which arises from the fact of a person's belonging to a nation or state. Nationality determines the political status of the individual, especially with reference to allegiance, while domicile determines his civil status. Nationality of individuals arises either by birth or by nationalisation. See Black's Law Dictionary, Sixth edition, (St. Paul Minn: West Publishing Co., 1990). See also Benedict Kingsbury, "Sovereignty and Inequality", Vol. 9 European Journal of International Law, No. 4 (1998), p. 610.

[33] *Supra* note 21.

[34] Art. 7 was revised by a protocol dated in Paris June 15, 1929 which provides that registration of aircraft shall be made in accordance with the laws and special provisions of each contracting state.

(Article 10).

The Havana Convention (1928) also stated in similar terms in Articles 7 to 9 as follows:

Article 7 - Aircraft shall have the nationality of the State in which they are registered and cannot be validly registered in more than one State.

Article 8 - The registration of aircraft referred to in the preceding article shall be made in accordance with the laws and special provisions of each contracting State.

Article 9 - Every aircraft engaged in international navigation must carry a distinctive mark of its nationality, the nature of such distinctive mark to be agreed upon by the several contracting States. The distinctive marks adopted will be communicated to the Pan American Union and to other contracting States.

The Chicago Convention 1944 lends equal weight to the principle of nationality of aircraft. As Cheng puts it, the second important principle accepted by parties to the Chicago Convention 1944 is that enunciated in Article 17.[35] This Article states that "Aircraft have the nationality of the state in which they are registered". Accordingly Article 18 declares that "an aircraft cannot validly be registered in more than one state, but its registration may be changed from one state to another". Article 19 stipulates that the registration or transfer of registration of aircraft in any contracting state shall be made in accordance with its laws and regulations. Article 20 provides that every aircraft engaged in international air navigation shall bear its appropriate nationality and registration marks. Article 21 mandates a system by which states are obliged to supply to each other and to the International Civil Aviation Organisation (ICAO) any information that is demanded concerning the registration and ownership of aircraft registered in that state.

States translate these principles of air law into local legislation in different ways. As a general trend however, it is always intended to give ultimate effect to the principles enunciated in the Chicago Convention especially the utility of the principles of nationality and registration. For instance, as far as British aircraft are concerned, the rules of nationality and registration of aircraft are important and have been incorporated into a plethora of legislation. The earlier legislative efforts include the Civil Aviation Act, 1960, and the Air Navigation (General) Regulations, 1960. While the 1960 Regulation operates against double registration (i.e. registration in more than one state), the 1960 Order regulates furthermore that an aircraft will be registered only if it appears to the Minister that it is owned wholly by persons qualified to

[35] B. Cheng, The Law of International Air Transport, (London: Oceana Publications Inc., 1962) p. 128.

be owners of an aircraft registered in the UK.[36] Under that regime the only persons qualified to be the owners of an aircraft registered in the UK are those incorporated in some part of the Commonwealth and firms carrying on business in Scotland. The current legislation is the Air Navigation Order 1995 (no. 2) and the Air Navigation (General) Regulations 1993.[37]

Registration and Marking of aircraft is mandatory under section 3 of the Air Navigation Order No2 Order 1995. Thus an aircraft shall not fly in or over the United Kingdom unless it is registered: in some other part of the Commonwealth; in a Contracting state (i.e. parties to the Chicago Convention); in a country with reciprocal arrangements with the UK; or it is a glider or an aircraft not at any time making any incursion into foreign territory or merely a kite or captive balloon. The Civil Aviation Authority according to Article 4 is the authority responsible for the registration of aircraft in the UK and shall maintain a register for that purpose. Article 4 forbids double registration, registration for convenience and it states exhaustively those persons qualified to hold a legal or beneficial interest in an aircraft in the UK or a share therein.[38]

Not only must an aircraft possess nationality and be registered, it is the law in most jurisdictions that the registration mark must be displayed. The UK Air Navigation (No. 2) Order 1995 in Article 5 states clearly that an aircraft (other than an aircraft permitted by or under this order to fly without being registered) shall not fly unless it bears painted thereon or affixed thereto in the manner required by the law of the country by which it is registered, the nationality and registration marks required by that law. Deceptive marks are prohibited (5 (3) (a) and (b)). Recently under US laws, civil forfeiture proceedings against an aircraft alleged to have displayed a mark that was false or misleading with respect to its nationality or registration were dismissed as a result of a failure to allege that the aircraft in question was

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[36] Air Navigation Order, 1960, Art 2.

[37] To a great extent English municipal air law is regulated by statute and by statutory instruments made under statutory powers. The principal statutes include the Civil Aviation Act 1982 which confers comprehensive enabling powers for the regulation of civil aviation, and the Airports Act 1986 which deals with the regulation and use of airport facilities. Much of the legislation gives effect in English law to international agreements: the Civil Aviation Act 1982 contains provisions for carrying out the requirements of the Chicago Convention; whereas the Carriage by Air Act 1961 enacts in the law of the United Kingdom the provisions of the Aviation Security Act as amended at The Hague in 1955 and the Carriage by Air and Road Act 1979 including the provisions of that Convention as further amended at Montreal in 1975; the Carriage by Air (Supplementary Provisions) Act 1962 gives effect to the Guadalajara Convention; and the Aviation Security Act enables the rules of international agreements for the protection of civil aviation to be applied in the United Kingdom.

[38] They are as follows: (a) the Crown (b) Commonwealth citizens: nationals of any EEA state; (c) nationals of any EEA state; (d) British protected persons (e) bodies incorporated in some

involved in air transportation. It was held that in so far as the aircraft registration listed the aircraft as 'commercial-private', it was not apparent whether the vehicle was used only by its owner or used to provide services to members of the general public.[39]

It suffices to mention that a number of bilateral agreements between states also make provisions for the nationality of aircraft.[40] It is however, important to note that there still is a controversy among scholars on the subject regarding the nationality of aircraft. One view correctly holds that nationality of aircraft is based on registration; therefore, an aircraft cannot be registered in two or more states at the same time.[41] An older opposing view argues that in most countries the nationality of the aircraft is determined by the nationality of the owner.[42]

It is necessary to present this controversy, because it is frequently assumed in accordance with the various treaty provisions discussed above that the nationality of ships and aircraft is invariably determined by their place of registration and hence by the flag they are entitled to bear. Cheng however, aptly points out that this proposition ignores divergent state practice.[43] It is for instance a fact that the nationality of British ships is determined by the nationality of their owners. In Temperley's Merchant Shipping Act [44] it is stated that;

> The term British ship is not defined in the Act. It would seem however, that unless she is employed by a Government under Letters of Marque, the nationality of the owners is generally the criterion of the nationality of a vessel... Hence a British owned ship is a British ship for such purposes, even if she is not registered in this country or if she is registered in and carries the flag of a foreign country.

Thus, it is clear that the flag flown by an aircraft unfortunately offers no more than a *prima facie* presumption that the aircraft has the nationality of the state whose flag it carries. Schwarzenberger's caveat then is that only an aircraft's papers are real evidence of nationality. This is more so since some states still fall back on the nationality of the owner as

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part of the Commonwealth and having their principal place of work business within the European Economic Area (g) firms carrying out business in Scotland.

[39] *US v. One 1980 Cessna II aircraft*, US District Court, Southern District of Florida 15 Dec. 1997, 26 Avi 15. 459. For a thorough digest of this case see Vol. xxiv Air and Space Law, No. 6 (1999) p. 333.

[40] Other matters dealt with by bilateral agreements on the subject of jurisdiction over airspace and airliners in flight include; admission of civil aircraft, issuance of pilots licences and acceptance of certificates of airworthiness for aircraft imported as merchandise.

[41] See M. Akehurst, *op. cit.*, p. 183

[42] See Margaret Lambie, "Universality Versus nationality of Aircraft", Vol. V. The Joumal of Air Law, No. 1 January, (1934). 46-47.

[43] Cheng (1962) *op. cit.*, p. 129.

[44] 5th ed. 1954, p. 3.

proof of the aircraft's nationality. It is important to state that the preferred argument is that which tallies with treaty law to the effect that the place of registration determines nationality; (Article *77* Chicago Convention (1944)) and that it is within the domestic jurisdiction of every state to determine in accordance with its municipal laws to which aircraft it is prepared to grant its nationality. Thus divergent practice as typified by the erstwhile British interpretation has to be brought in consonance with contemporary international law.

The major importance of the principle of nationality in relation to the incident of an aircraft in flight is that it opens the way to other rights and liabilities being attached to aircraft irrespective of their owners or operators.[45] For example, with the legal requirement of identification of the nationality of all aircraft in flight, states find it easier to permit a generally free use of their airspace for navigation. The mutual realisation is that any navigation over state territory inures as much as possible to the benefit and as little as possible to the distress of their citizens and other services.[46]

The operation of the principle of nationality of aircraft allows states to achieve the following: (1) A reservation of commercial air traffic between points in the same states for nationals of that state - that is the principle of cabotage; which has long been familiar in coastal shipping laws. (2) A protection of the public interest of the state itself against the possibility that its secrets of national defence might be unduly violated by the prying eyes of an observer while in flight over the aerial territory. (3) A means whereby the state may protect its citizens and territory against injuries resulting from improper or careless activities of aviators and/or enable its citizens to secure adequate redress if such injuries should occur. [47]

In short, the chief importance of determination of nationality of aircraft is to ensure co-operation and collaboration among states with respect to flights in air space. Without this basic understanding it becomes impossible for aircraft to traverse state territories for various purposes. The detection and control of aerial trespass will be rendered more difficult and the provisions against unsafe aircraft and incompetent pilots will be even more difficult to monitor. The whole essence of the retention of state sovereignty over national airspace will be defeated. Ultimately it presents an easy mode of determining which law governs and what tribunal or court has jurisdiction over the redress for or punishment of, conduct in aircraft. According to one of the early authorities on the subject, diplomatic protection of the aircraft

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[45] Cheng 1962 *op. cit.*, p. 128.
[46] Hence the requirement of easily identifiable registration marks on all aircraft. See also M. Lambie *op. cit.*, p. 40.
[47] Kingsley Rober, "Nationality of Aircraft", Vol. 3 Journal of Air Law, (1932) p. 50.

abroad; the right of requisition of the aircraft during war by the 'state of the flag' foreign aircraft being exempt; and designation of civil and criminal jurisdiction over aircraft are sufficient reasons to at all times confer nationality on aircraft.[48] These observations remain true till date.

2.1.1: Nationality Principle and the Question of what is an Aircraft

Two questions require consideration. What is an aircraft? And which craft must possess nationality? Which 'craft' fall within the provisions of the Chicago Convention 1944 and what laws govern those that fall outside this Convention? To many scholars at the inception of the last century when flight was at its beginning stages, an aircraft was properly speaking no more than a ship and like a ship has peculiar need of national protection.[49] This sweeping generalisation would only lead to confusion if accepted *in toto;* for an aircraft is not a ship, unless we speak in terms of an 'airship'. It is true that like ships there is need for national protection of other vehicles engaged in international transport. This need has been extended to cover vehicles that traverse the airspace such as space ships and space objects. This is surely not to say that there are no clear distinctions in legal terms between ships, airships, and spaceships. Furthermore, we may enquire whether there are distinctions between an aircraft, which by international law must have a nationality and other craft such as balloons and dirigibles. The attempt to grapple with these distinctions will necessarily take us into comparative analysis with similar aspects in space law.

The Chicago Convention in Article 3(1) refers to "Civil Aircraft" but offers no definition. However, the Council of the International Civil Aviation Organisation (ICAO) has defined an aircraft for the purpose of the annexes to the Convention as "any machine that can derive support from the reaction of the air". This is the same interpretation given in the annex to the Paris Convention of 1919. But, there are still significant objects like hot air balloons and gliders, which can violate airspace territory, which derive support from the reaction of air although not 'machines' properly so called. Are these classes of craft then aircraft and must the requirements of nationality and registration under Article 12 Chicago Convention 1944 be complied with in operating them?[50] Space bound vehicles also present another problem. They are no doubt also 'machines' and 'derive support from the reaction of the air' when still within the atmosphere. Are these then aircraft, which must satisfy the nationality requirement

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[48] De Ia Pradelle, 3 *Rev. Juridque Inter de Ia locomation Aerienne* (1912) p. 116.

[49] See Henry Conannier, "De Ia Nationalite et du Domicile does Aeronefs", Vol. 1 *Rev. Juridique* Inter de Ia locomotion Aerienne, (1910) p. 165; See also Lambie, *op. cit.*, p. 41.

[50] Note that under the regime of the UK law discussed above gliders and balloons are exempt from registration.

and operate under all the provisions of the Chicago Convention? Bin Cheng argues convincingly that:

> This definition of aircraft *senso stricto* while it includes both instruments which are lighter than air, like balloons and airships and those which are heavier than air, like gliders and aeroplanes does not apply to devices such as rockets, earth satellites and other space vehicles. Even though they may perhaps fall within a *sense alto* definition of aircraft as used in certain systems of municipal law, the term flight craft has the advantage of obviating any ambiguity.[51]

D. P. O'Connel on his part would appear to have fallen victim to sweeping generalisations. He wrote; "one might conclude therefore that as a practical measure, the law relating to registration and nationality of space bodies in outer-space is the same as that of aircraft". [52] Firstly as will later be shown it is not space bodies that are registered but spacecraft and space objects. Furthermore, the true position is that while the regulation of aircraft in flight falls under the purview of air law and the provisions of the Chicago Convention (1944), the regulation of space craft and other space objects falls under the fast developing rules of space law and the space treaties.[53]

The most pertinent provision on registration and nationality of spacecraft is enshrined in the Convention on Registration of Objects Launched into Outer Space (1975).[54] This Convention

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[51] Bin Cheng "International Law and High Altitude Flights and Man-Made Satellites", Vol. 6 I.C.L.Q. (1957) p. 491.

[52] D.P. O'Connel, International Law, 2nd Edition, Volume One (London: Stevens and Sons 1970), p. 540.

[53] There are eight multilateral instruments, which constitute the *corpus juris* of space law. They are: (a) The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under water 1963 also known as the Nuclear Test Ban Treaty, (b) United Nations General Assembly Resolution 1962 (xviii), (c) 13 December, 1963 Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space; (d) Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Borders (1967) (18 U.S.T. 2410, 610, U.N.T.S. 205), (e) Agreement on the Return of Objects launched in to Outer Space 1968, (f) Convention on International Liability for Damage caused by space Objects 1972, (g) Convention on Registration of Objects Launched into Outer Space (1975) (h) Agreement Governing the Activities of States on the Moon and other Celestial Bodies (1979) (G.A. Res. 34/68, U.N. GAOR, 34th Sess. Supp. No. 46 at 77, U.N. Doc. A/34/664 (1979).

[54] Though outer space belongs to no one, the state of registry of a space object retains jurisdiction and control over it and any personnel on it while it is in outer space or on a celestial body. Ownership over space objects do not change because of their location and if found outside the territory of the state of registry either on earth or anywhere else it shall be returned to it after providing identifying data, if so requested (Article VIII Outer Space Treaty 1967). Similar provisions exist in Articles 1, 2 and 3 of the Astronauts and Space Objects Agreement (1969); in Article 7 of the Declaration of Legal Principles (1963) and Article 12 Moon Treaty 1979. See further *infra* chapter 9.

states that when a space object is launched into orbit or beyond, the launching state shall register the space object by means of an entry in an appropriate registry, which it shall maintain. Each launching state shall in turn inform the Secretary-General of the United Nations of the establishment of such a registry.[55] Where there are two or more launching states in respect of a spacecraft they shall jointly determine which one of them shall register the spacecraft.[56] Each state of registry shall furnish the Secretary-General with an appropriate designator of the space object or its registration number.[57] Though the Registration Convention (1975) does not mention it clearly in any of its 12 articles as in the case of the Air Treaties particularly Art. 17 of the Chicago Convention (1944), a spacecraft bears the nationality of the state of registry of that spacecraft.

Thus, it is safe to conclude that though the applicable legal regime may differ, all spacecraft, aircraft[58] and in fact any other humanly made flying objects which is to be used for international flight must be registered by a state and must be invested with a particular nationality. Besides if ever an interpretation is adopted by which air vehicles like gliders and balloons are not attributed with nationality (the value of such contraptions for aerial espionage must not be underrated) and if any aircraft flies without registration, international law is not helpless in coping with such flights. By analogy with the customary law of the sea where a ship is not prohibited from sailing without a flag, a glider, balloon or aircraft that flies without a flag may well be treated as if it were a stateless person with all the deleterious effects of such status.[59]

Unresolved issues concerning the legal regime of registration of aircraft and spacecraft exist presently. One of these relates to the special problem of a new class of aircraft-the X-15 that is capable of flying to heights previously considered supra atmospheric. These hybrid rocket planes combine elements of the traditional aircraft and of spacecraft and, therefore, can fly above the lower airspace. An aircraft is described in the air treaties as a machine depending

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[55] Article 11(1).
[56] Article 11(2).
[57] Article IV (b) and V
[58] Which includes (a) machines heavier than air that are mechanically driven (such as aeroplanes, sea planes or helicopters) as well as those that are not mechanically driven (such as gliders or even kites) and (b) machines lighter than air, whether mechanically driven (such as airships) or non-mechanically driven (such as captive or free balloons). See Bin Cheng, The Law of International Air Transport op.cit., p. 111.
[59] Thus, in the *Nain Malvan v. Attomey-General for Palestine* case, the judicial committee of the Privy Council stated; "[n]o question of comity nor of breach of international law can arise if there is no State under whose flag the vessel sails.... Having no flag... the Asya could not claim that any principle of International law was broken by her seizure". See 1948 A.C. 351

on the reaction of the air as its means of flight. It is clear that aircraft that can function in an environment where all the aerodynamic features that give a normal aircraft the needed 'lift' exist no more creates serious problems for aerospace lawyers. Should such an object be registered as an aircraft under the Chicago Convention (1944) rules? Or is it to be treated as a space vehicle, therefore, falling under the provisions of the Space Treaties?[60]

Noting that the pertinent international treaties are silent on this matter it can only be conjectured that it would be advisable that such 'craft' are to be registered first as aircraft to satisfy the requirements of the Chicago Convention. Registration as a space object would appear to be necessary only upon a planned launching into orbit or beyond. This interpretation falls on all fours with the precise wordings of Article II of the Convention on Registration of Objects Launched into Outer Space (1975), which states that: "When a space object is launched into orbit or beyond, the launching state shall register the space object".[61] Note should be taken of the fact that the term space object includes launch vehicles (Art. 1). Therefore, whether the launch vehicle itself proceeds into outer space or returns to earth after launch it must be registered as a spacecraft and not an aircraft. This is particularly true if it will attain heights at which objects can be said to enter into orbit.[62]

However, since the decision to register the craft in question, as aircraft or spacecraft will in the first instance belong to the state that owns it or its nationals, there will eventually be disagreements among states over which classification a particular vehicle should have been registered. Registration of a spy vehicle that can make space flights as an aircraft will for instance be a clever even if illegal attempt to avoid the legal consequences of registration as a spacecraft. If a state successfully achieves this then it may not have to register the vehicle as a space object on the register of the UN as required by the Space treaties and cannot be easily

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at pp. 369-370; See also Nwachukwu Okeke, Theory and Practice of International Law 3rd edition p. 173.

[60] Particularly, Declaration of Legal Principles (1963) (Article 7 & 8); Outer Space Treaty (1967) (Article VIII); Convention on Registration of Objects launched into outer space (1975) (Articles II, III and IV).

[61] The X-15 and such hybrid rocket planes make nonsense of these provisions. Such vehicle may not be 'launched into orbit' but are capable of making space flights. It has therefore, been suggested that aerodynamic lift can no longer be a criterion to denote the boundary between airspace and outer space. See Haley, "Space Law land Metalaw - Jurisdiction Defined", 24 Journal of Air Law and Commerce, (1987) p. 286; Pitman B. Potter, "International Law of Outer Space", 52 American Journal of Intemational Law, (1958) p. 305; J.C. Cooper, "High Altitude Flight and National Sovereignty," in Explorations in Aerospace Law: Selected Essays Vlassic (ed) *op. cit.*, pp. 368, 370; A.G. Haley, Space Law and Government, (New York: 1993) pp. 77, 97-107. See *infra* Chapter 10: Legal Theories on the Spatial Demarcation Boundary Plane Between Airspace and Outer Space.

[62] See *infra* chapter 10; The Lowest Point of Orbital Flight Theory.

accused of using outer space activities to engage in unfriendly acts against other states. This again testifies to the need for international lawyers to very quickly address the separation in spatial terms the height at which the regime of air law ends and that of space law begins.

2.1.2: Nationality of Aircraft and the Question of 'Genuine Link'

It is necessary also to consider if and to what extent the problem of 'flags of convenience' exist in relation to aircraft and the jurisdictional problems this may create. The problem of flags of convenience is one, which the maritime lawyer is more familiar with.[63] The tremendous growth in the aviation industry worldwide, however, threatens to re-introduce afresh the problem of flags of convenience in international relations. Nowhere is this more likely than in the developing states as a result of the increasing incidence of privatisation of national airlines and mushrooming private airline business.

We may recall that the Paris Convention of 1919 stipulated clearly that registration could only take place in the state of which the owners of the aircraft are nationals. The Chicago Convention (1944) on the other hand does not make provision for this important requirement. It merely forbids dual registration (Article 18). Indeed, most of the rights exchanged under the Chicago Convention (1944) including the right of non-scheduled flights under Article 5 are in regard to aircraft registered in the contracting states, without reference to the nationalities of their owner or operators. Furthermore, transit and traffic rights for scheduled international air services are generally exchanged between the contracting states not in respect of aircraft bearing their nationality but of air transport enterprises or airlines of each other. This is for instance the case with both the International Air Services Transit Agreement (1944) and the International Air Transport Agreement (1944). Thus, the coast would appear to be clear for the problem of flags of convenience to repeat itself probably on a larger scale than it exists in the law of the sea.

Fortunately however, as Cheng notes many bilateral air transport agreements and some multilateral air transit and transport agreements incorporate a substantial ownership and effective control clause. These clauses ensure that airlines are vested in nationals of the respective contracting states. In this way, at least for now the problem of flags of convenience

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[63] This problem arises out of the practice whereby some developing states notably Liberia, Honduras, Somalia and Panama bestow upon foreign ships their flags, imposing minimal conditions for the acquisition of their nationality. They in actual fact exercise minimal control over such ships. The non-insistence upon stringent standards and legislation by these states relating to matters of navigation safety; seamen's working conditions and skills translate to cheaper costs for the operators hence the attraction.

can easily be excluded from scheduled international transport.[64]

The argument may be raised that among state parties to the Chicago Convention 1944 the combined effect of Articles 77 and 19 precludes any state party from contesting the nationality of an aircraft except where it relies on a substantial national ownership and effective control clause in an existing bilateral arrangement.[65] But there appears to be no reason why the genuine link rule under international law as enunciated by the International Court of Justice (ICJ) in the *Nottebohm case* with regard to individuals and extended to ships cannot be further extended to aircraft and even spacecraft.[66]

It must be conceded however, that the application of a genuine link test to aircraft is by no means straight forward, as in the case of naturalisation of the individual. Brownlie, and earlier Jennings, note that registration of the aircraft is itself a presumptively valid and genuine connection of some importance.[67] We must therefore, attempt to grapple with the role of registration. The pertinent questions are does registration merely certify status under national law? Or does it on the other hand, serve as a guarantee that the rules and regulations relating to the safety and legal operation of aircraft that engage in international flights would be enforced by the state of registration? An affirmative answer to the latter query is preferable and is definitely in consonance with the overall interests of aviation practice.

This is probably why when aircraft are leased or chartered for any length of time to an operator in a foreign country ('interchange of aircraft') international air law requires that the state of registry (i.e. lessor/charter) transfer its functions under the Chicago Convention (1944) to the state of the operator (i.e. lessees).[68] Thus, it has been the practice of the United States as confirmed in the *Aerolinas Perunas S.A. Permit case* in bilateral treaties to reserve the right to refuse a carrier permit to an airline designated by the other contracting party in the event that substantial ownership and effective control of such airlines are not vested in nationals of the other contracting party.[69]

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[64] Bin Cheng (1962) *op. cit.*, pp. 203-4, 207-8, 398.
[65] Cheng, *ibid.*, pp. 128, 131.
[66] In the *Nottebohm case*, Second Phase (1955) between Guatemala and Liechtenstein the ICJ propounded the 'link theory' which has the effect that a state may validly not recognise naturalisation granted by another state to individuals with whom there is no social fact of attachment, a genuine connection of existence, interests and sentiments, together with the existence of reciprocal rights and duties. See ICJ Reports (1955), pp. 4, 23.
[67] Brownlie, *op. cit.*, p. 427. See also Jennings 121 Hague Recuil pp. 460-6.
[68] Article 83 bis of the Chicago Convention adopted in 1980. (ICAO Doc. 9318), see also B. Cheng "Air Law" in Encyclopaedia of Public Int. Law, Bernhadt, Rudolph ed. (Netherlands: Elsevier Science Publishing Company, 1989) p. 9.
[69] International Law Report, 31, p. 416; see also Brownlie *op. cit.*, p. 427.

This system, which gives individual national control over aircraft in flight, has also meant that the regulatory system of international aviation depends for its effectiveness upon co-operation between states. Nicholas Mateesco Matte, therefore, correctly notes that this ensures that airworthiness, security and navigability of aircraft are of the highest standards world-wide. The organisation within which this co-operation has been facilitated so far is the International Civil Aviation Organisation (ICAO).[70]

The ICAO has been particularly strict (and rightly so) in applying the genuine link principle. This is in consonance with the task conferred upon it under Article 77 of the Chicago Convention to "...determine in what manner the provisions of this Convention relating to nationality of aircraft shall apply to aircraft operated by international operating agencies". This strict interpretation is more clearly seen in relation to joint ventures of airline ownership. Thus in 1960 when the ICAO Council received a request from the Arab League, which was contemplating the establishment of a Pan-Arab Airline, the Council convened a Panel of Experts to make a general study of the problems posed by Article 77. The Panel found *inter alia* that unless an aircraft was registered in a sovereign and independent state, it would not have a nationality and would not be governed by the domestic law of any country.[71]

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[70] See Nicholas Mateesco, "Air and Extra - Atmospheric Space: Air", International Law: Achievements and Prospects, M. Bedjaoui (ed.) (Netherlands: Doderecht Nijhoff, 1991) p. 291. By an agreement, which came into force on 13 May 1947, the ICAO became a Specialised Agency of the United Nations Organisation. Article 37 of the Chicago Convention (1944) is headed "Adoption of International Standards and Procedures" and provides that contracting states undertake to collaborate in securing the highest practicable degree of uniformity in regulations and standards in relation to aircraft, personnel and airways to facilitate and improve air navigation. Article 47 grants the ICAO legal capacity in the territory of each contracting state to the extent that may be necessary for the performance of its functions. Article 60 provides that the ICAO shall be granted immunities and privileges, which are granted to corresponding personnel in other public international organisations. Tim Unmack comments that particularly "in view of the functions of ICAO concerning operational standards, the question of immunity from suit is important". See Tim Unmack, Civil Aviation: Standards and Liabilities, (Gloucester: LLP Professional Publishing Co., 1999) pp. 22-23.

[71] See Cheng (1962) *op. cit.*, pp. 131-2. Note should also be taken of Article 79 and 83 (as amended). Article 79 provides that a state may participate in joint operating organisations or in pooling arrangements, either through its government or through an airline company or companies designated by its government. The Chicago Convention (1944) did not adequately specify the responsibilities of the state of operator where an aircraft of the state of registry is leased, chartered or interchanged. Therefore, on 6 October 1980 the ICAO Assembly decided to amend the Chicago Convention by introducing Article 83 bis. This provision deals with the transfer of certain functions and duties. When an aircraft registered in a contracting state is operated pursuant to a lease or charter agreement by an operator whose principal place of business or permanent residence is abroad in another contracting state, the state of registry may by agreement with the other contracting state transfer its functions and duties as state of registry in respect of that aircraft under Articles 12, 30, 31 and 32. It is important to note,

In 1967 again the Council of the ICAO also adopted a resolution requiring the constitution of a joint register in such cases for the purposes of Article 77 of the Chicago Convention and the designation of a state as recipient of representations from third states. The resolution applies both to joint operating agencies and inter-governmental agencies. The position currently is still largely that which Brownlie describes thus: "In principle aircraft of joint operating agencies for example Air Afrique must be registered in one of the States involved."[72]

In sum, an international tribunal would look at the state of registration to determine nationality and to avoid the problem of flags of convenience.[73]

In any case, the problem of flags of convenience never assumed serious dimensions with regard to aircraft as it did in the case of ships. One of the reasons for this may be that the 'Form of Standard Agreement' recommended at Chicago as well as the Two Freedoms and Five Freedoms Agreements accompanying the Chicago Convention (1944)[74] all contain clauses authorising the revocation of permits when a state is not satisfied that the airline to which it has granted a permit is under the substantial ownership and effective control of national of the contracting state.[75] It will also be seen that the rules of nationality of aircraft demonstrate that like ships, aircraft and spacecraft are to some extent invested with "legal quasi personality". That is to say, they are viewed as entities in themselves. In each case the state of registration is responsible to other states for the conduct of the aircraft in question. The bottom line then is that nationality defines the incidence of control. It indicates which state has the right to exercise quasi-territorial control over the aircraft and is, therefore, liable

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however, that this provision does not apply to Article 77. Under Article 94 (a) of the Convention the amendment came into force on 20 June 1997 in respect of states, which ratified it. As at 30 June 2001, there are 127 ratifying states. Tim Unmack *op. cit.*, suggests that the lacunae, which existed prior to the coming into force of Article 83 amendment, would not have proven to be a problem in the European Union (EU) because Article 10 of Regulation 2407/92 of 23 July 1992 applies in such cases.

[72] Brownlie *op. cit.*, p. 427.

[73] Though the obligations imposed by Article 12 of the Chicago Convention raise the question of which state is to fulfil the requirements of registration, Article 77 of the Convention explicitly recognises the right of two or more contracting states to establish joint air transport organisations. Such organisations include the Scandinavian Airlines System (SAS) consisting of Swedish, Danish and Norwegian companies. See Shawcross and Beaumont Air Law, Vol. 1, 4th edition (1988), chapter 11; Shawcross and Beumont, Air Law 4th edition, Peter Marury *et al* (eds.) (London: Butterworths, 1977) pp. 15, 17-18. See also Nicholas Grief, Public International Law in the Airspace of the High Seas Thesis submitted at the University of Kent at Canterbury (1993) p. 196.

[74] The two agreements refer to the Chicago International Air Services Transit Agreement 1944 and the Chicago International Air Transport Agreement 1944 (171 U.N.T.S. 387) respectively.

for its actions under the Chicago Convention. To this extent flags of convenience in relation to aircraft are a dangerous abstraction that must not be condoned. Therefore, it may be recommended that Article 17 of the Chicago Convention be amended to unequivocally contain a requirement of genuine link as in the rules governing nationality of ships and as recognised by the ICJ in the *Nottebohm* case[76]

2.2: Obligations With Respect to State Aircraft, Civil Aircraft and Piloted/Pilotless Aircraft

The Chicago Convention (1944) distinguished between state aircraft and civil aircraft. State aircraft are those "used in military, customs and police services" (Article 3). The test, therefore, is functional and does not depend on ownership at all. Any aircraft owned by a contracting state, which does not, fall within the above definition is for the purposes of the Convention regarded as civil aircraft to which alone the Convention applies.[77]

Furthermore, it should be noted that the Chicago Convention (1944) for the purpose of conferring the right to fly distinguishes between commercial and non-commercial flights. Commercial flights are those, which carry passengers, cargo or mail for remuneration or hire. They are further sub-divided into scheduled and non-scheduled flights the Convention grants a fairly liberal right for aircraft bearing the nationality of any of the contracting states to fly into the territory of other contracting states or to fly across it with or without a stop. No such right of entry or transit is given in respect of scheduled air services while that which is granted in respect of non-scheduled commercial flights is rather nominal.[78]

The Chicago International Air Services Transit Agreement 1944 and the Chicago International Air Transport Agreement 1944 both contain important provisions regarding obligations towards civil aircraft. In the former each contracting state grants to the other states the following freedoms of the air in respect of scheduled international air services: (1) The privilege to fly across its territory without landing; (2) The privilege to land for non traffic purposes. The latter agreement more ambitiously grants five freedoms which basically are the two in the 'Two Freedoms' Agreement and in addition the following: (3) the privilege to put

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[75] D. Johnson, *op. cit.*, p. 75.

[76] See for instance, Article 5 of the High Seas Convention (1958)(450 U.N.T.S. 82;)) and Article 91 of the Law of the Sea Convention 1992 Hereinafter called LOSC (1982) (UN Doc. A/CONF. 62/122; (1982) 21 I.L.M. 1261).

[77] Bin Cheng, "State Ships and State Aircraft", Vol. 11 Current Legal Problems (1958) 225. See also Cheng, "From air Law to Space Law", Current Legal Problems (1960) *op. cit.*, p. 238.

down passengers, mail or cargo taken on in the territory of the state whose nationality the aircraft possesses; (4) The privilege to take on passengers; mail and cargo destined for the territory of the state whose nationality the aircraft possesses; (5) The privilege to take on passengers, mail and cargo destined for the territory of any other contracting state and the privilege to put down passengers, mail and cargo coming from any such territory. It is, however, possible to question the commonsense of the freedom of transit for private aircraft through national airspace when most states simply do not have the technological prowess or investment capabilities to benefit from this right. Obviously those states that own and operate large fleet of aircraft and have higher numbers of private and corporate investment in aviation have obtained valuable benefits for free.[79]

In connection with the duty of the flag state to register aircraft (whether civil or state owned), a little more must be said about pilotless aircraft and other pilotless flight craft such as rockets and earth satellites. Article 8 of the Chicago Convention (1944) states that:

> No aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a contracting State without special authorisation by that State and in accordance with the terms of such authorisation. Each contracting State undertakes to ensure that the flight of such aircraft without a pilot in regions open to civil aircraft shall be so controlled as to obviate danger to civil aircraft.

Cheng makes some useful suggestions regarding the scope of each contracting state's duty to control pilotless flights. He thinks it may be one or more of the following:

> (i) In respect strictly of its own territory. This is a literal but rather unlikely interpretation of the two sentences of article 8 taken together (ii) In respect of all aircraft bearing its nationality wherever they may be. This is possible though not the most probable interpretation of the intention of the parties, since it would have unregulated pilotless aircraft which have not been registered and therefore have no nationality (iii) In respect of all flights originating from its territory, which may take place wholly or within national airspace or partly within it and partly within free flight space and/or foreign airspace belonging to no contracting States to the Chicago Convention.[80]

It may, therefore, be said that Article 8 does not in any significant manner prohibit pilotless flights in regions open to civil aviation. The article merely requires that such craft are to be subject to control. This underscores the chief importance of the nationality requirement,

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[78]Cheng, (1960) *op. cit.*, pp. 238-9.

[79] Note however, recent introductions in state practice. Russia for instance has begun to obtain valuable consideration for allowing commercial airlines to make use of its airspace in order to shorten flight routes. See *infra* chapter 6 note12.

which is that it serves as a verifiable means of determination of ownership and therefore, control and liability. Once the incidence of where control and liability lies is clear, air law does not prohibit pilotless flight. However, if it passes over national territory prior permission in one form or the other must have been granted. Thus the illegal use of spy aircraft is not permitted. Even if Article 8 were extended to apply to all types of flight craft, contracting states to the Chicago Convention may continue to permit such flights whether by balloons rockets or earth-satellites, from their territories, so long as they are controlled in order to obviate danger to other civil aircraft. In any case as will be shown the regime for liability for space flight is equally based upon adequate rules that aid the determination of ownership liability and control. It may be noted, that operators in the developed states conduct the vast majority of pilotless flights, including earth satellite launches. Probably because incidents of interference with civil aviation in this manner is not common and have not led to disputes, there is also an assumption which works in the favour of the developed states that in the case of earth satellite launches, prior permission of the underlying states is a dispensable criterion.

Summary and Conclusions

The tridimensionality of state territory recognised under customary international law subsists till the present. The idea of sovereignty and jurisdiction over the airspace has developed over the centuries and is even older than the history of human flight. First there was the unduly generous position that the whole aerial space to an indefinite extent is subject to the underlying states sovereignty following the maxim *cujus* est *solum ejus usque ad coelum et ad inferos*. While the problem of the exact demarcation point between airspace subject to national sovereignty and outer space, which belongs to entire mankind, has not been solved, it may be safely concluded that under prevailing treaties on air law particularly the Chicago Convention (1944) the principle of complete and exclusive sovereignty over the superincumbent airspace is unassailable. Airspace sovereignty is delimited *ratione loci* in respect of the space above national territories and not *ratione materiae* in respect of the air, which may at any given time, be filling this space. Quasi-territorial jurisdiction and personal jurisdiction may, however, be exercised by other states with respect to aircraft, spacecraft and their citizens which they have granted legal personality even when found in foreign airspace.

Innocuous as it may seem the recognition in various multilateral treaties on air law that the territory of a state shall be understood as including the national territory, 'both that of the

[80] Cheng, (1957) *op. cit.*, p. 504.

mother country and of the colonies, and the territorial waters adjacent thereto'[81] is a fact that proves that air law was used as a means of legitimising or at least justifying the interests of the colonial powers. Without prejudice to the practicalities necessitating the inclusion of such provisions in the law it also serves as a pointer towards the need to re-examine contemporary air law and space law for all such relics of the old law of domination that may persist.

The nationality doctrine is a necessary and useful adjunct to the general rule of airspace sovereignty and jurisdiction. Since territorial sovereignty and jurisdiction extends upwards into the airspace it is a *sine qua non* of the continuance of international aviation that at any point in time the state of origin of each and every aircraft should be ascertainable. Nationality and registration of aircraft thus becomes the simplest and surest way to ensure state security, compliance with good air navigation practice and at the same time respect for other rules of international air law. For purposes of identification in cases of damage to property, the distinctive mark of nationality may be of great significance. The nationality of aircraft as determined by registration is, therefore, a crucial concept in the determination of control over aircraft. The application of this principle involves ascertaining jurisdiction *ratione instrumenti* and *ratione personae*. The operation of the nationality principle in practice represents the hub upon which respect for state sovereignty, jurisdiction, liability and safety of lives and property rests in the course of international aviation.

Though there are similarities in the legal requirements of nationality and registration of aircraft and spacecraft different laws and treaties are called into question. While air law governs the principle of nationality and registration of aircraft and all similar vehicles, which engage in airspace transport, space law dictates the rules with regard to spacecraft, rockets and all vehicles that can be launched into orbit. The existence of aircraft and launchers that can operate both in airspace and outer space necessarily introduce some confusion into the legal classifications. It is, therefore, suggested that to forestall any controversies in this direction an interpretation should be adopted, which makes such vehicles, fall under the classification of registration as space vehicles. The basis of this suggestion is that most aircraft that are used for international transport do not need to make incursions into regions above the airspace where objects may be put into orbit. Therefore, the test should be functional. If an aircraft can make this sort of flight it is better for the safety of outer space activities and to satisfy the security concerns of other states that it is registered on the register of the United Nations established for that purpose as a space object.

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[81] This was the formula used in Article 1 of the Paris Convention (1919). The Chicago Convention (1944) also repeats a substantially similar provision in its Article 2.

There ought to be a genuine link between the ownership of vehicles that travel through the airspace of other countries (including aircraft and spacecraft) and the state of whose nationality it bears. This is the best way to ensure that the reasons for operating the principles of nationality and registration of flight vehicles are maintained. States ought to realise the mutual benefit of maintaining respect for the principles of sovereignty over national airspace as well as nationality and registration of flight vehicles that can engage in international or extra-atmospheric flights. However, to assume that the present regime is the fairest possible will be a questionable stance since it can be demonstrated that certain states with the technological and infrastructural capabilities are the principal beneficiaries of the regime, which allows private and commercial aircraft to fly over national territory without financial charges. It may also be concluded that the development of the law relating to legal status of the airspace in the last century has very much reflected the dominant ideology of the time including the realities of the cold war, the protection of the needs of the aviation powers and the security interests of nation states.

CHAPTER TWO

2.0: THE LEGAL STATUS OF THE AIRSPACE

2.0.1: Nature and Character of Rights over Airspace

The air is a gaseous substance of which the atmosphere is composed. It is transparent, perfectly elastic and highly compressible. Although very light, it has a perfectly definite weight in consequence of which it exerts pressure. The entire earth is enveloped by the airspace and may be considered as a gaseous sea at the bottom of which we all live and which extends upwards to a considerable height, which constantly diminishes in density as altitude increases.[1]

The airspace is an area, which for the most part of human existence was not utilised for any other reason than for breathing. Therefore, the early conceptions as Borchard describes it is that air is common public property, that which everybody may enjoy and which cannot be the object of exclusive right on the part of any individual or state, similarly, airspace has never been considered as commercial property. It cannot be considered as an object in strict legal terminology. In fact property according to Windscheid can only mean "any singularised object (*stuck*) belonging to irrational nature".[2] Therefore, adopting this criterion, all property should be individualised as a phenomenon. It is more of an objective reality. For this reason some jurists have found no difficulty in concluding that ownership of a given tract of airspace must be based on occupancy and possession.[3] In support of this view Clement Bouve defines 'ownership' as;

> based upon the possibility of becoming master of a thing, of taking possession of it, disposing of it at will; and when by virtue of characteristics peculiar to itself, a thing escapes from this appropriation further ownership in it is impossible.[4]

Furthermore, he wrote:

> But how much more true is this with respect to the aerial space above us.... There is but one way of appropriating a portion of space, and

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[1] The term gaseous fluid represents the scientific fact that the atmosphere consists of several layers with different properties that flow into each other. G.S. Sachdeva, "Sovereignty in the Air- A Legal Perspective", 22 Indian Journal of International Law, (1982) p. 397.
[2] N.M.Matte, Aerospace Law, (London: Sweet and Maxwell Ltd. 1987) p. 15
[3] Mukerjea, The Problems of Air Law, (Calcutta: Hill Book Co. 1924) pp. 60-61.
[4] Clement L. Bouve, Private Ownership of Airspace", Air Law Review (1930) p. 255.

> that is by occupying it by means of building or plantings... Effective possession - that possession which manifests ownership can be accomplished in space only by works inherent to the soil and which in reality occupy a given tract of space.[5]

To Paul Fauchille, the conception of ownership with respect to any given portion of the super incumbent air column before occupying it by means of construction erected upon the soil is out of the question; "for it is actual possession and not the possibility of it which creates ownership. The permanent possession of a thing is an essential prerequisite of ownership".[6]

These submissions by some European jurists (such as L. Bouve and Fauchille) can be accepted only with reservations. Their assertions may be pertinent if limited to the issue of private ownership of airspace. In reference to state ownership or sovereignty over super incumbent airspace, there need not be any form of overt effective occupation. Possessory rights reside implicitly in statehood. Thus, the correct emphasis is that pointed out by Bin Cheng in holding that airspace sovereignty is delimited *ratione loci* in respect of the space above national territories and not *ratione materiae* in respect of the air which may at any given time be filling this space.[7] Thus, while Grotius remains correct in holding that since the air is not capable of being trapped it is, therefore, out of everyone's claim (indeed no one can hold the air just as no one can hold great expanses of water) that is not to say that ownership or sovereignty cannot be exercised over the oceanic space or airspace. Sovereignty in this sense does not really involve continual presence any more than possession does in private law. A state can exercise sovereignty over a huge desert or the summit of uninhabitable mountains, if it is in *de facto* control and is in a position to suppress internal disorder and repel external attack. Certainly in that sense a state does own and control its airspace.

2.0.2: Development of the Concept of Sovereignty over Airspace

The legal concept that a state has territorial rights above the earth is much older than the history of human flight. There is evidence that Rome did not hesitate to control the use of space whenever deemed necessary to protect public or private rights on the surface of the earth. The airspace over public highways and over sacred ground was kept open by law. The Roman emperors limited the height to which buildings could be erected. Private rights in space above the landowner's property on the surface were carefully kept and protected. The

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[5] *Ibid.*
[6] *Ibid.*
[7] Bin Cheng, "Recent Developments in Air Law", 9 Current Legal Problems, (1956) p. 209.

Roman state indeed made its law as effective above the surface of the earth as it did on the surface.[8] Roman Law accepts private control of airspace above private property, because it considers it inherent in the ownership of the land itself and does not limit such control to low altitudes. It has been correctly suggested that:

> the Romans could have met even the case of air navigation by permitting the aviator to cross a private air column, when it was not used by the land owner himself and provided such a crossing did not cause injury or damage to persons or to property... The upper control of airspace is nothing else but an extension of right of ownership a further exploitation of it, a higher use and enjoyment of property an extension of such use to upper zones. Therefore, the Romans would not have had any difficulty in admitting the private control of the airspace.[9]

The Romans thus developed the principle expressed in the maxim, *cujus est solum ejus usque ad coelum et ad inferos* (whose is the soil, his is also that which is above it into infinity). In the ancient Anglo Saxon law, the principle is found again *cujus es solum ejus est usque ad coelum* (whose is the soil, his is also that which is above it). This principle derived undoubtedly from the existing knowledge of the possibility of the utilisation of space. However, scholars like Arnoldo de Valles, characterise the maxim as a principle simple in its absurdity and even opposed to the conception of ownership. To consider, says Grote, without qualification that the whole of aerial space is subject to property rights vested in the individual, community or the state, is in view of its colossal extent and in the absence of instrumentality competent to occupy a realm so infinite and so wholly *sui generis,* a conception which is not only impossible at present but out of the question for all times.[10]

Again, while rejecting the view that aerial sovereignty should be based on effective occupation, the proposition cannot be accepted as advanced by some writers that international law has adopted *simpicta* the maxim *-cujus est solum ejus usque ad coelum et ad inferos* (whose is the soil, his is also that which is above it into infinity). What international law today recognises is built upon the maxim but is very different from the *ad inferos* (into infinity) and therefore, *ad absurdum* nature of the Roman conception. The reason for the total nature of the earlier conception probably was that no one had any objection to the idea that everyone could stake out a claim in regions of space, for this was at that time of course, a purely academic claim. Through time there have been numerous reasons advanced for determining the status of the airspace. Pufendorf in the later part of the seventeenth century remarked that; "Since

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[8] J.C. Cooper, "High Altitude Flight and National Sovereignty", Explorations in Aerospace Law: Selected Essays, (Montreal: McGill Univ. Press, 1968) p. 258.
[9] Francesco Lardone, "Airspace Rights in Roman Law", II Airlaw Review, (1931) p. 150.
[10] Bouve *op. cit.*, pp. 250-251.

man has been denied the ability to be in the air to the extent that he rest in it alone, and be separated from the earth he has been unable to exercise sovereignty over the air except in so far as men standing upon the earth can reach it".[11]

Thus, in his own view as is still held by some legal theorists today, national sovereignty in the air is limited by the ability for effective control. In other words, once control can be established through any means then sovereign rights can be claimed. Other writers such as Professor Westlake being witnesses to developments in this century making it possible for man "to be in the air to the extent that he rest in it alone," have suggested that the necessity for extension of national sovereignty into the air exists because, "in the air, the higher one ascends, the more damage the fall of objects will cause on the earth".[12] For this reason alone he concludes that, "the right of subjacent state remains the same whatever may be the distance..." It needs be noted that concern for state security remains one of the reasons why there is still a blur today regarding the legal demarcation between national airspace and outer space. Therefore, any resolution of the spatial demarcation dispute will have to take into consideration the security concerns of states as well as their desire to retain complete sovereignty over territorial airspace.

In 1784 when the Montgolfier Brothers succeeded in constructing a balloon, which could take human beings up into the air and bring them back again, the law responded swiftly. On the occasion of the first ascent, on 23 April 1784 a police order was issued in Paris defining in precise terms the conditions under which balloon flights could take place. The stated objective was the protection of the civil populace.[13] In essence it represents one of the earliest concrete attempts to exercise lateral sovereignty and control over movements in the airspace. We may in fact posit that while lateral sovereignty is a much older concept, jurisdiction and control over movement in the airspace is a factor and an off-shoot of the development of 'aircraft'

McNair, reports four prevalent theories on the legal status of the airspace up till the early 20th

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[11] Cooper *op. cit.*, p. 258.
[12] Quoted in Cooper, *Ibid.*
[13] Later developments include the 1911 and 1913 Aerial Navigation Acts of the U.K: which instituted prohibited security zones along the British coasts. In 1912 Russia hurriedly proclaimed an absolute prohibition to over-fly its Western frontiers. The Franco German exchange of notes of 1913 (*infra*) established sovereignty over the airspace primarily between both countries. Upon the commencement of the First World War in 1914, Switzerland swiftly prohibited flights into its airspace by foreign aircraft (4 April). By November 1914 the U.S forbade over-flight over the Panama Canal. Sweden in 1916 also prohibited entrance of

century:

1. That the airspace is free, subject only to the rights of states required in the interests of their self-preservation;

2. Upon the analogy of the maritime belt or territorial waters of each state there is a lower zone of territorial air space and a higher and unlimited zone of free airspace;

3. That a state has complete sovereignty in its superincumbent airspace to an unlimited height, thus applying the *cuius est solum* maxim in its crude form

4. The fourth theory is the third with the addition of a servitude of innocent passage for foreign non-military aircraft.[14]

The prevailing law differs in most respects from any of these theories. However, with the benefit of hindsight now it may be said that the first two theories remain alluring and the last two remain unacceptable propositions for all times.

In 1889 the first International Congress of Aeronautics was held in Paris on the occasion of the International Exposition with the participation of Brazil, the United States of America (USA), France, Mexico, The United Kingdom (UK) and Russia. The following year in 1890 there was another International Congress of Aeronautics.[15] In 1900, Fauchille, in an address to the Institute of international law recommended that an International Air Code should be drawn up, and in 1902 he presented a set of regulations consisting of thirty-two articles to the Institute of international law which met in Brussels.[16] Fauchille of course was an ardent defender of freedom of the air and he was in disagreement with the Anglo Saxon views

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foreign aircraft. See Wybo P.Heere, "Problems of jurisdiction in Air and Outer Space", Vol xxiv Annals of Air and Space Law, No. 2 (1999) pp.70-71.

[14] McNair The Law of the Air 3rd ed. (London: Stevens and Sons 1964) p. 5.

[15] Seara Vazquez, Cosmic International Law, (Detroit: Wayne State Univ. Press, 1985) p. 29.

[16] Fauchille's arguments were simple enough. Echoing Pufendorf he argued that real property of the air is impossible because we cannot appropriate it; the same applies to the possibilities of the state to dominate the air. Classically represented it refers to the position that airspace is *res communis omnium* and 'l'air est libre'. However, taking into consideration the arguments of the security school (as we may choose to call it) he approved a safety zone of the first 1500 meters above the ground. Later on, apparently convinced of the correctness of his earlier convictions he brought the ceiling down to 500 meters in 1910. See Fauchille, Le domaine aerien et le regime juridique does aerostats, (Paris: 1901) as cited in Vazquez *ibid*. See also

presented by Westlake, who upheld the right of sovereignty of the underlying state while admitting the right of free peaceful transit.

In the conclusions of the International Law Association at their meeting in Madrid in 1911, the most widely held opinions among the jurists of that period were expressed thus -

1. States have the right to regulate traffic over their territory (Land and Sea).

2. While reserving this right they should permit free transit to airships of all nations.[17]

In 1913, France and Germany signed the first treaty on air law. In it, sovereignty of the state over its airspace was maintained.[18] This development important as it was according to some modern legal historians did not go far enough since it did not result in a clear decision on the liberty of entering foreign airspace.[19] That same year in Madrid the Institute adopted a new theory in its resolution, which states:

> It is the right of every State to enact such prohibitions restrictions and regulations as it may think proper in regard of the passage of aircraft above its territories and territorial waters. Subject to this right of subjacent States, liberty of passage of aircraft ought to be accorded freely to the aircraft of every nation.

This may very well be the beginning of a limitation on territorial sovereignty in the airspace and the recognition of a servitude, which would in any event serve mostly the interests and be to the benefit of those states that have aircraft. It may well be wondered what the benefits of such a regime are to states that do not have aircraft at that stage of events and whether or not their interests were adequately considered. It is perhaps important to note that at that time most of the territories that are now independent states today were colonial possessions of the very states that designed the blueprint for what has today emerged as international air law.

Heere *op. cit.*, p. 22; *Cf. infra* Chapter 10.8: Theories of Arbitrary Distances and our conclusions in chapters 2 and 10.

[17] Seara Vazquez *op. cit.*, p. 30. Having in effect agreed with Fauchille in1906 at its Gent meeting, the Institute in 1911 tried to avoid unnecessary disputes about the word 'sovereignty' by adopting a resolution in which it was said that *la circulation aerienne est libre*.

[18] There had been no agreement on the principle of sovereignty in the 1910-1911 conference. France and Germany agreed to recognise it in the 1913 conference.

[19] Heere *op. cit.*, p. 71.

The War of 1914-18 brought about a realisation of the importance of aerial navigation as well as its potential danger to the subjacent state in military terms. Therefore, it was natural that henceforth the emphasis both in international treaties and by national legislation is the theory of complete sovereignty in airspace subject only to mutual, carefully safeguarded, and easily determinable right of free entry and passage for the non-military aircraft of foreign states.[20]

Therefore, when the first major multilateral treaty codifying the rules of Air Law was written in the guise of the Convention relating to the Regulation of Air Navigation of October 13 (1919)[21] (which was signed by 33 states) the status of the airspace above national territory was stated as follows:

> The High contracting parties recognise that every power has complete and exclusive sovereignty over the airspace above its territory. For the purpose of the present convention the territory of a State shall be understood as including the national territory, both that of the mother country and of the colonies, and the territorial waters adjacent thereto.

This convention entered into force in 1922 and established two principles:

1. The full and exclusive sovereignty of each State over the atmospheric space above its territory. Each State has the right to open or close its airspace including that above its territorial waters to foreign or domestic aircraft as it deems fit.

2. Freedom of peaceful transit for private planes of the contracting States in times of peace.

Note may be taken of the fact that exclusive sovereignty is granted over the airspace above "the colonies and the territorial waters thereto". This may be seen as verifiable evidence of the Eurocentricity of international law as was developed particularly in the 19th and 20th Centuries. Even the principles of jurisdiction in air law were tailored to suit the prevailing

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[20] Michael Akehurst, A Modern Introduction to International Law, 3rd Edition (London: George Allen and Unwin, 1980) p. 183.

[21] To be referred to as the Paris Convention of 1919 League of Nations, Treaty Series, 174, 1919; See also Hudson, International Legislations, (U.S.A.: Oceana Publications, 1989) p. 359. The Convention was signed by the United States of America, Belgium, Bolivia, Brazil, the British Empire, China, Cuba, Ecuador, France, Greece, Guatemala, Italy, Japan, Panama, Poland, Portugal, Romania, the Serb-Croat-Slovene State, Siam, Czechoslovakia and Uruguay. Countries which later acceded include Peru, by declaration dated Paris, 22 June 1920, Nicaragua, by declaration dated Paris, 31 December 1920, Liberia, by declaration dated Paris, 29 March 1922, and Australia by declaration dated Paris 1922.

western interests and to legitimise the spoils of war.

The Ibero-American Convention of Madrid in 1926 was inspired by the same principles as that of Paris in 1919. The Pan American Convention on Commercial Aviation 1928 in like manner conferred in Article I sovereignty over "atmospheric space" *(espace atmospheric)* while the later also in its Article I recognises state sovereignty over the airspace *(espace areo)*.[22]

These principles were again restated and incorporated in the Chicago Convention (1944), which is the most important codification landmark in Air Law to date.[23]

The Convention provides thus:

Article 1: The contracting States recognise that every State has complete and exclusive sovereignty over the airspace above its territory.

Article 2: For the purposes of this convention the territory of a State shall be deemed to be the land areas and territorial waters adjacent thereto under the sovereignty, suzerainty, protection or mandate of such State.

It will be observed that the recognition of complete and exclusive sovereignty granted in Article 1 applies to 'every state'. In other words, it is not confined to contracting states. It is, therefore, clear that notwithstanding whatever controversy that may have existed as to the ownership control and sovereignty over airspace, the question is now settled. The principle of complete and exclusive sovereignty over the superincumbent airspace by the underlying state is unassailable. Therefore, Vazquez concludes; "airspace is that part of space subject to the sovereignty of a state".[24] McNair says "sovereignty in the superincumbent airspace reigns supreme".[25] Bin Cheng sees the principle as "a well-recognised rule of international customary law".[26] For William J. Hughes the principle is now a fundamental tenet of

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[22] Pan American Convention on Commercial Aviation signed at Havana on 20 February 1928. Also referred to as the Havana Convention (1928). Text in Spanish and English 6th International Conference of American States, Report of the Delegates of the United States to Department of State, Washington (1928) 177-1189. See 3 Journal of Air Law, (1932) p. 411.
[23] 78.U.K.T.S. 8 1953 Cmd 8742; UNTS 295. This Convention entered into force on April 4,1947. Adherence by Nigeria to this treaty was on 14 Nov. 1960. See Federal Ministry of Justice, Nigeria's Treaties in Force: June 30 1969 (1971) p. 19.
[24] Vazquez *op. cit.*, p. 27.
[25] McNair *op. cit.*, p. 15.
[26] Bin Cheng, "From Air law to Space Law", 13 Current Legal Problems, (1960) p. 229; and Cheng, "Recent Developments in Air Law", (1956) *op. cit.*, p. 208.

international law.[27] This universal principle underlies other numerous bilateral and multilateral conventions.

What becomes apparent from a study of the development of the regulation of the airspace is that it not so surprisingly reflects particular interests. Dominant scholars and countries dictate these interests from the perspective of prevailing ideas as well as political and economic interests. In fact by sheer reason of colonial subjugation most countries that exist today did not have the opportunity to participate in the creation of air law.

Certain scholars from certain states have had more than a fair opportunity to shape air law at least within the principles of aerial sovereignty and jurisdiction. In fact it may be suggested that the reason why the ensuing legal regime created for the airspace is not more blatantly unfair is due to competition among the few privileged aviation powers and not altruistic motivation nor actual involvement of the majority of states. Again it can only be said that the story of the development of the concept of sovereignty in the law of the air is not very different from the story of the development of international law itself. That is it is a product of western civilisation and hegemonic interests.

Ironically Britain and the US were at cross-purposes around the middle of the 20th century over the conceptualisation of sovereignty and jurisdiction in the airspace. The Chicago Conference in 1944, coinciding as it was with the tail end of World War II became the battleground for two opposing visions. At this time the US possessed a virtual monopoly in the construction of aircraft big enough to navigate the world. Thus, the US, which had not ratified the Paris Convention suddenly found itself in the unenviable position of a leader without a following. It was not able to influence the shape of the law of the air beyond the Havana Convention of 1928.[28] Its agenda at the Chicago Conference for the principle of maximum freedom for civil aviation was viewed with suspicion by the UK, which did not possess nor produce aircraft big enough to cross the oceans. The UK, therefore, pleaded for a controlled use of the airspace. This became the adopted position at the conference since the UK still had the then existing members of the Commonwealth behind its position and most of the colonial territories belonged to it.[29] Thus the provision that passage through airspace and

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[27] William J. Hughes, "Aerial Intrusions By Civil Airliner And The Use of Force", Journal of Air and Commerce, (1980) p.595.

[28] *Supra* note 22.

[29] The origins of the Commonwealth lie in Britain's former colonial empire. As the first colonies - Canada, Australia and New Zealand - evolved into self-governing Dominions, they came to be seen as partners with Britain. The term seems first to have been used by Lord Rosebery in Adelaide in 1884, when he referred to the Empire as 'a Commonwealth of

landing rights are at all times subject to the control of the territorial state became enshrined in Articles 1 and 6 of the Chicago Convention. It does not take much acumen to realise that from the position of developing countries the initial opposition of views between the 'air powers' can be said to be very fortunate. Unity of views at that stage between them would have undoubtedly produced different results for the concept of jurisdiction over airspace. It is worthy of note that up till the present the US still aggressively promotes the principle of 'open skies'.[30] Starting in 1978 when its own internal aviation market was deregulated, the US has offered very liberal bilateral agreements to other states.

Of particular concern to us is the effect this policy will produce on the future of air law when it operates in conjunction with emerging European Union legislation. It was predictable that some of the most effective inputs towards the regulation of the international airspace (at least with respect to civil aviation) would be introduced via EU legislation. In 1987, 1990 and 1993 respectively a liberal structure for civil aviation has been promoted and implemented by the European Commission. The implementation of these measures is based on the aviation policy devised by two memoranda of 1979 and 1984.[31] Thus if from 1978 the US and the EU have been pushing the agenda of deregulation and liberalisation, the tone is already set in an increasingly unipolar world for the operation of these principles on a worldwide basis. This of course is not necessarily a bad development. But it may also not necessarily be in the interest of the developing states. For example the airspace over national territories is becoming freer for big business to operate at a time when the exploitation of outer space resources appears to be more and more the exclusive preserve of those states benefiting most from the 'open skies'. It would unfortunately appear that the majority of scholars particularly from the developing counties have taken no studied position upon these points.

2.1: Nationality Principle and Control over Aircraft in Flight

That state sovereignty to a large extent has territorial limitations has already been alluded to. Indeed, before a state can exercise unchallenged jurisdiction, present an international claim, or confer rights and duties upon a person there must be a determination of nationality that is based upon sovereignty.[32] With respect to aircraft or indeed spacecraft in flight, nationality is

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Nations'. Until 1949, the member states of the Commonwealth were united through common allegiance to the Crown. Until 1949, the member states of the Commonwealth were united through common allegiance to the Crown.

[30] Heere *op. cit.*, p. 72.

[31] *Ibid.*, p. 72.

[32] Despite challenges to the traditional international law system of sovereignty and equality that has been alluded to in chapter one, the traditional account of international law as law between states is still strong and serves useful purposes. 'States' still represent the carving of

the determinant of control. At this stage the principle of nationality of aircraft alone will be examined. The nationality principle has two crucial applications. The first is in respect of the jurisdiction *ratione instrumenti* (i.e. over the aircraft itself) and that of jurisdiction *ratione personae* (i.e. over persons on board the flight). As regards the latter, clearly where there is a concurrence of jurisdictions, the quasi-territorial jurisdiction (or specifically jurisaction) of the state of registry takes precedence over the personal jurisdiction of any state whose nationals may be on board.

Just as in the case of maritime vessels and unlike any other land-based vehicles or craft (such as cars, tractors, cycles etc) an aircraft must have a nationality. Nationality of aircraft is an unassailable legal principle the utility of which is reflected in the fact that it is well entrenched in several multilateral treaties regulating the airspace. For instance, in the Paris Convention (1919)[33] it is stated that aircraft possess the nationality of the state on the register of which they are entered (Article 6). Furthermore, no aircraft shall be entered on the register of the contracting states unless it belongs wholly to nationals of such state. No incorporated company can be registered as the owner of an aircraft unless it possess the nationality of the state in which the aircraft is registered, unless the President or Chairman of the company and at least two thirds of the directors possess such nationality and unless the company fulfils all other conditions which may be prescribed by the laws of the said state (Article 7).[34] It is also stated that an aircraft cannot be validly registered in more than one state (Article 8). The contracting states agree to exchange every month among themselves and transmit to the International Commission for Air Navigation referred to in Article 34 copies of registrations and of cancellations of registrations which shall have been entered on their official registers during the preceding month (Article 9). Lastly, all aircraft in international navigation shall bear their nationality and registration marks as well as the name and residence of the owner

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the world into non-overlapping territorial units, vested with the authority to regulate their territories, and having the responsibility not to harm certain interests of others and the capacity to make claims when they or their nationals are affected by illegality for which other states, corporations or international organisations are responsible. It is for this reason that a reasonably comprehensive if decentralised effort is made to connect every individual, corporation, vessel and aircraft with at least one territorial state. Nationality in this sense refers to the quality or character, which arises from the fact of a person's belonging to a nation or state. Nationality determines the political status of the individual, especially with reference to allegiance, while domicile determines his civil status. Nationality of individuals arises either by birth or by nationalisation. See Black's Law Dictionary, Sixth edition, (St. Paul Minn: West Publishing Co., 1990). See also Benedict Kingsbury, "Sovereignty and Inequality", Vol. 9 European Journal of International Law, No. 4 (1998), p. 610.

[33] *Supra* note 21.

[34] Art. 7 was revised by a protocol dated in Paris June 15, 1929 which provides that registration of aircraft shall be made in accordance with the laws and special provisions of each contracting state.

(Article 10).

The Havana Convention (1928) also stated in similar terms in Articles 7 to 9 as follows:

Article 7 - Aircraft shall have the nationality of the State in which they are registered and cannot be validly registered in more than one State.

Article 8 - The registration of aircraft referred to in the preceding article shall be made in accordance with the laws and special provisions of each contracting State.

Article 9 - Every aircraft engaged in international navigation must carry a distinctive mark of its nationality, the nature of such distinctive mark to be agreed upon by the several contracting States. The distinctive marks adopted will be communicated to the Pan American Union and to other contracting States.

The Chicago Convention 1944 lends equal weight to the principle of nationality of aircraft. As Cheng puts it, the second important principle accepted by parties to the Chicago Convention 1944 is that enunciated in Article 17.[35] This Article states that "Aircraft have the nationality of the state in which they are registered". Accordingly Article 18 declares that "an aircraft cannot validly be registered in more than one state, but its registration may be changed from one state to another". Article 19 stipulates that the registration or transfer of registration of aircraft in any contracting state shall be made in accordance with its laws and regulations. Article 20 provides that every aircraft engaged in international air navigation shall bear its appropriate nationality and registration marks. Article 21 mandates a system by which states are obliged to supply to each other and to the International Civil Aviation Organisation (ICAO) any information that is demanded concerning the registration and ownership of aircraft registered in that state.

States translate these principles of air law into local legislation in different ways. As a general trend however, it is always intended to give ultimate effect to the principles enunciated in the Chicago Convention especially the utility of the principles of nationality and registration. For instance, as far as British aircraft are concerned, the rules of nationality and registration of aircraft are important and have been incorporated into a plethora of legislation. The earlier legislative efforts include the Civil Aviation Act, 1960, and the Air Navigation (General) Regulations, 1960. While the 1960 Regulation operates against double registration (i.e. registration in more than one state), the 1960 Order regulates furthermore that an aircraft will be registered only if it appears to the Minister that it is owned wholly by persons qualified to

[35] B. Cheng, The Law of International Air Transport, (London: Oceana Publications Inc., 1962) p. 128.

be owners of an aircraft registered in the UK.[36] Under that regime the only persons qualified to be the owners of an aircraft registered in the UK are those incorporated in some part of the Commonwealth and firms carrying on business in Scotland. The current legislation is the Air Navigation Order 1995 (no. 2) and the Air Navigation (General) Regulations 1993.[37]

Registration and Marking of aircraft is mandatory under section 3 of the Air Navigation Order No2 Order 1995. Thus an aircraft shall not fly in or over the United Kingdom unless it is registered: in some other part of the Commonwealth; in a Contracting state (i.e. parties to the Chicago Convention); in a country with reciprocal arrangements with the UK; or it is a glider or an aircraft not at any time making any incursion into foreign territory or merely a kite or captive balloon. The Civil Aviation Authority according to Article 4 is the authority responsible for the registration of aircraft in the UK and shall maintain a register for that purpose. Article 4 forbids double registration, registration for convenience and it states exhaustively those persons qualified to hold a legal or beneficial interest in an aircraft in the UK or a share therein.[38]

Not only must an aircraft possess nationality and be registered, it is the law in most jurisdictions that the registration mark must be displayed. The UK Air Navigation (No. 2) Order 1995 in Article 5 states clearly that an aircraft (other than an aircraft permitted by or under this order to fly without being registered) shall not fly unless it bears painted thereon or affixed thereto in the manner required by the law of the country by which it is registered, the nationality and registration marks required by that law. Deceptive marks are prohibited (5 (3) (a) and (b)). Recently under US laws, civil forfeiture proceedings against an aircraft alleged to have displayed a mark that was false or misleading with respect to its nationality or registration were dismissed as a result of a failure to allege that the aircraft in question was

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[36] Air Navigation Order, 1960, Art 2.

[37] To a great extent English municipal air law is regulated by statute and by statutory instruments made under statutory powers. The principal statutes include the Civil Aviation Act 1982 which confers comprehensive enabling powers for the regulation of civil aviation, and the Airports Act 1986 which deals with the regulation and use of airport facilities. Much of the legislation gives effect in English law to international agreements: the Civil Aviation Act 1982 contains provisions for carrying out the requirements of the Chicago Convention; whereas the Carriage by Air Act 1961 enacts in the law of the United Kingdom the provisions of the Aviation Security Act as amended at The Hague in 1955 and the Carriage by Air and Road Act 1979 including the provisions of that Convention as further amended at Montreal in 1975; the Carriage by Air (Supplementary Provisions) Act 1962 gives effect to the Guadalajara Convention; and the Aviation Security Act enables the rules of international agreements for the protection of civil aviation to be applied in the United Kingdom.

[38] They are as follows: (a) the Crown (b) Commonwealth citizens: nationals of any EEA state; (c) nationals of any EEA state; (d) British protected persons (e) bodies incorporated in some

involved in air transportation. It was held that in so far as the aircraft registration listed the aircraft as 'commercial-private', it was not apparent whether the vehicle was used only by its owner or used to provide services to members of the general public.[39]

It suffices to mention that a number of bilateral agreements between states also make provisions for the nationality of aircraft.[40] It is however, important to note that there still is a controversy among scholars on the subject regarding the nationality of aircraft. One view correctly holds that nationality of aircraft is based on registration; therefore, an aircraft cannot be registered in two or more states at the same time.[41] An older opposing view argues that in most countries the nationality of the aircraft is determined by the nationality of the owner.[42]

It is necessary to present this controversy, because it is frequently assumed in accordance with the various treaty provisions discussed above that the nationality of ships and aircraft is invariably determined by their place of registration and hence by the flag they are entitled to bear. Cheng however, aptly points out that this proposition ignores divergent state practice.[43] It is for instance a fact that the nationality of British ships is determined by the nationality of their owners. In Temperley's Merchant Shipping Act [44] it is stated that;

> The term British ship is not defined in the Act. It would seem however, that unless she is employed by a Government under Letters of Marque, the nationality of the owners is generally the criterion of the nationality of a vessel... Hence a British owned ship is a British ship for such purposes, even if she is not registered in this country or if she is registered in and carries the flag of a foreign country.

Thus, it is clear that the flag flown by an aircraft unfortunately offers no more than a *prima facie* presumption that the aircraft has the nationality of the state whose flag it carries. Schwarzenberger's caveat then is that only an aircraft's papers are real evidence of nationality. This is more so since some states still fall back on the nationality of the owner as

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part of the Commonwealth and having their principal place of work business within the European Economic Area (g) firms carrying out business in Scotland.

[39] *US v. One 1980 Cessna II aircraft*, US District Court, Southern District of Florida 15 Dec. 1997, 26 Avi 15. 459. For a thorough digest of this case see Vol. xxiv Air and Space Law, No. 6 (1999) p. 333.

[40] Other matters dealt with by bilateral agreements on the subject of jurisdiction over airspace and airliners in flight include; admission of civil aircraft, issuance of pilots licences and acceptance of certificates of airworthiness for aircraft imported as merchandise.

[41] See M. Akehurst, *op. cit.*, p. 183

[42] See Margaret Lambie, "Universality Versus nationality of Aircraft", Vol. V. The Joumal of Air Law, No. 1 January, (1934). 46-47.

[43] Cheng (1962) *op. cit.*, p. 129.

[44] 5th ed. 1954, p. 3.

proof of the aircraft's nationality. It is important to state that the preferred argument is that which tallies with treaty law to the effect that the place of registration determines nationality; (Article 77 Chicago Convention (1944)) and that it is within the domestic jurisdiction of every state to determine in accordance with its municipal laws to which aircraft it is prepared to grant its nationality. Thus divergent practice as typified by the erstwhile British interpretation has to be brought in consonance with contemporary international law.

The major importance of the principle of nationality in relation to the incident of an aircraft in flight is that it opens the way to other rights and liabilities being attached to aircraft irrespective of their owners or operators.[45] For example, with the legal requirement of identification of the nationality of all aircraft in flight, states find it easier to permit a generally free use of their airspace for navigation. The mutual realisation is that any navigation over state territory inures as much as possible to the benefit and as little as possible to the distress of their citizens and other services.[46]

The operation of the principle of nationality of aircraft allows states to achieve the following: (1) A reservation of commercial air traffic between points in the same states for nationals of that state - that is the principle of cabotage; which has long been familiar in coastal shipping laws. (2) A protection of the public interest of the state itself against the possibility that its secrets of national defence might be unduly violated by the prying eyes of an observer while in flight over the aerial territory. (3) A means whereby the state may protect its citizens and territory against injuries resulting from improper or careless activities of aviators and/or enable its citizens to secure adequate redress if such injuries should occur. [47]

In short, the chief importance of determination of nationality of aircraft is to ensure co-operation and collaboration among states with respect to flights in air space. Without this basic understanding it becomes impossible for aircraft to traverse state territories for various purposes. The detection and control of aerial trespass will be rendered more difficult and the provisions against unsafe aircraft and incompetent pilots will be even more difficult to monitor. The whole essence of the retention of state sovereignty over national airspace will be defeated. Ultimately it presents an easy mode of determining which law governs and what tribunal or court has jurisdiction over the redress for or punishment of, conduct in aircraft. According to one of the early authorities on the subject, diplomatic protection of the aircraft

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[45] Cheng 1962 *op. cit.*, p. 128.
[46] Hence the requirement of easily identifiable registration marks on all aircraft. See also M. Lambie *op. cit.*, p. 40.
[47] Kingsley Rober, "Nationality of Aircraft", Vol. 3 Journal of Air Law, (1932) p. 50.

abroad; the right of requisition of the aircraft during war by the 'state of the flag' foreign aircraft being exempt; and designation of civil and criminal jurisdiction over aircraft are sufficient reasons to at all times confer nationality on aircraft.[48] These observations remain true till date.

2.1.1: Nationality Principle and the Question of what is an Aircraft

Two questions require consideration. What is an aircraft? And which craft must possess nationality? Which 'craft' fall within the provisions of the Chicago Convention 1944 and what laws govern those that fall outside this Convention? To many scholars at the inception of the last century when flight was at its beginning stages, an aircraft was properly speaking no more than a ship and like a ship has peculiar need of national protection.[49] This sweeping generalisation would only lead to confusion if accepted *in toto;* for an aircraft is not a ship, unless we speak in terms of an 'airship'. It is true that like ships there is need for national protection of other vehicles engaged in international transport. This need has been extended to cover vehicles that traverse the airspace such as space ships and space objects. This is surely not to say that there are no clear distinctions in legal terms between ships, airships, and spaceships. Furthermore, we may enquire whether there are distinctions between an aircraft, which by international law must have a nationality and other craft such as balloons and dirigibles. The attempt to grapple with these distinctions will necessarily take us into comparative analysis with similar aspects in space law.

The Chicago Convention in Article 3(1) refers to "Civil Aircraft" but offers no definition. However, the Council of the International Civil Aviation Organisation (ICAO) has defined an aircraft for the purpose of the annexes to the Convention as "any machine that can derive support from the reaction of the air". This is the same interpretation given in the annex to the Paris Convention of 1919. But, there are still significant objects like hot air balloons and gliders, which can violate airspace territory, which derive support from the reaction of air although not 'machines' properly so called. Are these classes of craft then aircraft and must the requirements of nationality and registration under Article 12 Chicago Convention 1944 be complied with in operating them?[50] Space bound vehicles also present another problem. They are no doubt also 'machines' and 'derive support from the reaction of the air' when still within the atmosphere. Are these then aircraft, which must satisfy the nationality requirement

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[48] De Ia Pradelle, 3 *Rev. Juridque Inter de Ia locomation Aerienne* (1912) p. 116.

[49] See Henry Conannier, "De Ia Nationalite et du Domicile does Aeronefs", Vol. 1 *Rev. Juridique* Inter de Ia locomotion Aerienne, (1910) p. 165; See also Lambie, *op. cit.*, p. 41.

[50] Note that under the regime of the UK law discussed above gliders and balloons are exempt from registration.

and operate under all the provisions of the Chicago Convention? Bin Cheng argues convincingly that:

> This definition of aircraft *senso stricto* while it includes both instruments which are lighter than air, like balloons and airships and those which are heavier than air, like gliders and aeroplanes does not apply to devices such as rockets, earth satellites and other space vehicles. Even though they may perhaps fall within a *sense alto* definition of aircraft as used in certain systems of municipal law, the term flight craft has the advantage of obviating any ambiguity.[51]

D. P. O'Connel on his part would appear to have fallen victim to sweeping generalisations. He wrote; "one might conclude therefore that as a practical measure, the law relating to registration and nationality of space bodies in outer-space is the same as that of aircraft". [52] Firstly as will later be shown it is not space bodies that are registered but spacecraft and space objects. Furthermore, the true position is that while the regulation of aircraft in flight falls under the purview of air law and the provisions of the Chicago Convention (1944), the regulation of space craft and other space objects falls under the fast developing rules of space law and the space treaties.[53]

The most pertinent provision on registration and nationality of spacecraft is enshrined in the Convention on Registration of Objects Launched into Outer Space (1975).[54] This Convention

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[51] Bin Cheng "International Law and High Altitude Flights and Man-Made Satellites", Vol. 6 I.C.L.Q. (1957) p. 491.

[52] D.P. O'Connel, International Law, 2nd Edition, Volume One (London: Stevens and Sons 1970), p. 540.

[53] There are eight multilateral instruments, which constitute the *corpus juris* of space law. They are: (a) The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under water 1963 also known as the Nuclear Test Ban Treaty, (b) United Nations General Assembly Resolution 1962 (xviii), (c) 13 December, 1963 Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space; (d) Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Borders (1967) (18 U.S.T. 2410, 610, U.N.T.S. 205), (e) Agreement on the Return of Objects launched in to Outer Space 1968, (f) Convention on International Liability for Damage caused by space Objects 1972, (g) Convention on Registration of Objects Launched into Outer Space (1975) (h) Agreement Governing the Activities of States on the Moon and other Celestial Bodies (1979) (G.A. Res. 34/68, U.N. GAOR, 34th Sess. Supp. No. 46 at 77, U.N. Doc. A/34/664 (1979).

[54] Though outer space belongs to no one, the state of registry of a space object retains jurisdiction and control over it and any personnel on it while it is in outer space or on a celestial body. Ownership over space objects do not change because of their location and if found outside the territory of the state of registry either on earth or anywhere else it shall be returned to it after providing identifying data, if so requested (Article VIII Outer Space Treaty 1967). Similar provisions exist in Articles 1, 2 and 3 of the Astronauts and Space Objects Agreement (1969); in Article 7 of the Declaration of Legal Principles (1963) and Article 12 Moon Treaty 1979. See further *infra* chapter 9.

states that when a space object is launched into orbit or beyond, the launching state shall register the space object by means of an entry in an appropriate registry, which it shall maintain. Each launching state shall in turn inform the Secretary-General of the United Nations of the establishment of such a registry.[55] Where there are two or more launching states in respect of a spacecraft they shall jointly determine which one of them shall register the spacecraft.[56] Each state of registry shall furnish the Secretary-General with an appropriate designator of the space object or its registration number.[57] Though the Registration Convention (1975) does not mention it clearly in any of its 12 articles as in the case of the Air Treaties particularly Art. 17 of the Chicago Convention (1944), a spacecraft bears the nationality of the state of registry of that spacecraft.

Thus, it is safe to conclude that though the applicable legal regime may differ, all spacecraft, aircraft[58] and in fact any other humanly made flying objects which is to be used for international flight must be registered by a state and must be invested with a particular nationality. Besides if ever an interpretation is adopted by which air vehicles like gliders and balloons are not attributed with nationality (the value of such contraptions for aerial espionage must not be underrated) and if any aircraft flies without registration, international law is not helpless in coping with such flights. By analogy with the customary law of the sea where a ship is not prohibited from sailing without a flag, a glider, balloon or aircraft that flies without a flag may well be treated as if it were a stateless person with all the deleterious effects of such status.[59]

Unresolved issues concerning the legal regime of registration of aircraft and spacecraft exist presently. One of these relates to the special problem of a new class of aircraft-the X-15 that is capable of flying to heights previously considered supra atmospheric. These hybrid rocket planes combine elements of the traditional aircraft and of spacecraft and, therefore, can fly above the lower airspace. An aircraft is described in the air treaties as a machine depending

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[55] Article 11(1).
[56] Article 11(2).
[57] Article IV (b) and V
[58] Which includes (a) machines heavier than air that are mechanically driven (such as aeroplanes, sea planes or helicopters) as well as those that are not mechanically driven (such as gliders or even kites) and (b) machines lighter than air, whether mechanically driven (such as airships) or non-mechanically driven (such as captive or free balloons). See Bin Cheng, The Law of International Air Transport op.cit., p. 111.
[59] Thus, in the *Nain Malvan v. Attomey-General for Palestine* case, the judicial committee of the Privy Council stated; "[n]o question of comity nor of breach of international law can arise if there is no State under whose flag the vessel sails.... Having no flag... the Asya could not claim that any principle of International law was broken by her seizure". See 1948 A.C. 351

on the reaction of the air as its means of flight. It is clear that aircraft that can function in an environment where all the aerodynamic features that give a normal aircraft the needed 'lift' exist no more creates serious problems for aerospace lawyers. Should such an object be registered as an aircraft under the Chicago Convention (1944) rules? Or is it to be treated as a space vehicle, therefore, falling under the provisions of the Space Treaties?[60]

Noting that the pertinent international treaties are silent on this matter it can only be conjectured that it would be advisable that such 'craft' are to be registered first as aircraft to satisfy the requirements of the Chicago Convention. Registration as a space object would appear to be necessary only upon a planned launching into orbit or beyond. This interpretation falls on all fours with the precise wordings of Article II of the Convention on Registration of Objects Launched into Outer Space (1975), which states that: "When a space object is launched into orbit or beyond, the launching state shall register the space object".[61] Note should be taken of the fact that the term space object includes launch vehicles (Art. 1). Therefore, whether the launch vehicle itself proceeds into outer space or returns to earth after launch it must be registered as a spacecraft and not an aircraft. This is particularly true if it will attain heights at which objects can be said to enter into orbit.[62]

However, since the decision to register the craft in question, as aircraft or spacecraft will in the first instance belong to the state that owns it or its nationals, there will eventually be disagreements among states over which classification a particular vehicle should have been registered. Registration of a spy vehicle that can make space flights as an aircraft will for instance be a clever even if illegal attempt to avoid the legal consequences of registration as a spacecraft. If a state successfully achieves this then it may not have to register the vehicle as a space object on the register of the UN as required by the Space treaties and cannot be easily

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at pp. 369-370; See also Nwachukwu Okeke, Theory and Practice of International Law 3rd edition p. 173.

[60] Particularly, Declaration of Legal Principles (1963) (Article 7 & 8); Outer Space Treaty (1967) (Article VIII); Convention on Registration of Objects launched into outer space (1975) (Articles II, Ill and IV).

[61] The X-15 and such hybrid rocket planes make nonsense of these provisions. Such vehicle may not be 'launched into orbit' but are capable of making space flights. It has therefore, been suggested that aerodynamic lift can no longer be a criterion to denote the boundary between airspace and outer space. See Haley, "Space Law land Metalaw - Jurisdiction Defined", 24 Journal of Air Law and Commerce, (1987) p. 286; Pitman B. Potter, "International Law of Outer Space", 52 American Journal of Intemational Law, (1958) p. 305; J.C. Cooper, "High Altitude Flight and National Sovereignty," in Explorations in Aerospace Law: Selected Essays Vlassic (ed) *op. cit.*, pp. 368, 370; A.G. Haley, Space Law and Government, (New York: 1993) pp. 77, 97-107. See *infra* Chapter 10: Legal Theories on the Spatial Demarcation Boundary Plane Between Airspace and Outer Space.

[62] See *infra* chapter 10; The Lowest Point of Orbital Flight Theory.

accused of using outer space activities to engage in unfriendly acts against other states. This again testifies to the need for international lawyers to very quickly address the separation in spatial terms the height at which the regime of air law ends and that of space law begins.

2.1.2: Nationality of Aircraft and the Question of 'Genuine Link'

It is necessary also to consider if and to what extent the problem of 'flags of convenience' exist in relation to aircraft and the jurisdictional problems this may create. The problem of flags of convenience is one, which the maritime lawyer is more familiar with.[63] The tremendous growth in the aviation industry worldwide, however, threatens to re-introduce afresh the problem of flags of convenience in international relations. Nowhere is this more likely than in the developing states as a result of the increasing incidence of privatisation of national airlines and mushrooming private airline business.

We may recall that the Paris Convention of 1919 stipulated clearly that registration could only take place in the state of which the owners of the aircraft are nationals. The Chicago Convention (1944) on the other hand does not make provision for this important requirement. It merely forbids dual registration (Article 18). Indeed, most of the rights exchanged under the Chicago Convention (1944) including the right of non-scheduled flights under Article 5 are in regard to aircraft registered in the contracting states, without reference to the nationalities of their owner or operators. Furthermore, transit and traffic rights for scheduled international air services are generally exchanged between the contracting states not in respect of aircraft bearing their nationality but of air transport enterprises or airlines of each other. This is for instance the case with both the International Air Services Transit Agreement (1944) and the International Air Transport Agreement (1944). Thus, the coast would appear to be clear for the problem of flags of convenience to repeat itself probably on a larger scale than it exists in the law of the sea.

Fortunately however, as Cheng notes many bilateral air transport agreements and some multilateral air transit and transport agreements incorporate a substantial ownership and effective control clause. These clauses ensure that airlines are vested in nationals of the respective contracting states. In this way, at least for now the problem of flags of convenience

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[63] This problem arises out of the practice whereby some developing states notably Liberia, Honduras, Somalia and Panama bestow upon foreign ships their flags, imposing minimal conditions for the acquisition of their nationality. They in actual fact exercise minimal control over such ships. The non-insistence upon stringent standards and legislation by these states relating to matters of navigation safety; seamen's working conditions and skills translate to cheaper costs for the operators hence the attraction.

can easily be excluded from scheduled international transport.[64]

The argument may be raised that among state parties to the Chicago Convention 1944 the combined effect of Articles 77 and 19 precludes any state party from contesting the nationality of an aircraft except where it relies on a substantial national ownership and effective control clause in an existing bilateral arrangement.[65] But there appears to be no reason why the genuine link rule under international law as enunciated by the International Court of Justice (ICJ) in the *Nottebohm case* with regard to individuals and extended to ships cannot be further extended to aircraft and even spacecraft.[66]

It must be conceded however, that the application of a genuine link test to aircraft is by no means straight forward, as in the case of naturalisation of the individual. Brownlie, and earlier Jennings, note that registration of the aircraft is itself a presumptively valid and genuine connection of some importance.[67] We must therefore, attempt to grapple with the role of registration. The pertinent questions are does registration merely certify status under national law? Or does it on the other hand, serve as a guarantee that the rules and regulations relating to the safety and legal operation of aircraft that engage in international flights would be enforced by the state of registration? An affirmative answer to the latter query is preferable and is definitely in consonance with the overall interests of aviation practice.

This is probably why when aircraft are leased or chartered for any length of time to an operator in a foreign country ('interchange of aircraft') international air law requires that the state of registry (i.e. lessor/charter) transfer its functions under the Chicago Convention (1944) to the state of the operator (i.e. lessees).[68] Thus, it has been the practice of the United States as confirmed in the *Aerolinas Perunas S.A. Permit case* in bilateral treaties to reserve the right to refuse a carrier permit to an airline designated by the other contracting party in the event that substantial ownership and effective control of such airlines are not vested in nationals of the other contracting party.[69]

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[64] Bin Cheng (1962) *op. cit.*, pp. 203-4, 207-8, 398.
[65] Cheng, *ibid.*, pp. 128, 131.
[66] In the *Nottebohm case*, Second Phase (1955) between Guatemala and Liechtenstein the ICJ propounded the 'link theory' which has the effect that a state may validly not recognise naturalisation granted by another state to individuals with whom there is no social fact of attachment, a genuine connection of existence, interests and sentiments, together with the existence of reciprocal rights and duties. See ICJ Reports (1955), pp. 4, 23.
[67] Brownlie, *op. cit.*, p. 427. See also Jennings 121 Hague Recuil pp. 460-6.
[68] Article 83 bis of the Chicago Convention adopted in 1980. (ICAO Doc. 9318), see also B. Cheng "Air Law" in Encyclopaedia of Public Int. Law, Bernhadt, Rudolph ed. (Netherlands: Elsevier Science Publishing Company, 1989) p. 9.
[69] International Law Report, 31, p. 416; see also Brownlie *op. cit.*, p. 427.

This system, which gives individual national control over aircraft in flight, has also meant that the regulatory system of international aviation depends for its effectiveness upon co-operation between states. Nicholas Mateesco Matte, therefore, correctly notes that this ensures that airworthiness, security and navigability of aircraft are of the highest standards world-wide. The organisation within which this co-operation has been facilitated so far is the International Civil Aviation Organisation (ICAO).[70]

The ICAO has been particularly strict (and rightly so) in applying the genuine link principle. This is in consonance with the task conferred upon it under Article 77 of the Chicago Convention to "...determine in what manner the provisions of this Convention relating to nationality of aircraft shall apply to aircraft operated by international operating agencies". This strict interpretation is more clearly seen in relation to joint ventures of airline ownership. Thus in 1960 when the ICAO Council received a request from the Arab League, which was contemplating the establishment of a Pan-Arab Airline, the Council convened a Panel of Experts to make a general study of the problems posed by Article 77. The Panel found *inter alia* that unless an aircraft was registered in a sovereign and independent state, it would not have a nationality and would not be governed by the domestic law of any country.[71]

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[70] See Nicholas Mateesco, "Air and Extra - Atmospheric Space: Air", International Law: Achievements and Prospects, M. Bedjaoui (ed.) (Netherlands: Doderecht Nijhoff, 1991) p. 291. By an agreement, which came into force on 13 May 1947, the ICAO became a Specialised Agency of the United Nations Organisation. Article 37 of the Chicago Convention (1944) is headed "Adoption of International Standards and Procedures" and provides that contracting states undertake to collaborate in securing the highest practicable degree of uniformity in regulations and standards in relation to aircraft, personnel and airways to facilitate and improve air navigation. Article 47 grants the ICAO legal capacity in the territory of each contracting state to the extent that may be necessary for the performance of its functions. Article 60 provides that the ICAO shall be granted immunities and privileges, which are granted to corresponding personnel in other public international organisations. Tim Unmack comments that particularly "in view of the functions of ICAO concerning operational standards, the question of immunity from suit is important". See Tim Unmack, Civil Aviation: Standards and Liabilities, (Gloucester: LLP Professional Publishing Co., 1999) pp. 22-23.

[71] See Cheng (1962) *op. cit.*, pp. 131-2. Note should also be taken of Article 79 and 83 (as amended). Article 79 provides that a state may participate in joint operating organisations or in pooling arrangements, either through its government or through an airline company or companies designated by its government. The Chicago Convention (1944) did not adequately specify the responsibilities of the state of operator where an aircraft of the state of registry is leased, chartered or interchanged. Therefore, on 6 October 1980 the ICAO Assembly decided to amend the Chicago Convention by introducing Article 83 bis. This provision deals with the transfer of certain functions and duties. When an aircraft registered in a contracting state is operated pursuant to a lease or charter agreement by an operator whose principal place of business or permanent residence is abroad in another contracting state, the state of registry may by agreement with the other contracting state transfer its functions and duties as state of registry in respect of that aircraft under Articles 12, 30, 31 and 32. It is important to note,

In 1967 again the Council of the ICAO also adopted a resolution requiring the constitution of a joint register in such cases for the purposes of Article 77 of the Chicago Convention and the designation of a state as recipient of representations from third states. The resolution applies both to joint operating agencies and inter-governmental agencies. The position currently is still largely that which Brownlie describes thus: "In principle aircraft of joint operating agencies for example Air Afrique must be registered in one of the States involved."[72]

In sum, an international tribunal would look at the state of registration to determine nationality and to avoid the problem of flags of convenience.[73]

In any case, the problem of flags of convenience never assumed serious dimensions with regard to aircraft as it did in the case of ships. One of the reasons for this may be that the 'Form of Standard Agreement' recommended at Chicago as well as the Two Freedoms and Five Freedoms Agreements accompanying the Chicago Convention (1944)[74] all contain clauses authorising the revocation of permits when a state is not satisfied that the airline to which it has granted a permit is under the substantial ownership and effective control of national of the contracting state.[75] It will also be seen that the rules of nationality of aircraft demonstrate that like ships, aircraft and spacecraft are to some extent invested with "legal quasi personality". That is to say, they are viewed as entities in themselves. In each case the state of registration is responsible to other states for the conduct of the aircraft in question. The bottom line then is that nationality defines the incidence of control. It indicates which state has the right to exercise quasi-territorial control over the aircraft and is, therefore, liable

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however, that this provision does not apply to Article 77. Under Article 94 (a) of the Convention the amendment came into force on 20 June 1997 in respect of states, which ratified it. As at 30 June 2001, there are 127 ratifying states. Tim Unmack *op. cit.*, suggests that the lacunae, which existed prior to the coming into force of Article 83 amendment, would not have proven to be a problem in the European Union (EU) because Article 10 of Regulation 2407/92 of 23 July 1992 applies in such cases.

[72] Brownlie *op. cit.*, p. 427.

[73] Though the obligations imposed by Article 12 of the Chicago Convention raise the question of which state is to fulfil the requirements of registration, Article 77 of the Convention explicitly recognises the right of two or more contracting states to establish joint air transport organisations. Such organisations include the Scandinavian Airlines System (SAS) consisting of Swedish, Danish and Norwegian companies. See Shawcross and Beaumont Air Law, Vol. 1, 4th edition (1988), chapter 11; Shawcross and Beumont, Air Law 4th edition, Peter Marury *et al* (eds.) (London: Butterworths, 1977) pp. 15, 17-18. See also Nicholas Grief, Public International Law in the Airspace of the High Seas Thesis submitted at the University of Kent at Canterbury (1993) p. 196.

[74] The two agreements refer to the Chicago International Air Services Transit Agreement 1944 and the Chicago International Air Transport Agreement 1944 (171 U.N.T.S. 387) respectively.

for its actions under the Chicago Convention. To this extent flags of convenience in relation to aircraft are a dangerous abstraction that must not be condoned. Therefore, it may be recommended that Article 17 of the Chicago Convention be amended to unequivocally contain a requirement of genuine link as in the rules governing nationality of ships and as recognised by the ICJ in the *Nottebohm* case[76]

2.2: Obligations With Respect to State Aircraft, Civil Aircraft and Piloted/Pilotless Aircraft

The Chicago Convention (1944) distinguished between state aircraft and civil aircraft. State aircraft are those "used in military, customs and police services" (Article 3). The test, therefore, is functional and does not depend on ownership at all. Any aircraft owned by a contracting state, which does not, fall within the above definition is for the purposes of the Convention regarded as civil aircraft to which alone the Convention applies.[77]

Furthermore, it should be noted that the Chicago Convention (1944) for the purpose of conferring the right to fly distinguishes between commercial and non-commercial flights. Commercial flights are those, which carry passengers, cargo or mail for remuneration or hire. They are further sub-divided into scheduled and non-scheduled flights the Convention grants a fairly liberal right for aircraft bearing the nationality of any of the contracting states to fly into the territory of other contracting states or to fly across it with or without a stop. No such right of entry or transit is given in respect of scheduled air services while that which is granted in respect of non-scheduled commercial flights is rather nominal.[78]

The Chicago International Air Services Transit Agreement 1944 and the Chicago International Air Transport Agreement 1944 both contain important provisions regarding obligations towards civil aircraft. In the former each contracting state grants to the other states the following freedoms of the air in respect of scheduled international air services: (1) The privilege to fly across its territory without landing; (2) The privilege to land for non traffic purposes. The latter agreement more ambitiously grants five freedoms which basically are the two in the 'Two Freedoms' Agreement and in addition the following: (3) the privilege to put

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[75] D. Johnson, *op. cit.*, p. 75.

[76] See for instance, Article 5 of the High Seas Convention (1958)(450 U.N.T.S. 82;)) and Article 91 of the Law of the Sea Convention 1992 Hereinafter called LOSC (1982) (UN Doc. A/CONF. 62/122; (1982) 21 I.L.M. 1261).

[77] Bin Cheng, "State Ships and State Aircraft", Vol. 11 Current Legal Problems (1958) 225. See also Cheng, "From air Law to Space Law", Current Legal Problems (1960) *op. cit.*, p. 238.

down passengers, mail or cargo taken on in the territory of the state whose nationality the aircraft possesses; (4) The privilege to take on passengers; mail and cargo destined for the territory of the state whose nationality the aircraft possesses; (5) The privilege to take on passengers, mail and cargo destined for the territory of any other contracting state and the privilege to put down passengers, mail and cargo coming from any such territory. It is, however, possible to question the commonsense of the freedom of transit for private aircraft through national airspace when most states simply do not have the technological prowess or investment capabilities to benefit from this right. Obviously those states that own and operate large fleet of aircraft and have higher numbers of private and corporate investment in aviation have obtained valuable benefits for free.[79]

In connection with the duty of the flag state to register aircraft (whether civil or state owned), a little more must be said about pilotless aircraft and other pilotless flight craft such as rockets and earth satellites. Article 8 of the Chicago Convention (1944) states that:

> No aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a contracting State without special authorisation by that State and in accordance with the terms of such authorisation. Each contracting State undertakes to ensure that the flight of such aircraft without a pilot in regions open to civil aircraft shall be so controlled as to obviate danger to civil aircraft.

Cheng makes some useful suggestions regarding the scope of each contracting state's duty to control pilotless flights. He thinks it may be one or more of the following:

> (i) In respect strictly of its own territory. This is a literal but rather unlikely interpretation of the two sentences of article 8 taken together (ii) In respect of all aircraft bearing its nationality wherever they may be. This is possible though not the most probable interpretation of the intention of the parties, since it would have unregulated pilotless aircraft which have not been registered and therefore have no nationality (iii) In respect of all flights originating from its territory, which may take place wholly or within national airspace or partly within it and partly within free flight space and/or foreign airspace belonging to no contracting States to the Chicago Convention.[80]

It may, therefore, be said that Article 8 does not in any significant manner prohibit pilotless flights in regions open to civil aviation. The article merely requires that such craft are to be subject to control. This underscores the chief importance of the nationality requirement,

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[78]Cheng, (1960) *op. cit.*, pp. 238-9.

[79] Note however, recent introductions in state practice. Russia for instance has begun to obtain valuable consideration for allowing commercial airlines to make use of its airspace in order to shorten flight routes. See *infra* chapter 6 note12.

which is that it serves as a verifiable means of determination of ownership and therefore, control and liability. Once the incidence of where control and liability lies is clear, air law does not prohibit pilotless flight. However, if it passes over national territory prior permission in one form or the other must have been granted. Thus the illegal use of spy aircraft is not permitted. Even if Article 8 were extended to apply to all types of flight craft, contracting states to the Chicago Convention may continue to permit such flights whether by balloons rockets or earth-satellites, from their territories, so long as they are controlled in order to obviate danger to other civil aircraft. In any case as will be shown the regime for liability for space flight is equally based upon adequate rules that aid the determination of ownership liability and control. It may be noted, that operators in the developed states conduct the vast majority of pilotless flights, including earth satellite launches. Probably because incidents of interference with civil aviation in this manner is not common and have not led to disputes, there is also an assumption which works in the favour of the developed states that in the case of earth satellite launches, prior permission of the underlying states is a dispensable criterion.

Summary and Conclusions

The tridimensionality of state territory recognised under customary international law subsists till the present. The idea of sovereignty and jurisdiction over the airspace has developed over the centuries and is even older than the history of human flight. First there was the unduly generous position that the whole aerial space to an indefinite extent is subject to the underlying states sovereignty following the maxim *cujus* est *solum ejus usque ad coelum et ad inferos.* While the problem of the exact demarcation point between airspace subject to national sovereignty and outer space, which belongs to entire mankind, has not been solved, it may be safely concluded that under prevailing treaties on air law particularly the Chicago Convention (1944) the principle of complete and exclusive sovereignty over the superincumbent airspace is unassailable. Airspace sovereignty is delimited *ratione loci* in respect of the space above national territories and not *ratione materiae* in respect of the air, which may at any given time, be filling this space. Quasi-territorial jurisdiction and personal jurisdiction may, however, be exercised by other states with respect to aircraft, spacecraft and their citizens which they have granted legal personality even when found in foreign airspace.

Innocuous as it may seem the recognition in various multilateral treaties on air law that the territory of a state shall be understood as including the national territory, 'both that of the

[80] Cheng, (1957) *op. cit.*, p. 504.

mother country and of the colonies, and the territorial waters adjacent thereto'[81] is a fact that proves that air law was used as a means of legitimising or at least justifying the interests of the colonial powers. Without prejudice to the practicalities necessitating the inclusion of such provisions in the law it also serves as a pointer towards the need to re-examine contemporary air law and space law for all such relics of the old law of domination that may persist.

The nationality doctrine is a necessary and useful adjunct to the general rule of airspace sovereignty and jurisdiction. Since territorial sovereignty and jurisdiction extends upwards into the airspace it is a *sine qua non* of the continuance of international aviation that at any point in time the state of origin of each and every aircraft should be ascertainable. Nationality and registration of aircraft thus becomes the simplest and surest way to ensure state security, compliance with good air navigation practice and at the same time respect for other rules of international air law. For purposes of identification in cases of damage to property, the distinctive mark of nationality may be of great significance. The nationality of aircraft as determined by registration is, therefore, a crucial concept in the determination of control over aircraft. The application of this principle involves ascertaining jurisdiction *ratione instrumenti* and *ratione personae.* The operation of the nationality principle in practice represents the hub upon which respect for state sovereignty, jurisdiction, liability and safety of lives and property rests in the course of international aviation.

Though there are similarities in the legal requirements of nationality and registration of aircraft and spacecraft different laws and treaties are called into question. While air law governs the principle of nationality and registration of aircraft and all similar vehicles, which engage in airspace transport, space law dictates the rules with regard to spacecraft, rockets and all vehicles that can be launched into orbit. The existence of aircraft and launchers that can operate both in airspace and outer space necessarily introduce some confusion into the legal classifications. It is, therefore, suggested that to forestall any controversies in this direction an interpretation should be adopted, which makes such vehicles, fall under the classification of registration as space vehicles. The basis of this suggestion is that most aircraft that are used for international transport do not need to make incursions into regions above the airspace where objects may be put into orbit. Therefore, the test should be functional. If an aircraft can make this sort of flight it is better for the safety of outer space activities and to satisfy the security concerns of other states that it is registered on the register of the United Nations established for that purpose as a space object.

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[81] This was the formula used in Article 1 of the Paris Convention (1919). The Chicago Convention (1944) also repeats a substantially similar provision in its Article 2.

There ought to be a genuine link between the ownership of vehicles that travel through the airspace of other countries (including aircraft and spacecraft) and the state of whose nationality it bears. This is the best way to ensure that the reasons for operating the principles of nationality and registration of flight vehicles are maintained. States ought to realise the mutual benefit of maintaining respect for the principles of sovereignty over national airspace as well as nationality and registration of flight vehicles that can engage in international or extra-atmospheric flights. However, to assume that the present regime is the fairest possible will be a questionable stance since it can be demonstrated that certain states with the technological and infrastructural capabilities are the principal beneficiaries of the regime, which allows private and commercial aircraft to fly over national territory without financial charges. It may also be concluded that the development of the law relating to legal status of the airspace in the last century has very much reflected the dominant ideology of the time including the realities of the cold war, the protection of the needs of the aviation powers and the security interests of nation states.

CHAPTER THREE

3.0: JURISDICTION OVER CRIMES IN THE AIRSPACE AND ON BOARD AIRCRAFT

3.0.1: Development and Patterns of National Responses to Crimes in Airspace

> "The law has yet to catch up fully with conventional aviation... This lag is nowhere more noticeable than in the field of criminal law and criminal jurisdiction as applied to civil aircraft."[1]

Crimes in the Airspace committed on board an aircraft in flight include; (a) common crimes (for example assault, theft and unruly behaviour); (b) aeronautical offences e.g. dangerous flying, flying unregistered aircraft, carriage of dangerous goods and munitions of war, flying an aircraft under the influence of intoxication, narcotics[2] and (c) unlawful interference with civil aviation e.g. hijacking, hostage taking and sabotage against aircraft. A common feature of these categories is that the rules of jurisdiction that deal with them are naturally of very recent origin. These rules are barely 50 years in existence and up till the present the exercise of criminal jurisdiction in relation to aircraft in flight is still a major source of controversy. A discussion of these developments is necessary for us to understand the nature of state jurisdiction in the airspace as well as to pinpoint possible paradigms to be adapted for the even less developed area of jurisdiction over crimes in outer space.

States had barely settled the question of sovereignty in the airspace and developed air safety regulations before newer expressions of criminal behaviour were introduced into the airspace. Early expressions of criminal conduct in the course of international flights exposed lacunae in air law, which international lawyers are still struggling to fill. Presently, newer forms of criminal conduct are revealed some of which are a result of increasing access to air travel as well as advancement in various areas of technological advancement. For instance, access to telecommunications and Internet facilities by passengers during flight opens up new vistas for the criminal mind in terms of financial crimes.[3] Therefore, fresh problems are presented for air lawyers. Familiar problems also present themselves in ever changing ways. For these reasons, the regime governing crimes in the air must be continuously reassessed and developed.

Two cases in 1950, one in the United States jurisdiction and the other in the English

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[1] Bin Cheng, "Crimes on Board Aircraft", Current Legal Problems, (1959) p. 177.

[2] See for instance section 3 of the Nigerian Civil Aviation Act 1965 Cap. 51, LFN 1990; see also the UK's Air Navigation Order 1954 and section 11 of the Civil Aviation Act.

jurisdiction drew attention sharply to this gap in the criminal jurisdiction laws of states particularly in relation to offences against the person. In *U.S.A. v. Cordoba and Santen*[4] the defendants were passengers on board an American Commercial Airliner flying from Puerto Rico to New York on August 2,1948. While in flight over the high seas, a fight ensued between the two defendants over a missing bottle of rum. The defendant Cordova entirely lost his self-control, struck and bit the captain of the aircraft and the stewardess. He was finally restrained and locked up in the aircraft. Upon arrival in New York, the defendants were arrested. The U.S. District Court, Eastern District of New York, before which the two defendants were charged with assault, held that as a federal court, it had no jurisdiction to punish the alleged offences.[5] Presumably in reaction to this, the U.S. Congress passed Public Law 514 in 1952, which confers jurisdiction on Federal Courts over crimes committed on board American aircraft in flight over the high seas.[6]

A similar gap in English Criminal Law was exposed in Devlin J.'s decision in *R. v. Martin & others.*[7] The facts of this case were that the defendants while serving as part of the personnel on board British aircraft allegedly carried raw opium from Bahrain to Singapore between January 1954 and August 18 1955. Upon being arraigned before the Central Criminal Court and charged *inter alia* with unlawful possession of drugs contrary to the Dangerous Drugs Regulations 1953, Regulation 3, the Court found that it had no jurisdiction. The Prosecution had unsuccessfully argued that though the relevant regulations of the Dangerous Drugs Regulations, 1953 were applicable only to Great Britain, Section 62 (1) of the Civil Aviation Act 1949 was enough reason to deem the offence to have been committed in England. The provision reads thus: "(1) Any offence whatever committed on a British aircraft shall, for the purpose of conferring jurisdiction be deemed to have been committed in any place where the offender may for the time be." Devlin J., however, reasoned that Section 62 (1) did not have the effect of extending the whole corpus of English Criminal law to British Aircraft abroad.

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[3]Rachael Jolley, "Email at a Mile High", The Times, May 6 2000.

[4] *(1950) U.S.A. v. R. 1: 3 Avi 17, 306.*

[5] The prosecution had argued that Title 18 U.S.C.A. 5. 451 provide the basis of the court's jurisdiction. This provision defines the admiralty and maritime jurisdiction of the Federal Courts and submits to federal jurisdiction *inter alia* crimes that are committed "on board American vessels on high seas or great lakes". It was the court's judgement that an aircraft is not a vessel within the meaning of that word in the said Statute. Consequently although in the Court's view "the situation may call for correction or as the law now stands acts as those committed by Cordova may go unpunished". (Per Kennedy J.,) at pp. 9-10 and 17, 311 respectively. In short, it had been too readily assumed that criminal jurisdiction in airspace over the United States was that of states, and that federal jurisdiction was at best interstitial. See Bin Cheng (1959) *ibid,.* pp. 177-178; J.C. Cooper, "Crimes Aboard American Aircraft", American Bar Association Journal (1951). On offences and certain acts committed on board or related to aircraft with relation to the U.S. See De Forrest, Air Law, 2nd edition, (1946) Chapter 1.

[6] This law was further strengthened in 1961. See B. Cheng (1959) *op. cit.*, pp. 177-178 and Johnson *op. cit.*, p. 77.

He, therefore, held that it follows that the depositions do not show or disclose that any criminal offence had been committed, for this reason the committal was bad and on that ground the indictment had to be quashed.[8] According to this view, offences, which are under the Dangerous Drugs Act, were offences only if committed in Great Britain itself. Devlin J. warned, however, that the position might be different as regards common law crimes, such as murder and theft, which in his view were crimes wherever they are committed.

Today, it is clear that a British, American or indeed most other countries aircraft is far less of a flying oasis of lawlessness.[9] A substantial body of English and American aeronautical regulations and criminal laws follow aircraft bearing their nationality wherever they may be in order to ensure the safety of the aircraft and of persons and property on board and even on the ground. In England for instance, these aeronautical regulations which were found principally in the Civil Aviation Act 1949 and Order in Council are now incorporated under the Civil Aviation Act 1982 and the Orders in Council made by virtue of s.60.[10] Equally, English Criminal Law is applicable to (and English Courts have jurisdiction over) all acts committed within all aircraft in or over England, including the territorial sea, or by persons on board such aircraft. This exclusive territorial jurisdiction includes all United Kingdom aeronautical regulations and laws.

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[7] [1956] 2 Q.B. 272.

[8] Ibid., p. 285.

[9] Intoxication remains a common factor in the cases relating to unruly behaviour of passengers. On a United Airlines flight from Frankfurt, Germany, to Dulles International Airport in Washington, D.C., a passenger shouted at a flight attendant, contending that the flight attendant had bumped him several times with the service cart. The attendant doubted bumping the passenger but nevertheless proceeded to apologise. This was obviously not satisfactory to the passenger who followed the flight attendant to the galley, threw him against an emergency exit, and struck him severally on the head and face. On another occasion some English and Irish tourists had a food fight on the plane. A Saudi Arabian Princess lost her cool as a result of perceived slow service in furnishing her a drink and she attacked a flight attendant. In another bizarre incident an investment banker who was a passenger aboard a United Airlines flight to Buenos Aires and New York wanted more wine, but the flight attendants refused to serve him, because he had already poured drinks on himself and other passengers. Prosecutors later alleged that he had started drinking before boarding, had continued during the flight, and even helped himself to the alcohol instead of waiting to be served. When the flight attendants stopped the beverage service to begin food service, the passenger threatened one flight attendant and then pushed another into a seat. He then proceeded to climb on a food cart, lowered his pants, and defecated on top of the food cart, after which he casually used the linen napkins as toilet paper. The captain suspended all food and beverage service, due to the possibility of bacterial infection. The American courts fined the defendant $48,000 (used to reimburse the ticket costs of other passengers), a further $5,000 punitive fine, $1,000 compensation to United Airlines as costs of cleaning the plane, 300 hours of community service and he was ordered to undergo counselling. See Stephen A. Mirmina, "Aviation Safety and Security- Legal Developments", Vol. 63 Journal of Air Law and Commerce, No 3 (1998) pp. 561-562. For further discussions on personal liability of the offender see below p. 30.

[10] Under section 60, Orders in Council may be made for carrying out the Chicago Convention 1944 including the general regulation of air navigation and other numerous specific purposes. British Courts have held that powers conferred under that section should be exercised so as to give effect to and not conflict with that convention. See *R v. Secretary of State for Transport, ex p Pegasus Holidays (London)* Ltd 1989 2 All ER 481.

In similar manner virtually all modern states have developed means to cope in their own ways with the different types of crimes in the airspace. Naturally there are both similarities and differences in the types of conduct that are prohibited as well as in substantive and procedural legislation. In Nigeria, for instance, dangerous flying is an offence. Where an aircraft is flown in Nigerian territory in such a manner as to cause danger to any person or property on land or water, the pilot or other person in charge of the aircraft and the owner of the aircraft shall be liable on summary conviction to a fine not exceeding four hundred Naira or imprisonment for a term not exceeding six months or both.[11]

Since the act also gives the Minister for Aviation the power to prohibit aircraft from flying over certain prescribed areas in Nigeria, it constitutes an offence to over fly such areas.[12] These and numerous other offences in relation to flight in Nigerian airspace have been spelt out under Nigerian air laws. They are applicable to pilots and persons who are Nigerians as well as to foreigners.

However, with respect to offences committed on board Nigerian aircraft in foreign airspace the development of Nigerian municipal law has been less specific. There is a vague provision in section 17 of the Air Navigation (Safety of Navigation) Act,[13] which empowers the Federal Government to make rules for the purpose of the Act. A Nigerian aircraft is defined as an aircraft registered in Nigeria in accordance with regulations made under the Civil Aviation Act 1964.[14] The only provision of substance regarding quasi-territorial jurisdiction over such aircraft is then prescribed in Section 13 (1). It states that any act done by any person on a Nigerian aircraft outside Nigeria which, if it had been done by him in any part of Nigeria, would have constituted an offence under the law in force in that part shall, for the purposes of any criminal proceedings against that person in respect of that offence be deemed to have been done by him in that part of Nigeria.

However, Paragraph 2 of the section exempts an offending foreigner from automatic punishment. This is because any action against a non-citizen of Nigeria is subject to the discretion of the Attorney General of the Federation. The Ministry of Justice must bring the offence and the intention to prosecute him to his notice. This gives room for delay and

[11] It shall however be a valid defence for the owner (which includes any person by whom the aircraft is hired at the time of the offence) to prove that the alleged act was done without his knowledge and consent. See Civil Aviation Act 1964, sections 3(1), (2) and (3)). No.30 Laws of Federal Republic of Nigeria.
[12] Sections 1(2)(1).
[13] Cap 8 of the 1958 ed. of the Laws of Nigeria.

political considerations. For this reason alone, Professor Ajomo admits that Nigerian law is yet to catch up fully in the field of criminal law and criminal jurisdiction as applied to civil aircraft and its facilities.[15]

It is true, as we shall soon come to see that national regimes developed to cope with criminal conduct in the air must be as responsive as possible to emerging threats. The processes of apprehension and prosecution of offenders must not only be effective but must also be as timeously as possible. Therefore, there is much to be said in favour of streamlining of criminal jurisdictional laws along international standards. The existing situation is that some of the laws applicable in certain states are still of ancient origin arising from the regime developed for the high seas. In short, states have individually reacted to the challenges of air travel. As at 1959 three clear patterns had emerged:[16]

First, some states specifically pronounce territorial sovereignty over all aircraft in the country and express quasi-territorial criminal jurisdiction over all national aircraft abroad in a combination of four ways:

(1) Generally[17]

(2) Only when in flight[18]

(3) Only when not subject to territorial criminal law of a foreign state.[19]

(4) Only when over the high seas or in *territorium nullius*[20]

(5) If they are commercial aircraft.[21]

The second pattern of national laws regulating crimes on board aircraft reveals that the quasi-territorial principle applies to both national aircraft and foreign aircraft in the country subject

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[14] Civil Aviation Act 1964, s. 17.
[15] M.A. Ajomo "Hijacking or Unlawful Seizure of Aircraft", Vol. 7 The Nigerian Law Journal (1973) pp. 14 -15.
[16] *Cf.* Cheng (1959) *op. cit.*, pp. 180-181.
[17] Cuba (Code of Social Defence (1936); Philippines (Penal Code, (1930); Poland (Penal Code 1932); Uruguay (Aviation Codes, 1942).
[18] Honduras (Aviation Law, 1950), Hungary (Penal Law, 1950).
[19] Ecuador (Penal Code, 1939); Greece (Penal Code 1950); Norway (General Penal Code, 1902 as amended.
[20] Brazil (Air Code 1938); Costa Rica (Penal Code, 1941); Guatemala (Penal Code, 1936), Italy (Penal code 1930) and Navigation Code, 1942).

to the following exceptions when national law applies territorially even to foreign aircraft in the country:

(1) Where there are specific provisions to the contrary;[22]

(2) If a national is involved or if the aircraft lands in national territory after the commission of the offence[23]and

(3) If the aircraft lands in national territory after the commission of the offence.[24]

Thirdly, following an analogy from maritime law, several states refrain from exercising jurisdiction over foreign aircraft in national territory if it is merely a matter of internal discipline embarked upon on board the aircraft. Nonetheless, exceptions are made in those cases where the offence produces effect beyond the aircraft, local peace is disturbed or the assistance of the local authorities is requested:[25]

(1) Over national territory generally;

(2) Over the territorial sea.[26]

Some of these patterns prevail up to the present time and it can only be inferred that these varying positions have in one way or the other shaped the law governing crimes committed in the airspace as reflected in the air treaties which will shortly be examined. What is clear at this stage is that there are practically no reported cases of laws in any of the numerous Aviation Acts, which purport to govern acts committed in outer space or on board spacecraft.

3.0.2: Hierarchy of Sources of Jurisdiction over Crimes Committed in Flight

There has already been a discussion about the concepts of territorial jurisdiction and quasi-territorial jurisdiction in relation to the two complementary concepts of *jurisaction* and *jurisfaction*. What remains to be considered here is how to resolve conflict of criminal jurisdiction between states where common jurisdiction exists either *ratione personae* or

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[21] Switzerland (Federal Air Navigation Act, 1948.
[22] Venezuela (Civil Aviation Code, 1944).
[23] Lebanon Penal Code 1943; Luxembourg (Air Navigation Act, 1948); Syria (Penal Code, 1949).
[24] Belgium (Air Navigation Act, 1937), France (Air Navigation Act 1924).
[25] Guatemala (Penal Code, 1936; Romania Penal Code, 1936.
[26] Cuba (Code of Social Defence, 1936); Lebanon (Penal Code, 1943); Syria (Penal Code, 1949).

rationae instrumenti. For instance, according to the active nationality principle a state may punish crimes committed by its nationals anywhere. However, the principle of territorial sovereignty operates to bar unrestricted use of this principle. How then can a state punish crimes committed abroad but on board its aircraft by its nationals or by other nationals?

It would prove useful to recall the concepts of *jurisfaction* and *jurisaction.* The former denotes the legislative power to prescribe rules and judicial powers to apply the rules and the latter explains the powers of enforcement and actual administration of justice. Cheng claims that although an aircraft moves from place to place thereby presenting itself under the *jurisaction* of several states, it can at any point in time or place be placed only under the exclusive jurisdiction of one state. In other words, in time of peace and subject to few exceptions an aircraft and the persons in it can be tried and punished only by a single state.[27] Thus, for instance, while an aircraft in Nigeria is subject exclusively to Nigeria's *jurisaction,* it will come under exclusive jurisdiction of the U.S. when it enters into American territory. This interpretation represents strict adherence to the territorial principle.[28]

As already said, the rule admits of certain exceptions. Apart from cases of condominium, leased territories, capitulation there is also the possibility of states agreeing by bilateral or multilateral treaties to the exercise in each other's territory of *jurisaction* over crimes committed on board their aircraft. Therefore, the powers of *jurisaction* may not always be exclusive in relation to crimes committed in territorial airspace.

The hierarchical order of state jurisdiction proffered earlier on in this work remains valid. Territorial sovereignty overrides quasi-territorial sovereignty, which in turn overrides personal sovereignty. But the Permanent Court of International Justice (PCIJ) statement in the *Lotus case* deserves closer scrutiny. The Court said in that case; "...it is equally true that all these systems of law extend their action to offences committed outside the territory of the state".[29] It could be argued that by 'action' the Court also includes the possibility of *jurisaction* in certain cases? This interpretation is highly probable. In any case the Court also pronounced that "the territoriality of criminal law therefore is not an absolute principle of international law and by no means coincides with territorial sovereignty".[30] Accordingly, under the passive-nationality principle claimed by some states they arrogate to themselves the right to punish crimes wherever committed of which their own nationals are victims.

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[27] Cheng (1959) *op. cit.*, p. 183.
[28] *Cf. ibid.*
[29] Series A, No. 10 (1927) p. 20.
[30] *Ibid.*

As opposed to *jurisaction,* the universal and concurrent *jurisfaction* over crimes in the airspace is, however, a more settled notion. The power of *jurisfaction* may be (and usually is) shared by many states.[31] This is why a state may prescribe as illegal under its laws certain acts for any aircraft in its own airspace. It may, however, not prescribe how any other state's aircraft must behave in another country's airspace. A state may also prescribe what its nationals and others must do or not do in an aircraft that belongs to it. It may prescribe conduct for its citizens in any aircraft no matter to which state it belongs (nationality principle),[32] or even to non-citizens what not to do in any airspace if its interest or that of its nationals is affected (Protective Principle/Passive/Personality Principle).[33] Furthermore, a state's extra-territorial *jurisfaction* over its nationals in aircraft will normally be concurrent with the powers of *jurisfaction* of other states. Again this extra-territorial *jurisfaction* may also be concurrent with another states power of *jurisaction* over crimes, for instance, when the aircraft possessing the nationality of a state enters a foreign country.

Admittedly, the possibility of the proper exercise of *jurisaction* with respect to crimes in airspace defines the ultimate utility of the powers of *jurisfaction* described above. A state may, thus, find itself prescribing what it cannot possibly enforce. Whichever source of jurisdiction relied upon in dealing with any crime in the air, deference must be given to the *Nemo Bis in Idem* Rule according to which a person may not be tried twice for the same offence.

3.1: Jurisdiction over Common Crimes and Unruly Passengers

> In the last two years, however it has become apparent that no rules exist for misbehavior on board aircraft in flight, at least no rules [sic] what to do with the misbehavers.[34]

Altogether it may be said that the rules governing the exercise of jurisdiction over common crimes in airspace and on board aircraft are complex, probably even unsettled. The term common crimes is used here in contradistinction to acts of terrorism and hijacking which it is argued are problems *sui generis* and of a special nature and of which separate discussion

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[31] See Cheng (1959) p. 183.
[32] For example a theocratic state may make it illegal for its citizens to consume alcohol on aircraft or anywhere at all.
[33] For example Article 694 of the French Code of Criminal Procedure earlier on referred to will apply to cover even a foreigner who on a foreign aircraft renders himself guilty of a felony or misdemeanor against France.
[34] See Wybo P.Heere, "Problems of jurisdiction in Air and Outer Space", Vol. xxiv Annals of Air and Space Law, No2 (1999) p. 82.

would be made later. The term common crime as discussed here is also to be distinguished from aeronautical offences. As regards aeronautical offences these are virtually under national jurisdiction and are not really dealt with by the Tokyo Convention (1963). It is however, of practical necessity that the laws prohibiting aeronautical offences are diligently observed because this class of offences generally raises serious safety concerns. As a result of this both nationals and foreigners are within the scope of application of these laws. An aeronautical offence is no less grave because a national rather than a foreigner commits it. Thus, a British evangelist who literally took his message to the heavens in violation of civil aviation rules found himself on the wrong side of the United Kingdoms (UK) aeronautical laws and was convicted by the trial court.[35]

It is important to note that while most states out of sheer necessity undertake the task of making aeronautical rules and regulations which are to apply to aircraft of their nationality even when navigating abroad, unfortunately some states fail to extend the applicability of their general criminal law or that of their criminal courts in like manner. By token of this the problem of the flying oasis of lawlessness even though reduced is still very much with us as no general criminal law applies to such aircraft when it flies outside the territorial jurisdiction of any state such as over the high seas or parts of Antarctica.[36] The regime of the Tokyo Convention (1963) on its part does not adequately solve the problem. It remains insufficient in relation to common crimes firstly because not all states are party to it and secondly because it unsuccessfully attempts to cope with two varied problems at the same time (i.e. offences against penal law and acts that jeopardize the safety of aircraft (Article 1)

What remains clear is that most states recognize and frequently express the desire to prosecute crimes committed in the airspace. When this occurs, the bases of jurisdiction relied on span nearly all the categories and classifications of criminal jurisdiction identified earlier.[37] The hierarchy of sources of jurisdiction over common crimes committed in the airspace may

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[35] The evangelist, John Holme flew a motorised paraglider preaching to the people of Salisbury by megaphone. He found himself dodging electrified fences, trees and bird tables. His height on this maiden flight was sometimes as low as 6ft, and astonished residents said he flew over so low they could see the look of horror on his face. There was not much opportunity for preaching, and his efforts put him out of favour with the Civil Aviation Authority. The flight earned him a £1,050 fine and £250 costs when he appeared at Salisbury Magistrates' Court for flying too close to a populated area and straying into airspace over an airfield. It was the first case of its kind involving a foot-launched, powered flying machine. The position of the Civil Aviation Authority, as expressed by its officials was that, "[t]he rules state that the aircraft shall not be flown closer than 500ft to any person, vessel, vehicle or structure except while it is landing". See Helen Johnstone, "The heavenly host is fined for low-flying", The Times, 13 March 1998 p. 3.

[36] Cheng "Air Law" in Encyclopaedia of Public Int. Law, Bernhadt, Rudolph ed. (Netherlands: Elsevier Science Publishing Company, 1989) p. 9. See also our discussions below.

[37] *Supra* chapter 1.

result in many contentious cases among states in future. The Chicago Convention 1944 also does not seem to offer adequate guidance on this matter. All that the Convention requires is that each contracting state does not engage in any purpose inconsistent with the aims of the Convention (Article 4). Also that laws and regulations of a contracting state relating to the admission and or departure from the territory of aircraft engaged in international air navigation, including those relating to the operation and navigation of such aircraft while within its territory shall be applied (Article 11). The Convention also insists that the rules of the air be obeyed. In other words, all aircraft carrying a state's nationality mark, wherever such aircraft may be, shall comply with the rules and regulations relating to the flight and manoeuvre of aircraft there in force (Article 12). Therefore, the rules the flouting of which gives rise to an offence would not be just every rule that applies on the land territory but those that have a bearing on aeronautical safety and to some extent state security.

The extent to which the Chicago Convention regulates jurisdiction over serious crimes against the person such as murder, rape, arson and theft is virtually negligible. In relation to common crimes the governing rules and principles are to be found partly under municipal law[38] and to some extent the Convention on Offences and Certain other Acts Committed on Board Aircraft, September 14, 1963.[39] The Tokyo Convention (1963) undoubtedly determines the incidence of control over unruly passengers. This Convention establishes the competence of the state of registry of the aircraft over offences and acts committed on board. Each state may take measures to establish its jurisdiction over offences committed on board (Article 3).

A contracting state which is not the state of registry may not interfere with an aircraft in flight in order to exercise its criminal jurisdiction on board except in five instances such as (a) where the offence has effect on the territory of such state; (b) is committed against a national; (c) is against state security; (d) is a breach of aeronautical rules of the territorial state or (e) where exercise of jurisdiction is necessary to ensure compliance with multilateral agreements (Article 4). These instances correspond with the principles of criminal jurisdiction that have been discussed above which are respectively protective principle, nationality principle, passive nationality, the territorial principle and the universality principle.

The Convention provides the aircraft commander with the necessary authority to deal with persons who have committed, or who are in the process of committing, a crime or an act

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[38] See *Regina v. Martin* discussed above. *Cf. Regina v. Naylor* [1962] 2 Q.B. 527 and *Cox v. Army Council* [1963] A.C. 48.

[39] Henceforth also referred to as the Tokyo Convention (1963) UKTS 126 (1969), Cmnd. 4230; 704 UNTS 219. The Convention entered into force after the I2th ratification on December 4 1969.

jeopardizing safety on board the aircraft employing reasonable force. Thus, a violent and ranting passenger who has lost self-control may be restrained with actual physical force by or under the instructions of the aircraft commander. This may be done (a) to protect the safety of the aircraft, (b) to maintain good order and discipline on board, or (c) to enable the delivery of such persons to competent authorities (Article 6 (1)). In fact a cabin crew member can *suo motu* and of his own accord exercise restraints on an unruly passenger where he believes reasonably that such action is necessary to protect the safety of the aircraft, or of persons or property therein. (Article 6 (2)) It is suggested here that as long as there is reasonableness of action such powers given to the cabin crew trained as they are can be well justified. In any case it is to be argued that when such discretion is exercised it flows from the delegation of the aircraft commander's powers. The reason for this view is that it can hardly be imagined that a crewmember or indeed a passenger would act where there is an express prohibition by the aircraft commander.

The real problem, however, lies in that an ordinary passenger could indeed exercise the powers granted under Article 6 (2). It takes little acumen to see that this situation is fraught with dangers. To request or authorize passengers to assist in the restraint of someone in the process of committing a common crime or being unruly is one thing but for air law to grant such powers as in question to normal passengers is to say the least excessive. In any case it is unnecessary because such powers need not flow from a branch of international law since virtually all criminal laws recognize the powers of citizens arrest. Thus, it may be argued that it is neater if not safer to let passengers act under municipal laws (i.e. that of the flag state or the territorial state) than to make them subjects of powers under treaty laws.

Of course it is difficult not to consider the argument, which prevailed at the Tokyo Conference to the effect that in an emergency situation in which danger of the aircraft or persons on board was clearly present, there is no special technical knowledge required in recognizing the peril.[40] However, the right to prevent a felony or that of self-defence is one which is already entrenched in virtually all recognizable legal systems and there really is no need to revisit this under international treaties. The argument here is that the rights of private persons to effect arrest in the airspace can be located in the laws of the Flag State of the aircraft.[41]

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[40] See R.P. Boyle, "International Action to Combat Aircraft Hijacking", Lawyer of the Americas, (1998) p. 340.

[41] Under Nigerian Laws a private person may arrest any person who commits an indictable offence in his presence or whom he reasonably suspects of having committed a felony by night. (Criminal Procedure Act, s. 12; Criminal Procedure Code S.28 (d)) The only qualification to the powers of a private person to arrest is that the private person arresting without warrant must, without unnecessary

The powers of the commander enable him if the actions of the offender threaten the safety of the aircraft to forcefully disembark such a person in the territory of any state in which the aircraft happens to land and deliver the offender to the competent authorities (Articles 8 and 9). It may be advanced that he may land at the nearest available airport for the sole purpose of disembarking the unruly person(s). In essence, it must be underscored that an unruly passenger may in addition to being unruly actually commit the more serious crime of endangering the safety of an aircraft in flight.[42] It can only be said that whosoever exercises the powers conferred by the Tokyo Convention (1963), reasonableness of actions to the perceived threat must hold sway. For instance, in a recent incident in March 2000 on an Alaska Airlines flight from Puerto Vallata to San Francisco, a six foot tall heavily built man had taken of his shirt and socks and repeatedly disobeyed the cabin crew by switching seats. He eventually placed himself on a first class seat from where he issued threats to fellow passengers stating that he was "going to kill all of you". In a short while, he made moves to carry out his threats by breaking into the cockpit struggling with the pilot and going for the throttle and fuel controls. The common threat rightly summoned spontaneous reactions from the cabin crew and passengers and the man was eventually overpowered and subdued until the plane landed.[43]

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delay, deliver the arrested person to a police officer, or in the absence of a police officer must take such person to the nearest police station. Again in this case that will be police authority at the next airport. See also Oluwatoyin Doherty, Criminal Procedure In Nigeria Law and Practice, (London: Blackstone Press Limited, 1990) pp. 96 - 97.

[42] Article 1 (1) Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation (1971). UKTS 81 (1983), Cmnd. 9100 (1979) 18 ILM 1456. In force 1983. Article 1 (1).

[43] In the typical case cabin staff alone would be able to cope with the offender. In April 2000 a grandmother who punched an air stewardess in the face was convicted and jailed for six months. The 56-year-old care worker was so drunk on the Air 2000 flight from Manchester to Florida in March 1999 that she had to be taken off the aircraft in a wheelchair. Cabin crew refused to serve her any more alcohol after she had drunk three Bacardi and Cokes. An almost empty bottle of rum was later found under her seat. As the aircraft approached Stanford airport in Florida, she ignored the illuminated warning signs and stood to leave her seat. A stewardess went to tell her to sit down and managed to get her to sit back. But as she tried to get her to fasten her seatbelt, the passenger punched her on the left side of the face three times. Testimony before the Court revealed that the stewardess was so shocked by the attack that she suffered from nightmares, insomnia and was signed off work for three weeks. She also made moves towards seeking alternative employment. Judge Anthony Ensor, who has dealt with 12 cases of "air rage" between 1998 and 2000 in sentencing the convict said "[i]t is a tragedy for you and your family that you should have acted totally out of character". But he added; "I have to have regard for the overall public interest". Under UK laws reckless acts likely to endanger aircraft or persons therein are prohibited by Art. 45 of the Air Navigation Order 1980 made under sections 60 and 61 of the Civil Aviation Act 1982. See for instance *Warton –Pitt* [1991] 92 Cr. App. R. 136. Again Judge Ensor (and a jury) recently in *Regina v. Whitehouse* (*R v. Whitehouse* (Neil) [2000] Crim. L.R. 172 (2000) 97(1) L.S.G. 22 Times, December 10, 1999 Independent, December 14, 1999) adopted a strict view of the law representing a trend towards upholding the safety of air transport by discouraging misconduct in the airspace. It was held that the word "likely" in Article 55 of the Air Navigation (No 2) Order (SI 1995 No 1970) which provided that "A person shall not recklessly or negligently act in a manner likely to endanger an aircraft, or any person therein" should be construed as meaning "Is there a real risk, a risk that should not be ignored?" The Court of Appeal so held when giving reasons for dismissing on November 29, 1999 an appeal by Neil Whitehouse against his conviction on June 30, 1999 in Manchester Crown Court, of an offence contrary to Article 55 of the 1995 Order on which he

A further interesting point is that there is a distinction between the unqualified obligation to 'take delivery' and the obligation to 'take custody'.[44] Any state where the aircraft lands for this purpose would be under an obligation to allow the disembarkation and "to take delivery of any person whom the aircraft commander delivers pursuant to Article 9 paragraph 1". On the other hand paragraph 2 of Article 9 determines the obligation of the contracting state after having taken delivery, to take custody and it states that custody may be taken ''upon being satisfied that the circumstances so warrant.'' Now the way this would continue to work out in practice is surely going to be one of the more interesting areas of air law. The pertinent questions are: how long should it take the receiving state to take this decision? Besides what options are open to a passenger for whom it is later discovered that his forceful disembarkation and delivery was unwarranted or frivolous? This is quite significant since Article 10 of the Tokyo Convention (1963) gives an unqualified immunity from suits to the aircraft commander and the crewmembers as well as any passengers when they act against an alleged offender.

The framing of Article 10 is very generous in granting immunity from both criminal and civil jurisdiction. It states:

> Neither the aircraft commander, any member of the crew, any passenger, the owner or operator of the aircraft, nor the owner or operator of the aircraft, nor the person on whose behalf the flight is performed shall be held responsible in any proceedings on account of the treatment undergone by the person against whom the actions are taken.

It must be noted that the problem of the unruly passenger is here to stay and that human conduct will not necessarily get better when the body is airborne. In fact with increasing access to air flights as a result of economic forces of demand and supply as well as sheer increase in world population we are bound to witness a sharp rise in the occurrence of aerial crimes. Again the law must not only catch up but must indeed anticipate developments. A

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was sentenced to 12 months imprisonment. The particulars of the offence were that he used a cellular phone to send text messages despite numerous admonition to the contrary by cabin staff. See "Man Held in Cockpit Struggle", The Guardian Saturday March 18 2000 p.19; C.M.V Clarkson and HM Keating, Criminal Law: Text and Materials, Fourth Edition (London: Sweet and Maxwell, 1999) p. 177.

[44] See R.I.R Abeyratne, "Unruly Passengers – Legal, Regulatory and Jurisdictional Issues", Vol. XXIV Air and Space Law, No.2 (1999).

common observation in many of the recent literature on the topic is that save for minor exceptions, both international and national laws remain anachronistic in effect.[45]

In contradistinction to anachronistic national laws applying to aerial crimes as that of the Nigerian situation described earlier we have a crop of new and impressive legislative and policy responses in certain western jurisdictions. In Britain, for instance, concrete legislation has been passed in recent times to fill apparent lacunae. Thus, Section 92 of the Civil Aviation (Amendment) Act (1996)[46] was passed in response to police statistics, which show that each week there were at least two or three cases when a foreign registered aircraft landed at Heathrow with a serious offender on board, and the police were incapacitated by lack of jurisdictional powers. By this provision UK criminal jurisdiction extends to acts taking place on aircraft registered outside the UK (i.e. foreign aircraft) as well as on UK aircraft if two conditions are satisfied. First the next landing must be in the UK and secondly the act must constitute an offence under the law of the state of registration if that act were to have been committed there. As a writer on the subject aptly puts it "[t]he number of cases where the UK police are helpless will diminish, but will not disappear entirely".[47]

To combat the problem of unruly passengers the Dutch government as from February 1999, allows two police officers to accompany each Amsterdam Paramaribo flight to assist flight attendants if necessary.[48] KLM has also announced special training for 11000 staff members who are in direct contact with customers. This comes as a result of the fact that there are on average a hundred incidents of criminal and unruly conduct by air passengers on KLM flights alone, in a month.[49] Particularly since the terrorist hijackings of September 11 2001, many states such as Israel and the US have adopted both methods (i.e. airborne police escorts as well as specialized and standardized training) at least for their national airlines.

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[45] The problem of the disruptive or unruly passenger has become a major concern in the airline industry. The number of these cases is increasing alarmingly and the International Aircraft Cabin Associations have been calling for urgent reviews of the law. Several contemporary writers on the subject have alluded to the inadequacies of present international law. Though no precise statistics are available, there is a perception that the majority of cases of unruly passengers emerge from no less a place than in the first class cabin, where celebrities, VIPs and high-powered professionals who are not used to assertions of authority by others frequently travel. Thus, a well-known American televangelist Reverend Robert Schuller physically assaulted a flight attendant because the flight attendant would not remove the cheese from the Reverends hors d'oeuvre plate. See Stephen R. Ginger, "Violence in the Skies: The Rights and Liabilities of Air Carriers when Dealing with Disruptive Passengers" Air and Space Law, Vol. xxiii no.3 (1998) p.106., R. Schmid, Airlines Getting tough With Unruly Passengers Seattle P.I., (1 May 1997) p. 17.

[46] Of 18 July 1996.

[47] Wybo P. Heere *op. cit.*, p. 75.

[48] It is not clear why this route is given particular attention; See *ibid.*

[49] ITA Press No. 323 (November 1998).

Regrettably, it would appear that economic considerations have the greatest potential of hampering such enthusiastic formulation of jurisdictional competence as found in the UK and Dutch legal systems. Costs of prosecution and logistical problems are of crucial essence. Ironically, the problem of costs explains why both the territorial state (in which the foreign aircraft carrying an offender lands) and the offender's own state (capable of exercising personal jurisdiction) are often unwilling to prosecute in a majority of cases. The expanding scope of petty crimes complicates the situation for states.

For instance, in the last few years in response to ICAO recommendations, smoking on board aircraft has become an offence in several jurisdictions.[50] It would not be difficult to imagine that Britain for instance, would be reluctant to embark on a costly procedure to prosecute a Kenyan who smokes on board a Ghana Airways flight even though British Courts would have jurisdiction if the next landing after the offence was committed were in the UK and if it is actually a statutory offence under Ghanaian laws. This is in consonance with the requirements of Section 92 of the Civil Aviation Amendment Act 1996. On the other hand, Ghana understandably may be very wary of embarking upon expensive repatriation and/or extradition procedures to bring such errant persons back within its jurisdiction. Add to this the difficulties that may be encountered in such cases in the determination of which airspace the offence took place and the near impossibility of securing the continuous attendance of witnesses. It should be noted that the vast majority of common crimes in the airspace are bound to be of such small economic significance. Therefore, there is no denying the fact that majority of offenders would (save for the occasional painful delay at the airport by officials) walk away free from prosecution. They will then feel free to repeat same or similar offences in the future.

It must be noted that to judge one offence as serious and the other as not is not so easy a task when it comes to aerial crimes. Misbehavior such as stowing too much luggage into the aircraft has the alarming but not apparent effect of threatening the safety of civil aviation. Overloading simply put can lead to plane crash. Improper or negligent storage of items and luggage has continuously been a source of injury claims, compensation of more than one million USD has been allowed in a series of cases and airliners have on many occasions been

[50] In the US for instance smoking is completely banned on aircraft having not more than thirty seats. In any case no cigar or pipe smoking is allowed on any domestic aircraft. In 1988 smoking was banned on all domestic flights of less than two hours. In 1989 this was extended to all flights scheduled to last less than six hours. See Mirmina *op. cit.*, pp. 558-559. The ICAO passed a non-binding resolution in 1992 encouraging member states to progressively ban smoking on all international passenger flights. See *Smoking Restrictions on International Passenger Flights*, Res. A29-15 (1992) ICAO Doc. 9600-A29/RES, at 74.

made financially liable for other criminal acts of passengers.[51] Smoking secretly in the lavatory on board aircraft has led to loss of lives.[52] A prosecution for outraging public decency recently followed an incident in which two strangers performed oral sex on a transatlantic flight.[53]

In sum, it would seem desirable that a separate international treaty be formulated to govern jurisdiction over common crimes committed in the airspace.[54] Such a treaty would strike a balance between the jurisdictional claims of a flag state and those of the state in whose territory a crime occurs. What must not, however, be done is to adopt a piecemeal approach to this problem. This would only result in a cacophony of discordant legal rules and practices sometimes contradicting each other or creating further legal problems for the future. Instances of such developments already exist in the form of IATA Recommended Practices. For example, the IATA Recommended Practice 1724, which many airlines have incorporated into their General Conditions of Transport, makes it possible to expressly refuse transportation on a second leg of a flight to a passenger who has misbehaved on the first leg. The question is if a passenger has truly 'misbehaved' in a legal sense so as to amount to criminal conduct,

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[51] In U.S Courts for instance the view has repeatedly been taken that where there is a special relationship such as that between passenger and airliner a duty of reasonable care is imposed and the potential for damage due to criminal /terrorist activity is treated as a 'defect' in the process for which the airline may be liable if information or reasonable analysis suggests possible threats. See *Day v. Trans World Airlines*, 528 F.2d 31 (2nd Cir. 1976); *In re Air Disaster at Lockerbie, Scotland on December 21, 1988*, 928 F.2d 1276 (2nd Cir.), cert. Denied 502 U.S. 920, 112 S. Ct. 331 (1991). Here the airline had advertised special security against terrorist bomb threats or attacks, and the security system was not administered as advertised which resulted in jury verdicts of wilful misconduct and unlimited damages. See also Carol E. Dubuc, "Potential Civil Liability Resulting from Terrorist Acts in the International Travel Industry", Vol. xxiii Air and Space Law No. 2 April (1998) pp.58-61; Heere *op. cit.*, p. 74.

[52] In 1983, one passenger on an Air Canada DC-9 sneaked into the lavatory to smoke a cigarette. This led to the fire causing the death of 23 lives on board. As Mirmina insists; "[s]moking should be banned for several reasons other than flight safety. First, passengers on international flights fall asleep with lit cigarettes, burn flight attendants as they walk down the aisles and frequently extinguish cigarettes on the floor. Some flight attendants working on those flights suffer nausea, dizziness, severe headaches, fatigue, and loss of consciousness. And sometimes fights occur between smoking and non smoking passengers". Interestingly even where the ban against smoking is legally in place the same author notes; " People smoke in lavatories despite the presence of fire alarms, and some people try to disable the smoke alarms even though it is a federal crime to do so. Others attempt to cover the smoke detectors with a shower cap, while some unsuccessfully try to blow their smoke down the toilet". Mirmina *op. cit.*, pp. 558, 559-560. See further Matthew Wald, "Out of the Haze up in the Skies", N.Y. Times, June 30, 1996, p. 5, at 13.

[53] See Gary Slapper, "Flight of Fancy", The Times (Law Supplement), Tuesday April 11 2000.

[54] Organisations of flight attendants are complaining more and more about the increasing violence they experience and witness on board aircraft. They are the unfortunate professional victims. It is worthy of note however, that in realisation of the seriousness of these developments the Council of the ICAO has asked the Legal Committee to put on its agenda the formulation of an international Convention on 'acts or offences committed on board aircraft not covered by existing air law instruments.' On 6 June 1997, the Council of ICAO decided that a Secretariat Group should be established to study the problem; also at the 32nd Session of the ICAO Assembly in 1988, The IATA and the International Transport Workers' Federation presented a working paper for discussion to ICAO. See Heere, *op. cit.*, p. 75.

should he not be prosecuted? Upon prosecution he is either proven innocent or guilty. If innocent, he has a right just as any other person to free movement, which should not be curtailed by spurious bans. If he were guilty he normally would be made to serve the required punishment or pay the required fines. Once this is done the question of curtailing his freedom to board an aircraft on any other occasion becomes redundant unless of course this is part of the judgment against the offender.

It becomes more important to adopt this position in the light of verified developments such as where certain passengers are put on temporary or indefinite blacklist. Serious issues of possible human rights violation and respect for the rule of law as well as avoidance of the double jeopardy principle may be raised here. The considerations referred to here are similar to those raised below relating to novel body search methods geared towards combating unlawful interference with civil aviation. Other issues to be addressed under a new international treaty include the issue of crimes committed on the high seas and other international spaces. The reality of the need for proper guidance on these matters is reflected in the submissions of Johnson that:

> Aircraft spend far more time than ships do in the territories of other States. They are, in this respect almost as much like trains and motor-coaches (for which a 'law of the flag' would be absurd) as they are like ships. The consequence is that, in considering crimes committed on board aircraft, the jurisdiction of the Territorial State must be provided for as well as that of the Flag State.[55]

Abeyratne stated accurately; " [t]he international community must take cognizance of the fact that the Tokyo and Montreal Convention are ineffective if states do not make provisions in their own laws to combat... unruly passengers which may cause damage to persons and property on board aircraft".[56] Therefore, ICAO member states must fine-tune their national legislation and aviation procedures to cope with this problem. Areas to be targeted include; facilitating immediate enquiry upon disembarkation, the development of specialized rules on evidence, bilateral and multilateral extradition laws, education and enlightenment campaigns of both airline workers and passengers as to their rights duties and liabilities under national laws and treaty laws. Furthermore, stricter controls over the consumption of alcohol on board aircraft and maybe even prior to international flight may well be within contemplation.

[55] Johnson, *op. cit.*, p. 76.

3.2: Control over Unlawful Interference with Civil Aviation

> "Mentally unbalanced persons still use aircraft as vehicles for the expression of their psychoses."[57]

Apart from the general criminal acts that may occur on aircraft in flight discussed above, there exists a particular genre of offences, which deserve separate discussion as a result of the crucial nature and implications they have on contemporary international relations. There are myriad ways in which free transport through airspace can be obstructed and endangered. Thus, the term 'unlawful interference with civil aviation' encompasses a variety of criminal acts that jeopardize the maintenance of domestic and international civil aviation. The most common offences committed amongst the safety of civil aviation are hijacking, sabotage of aircraft on the ground or in the air and forced flights for the purpose of seeking territorial asylum in another state. It must be said that there is actually no single universally accepted notion of unlawful interference with civil aviation. The scope of the application of that term in legal literature and even in international instruments depends greatly on the particular definition provided therein.[58]

One of the reasons for this is that international criminal law in general has not grown out of broad principles but rather deductively, step by step, and in respect of particular offences which finally called for action of an international nature.[59] While it is true that problems of an unusual nature in respect of jurisdiction over offences that may be committed on board aircraft were considered as early as the first decade of this century, it was only in the second half of the century that deliberate unlawful interference with civil air flight began creating new jurisdictional problems.[60]

Hijacking, for instance, started in the real sense with the breakdown of relations between the U.S. and Cuba.[61] It is reported that in the 1950s, the majority of hijackings occurred for the purpose of securing political asylum.[62] This phenomenon Lissitzyn labelled hijacking for

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[56] Abeyratne *op. cit.*, p. 59.
[57] Alona E. Evans, "Aircraft Hijacking, What is to be done", Vol. 66, AJIL, No. 4 (1972) p. 819.
[58] See Kay Hailbronner, "Civil Aviation, Unlawful Interference With", In Rudolf Bernhardt, Max Planck Institute for Comparative Law, Encyclopedia of Public International Law (Netherlands: Elsevier Science Publishing Company (1989) p. 57.
[59] Ajomo, *op. cit.*, p. 13.
[60] A.K. Saka, "International Air Law and Safety of Civil Aviation", Vol.12, Indian Journal of International Law, (1972) p. 204.
[61] Ajomo, *op. cit.*, p. 15.
[62] Nanay Douglas Joyner, Aerial Hijacking As an International Crime, (Dobbs Ferry New York: Oceana Publication Inc., 1974), p. 4.

travel purposes.[63] By 1968, a considerable number of Cubans, numbering over 295,000 had registered for services at the Cuban Refugee Center in Miami Florida (in the United States (US)), many of whom had been resettled throughout the U.S. They were encouraged to migrate from Cuba in the wake of Fidel Castro's revolution. Following a lack of agreement to regulate the return of these refugees to Cuba there was another rapid increase in the number of hijackings witnessed during 1968 and in the first four months of 1969 in which many pilots of United States airliners were forced to divert their aircraft to Havana.[64] The chaotic situation was recorded by a writer thus; "either U.S. flag aircraft were seized at home or abroad with the avowed intent of flying to Cuba, or foreign aircraft in Cuba were hijacked in an effort to reach American soil".[65]

If hijacking had remained confined to Cuban-American relations it would not perhaps have attracted as much world attention as it has done since, nor would it have posed so much danger to air travel. However, for the most part of the last decades, skyjacking and other unlawful acts against aircraft in flight have increased dramatically. The objectives for which hijackers commit their acts have also been changing continuously. The implications of these crimes upon international relations are equally more complex. Whilst the initial incidents were directed by motives of political asylum with no *animo furandi* (robbery for private gains) other motives have also been manifested. Hijacking is also used as a means of escape from impending criminal proceedings or from prison sentence. It has been used to illegally extort large sums of money from states and airlines or for exacerbating ill will between states. It is used for political fence mending, for drawing attention to liberation causes and a host of other motives.[66]

Other recent examples include that in which five gunmen who were Moslem Kashimiri separatist fighters on Christmas Eve 1999 seized an Indian aircraft, which had taken off from Kathmandu the Nepalese capital and diverted it to Afghanistan. The hijackers demanded 200 million dollars and the body of a Kashimiri militant believed to have died while in custody of Indian security forces.[67] Terrorists threatened to detonate a device on board a Qantas Flight travelling from Sydney to Hong Kong with 95 passengers and crew on board. They demanded

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[63] Oliver J. Lissitzyn, "International Control of Aerial Hijacking: The Role, of Values and Interests", Vol. 61 AJIL, (1971) p. 83.
[64] Ajomo, *op. cit.*, p. 16.
[65] Joyner, *op. cit.*, p. 153.
[66] For a fuller description of possible expressions of terrorism in the airspace, see Evans (1972) *op. cit.*, pp. 819-20; Ajomo, *op. cit.*, pp. 16-17; S.C. Charturvedi, "Hijacking and the Law", Vol. 11 Indian Journal of International Law, (1971) p. 89; Note also the September 11 2001 terrorist hijackings discussed below in Chapter 3.5.
[67] See Zahid Hussein, "Taleban Tanks Surround Hijack Aircraft," The Times, Dec. 31 1999.

$505,000 as ransom. In June 1997, an Air Malta Flight bound for Turkey was diverted to Germany. On March 11, 1997 a bizarre incident occurred on board Taiwanese Flight FEAT 128 with 150 passengers and six crewmembers on board. A Taiwanese journalist doused himself with sufficient gasoline and demanded that the plane be diverted to Mainland China. In November 1996, on board Flight ET961 from Addis Ababa, Ethiopia to the Ivory Coast, three hijackers, one wielding an axe, demanded that the pilot fly the plane forthwith to Australia merely because the hijackers wanted to make history. The aircraft subsequently ran out of fuel and crashed into the sea near the Comoros Island, resulting in 123 deaths. In October 1996, a German court sentenced a Turkish male to a seven-year jail term for hijacking an aircraft with a toy pistol in order to draw attention to the plight of Chechnyan Muslims. During negotiations he released 108 passengers in return for a promise to have access to a radio reporter and a lawyer. In November 1995, on board an Olympic Flight 472 from Sydney International Airport, carrying 110 passengers and bound for Athens, an Ethiopian journalist who had travelled to Australia from Greece on a false passport threatened a steward with a knife while the plane was still on the Tarmac, demanding that the Greek government provide him with sanctuary.[68] In February 2000, about a dozen men who identified themselves as members of a group known as 'Young Intellectuals', in an attempt to flee the erstwhile Taliban regime in Afghanistan, used guns, hand grenades and detonators they had smuggled into an Afghan Boeing 727 (carrying 173 passengers and 14 crew) to hijack the aircraft for asylum purposes. The aircraft landed in airports in Uzbekistan, Kazakhstan and Moscow before arriving at Stansted airport leading to nearly five days of negotiation in Britain's longest hijack drama.[69]

The curious fact, however, is that while hijacking appears to be an easily identifiable act to the lay man, to the international lawyer and indeed any prosecutor, a proper formulation of what is and what is not hijacking may be of crucial importance. That a criminal act resembles hijacking does not make it one as much depends on where how and when the act or set of actions in question took place. In fact, at all times where a state exercises criminal jurisdiction with respect to criminal acts relating to airspace activities a lot depends on the proper formulation of the facts in issue. To begin with there are technicalities involved in the determination of which treaties cover any given set of facts. In sum it is important to distinguish hijacking from other acts of unlawful interference with civil aviation.

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[68] See Michael S. Simons, "A Review of Issues Concerned with Aerial Hijacking And Terrorism: Implications For Australia's Security And The Sydney 2000 Olympics", Vol. 63 Journal of Air Law and Commerce, No4 (1998) pp. 738-739.

[69] Jamie Wilson, "Nine Afghans guilty of hijacking jet to safety," The Guardian, 7 December 2001 p. 10.

The offence of hijack is defined in the Convention for the Suppression of Unlawful Seizure of Aircraft of December 16 1970[70] as: the unlawful seizure or exercise of control of an aircraft "in flight", by a "person ... on board", and "by force or threat thereof or by any other act of intimidation". Obviously the scope of the offence could have been made wider.

The development of specific rules to cure the mischief began with the Tokyo Convention (1963).[71] This Convention drawn up under the auspices of the ICAO dealt primarily with jurisdictional questions relating to such crimes and the powers of the aircraft commander. In the face of dramatic increase in skyjacking, by 1968, the ICAO initiated another convention, this time dealing extensively with unlawful seizure of aircraft. This resulted in the Hague Convention (1970). Meanwhile, the UN General Assembly overwhelmingly adopted two resolutions: Res. 2551 (xxiv) of December 12, 1969 condemning the forcible diversion of civil aircraft in flight, and Res. 2645 (xxv) of November 25, 1970 condemning aerial hijacking or interference with civil air travel. In 1971, the Hague Convention was supplemented with the adoption of the Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation of September 23, 1971.[72] The latter convention is an attempt at giving the principles of the Hague Convention (1970) a broader application by defining acts of sabotage and violence related to offences interfering with the safety of civil aviation. However, it is noted that subsequent effort by the ICAO to develop international procedures and sanctions to ensure that states would observe their obligations under the three conventions failed.[73]

It needs to be said that hijacking as an act against the safety of traffic in the air is comparable to piracy.[74] Piracy is the oldest and perhaps the only crime over which universal jurisdiction was generally recognized under customary international law.[75] Brierly noted that though there is no authoritative definition of international piracy, it is of the essence of a piratical act to be an act of violence.[76] In this sense at least we can talk of air piracy. By 1991 authors like Shaw note that, "...it is likely that the law relating to hijacking will eventually turn that offence into

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[70] To be referred to also as The Hague Convention (1970), ILM, Vol. 10 1971 p.133. It was adopted in The Hague in 1970 and came into force on September 14, 1971.
[71] *Supra* note 39.
[72] Also known and to be referred to henceforth as the Montreal Convention (1971) *Supra* note 42.
[73] See Hailbronner, *op. cit.*, p. 58.
[74] Charturvedi *op. cit.*, p. 87.
[75] Marlvina Halberstorm, "Terrorism on the High Seas: The Achille Lauro, Piracy and the IMO Convention on Maritime Safety", Vol. 82 AJIL, (1988) p. 272.
[76] J. Brierly, The Law of Nations, (1928) p. 154.

a universal one on similar lines to piracy on the high seas."[77]

However, the analogy must not be carried too far. Although the act of hijacking is comparable to piracy, there is an agreement amongst jurists that the international law principles applicable to piracy do not necessarily cover aerial hijacking. Furthermore, distinctions can be made between hijacking and other forms of interference with civil aviation. Writers from the developing world particularly stress the distinction. Ajomo for instance insists:

> If hijacking were indeed always an act of piracy, the duty of governments involved would be much clearer than it is now because piracy itself is a crime subject to universal jurisdiction. Under customary international and maritime law, pirates are offenders against the law of nations, *hostis humani generis,* and the enemy of the human race who may be arrested on the high seas by the warships... Thus the rule of customary international law regarding piracy would appear to have conferred a universal jurisdiction... The pirate loses the protection of his State and the nationality of the offender becomes irrelevant. Unfortunately it is not uncommon to treat as piracy acts that are not so in international law.[78]

The point raised here has been well taken. But it must be added that since there is no internationally accepted definition of piracy in any case, the true test may be to examine whether aerial hijack or the sabotage of aircraft constitutes an act, which essentially makes the perpetrators *hostis humani generis.* If this were so, would it not be appropriate to regard persons engaged in such activity as essentially *de facto* pirates? Indeed it may be said that it is better for the safety of aviation activities that the law be brought in alignment with this view.

It is in this light that support may be found for the decision in *U.S v. Yunis.*[79] In this case a resounding acceptance of the Universal and Passive Nationality principles was established as the basis for a state to exercise jurisdiction over the crime of hijacking committed by an offender against its interests outside territorial bounds if the offender is later on found in that state. Fawaz Yunis, a Lebanese national was convicted for his involvement in the 1985 hijack of a Jordanian Civil aircraft in the Middle East. His arrest was effected after he was enticed on to a yacht in the Mediterranean by Federal Bureau of Investigation (FBI) agents. He was then arrested when the yacht reached the high seas. The only connecting nexus of the aircraft to the United States was the presence of three American nationals on board. The aircraft was Jordanian registered; it carried the flag of Jordan and never at any point in time flew into or

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[77] M.N. Shaw, International Law, Third Edition (Cambridge: Grotius Publication, 1991) p. 325.
[78] Ajomo, *op. cit.*, p. 19.
[79] 681 F. SUPP 896 U.S. District Court, D.D.C. February 12, 1988.

anywhere near US territory. The court overruled the defendants' claims that "[n]either hostage taking or aircraft piracy are heinous crimes encompassed by the (Universal) Doctrine" and that the U.S. itself does not recognize the passive personality principle as a legitimate source of jurisdiction. It was held that both aircraft piracy and hostage taking are the subject of international conventions, which demonstrates the international community's strong resolve to punish these crimes irrespective of where they occur. Furthermore, the court found that although the passive nationality principle is the most controversial of all the five identified sources of extraterritorial jurisdiction,[80] it was ready to accept it because "the international community recognizes its legitimacy".[81] Very interestingly the court came to the conclusion that in asserting jurisdiction over the defendant, it was acting both in the national and international interests. Thus, "[n]ot only is the United States acting on behalf of the world community to punish alleged offenders of crimes that threaten the very foundations of world order, but the United States has its own interests in protecting its nationals".[82]

What however, remains unclear is whether only one of the two basis of extraterritorial jurisdiction considered in this case would have been enough to ground jurisdiction. The court did not pronounce clearly on this issue. While it is suggested -*lex feranda* that universal jurisdiction should actually be a sufficient basis to establish jurisdiction over aerial piracy, there is ample room for criticism. It is submitted that it is precipitate for US courts to conclude that it is *lex lata* that Universal jurisdiction over hijackers already exists in international law. It is of course desirable, but that is a different thing from assuming with all certainty it exists presently.

Thus, on its own the Universal doctrine would not have been sufficient to bring Yunis to book. As regards the passive nationality principle, it cannot be said that U.S courts will not forever be haunted by the fact that the shadow, which exists over the potency of this principle, is primarily due to the contentious objection of the US against the Mexican Court ruling applying the principle in the Cutting case.[83] The court in *Yunis* attempted to excuse this stating that "the United States has protested the assertion of such jurisdiction for fear that it could lead to indefinite criminal liability" for U.S citizens.[84] Thus, whether the passive personality principle alone can be used by a state to found jurisdiction over hijackers may depend on that state's attitude hitherto towards the principle and the protests if any by the

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[80] *Supra* Chapter 1: Preliminary Considerations Sovereignty, Jurisdiction and Control in International Law.
[81] 681 F. Supp. At 901
[82] *Ibid.*
[83] *Supra* Chapter 1
[84] 681 F. Supp. at 902

suspect's own state and/or other states. However, it may be noted that this distinction may now have become academic in the light of the fact that a web of treaty laws now governs jurisdiction over air pirates.

Ironically, states can in an effort to combat the problems of unlawful interference with civil aviation within their jurisdiction, be accused of excesses. Certain legislative reforms in various jurisdictions have been identified as raising fundamental questions of constitutional law and international law. For instance the Gore Commission's recommendations in the US jurisdiction raise such queries.[85] One central criticism is the use of passenger profiling, which has since come into limited use. The use of profiles can potentially single out an individual in a discriminatory manner. For example an Arab or Muslim would generally become suspect where airline workers in Western states take such profile into consideration. Indeed lawsuits are emanating within the US in recent years from Arab and Muslim Americans who claim their constitutional rights were infringed upon as a result of the profiling regulations. The number of such complaints will rise without doubt due to the security arrangements made after the September 11 suicide hijackings.[86] Other criticisms include the development and use of devices, which "can produce images of an individuals private bodily areas as well as reveal private conditions, ranging from mastectomies to catheter tubes".[87]

The U.S particularly has for decades displayed a certain readiness to employ certain means in the exercise of its jurisdiction to combat hijacking, which are very much open to criticism.[88] Taken in the context of Joyner's thesis the severe American legal and political reactions to the problem of aerial sabotage and hijack are a direct result of its peculiar and ever increasing

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[85] See White House Commission On Aviation Safety and Security: A Dept of Transport Status Report Presented To The Vice President U.S. Dept of Transport News Release (July, 1997) at 7 available 1197 WL 399309

[86] It is interesting to note the views of a writer on the topic as at 1969: "Given the incidence of hijacking, one must necessarily inquire as to who the hijackers are and what their motives may be. *The typical hijacker of a United States registered aircraft is a United States national.* Usually he acts alone, although there have been instances of two, three, or four hijackers taking over an aircraft. In at least six cases the hijacker has been accompanied by members of his family." (Emphasis added) See Alona E. Evans, "Aircraft Hijacking: its cause and cure", Vol. 63 American Journal of International Law, No. 4. (Oct. 1969) p. 700.

[87] For a treatment of the excesses of the new rules in the US and the Gore Recommendations see Michael J. AucBuchon, "Choosing How Safe is Enough: Increased Antiterrorist Federal Activity And its Effect on The Airport/Airline Industry", 64 Journal of Airlaw and Commerce, No 3 (1999) 903-905; See also Nadine Strossen, "Check Your Luggage and Liberties at the Gate", Intellectual Capital, (Aug. 7, 1997).

[88] By the year 1969 a legal writer notes " In recent months a bantering remark to a member of a flight crew as to the prospects of a side trip to Cuba has earned more than one passenger a delayed flight, a conversation with an agent of the Federal Bureau of Investigation, or an appearance in court on charges ranging from disturbance of the peace to attempted aircraft piracy.... In Boston a passenger who asked a stewardess 'how long does it take this plane to get to Cuba' was fined $200 on a charge of disturbing the peace". Evans, (1969) *op. cit.*, pp. 695-710.

vulnerability to international terrorism. The thesis as expounded by Joyner and later on Cheng is that there is a demonstrable connection between hijackings suffered by a state and the willingness to accede to international conventions dealing with the crime. Joyner in his work in 1974 convincingly demonstrates with tables and statistics that there is a correlation in the pattern of exposure to hijacking attempts, the dates of signing the treaties and the commitment to eradicate the problem of hijacking. Cheng also reflects this stance when he wrote regarding the drafting of the Hague Convention (1970); "what was interesting to observe in the negotiations was that those States which believed that they were, for one reason or another, immune from hijacking were constantly dragging their feet. But as soon as one of their aircraft became the target of a hijack, they immediately turned into ultra hawks".[89] Recent state practice, however, show that there is more co-operation in combating the problem of aerial hijack, which of course is a priority of the developed states, than other problem areas of unlawful interference with civil aviation such as aerial sabotage and trespass or the aforementioned rising problem of unruly passenger in the air. Another example of this sort of problem is shown in the way Israeli military forces destroyed the Gaza International Airport facilities on 4 December 2001 and 10 January 2002 so as to render the airport inoperable. Israel a state, which for all intents and purposes takes the safety of aircraft very seriously, was found liable and condemned for the destruction of the Gaza International Airport and its air navigation facilities by the Council of the International Civil Aviation Organization (ICAO) which adopted a resolution on the issue in Montreal on 13 March 2002. The resolution strongly condemned the act stating that it amounted to unlawful interference against civil aviation, and that Israel should take the necessary measures to restore Gaza International Airport so as to allow its reopening as soon as possible.[90]

Joyner's thesis may indeed be used to explain the policy reactions of the U.S to the offence of hijacking generally but it certainly does not necessarily justify American policies in all cases.[91] There is, however, much truth in the observation of Bin Cheng that; "(o)ne of the many menaces of our society is the single- cause crusader who puts the value he champions above all else. Important as the fight against international terrorism is, surely it cannot be placed above the need for all States to respect international Law".[92]

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89 See Joyner, *op. cit.*, *passim*; see also Cheng (1980) *op. cit.*, p. 33.

[90] PIO 03/2002 available at http://domino.un.org/UNISPAL.NSF/ Visited June 1 2002.

[91] See however *infra* 3.5: The Problem of State Sponsored Crimes against the Safety of Aircraft, (particularly the discussion of the so called September 11 terrorist hijacks which arguably confirms the fears of successive US administrations).

[92] Cheng, "Aviation, Criminal Jurisdiction and Terrorism: The Hague Extradition? Prosecution Formula And Attacks At Airports", Contemporary Problems of International Law; Essays in Honour of Georg Schwarzenberger on His Eightieth Birthday, Bin Cheng and E.D. Brown (eds.) (London: Stevens & Sons Limited, 1988) p. 49.

It must be said that states have a duty to give effect to the treaties governing crimes in the airspace, and unlawful interference with civil aviation. International law, however, does not permit let alone require the application of those laws in a discriminatory manner nor in a manner that in effect violates civil liberties. The lesson to be taught is that here as in other aspects of the law there must be proportionality not only between law and sanction but also between law and method of policing.

Much can, however, be said in favour of certain novel forms of punishment for perpetrators of aerial crimes, which have emerged in the US jurisdiction. For instance, there may be a requirement that an individual convicted of aerial piracy pays an amount in restitution to victims of his crime. The methodology employed in calculating the amount of restitution includes the defendant's ability to pay as well as the financial impacts listed in the victim's impact statement. Thus, in *US v. Rezaq*,[93] the defendant upon conviction was ordered to pay $254.00 in restitution to seven victims. This sum is hardly excessive but of course stands as a precedent which may be very useful in the future for exacting heavier sums from less necessitous convicts or the rich sponsors of terrorist hijacks. This development apart from its deterrent value to would be offenders, partially remedies a lacunae, which has persisted since the beginnings of international regulation of the airspace.[94] That is the problem of a proper consideration of legal liability for aviation disasters involving terrorist acts.

The Warsaw Convention,[95] which together with the treaties regarded as the "Warsaw System",[96] regulate international liability for losses and accidents occurring out of air transport would appear to be inadequate in governing this area of the law. Thus, without strict and proper guidance under international law it is no wonder that in most jurisdictions, liability for damage caused by hijackings is still quite an uncharted area. As a US court had cause to note "...hijacking was probably not within the specific contemplation of the parties at the time of the Warsaw Convention".[97] Eventually a lot of work still has to be done to cover this area

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[93] US Court of Appeals District of Columbia Circuit 6 February 1998, Avi 15.404.

[94] *Cf.* the fines discussed *supra* note 9. It is also significant to note that Libya is set to offer "substantial" compensation to the families of those who died in the Lockerbie bombing. Although the Libyan government continuously maintain that it had no involvement in the attack, it has deemed it fit to strike a deal which would end the UN sanctions on the country, which were put in place by the Security Council.

[95] The Convention for the Unification of certain rules relating to International Carriage by Air, signed at Warsaw on October 12th, 1929.

[96] The 1929 Warsaw Convention; The Hague Protocol 1955; Convention Supplementary to the Warsaw Convention for the Unification of Certain Rules Relating to International Carriage by Air Performed by a Person other than the Contracting Carrier, Signed in Guadalajara on 18 September 1961(Guadalajara Convention 1961); The Montreal Inter-Carrier Agreement 1966; The 1971 Guatemala Protocol.

[97] *Husserl v. Swiss Air Transport Co Ltd.* 12 CCH Avi.17, 367 at 17,370 (DCNY, 1972).

especially in relation to state sponsored crimes in the air and in relation to the substantial insurance claims that naturally ensue.[98]

3.3: The Regime of Multilateral Treaties

From the foregoing discussions it may be deduced that three main multilateral Conventions regulate jurisdiction over criminal acts against civil aviation. They are the Tokyo Convention (1963), the Hague Convention (1970) and the Montreal Convention (1971). Other multilateral instruments of importance include the United Nations Convention against the Taking of Hostages of December 18, 1979,[99] The United Nations Convention on the Prevention and Punishment of Crimes against Internationally Protected Persons, including Diplomatic Agents (1973)[100] and Annex 17 of the Chicago Convention 1944 which prescribes standards for aviation security. We also have the Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation Supplementary to the Convention for the unlawful Acts Against The Safety of Civil Aviation (1971),[101] and the Convention On The Marking Of Explosives for the Purpose Of Detection (1991).[102]

The Tokyo Convention (1963) applies in general to all offences against penal law and other acts that put into jeopardy the safety of aircraft. There are certain limitations to this instrument. It appears for instance, that offences against penal laws of a political nature or those based on racial or religious discrimination are excluded from the scope of the Convention.[103] The Convention also does not deal with offenders who are not on board aircraft and in the airspace. Thus, persons who place explosives on board the aircraft before take-off are effectively out of the purview of this Convention.[104] The view taken by authors is that the Tokyo Convention (1963) was primarily a reaction to the discovery in cases such as *USA v. Cordova* and *R. v. Martin* (discussed above) that aircraft when they are flying abroad especially over the high seas, were literally oases of lawlessness, with no ascertainable applicable law.[105] As a result one of the central concerns of the Tokyo Convention (1963) as provided in Article 3 (2) was not so much to do things for others, but to assert their own jurisdiction over aircraft of their own registration, wherever they may be. Thus, the wording;

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[98] See further our discussions below on state sponsored crimes.
[99] ILM, Vol. 18 (1979) p. 1457.
[100] Of December 14, 1973; UNTS Vol. 1035, p. 167.
[101] Done at Montreal on Sept. 23 1971; ICAO Doc 9518; Reprint also in Vol. XVIII-ll Annals of Air And Space Law (1993) p. 245.
[102] Signed at Montreal on March 1 1991; *Ibid.* p. 280.
[103] Hailbronner, *op. cit.*, p. 59.
[104] A.K. Sakar, *op. cit.*, p. 205.
[105] Cheng, (1988) *op. cit.*, 31-32.

"Each Contracting State shall take such measures as may be necessary to establish its jurisdiction over offences committed on board aircraft registered in such State".

The question then is did the Tokyo Convention (1963) create a right, which states did not previously possess? Again it would be quite difficult not to yield to Cheng's view that it did not. As already mentioned above, nationality is the chief determinant of jurisdiction over aircraft and the rules governing this date back to Regulation of Air Navigation of October 13 (1919).[106] Thus, what the contracting parties to the Tokyo Convention (1963) had done in Article 3 (2) is merely to undertake to exercise a right, which they already enjoy under international law.[107] To hold otherwise would be to espouse the doubtful proposition that states, which had exercised such jurisdiction prior to the Tokyo Convention (1963) or those, which are not contracting parties to it presently are in breach of international law.

The Hague Convention (1970) is specifically concerned with aerial hijacking.[108] The Convention may be said to represent a remarkable milestone in the development of international criminal law in many ways. Parties to this Convention undertake to make unlawful seizure of civil aircraft an offence punishable by severe penalties. It is noted that as far as hijacking and violent crimes are concerned, the obligation of the state of registration of the aircraft under the Tokyo Convention (1963) to establish jurisdiction extends to the state of landing and the state of the lessee of an aircraft leased without crew.[109] In other words the Convention reinforces what the Tokyo Convention (1963) has achieved. This is in that it also requires the state of registry of an aircraft (and that of the operator) to exercise domestically its quasi-territorial powers (*jurisfaction*) and to ensure that its laws and the jurisdiction of its courts extend to the treaty offence committed on board such aircraft wherever it may be (Article 4 (1) (a) and (c)).

The central value of the Hague Convention (1970) is the fact that it renders hijacking an international crime for the first time. This was no mean feat because at that time due to the politics of the cold war, the Soviet Union had objected to the use of terminology suggesting any notion of an 'international crime' or even 'international offence'.[110] The

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[106] League of Nations, Treaty Series, 174,1919; *Supra*, Nationality Principle and Control Over Aircraft in Flight.
[107] *Op.cit.*, p. 33.
[108] By 1969 the problem of aerial hijack had reached epidemic proportions. Between 1930 and 1967, the highest number of occasions that aircraft were seized in the air in a single year was six times. But in 1968 there were 38, hijack situations of which the hijackers succeeded in 33. In 1969 the number rose phenomenally to 82 aircraft hijacks, 70 of these were successfully executed; See Ib.id. p. 37.
[109] Hailbronner, *op. cit.*, p. 59.
[110] Cheng (1988) *op. cit.*, p. 35.

internationalization of the crime of hijacking was achieved in three ways. First, was to make the treaty offence an offence punishable by severe penalties under written laws (Article 2). Second, states were required to exercise their territorial *jurisfaction* and make their laws and the jurisdiction of their courts relating to such offences applicable to any person committing such an offence wherever in the world, and irrespective of the nationality of the offenders or of the victim. Third and very importantly, with the intent to deny perpetrators of the offence of hijacking any safe haven anywhere in the world The Hague Convention (1970) implemented the precept of *aut dedere aut punire* (i.e. either extradite or punish.)[111]

Thus, Article 7 of the Hague Convention (1970) provides:

> The Contracting Party in the territory of which the alleged offender is found shall, if it does not extradite him, be obliged, without exception whatsoever and whether or not the offence was committed in its territory, to submit the case to its competent authorities for the purpose of prosecution. Those authorities shall take their decision in the same manner as in the case of any ordinary offence of a serious nature under the law of that State.

It would appear that scholars are divided as to the utility of the Article 7. Cheng for instance believes that the duty expressed in Article 7 falls short of ineluctable prosecution let alone prosecution.[112] This is because there is still an exercisable discretion although carefully circumscribed, which remains with the prosecution authorities as to whether or not to prosecute. To "submit the case to competent authorities" is seen as not implying an absolute duty to diligently prosecute. Others like Harris, however, would appear to believe that the alleged weakness is nothing but an essential safety valve. To him the duty to prosecute or extradite not only leaves the choice to the state in whose territory the offender is but where that discretion has been exercised as in the *Lockerbie case* (and under a similar formula in the Montreal Convention (1971)), a challenge to the exercise of discretion will only produce a confusion as to who is infringing the treaty provisions.[113] Libya in this instance, it has been pointed out, is not merely the state where the alleged offenders have been located; it is also the state of which they are nationals. It could be regarded as having a specific interest of its

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[111] This innovation became known as the Hague extradition/prosecution formula. This has been copied in a number of later treaties dealing with terrorism. Extradition has always been a very sensitive aspect of international relations and expectedly it proved to be one of the most intractable problems in the negotiations leading to the final draft of the Hague Treaty. The reasons for the reluctance of states to extradite or enter into extradition treaties are many. These range from protection of sovereignty and political considerations to differences in the perception of the seriousness and punishment attached to specific crimes. In early 1987, the Federal Republic of Germany refused to extradite to the United States Mohammed Ali Hamadei, a Lebanese National who was suspected of haven taken part in the hijacking of a TWA airliner in which a US national was murdered, unless the US gave an undertaking not to impose the death penalty. See Cheng *ibid.* p. 34.

[112] Ibid.

[113] D.J. Harris, Cases and Materials on International Law, (London: Sweet & Maxwell, 1998) p. 306. See *infra* note 138.

own, on a par with that of the United Kingdom or the United States. Moreover, Libya's domestic law bars the extradition of its nationals.[114] In such a situation the argument that the *aut dedere aut judicare* rule as provided for in both The Hague and Montreal Conventions is not watertight enough becomes merely academic. This is particularly so where the state has discharged the duty of reference to competent authorities and has made moves to establish jurisdiction. Both positions have valid considerations. Another view, however, can be to say that in reality whether the extradition/prosecution formula is drafted in a watertight manner or not, in the final analysis the treatment of the offenders will always depend on political considerations.

The Montreal Convention (1971) is wider than the Hague Convention (1970) and encompasses acts such as the destruction of navigation facilities (where those facilities are used in international air navigation) if such act in any way endangers safety of aircraft "in flight". From a purely legal analysis, the mechanism of the Montreal Convention (1971) is identical to the Hague Convention (1970). The difference between the conventions lies in the differing mischief to be cured. While The Hague Convention (1970) addressed the hijacking mischief, the Montreal Convention (1971) was designed to cure the mischief of sabotage of aircraft and of air navigation facilities.[115] The Convention notably does not cover acts against persons merely within airport facilities.[116] Under the Montreal Convention (1971), persons who attack or sabotage aircraft or air navigation facilities or pass on knowingly false information, thereby endangering the lives of people and the safety of an aircraft in flight receive the same treatment as that which is meted out to hijackers under the Hague Convention (1970).

On the whole it may be said that the three treaties discussed above represent a fair attempt by states to respond to contemporary problems of crimes committed in the airspace. The treaties complement each other in certain respects. It may be said that the central importance of the multilateral regimes created is that at least one state would be able to exercise jurisdiction

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[114] M. C. Bassiouni and Edward M Wise, Aut Dedere Aut Judicare: The Duty to Extradite or Prosecute in International Law, (London: Martinus Nijhoff Publishers, 1995). See also I.A. Shearer, Extradition in International Law, Manchester: Oceana Publication Inc., 1971.

[115] It was hoped that the offence of sabotage would be simply drafted into the Hague Convention in 1970 but on account of ICAO standing rules, this would have led to a delay of the conclusion of the Hague Convention. Thus, there was the need to have separate treaties separated by a period of two years. This is probably another pointer to the fact that the law governing criminal jurisdiction in the air has developed very much hotchpotch and in a fire brigade manner.

[116] Such acts are dealt with by the aforementioned Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation (1971) which notes in its preamble that Unlawful acts of violence are likely to endanger the safety of persons and jeopardise civil aviation.

over any alleged offender wherever the crime may have taken place in the air or on land.[117] The state that tries offenders of the class in question here does not have to be the registering state nor must it be the state in whose airspace the acts take place. A state in which the aircraft lands due to apprehension of danger or any form of diversion is also empowered to act. Such a state is required to inform the state of registry and the state of nationality of the offenders (if it considers it advisable or) any other interested state, of the facts of the arrest or detention and the intention to exercise jurisdiction.

What this means in respect of hijacking for instance, is that if an American hijacks an Iraqi plane in South African airspace or indeed over the high seas and consequently escapes to Japan, he will find not only that he is subject to the jurisdiction of Japanese courts but also that as at the time of committing the offence he was already subject to the jurisdiction of not only Japan but also of America, Iraq and South Africa, provided always that each of the states are respectively parties to the Hague Convention (1970). Similar rules govern the act of aerial sabotage. It can, thus, be concluded that universal jurisdiction over hijackers and all those who interfere with the safety of civil aviation is within contemplation as the number of contracting parties to the air treaties regulating criminal acts increases.[118]

The existing treaties, it would appear, indirectly encourage the development of specialized techniques and procedure in response to the common threat of hijack and aerial sabotage. Whenever an act of interference, seizure or other wrongful exercise of control over an aircraft in flight has been committed or is about to be committed, the states parties are to take all appropriate measures to restore control of the aircraft to its lawful commander. They are also to permit the continuation of the journey as soon as possible. This is a feature which first appeared in the Tokyo treaty (Article 11) and is shared (with minor differences) with both the Hague Convention (Article 9) and the Montreal Convention (1971) (Articles 10). In the case of the Montreal Convention (1971), the duty of a state to establish jurisdiction where the alleged offender is present in its territory does not apply to all offences listed.[119] Furthermore, highly innovative mechanisms for coping with the international problem are infused into the treaties such as the extensive powers given to the aircraft commander and others on board to impose reasonable measures of restraint upon hijackers (Articles 5 -10 Tokyo Convention

[117] See for instance Chapter II of the Tokyo Convention (1963).
[118] That the international society has been moving in this direction is evident from the initial efforts at international legislation over aerial crimes. It may be distilled from a close examination of the wide powers of contracting states in Chapter IV and V of the Tokyo Convention (1963) that universal jurisdiction was an aspiration of the drafters. There was the apparent desire to ensure that no lapses in jurisdiction create a safe haven for the class of offenders dealt with by the Convention.
[119] Thus, for instance, Article 1 (1). Offences in (a) – (c) relate essentially to acts affecting directly the safety of aircraft involved in international flights whereas (d) and (e) are of a different nature.

(1963)). Under this rule the Commander crew and passengers have the right to take all appropriate measures to restore control to the aircraft; to facilitate the continuation of the journey and the return of the aircraft to the lawful owners.[120] The contracting state's obligation to handle the situation and to return control of the aircraft is in practice borne by the entire security apparatus at its disposal.

In fulfillment of these obligations, there have been very interesting responses in practice. In response to the hijack of a Nigerian Airways plane in Nigerian airspace by some terrorists in 1994 and the subsequent landing for refueling purposes in Niger republic, 13 commandos shot their way into the aircraft ten hours before the hijackers ultimatum expired. In the process three cabin staff died alongside two of the hijackers. A Nigerian Security official on board had earlier on passed out as a result of shock and fear.[121] Whereas in the case of a hijacked Ethiopian airliner, an Ethiopian security official who by chance happened to be on board acted legitimately (and as it would appear, in accordance with the aforementioned conventions) in opening fire on one of the offenders killing him instantly while the other one was over powered.[122] The realization always is that hijacking is "a nightmare, a vicious form of Russian Roulette in which the fate of the hijackers is inconsequential in comparison with the potential cost in life of passengers and goods, not to speak of the value of the aircraft itself".[123]

The problem in containing hijackers in such a manner is that it becomes a game of chance that may backfire with disastrous results. One possible future development might be the establishment of highly specialized forces to be maintained by each party to handle such incidents. It might also be that eventually specialized forces would be established at the regional level or by the UN to combat hijack hostage situations. This is, however, not to suggest that response to such situations must always involve military or paramilitary force.

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[120] In order to protect the safety of aircraft as well as maintain good order and discipline on board an airline in flight, the aircraft commander may deliver to the competent authority of "any contracting state" where he chooses to land any person who he reasonably believes has committed on board the aircraft an act which in his opinion, is a serious offence according to the penal laws of the state of registration of the aircraft (Art. 9 Tokyo Convention (1963)). Upon being satisfied that the circumstances leading to restraining and arresting an offender are justified, a contracting state may cause him to be disembarked and place him under custody for such time as is reasonably necessary and indeed subject him to its criminal jurisdiction or extradition proceeding (Article 13 (2) Tokyo Convention (1963)). Under The Hague Convention (1970) a state party is specifically required to establish jurisdiction in those cases where the alleged offender is present in its territory and it does not extradite him to a state possessing jurisdiction. This state party, once the alleged offender is found in its territory and not extradited, is also obliged "without exception whatsoever, to submit the case to its competent authorities for the purpose of prosecution".

[121] See Demola Abimboye, "Flying Into Big Trouble", African Concord, (8, Nov. 1993) pp. 12-16.

[122] A.E. Evans, (1972) *op. cit.*, p. 820.

[123] A.E Evans, (1969) *op. cit.*, p. 695.

There may also be the need to make amendments to the existing air treaties.

The factor of violence must not only be reckoned with, but the cost must be assessed. Aircraft operators presently are placed in a precarious situation when faced with hijacking incidents in the air. Their agents in the air - commander and crew, must act timeously as security exigencies demand yet they must recognize the value of inaction where it would prove foolhardy to act. Terrorist attacks on airliners in the 1970s reveal the jeopardy facing the operators. A number of decided cases establish the right to compensation for mental distress arising out of an airline hijack. This recovery is possible under the Warsaw Convention as amended by the Montreal Agreement of 1966.[124] A carrier was also liable for injuries to passengers that occurred in a terrorist attack at Hellenikon Airport Athens at the departure gate of the terminal.[125] In *Stanford & Others v. Kuwait Airways & Others*[126] the US Court of Appeals considered the legal liability of Middle Eastern Airlines for having sold airline tickets to apparently suspicious-looking passengers who had interlined from the Middle East Airlines onto the flight of the first defendants (Kuwait Airways) which later on suffered a hijack. The court decided to remand the case for a new trial and held that an airline in the position of Middle East Airlines could be liable in appropriate circumstances to other passengers on the Kuwait Airways flight even in the absence of contract. However, no liability was established in a case in which severe damage occurred as a result of an attack in the baggage retrieval area of an air terminal building while passengers were waiting for their luggage. This was because it did not fall squarely within the meaning of 'disembarking' contained in Article 17 of the Warsaw Convention.[127] Unlawful acts must, therefore, be anticipated in aviation operations and as a writer succinctly put it;

> they cannot be dismissed as an independent criminal act for which no innocent party can be responsible. Claims are made, successfully fought or settled by individuals against enterprises and authorities who are innocent of any involvement in an unlawful act other than having failed to prevent it.[128]

As regards extradition, *aut dedere aut punire* is firmly entrenched in terms of criminal

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[124] See for instance the American case of *Krystal v. BOAC,* 403 F. Supp. 1322 193. (1975). See also Shaw, *op. cit.*, p. 322.

[125] *Day v. TWA* Inc., 528 F. 2d 31(1975), Cert. denied 429 U.S. 890. The basis of liability in this case is that the airline had not exercised due scrutiny during the boarding of passengers. Similarly the US Federal Aviation Authority has fined airlines for careless scrutiny of boarding passengers that led to hijack situations. See Evans (1972) *op. cit.*, p. 821.

[126] 25 AVI 17, 511 1996; See also See Tim Unmack, Civil Aviation: Standards and Liabilities, (Gloucester: LLP Professional Publishing Co., 1999) p. 396.

[127] *Hernandez v. Air France,* 545 F. 2d 279 (1976); *Mangrui v. Compagnie Nationale Air France,* 549. F.2d 1256 (1977) Cert. Denied. 45 Law Weekly, (1977) p. 380.

[128] Unmack *op. cit.*, p. 396. Identifiable potential defendants include: the air carriers, the ground handling agents, security agents, airport operators, governmental intelligence agencies, security

jurisdiction in air law. The treaties discussed above, however, differ slightly in their provisions. It is common ground that offences committed on board and in the airspace of any state shall be treated for the purpose of extradition as if they had been committed not only in the place in which they have occurred but also in the territory of the state of registration of the aircraft. However, the Tokyo Convention (1963) states clearly that it is not designed to create an obligation to grant extradition (Article 16). On the other hand, the Hague Convention (1970) moves towards encouraging extradition. Article 8 of the Convention deems that unlawful seizure of aircraft is an extraditable offence, in any extradition treaty existing between the states parties and that they undertake to include the offence of unlawful seizure of aircraft in every extradition treaty to be concluded between them. Furthermore, if a Contracting state makes extradition conditional on the existence of a treaty and it receives a request for extradition from another Contracting state with which it has no existing extradition treaty, it may at its option adopt the Convention as a legal basis for extradition in respect of the offence. And where a state does not make extradition treaties a condition, the offence shall *ipso facto* be recognized as an extraditable one subject to the conditions provided by the laws of the state on which the request is made (Article 8). This is *in pari materia* with Article 10 of the International Convention against the Taking of Hostages (1979).

3.4: The Regime of Bilateral Treaties and Other Regional Arrangements

States have in addition to general multilateral treaties tried to cope with the dangers of unlawful acts directed against the safety of civil aviation through bilateral arrangements and other regional responses. One of the early responses to this problem on the bilateral level is the UK - US Air Services Agreement in 1977, which includes a clause on aviation safety.[129] Since then, virtually every air services agreement concluded by the U.K. has contained an identical or nearly identical clause.[130] A similar clause of a more recent time exists in the U.K. agreement with Antigua and Barbuda, which came into force on 25 March 1985.[131] Article 8 of that agreement provides that:

> The Contracting Parties re-affirm their grave concern about acts

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equipment contractors and maintenance outfits, and probably with the recent authority of the *Stanford* case (*supra* note 126) other enterprises that are indirectly concerned with the aforementioned classes.

[129] U.KT.S. No.76 (1977) Cmnd. 7016

[130] See Brian Yeomans, "Recognition of States and Diplomatic Relations, Law of the Sea, Air and Space Law: Some Recent Developments", Vol. 35 ICLQ, (1986) p. 985. However, it is noted that the agreement with Korea has no security clause; UKTS No. 47 (1984) Cmnd. 9263. Other agreements having security clauses include UK- New Zealand (UKTS No. 5 (1983) Cmnd. 8784; U.K.- Egypt (UKTS No. 52 (1983) Cmnd 9025; U.K.-Cameroon (UKTS No. 4 1984 Cmnd. 9124).

[131] UKTS No. 29 (1985) Cmnd. 9556

> or threats against the security of aircraft which jeopardize the safety of persons or property... The Contracting Parties agree to provide maximum aid to each other with a view to preventing hijackings and sabotage to aircraft... and aviation security. They will have regard to the provisions of the Tokyo, Hague and Montreal Conventions. The Contracting Parties shall also have regard to applicable aviation securing provisions established by the ICAO. When incidents of threats of hijacking or sabotage against aircraft, airports or air navigation facilities occur, the Contracting Parties shall assist each other... to terminate such incidents rapidly and safely. Each Contracting Party shall give sympathetic consideration to any requests from the other for its aircraft or passengers to meet a particular threat.

It can be seen that one of the important achievements of these bilateral agreements is that it reinforces the obligations to enforce multilateral conventions aimed at combating crimes in the airspace, and on board aircraft.

Instruments of a regional scope to combat serious offences in the airspace also exist. In this category we have the European Convention on the Suppression of Terrorism (1977)[132] the Organization of American States Convention to Prevent and Punish Acts of Terrorism Taking the Form of Crimes against Persons and Related Extortion that are of International Significance (1971).[133]

3.5: The Problem of State Sponsored Crimes against the Safety of Aircraft

> International aviation is thus not just another problem in a changing economic system, though it is that; International Aviation is a serious problem in international relations affecting the way governments view one another, the way individuals view their own and foreign countries and a variety of direct and indirect connections the security arrangements by which we live.[134]

International relations in the 21st Century has witnessed the unfortunate development of state sponsored terrorism including of course attacks upon the safety of civil airliners. In fact political motives and inter-state rivalries have led particularly in the last decade or so to the problem of the refusal of some states to co-operate in the arrest and prosecution of offenders against the safety of civil aircraft. A criminal may escape into the protection of a state, which is hostile towards the state of registry of an attacked airliner, or worse still a state may

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[132] Done January 27, 1977; UNTS Vol. 1137, 93.
[133] Done February 2, 1971; ILM Vol. 18 (1979), 1457.
[134] A.F. Lowenfield, "A New Takeoff For International Transport", Vol. 54 Foreign Affairs, (October 1974) p. 34.

actively sponsor crimes against the safety of aircraft belonging to the nationals of another state. The question here is how can jurisdiction be successfully established to bring such persons to book. The answers are not easy ones and they remain one of the most contentious issues in recent times.

It must be noted *ab initio* that "... aerial hijacking and sabotage directed against civil aircraft generally do not qualify as acts of war committed by an organized armed force under responsible command fighting against the armed forces of a party to an armed conflict".[135] Therefore, it is out of contemplation for a state to claim that it is retaliating in a military manner or acting in such a manner against civilian aircraft. Indeed, under the laws of war, civil aircraft must not be subject to acts of reprisal or attack. Acts interfering with civil aviation, even when committed in the actual course of armed conflict may be subject to trial or extradition under the laws of war.[136]

However, it may be noted that newer problems for legal classifications on this issue have been introduced when on September 11, 2001, in a coordinated attack against the United States; nineteen terrorists hijacked four commercial aircraft. The men were nationals of several Arab or Islamic States (notably none of them is an Afghanistan citizen). They flew two of the aircraft into the World Trade Centre towers in Manhattan, and one into the Pentagon in Virginia. The fourth plane crashed in Pennsylvania. Some 3000 persons died in the attacks; many others were injured, and there was enormous destruction of property. On 12 September the United Nations Security Council adopted Resolution 1368 (2001) which *inter alia* condemned the terrorist attacks on the United States; expressed determination to combat threats to international peace and security caused by terrorists; called on all states to assist in the apprehension of the offenders and decided that the Council is "to remain seized of the matter". On 28 September 2001 the Security Council Unanimously Adopted Resolution 1373 (2001) calling For Suppressing Financing, Improving International Cooperation and also Creates a Committee To Monitor Implementation. The Resolution Reaffirms "the need to combat by all means, in accordance with the Charter of the United Nations, threats to international peace and security caused by terrorist acts". Primary suspicion for organising the attacks was ascribed by the American government to an Islamic militant terrorist group -*al Qaeda* which is dedicated to opposing non-Islamic; governments with force and violence. The US claimed Usama Bin Laden, a Saudi Arabian national assumed to be hiding in the Afghanistan, founded this group. Usama Bin Laden and others it is alleged operated *al Qaeda* from their headquarters in Afghanistan, and forged close relations with the Taliban –the

[135] Hailbronner, *op. cit.*, 58.

ruling theocratic regime in Afghanistan. In response to the September 11 attacks, President George W, Bush declared a national emergency and announced the beginning of a 'war against terrorism'. On or about October 5, 2001 the Secretary of State declared *al Qaeda* a "specially designated terrorist," pursuant to the International Emergency Economic Powers Act. Afghanistan's Islamic ideological rulers the Taliban promptly condemned the terrorist attacks, but rejected the notion that Osama bin Laden could be responsible. After the Taliban refused repeated demands by the United States to turn over Bin Laden, the United States and allied forces began retaliatory bombing of targets in Afghanistan on or about October 7, 2001.[137]

While the term crimes against humanity (presumably demanding universal jurisdiction) has been generously applied to describe the actions of the perpetrators of the terrorist acts that took place on September 11, it is more a description of the abhorrence of the crimes than a technical use of the term in international law. It is arguable that the specific crime that has been committed is the act of hijacking.[138] The offence of hijack is the unlawful seizure or exercise of control of an aircraft "in flight", by a "person ... on board", and "by force or threat thereof or by any other act of intimidation".[139] It is indeed difficult not to agree with Antonio Cassese argument that the terrorist attacks on the US on 11 September 2001 have potentially shattering consequences for international law. It will, thus, be necessary to rethink some important legal categories and to emphasise general principles. Collective rather than

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[136] *Ibid.*, See also our discussion below on aerial trespass.

[137] This also led to significant loss of civilian lives and property as confirmed by media reports as well independent sources such as the international Red Cross. As a result of American bombing on or about November 9, 2001, the Northern Alliance forces (a military coalition of various opposition groups in Afghanistan) began a series of military defeats, which led to the Taliban losing control over Afghanistan. The US began a process of transporting allegedly captured members of the of the *al Qaeda* network and Taliban forces numbering about 500 to the notorious Camp X-Ray detention facility consisting of cages open to the elements at the Guantanamo Bay a territory it leased from Cuba since 1903. On November 17 the US announced that there would be military tribunals to try the prisoners it holds in Guantanamo. The U.S. has signed each of the four Geneva Conventions on the laws of War and has ratified them with the exception of the two protocols of 1977 but has maintained that all its detainees will not be given Prisoners of War Status because they are either irregular combatants or have violated the laws of war. The US has made statements, signifying intention to expand the war on terror to other countries. It has also identified 'an axis of evil' involving three other states Iraq, Iran and North Korea which are also members of the United nations. Till date no definitive evidence has been presented before any international tribunal or United Nations body including the Security Council and General Assembly.

[138] Therefore, the international laws that govern jurisdiction over the perpetrators of the criminal acts include the afore-mentioned treaties: the Convention on Offences and Certain Other Acts Committed on Board Aircraft, September 14, 1963; the Convention for the Suppression of Unlawful Seizure of Aircraft of December 16 1970; the Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation of September 23, 1971 and the Bonn Declaration made in 1978 (*infra* note 141).

[139] See Article 1 of The Hague Convention, (1971).

unilateral measures should be taken as far as possible. Otherwise anarchy could as a result ensue and as much will be lost as was calculated to be gained.[140]

It is, however, likely that certain states would continue to covertly sponsor attacks on the safety of aviation. A likely indication of this is an apparent unwillingness in a number of cases to prosecute the suspected offenders and a refusal to extradite them to an aggrieved state. The states on the receiving end of such attacks are usually the developed Western states of Europe and America. They are particularly vulnerable in this area as a result of their massive private and public investments in aviation transport. It is no wonder then that close attention has been given to this problem by leaders of seven major industrialized states in the form of the Bonn Declaration in 1978.[141]

The Bonn Declaration is rather short as international agreements go but prescribes dire consequences for any state which actively supports terrorism on board aircraft and which refuses prosecution and extradition requests. The Declaration reads in its entirety as follows:

> The Heads of State and Government, concerned about terrorism and the taking of hostages declare that their government will intensify their joint efforts to combat international terrorism. To this end, in cases where a country refuses extradition or prosecution of those who have hijacked an aircraft, the heads of states should take immediate action to cease all flights to that country. At the same time, their governments will initiate action to halt all incoming flights from that country or from any country by the airlines of the country concerned. The heads of state and government urge other governments to join them in this commitment.[142]

Though serious challenges may be raised in academic circles as to the ultimate legal or binding value of this agreement, it can be said that it binds the parties by virtue of the principle of *pacta sunt servanda* and is actually evidentiary of contemporary international law.[143] For instance, it was effectively implemented on July 21, 1981 against Afghanistan.[144]

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[140] Antonio Cassese, "Terrorism is Also Disrupting Some Crucial Legal Categories of International Law", Vol. 12 European Journal of International law No. 5 (2001), passim.

[141] On July 17, 1978 at the end of an economic summit meeting in Bonn (then in Western Germany) the leaders of Canada, France, West Germany, Italy, Japan, United Kingdom and the US issued an unexpected declaration on aircraft hijacking. This, Declaration commonly referred to in legal literature as the Bonn Declaration specifically describes how the signatories intend to handle such cases. See Bonn Declaration on International Terrorism (1978) 17 I.L.M. 1285; U.K.M.I.L. 1978; (1978) Vol. 49 BYIL 423

[142] Text cited in James J. Busutil, "The Bonn Declaration on International Terrorism: A Non-Binding International Agreement on Aircraft Hijacking", Vol. 31, Indian Journal of International Law, July 1982, 474.

[143] For a lengthy discussion on the legal validity of this Agreement, see Busutil, *ibid.*, pp. 487-487. Harris adopts the view of that the status of the Declaration belongs to 'soft law'; See Harris *op. cit.*, p.

It was also successfully used to put diplomatic pressure on South Africa when it refused to prosecute 45 white mercenaries who hijacked a plane from the Seychelles after a failed coup bid.[145]

A shortcoming of the Bonn Declaration is that the issue of sabotage of an aircraft in flight or other aviation facilities was not mentioned. For this reason, that declaration proves unhelpful in coping with instances such as the bombing of Pan-am Flight 103 over Lockerbie Scotland by saboteurs suspected to be Libyan agents. It would appear that this situation falls within Article I of the Montreal Convention (1971). This Provision covers any person that unlawfully or unintentionally "destroys an aircraft in service or plans or cause to be placed in any aircraft in service by any means whatsoever, a device or substance which is likely to destroy that aircraft".

In an enthusiastic attempt to bring the suspects to book and as a result of the repeated denial by the Libyan government of its involvement in the bombing and refusal to extradite the suspects for trial in the UK, the Western powers (UK and the US) successfully spearheaded the imposition of sanctions against Libya through the Security Council in form of Resolution 731 (on January 21,1992)[146] and Resolution 748.[147] Libya in return instituted two contentious cases at the International Court of Justice (ICJ) against the US and the UK.[148] The ICJ, however, turned down Libya's request for provisional protective measures against the punitive measures imposed by the Security Council, which was designed to be put into effect by all states and all international organizations.[149] In the declaration of Judge Shigeru Oda

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299; This agreement was again re-emphasized by the signatories in the Declaration of Montebello in 1981; ILM, Vol. 20 (1981) 956.

[144] Statement on Terrorism issued in Ottawa Canada, by Prime Minister Pierre Trudeau on behalf of the Participants in the Montebello Economic Summit, 81 Dept of State Bill, No. 2053 [Aug. 19811 on 16. The Statement reads *inter alia*: "The Heads of State and Government are convinced that, in the case of hijacking of a Pakistan International Airlines aircraft in March, the conduct of the Babrak Karmal government of Afghanistan, both during the incident and subsequently in giving refuge to the hijackers was and is in flagrant breach of its international obligations."

[145] Seychelles initiated the action and worked through the support of the U.S. See Busuttil *op. cit.*, p. 475. See also Jere van Dyke, "Seychelles Newspaper Asks Air Boycott on South Africa", N.Y. Times, Dec. 20, (1981) Col. 6 p. 12; "South Africa to try Mercenaries in Hijacking", N.Y. Times, Jan. 6, (1952) Col. 1. p. 49.

[146] S.C.O.R, Resolution and Decisions, 1992, p.51. Adopted unanimously

[147] *ibid.* p.52

[148] See *case concern The Questions of Interpretation and Application of The 1971 Montreal Convention Arising from the Aerial Incident At Lockerbie (Libya Arab Jamariya v. United Kingdom); case concerning Questions of Interpretation and Application of The 1971 Montreal Convention Arising from the Aerial Incident At Lockerbie (Libya Arab Jamariya v. United States of America)* ICJ Reports 1992.

[149] See Request for the Indication of Provisional Measures Order of April 14 1992 "Official Documents", Vol. 86, AJIL July 1992 638-667, see also Vera Gowland-Debas, "The Relationship between the International Court of Justice and the Security Council in the Light of the Lockerbie Case", Vol. 88 AJIL Oct., 1994 No. 4 pp. 644 - 646 *et. seq.*

then Acting President of the Court, it was stated that:

> ...it is a matter of general international law that while no state (unless by virtue of any Convention) is obliged to extradite its own nationals, any state may exercise criminal jurisdiction over crimes committed in its own territory or may claim criminal jurisdiction over acts done abroad by aliens which are prejudicial to its security or certain offences recognized by states as of universal concern.

The crux of the legal arguments presented by Libya was that it had complied with its obligations under the Montreal Convention (1971) by taking steps to prosecute the suspects in its own courts and has taken steps to ensure the presence of the accused in Libya. This view has received sympathy even on the Bench of the ICJ where Judge Ajibola was of the opinion that Libya's right, under the Montreal Convention (1971) to prosecute its two nationals, if it wants, is a right recognized in international law and even considered by some jurists as *jus cogens*".[150] Libya also claims that the United States particularly has since the event been acting in breach of its obligations under that Convention. The question then remains who among the parties to this ongoing dispute has been acting in breach of the Montreal Convention (1971) and in excess of its jurisdiction? This question would have to be answered in view of Resolutions 731 and 748.

This is more so as the case continues uninterrupted despite new circumstances borne out of political expediencies. In a novel method of international jurisdiction introduced by the states parties concerned the two Libyan nationals suspected to have committed the crimes were eventually submitted and tried by a Scottish Court, which sat in Netherlands but applied Scottish Laws in the case *Her Majesty's Advocate v. Abdelbasset Ali Mohmed Al Megrahi and Al Amin KhalifaFhimah Prisoners in the Prison of ZeistCamp Zeist (Kamp van Zeist) The Netherlands* in the High Court of Justiciary at Camp Zeist Case 1475/99.[151] This procedure opens new vistas in the law and practice of state jurisdiction in general and jurisdiction over aerial crimes particularly.

It was clear from the beginning that any eventual judgement reached by the Scottish Court would be the subject of intense criticism. The Court itself admitted;

> We are aware that in relation to certain parts of the case there are a number of uncertainties and qualifications. We are also aware that there is a danger that by selecting parts of the evidence which seems to fit together and ignoring parts

[150] [1992] I.C.J. Reports, at 82, 187 (Ajibola Dissenting).
[151] http://www.pixunlimited.co.uk/guardian/pdf/0131lockerbieverdict.pdf.

> which might not fit, it is possible to read into the mass of conflicting evidence a pattern or conclusion which is not really justified.

However, it went to on to conclude that;

> having considered the whole evidence in the case, including the uncertainties and qualifications and the submissions of counsel, we are satisfied that the evidence as to the purchase of clothing in Malta, the presence of that clothing in the primary suitcase, the transmission of an item of baggage from Malta to London, the identification of the first accused (albeit not absolute), his movements under a false name at or around the material time, and other background circumstances such as his association with Mr Bollier and members of the JSO or Libyan military who purchased MST-13 timers, does fit together to form a real and convincing pattern. There is nothing in the evidence which leaves us any reasonable doubt as to the guilt of the first accused, and accordingly we find him guilty...

The problem with this judgement is that the imputations made asserting the involvement of the Libyan government with the crime would appear to justify Libya's claims all along that the case is a political witch-hunt and that a fair trial cannot take place if judged by a UK Court. Sadly for international lawyers, the judgement completely ignores the question of jurisdiction. The antecedents of the case are such that it is considered necessary for the judges to locate the basis of their jurisdiction over the case and to state this in the final judgement given. It will continue to be relevant in any discussion about the eventual solution given to this particular matter that Libya had expressed willingness to prosecute the suspects if provided with the evidence to do so.

However, the argument may still be advanced that the nature of sovereignty is fast changing and it is a trite observation that the overwhelming nature of sovereignty and jurisdiction must be tempered by the realities of an interdependent world. It may indeed have been better for the international legal order if the UK and the US had not insisted on the right of the UK Courts to try this case since the Montreal Convention (1971) is the operative treaty and Libya was in the process of fulfilling its obligations under that treaty. A better option would have been to allow the ICJ deliver an authoritative judgement as to which state(s) should exercise jurisdiction over the suspects. It would be unreasonable not to expect that the ICJ would take into full consideration the possibility of Libya being biased in favour of the accused if it tried the case. The UK and US would in any case have done their best to prove this likelihood.

The cases remain pending before the International Court.[152] It remains to be seen what fate awaits the cases still before the ICJ in this dispute. It can only be hoped that a decision would

[152] On 1 July 1999 the International Court of Justice (ICJ) authorised the submission by Libya of a Reply in each of the cases instituted by it against the United Kingdom and the United States of

still be reached as to which state has superseding jurisdiction over the suspects in the case pending before the Court. Such an eventual outcome will be useful for the resolution of future international conflicts over aerial criminal jurisdiction. It is hoped that the real legacy of the entire proceedings will not remain in the political rather than in the legal field.

3.6: Summary and Conclusions

National laws on one hand and international law on the other hand govern jurisdiction over crimes in the airspace and/or on board aircraft. There exists a cacophony of national legislation governing aerial crimes. While some states have a sophisticated regime governing these crimes both in substantive and procedural terms, other states are still lagging behind in coping with the jurisdictional problems presented by international aviation in this century. It may indeed be predicted that lawyers everywhere will for a long time be kept busy with the task of interpreting and elaborating upon the rules regulating crimes in the airspace as found both in international and national legal instruments.

There exist certain problems relating to criminal conduct in the air, which are not presently adequately regulated by international treaties. This refers particularly to the emerging problems relating to unruly passengers. The plans by the ICAO to address this issue should be actualised speedily. Any instrument drafted would have to include other acts or offences committed on board aircraft, which are not, included within the scope of the existing air law instruments. It may be noted that the absence of a settled regime on the problem of unruly behaviour in the airspace also means there is very little to be learnt from air law by lawyers

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America concerning the aerial incident at Lockerbie. In Orders dated 29 June 1999, the Court fixed 29 June 2000 as the time-limit for the filing of that Reply. The Court also authorised the filing of a Rejoinder by the United Kingdom and by the United States respectively, but it fixed no date for this filing. The Court referred to the meeting held with the Parties on 28 June 1999 by the Vice-President of the Court, acting President, Judge Weeramantry, in order to ascertain their views on the subsequent procedure following the filing of the Counter-Memorials of the United Kingdom and of the United States last March. At that meeting the Agent of Libya stated that his Government wished to be authorised to submit a Reply in each of the cases and that it sought a time-limit of twelve months for the preparation of that Reply. The representatives of the United Kingdom and of the United States did not oppose that request but expressed the wish that no date be fixed at this stage of the proceedings for the filing of Rejoinders by their respective countries, in view of new circumstances arising from extensive negotiations between the parties. The Agent of Libya had no objection to this (See International Court of Justice Press Communiqué 99/36). Libya's Replies were filed within the prescribed time-limit. On 13 September 2000. The President of the International Court of Justice (ICJ), Judge Gilbert Guillaume, fixed the time-limits for the filing of Rejoinders by the United Kingdom and the United States of America in the two cases instituted by Libya. By Orders dated 6 September 2000, the President, taking account of the views of the Parties, fixed 3 August 2001 as the time-limit for the filing of the Rejoinders. The foregoing represents the present progress of the cases before the Court.

who may soon be called to fill similar lacunae with respect to outer space flight. In fact it is significant to note that none of the air treaties dealing with criminal jurisdiction extends its application to events occurring on board spacecraft or to events occurring or having effects in outer space. Thus, the problem of flying oases of lawlessness may sooner than expected loom large again this time with respect to spacecraft and in outer space. The threat of this happening is very real particularly with the advent of those aircraft capable of making flights through outer space and the possibilities of commercial space tourism.

The need for control over unlawful interference with civil aviation is a central feature of international legislation concerning air law. It would appear that states have developed international legislation relating to crimes committed on board aircraft and in the airspace with an obvious fire brigade approach. The result is a plethora of treaties and conventions all addressing problems identified with particular eras in international relations. This uncoordinated approach has produced dangerous gaps in the law. Jurisdictional questions relating to unlawful interference with civil aviation has been worked out with more seriousness by states in comparison with other forms of common crimes committed in the airspace or on board aircraft. The reason for this is clear. Hijacking, for instance is an act very well comparable (but not identical) with piracy - the abominable effects of which makes the perpetrators *hostis humani generis.* A central feature of the three main conventions regulating this problem is that at least the state of registry of the aircraft in which the criminal act takes place can exercise jurisdiction over offenders. Universal jurisdiction over hijackers and persons who endanger the safety of civil aircraft may well be within contemplation in the near future. Such a development is in fact desirable. The positive development in the ratification of and accession to treaties regulating this category of offences should be noted. As at 1998 the Tokyo Convention (1963) was signed or ratified by 147 states, the Hague Convention (1970) by 151 states and the Montreal Convention (1971) by 151 states. The plethora of resolutions and conventions made under the aegis of the UN and its specialized bodies serve as a strong pointer to the competence and readiness of that body to cope with the increasing threat of hijacking and other aerial crimes.[153]

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[153] See among others UN Security Council Resolution 341 at 342 1970; 9 Int. Legal Materials 1291 (1970); UN General Assembly Resolution 2645 (xxv) (Doc. A/Res/2045 (xxxv); UN Press Release GA/4355 (Dec. 17, 1970 ICAO Assembly Declaration. Adopted June 30, 1970 Res. Al 7-1, ICAO Assembly, 17th Sess. (Extraordinary) June 16-30, 1970; 63 Dept. of State Bulletin 302 at 303 (1970); 9 Int. L. M. 1275 (1970) UN General Assembly Resolution 40/61 Adopted by the General Assembly on Dec. 9,1985. See "Official Documents" in Vol. 80 AJIL (1986) 435 - 437; UN See Council Resolution 579 (1985) adopted by the Security Council at its 2637th meeting on Dec. 18 1985 AJIL (1986) 437-438.

The following observations are, however, relevant. Unlawful interference with the safety of civil aviation is a problem of universal concern. In the final analysis, the law must be continually developed in a collective and coordinated manner. Individual reactions by states through dramatic policies or 'single cause crusading' may prove inadequate. Aerial hijack particularly is becoming increasingly analogous to the crime of piracy in international law. In cases of conflicting claims of jurisdiction over persons accused of the offence of unlawful interference with the safety of civil aviation, the conflict will be resolved by reference to the international instruments in force between the contending states. Ideally the possibility of offenders in this category successfully escaping prosecution should be virtually negligible.

This is not to say that states and international lawyers can think that the mischief has been effectively cured. A.E. Evans rightly underscored the point when he wrote; "In the long view, aircraft hijacking and related offences are crimes of the aerospace age, controllable but not terminable until the function served by such attacks disappears".[154] Unfortunately, terrorist attacks on aircraft will for long remain a source of controversy. Certain political and religious interests in the developing states are bound to continue seeking to exert pressures on international issues through such unorthodox means.

It is significant to note that the preamble to the International Convention against the Taking of Hostages (1979) reaffirms the principle of equal rights and self-determination of peoples as enshrined in the United Nations Charter. It is patently clear that it is expected that nationals of the newer states would more often than not engage in aerial terrorism and hostage taking in the international system. While it may appeal to popular opinion among scholars from the developing states to see contemporary international law as geared against the interests of the developing world, it must be realized that engaging in unlawful interference with the safety of aircraft cannot be a means of participation in international politics. Tolerating or providing a safe haven for aerial hijackers is entirely unsupportable.

[154] Evans, (1972) *op. cit.*, p. 822; *Cf.* Alona E. Evans, "Aircraft Hijacking: What is Being Done", Vol. 67 American Journal of International Law No. 4 (1973) p. 671; Evans (1969) *op. cit.*, p. 710.

CHAPTER FOUR

4.0: JURISDICTION AND CONTROL IN THE AIRSPACE OVER INTERNATIONAL SPACES

The jurisdictional issues raised in this chapter are both technical and of current academic interest. For instance, it may be asked - what is meant by 'international space'? Which laws should govern the airspace of international spaces? Should it be the laws governing the specific international space in question or should it be the general principles of air law? Furthermore, there is the classic debate in academic literature as to whether the airspace above the high seas is also part of the common heritage of mankind.

Without intending to enter into technical details, which are considered not central to this work, it suffices to mention that the establishment of the international legal regimes for the high seas, Antarctica and outer space respectively has created a basic distinction between national spaces and international spaces in contemporary international law. International space thus, simply put is that environment which does not fall under any state's territorial jurisdiction. For our purposes in this paper the international spaces to consider include the air space over the following areas: (1) non sovereign maritime zones, (i.e. (a) international straits, (b) the contiguous zone, (c) the exclusive economic zone (EEZ), (d) the continental shelf, (e) the high seas) (2) Antarctica and (3) the polar territories. The importance of understanding the jurisdictional issues raised when aircraft navigate in the airspace over these territories cannot be overstated.

There is however a concept with which we must grapple at this stage. That is the concept of Flight Information Region (FIR). This concept is a product of the ICAO rules and produces a certain blurring of the strict distinctions, which appear to exist between the maritime zones in international law. The ICAO at the regional levels has divided the high seas among the contracting states. Each contracting state has responsibility for air traffic control and for control in general in its FIR. The FIR of each state is (a) the airspace over its own territory and over its territorial waters and (b) over that part of the high seas which has been assigned to it. The airspace in the UK (including the territorial waters) is divided into 2 Flight Information Regions (FIRs), London and Scottish.[1]

[1] To the West of the London FIR, air traffic is controlled by Dublin and Shannon ACCs. To the South it is controlled by Brest and Paris ACCs in France, and to the South East by Brussels and Amsterdam ACCs. To the NorthEast there is a link with Copenhagen ACC, and to the East over most of Continental Europe aircraft in the upper air are controlled by Eurocontrol at the Maastricht ACC. Note: Maastricht does not control any air traffic in UK airspace. The aerial Territorial Control and area of

It must however be noted that the FIR principle does not confer any more substantive jurisdiction than a state already has in any given sphere. Where a state lacks substantive jurisdiction as in the airspace over the high seas the workings of the FIR principle do not give jurisdiction. All a state does in its FIR is to offer air traffic control and see to it that all the rules of the air are obeyed. The rules over the high seas are exclusively the ICAO Rules and no more. National legislation cannot be introduced to operate within the FIR where the region falls outside the territorial sea. Neither can a state deny access to foreign aircraft in the area within its FIR, which is within international airspace. In any case the ICAO rules to be enforced within the FIR apply to the contracting state itself.[2] With these considerations in mind the view may indeed be taken that the FIR is a region established for the exercise of duties and not to claim rights. This view admittedly creates problems within the scope of a Holfedian analysis of rights and duties.

4.0.1: International Straits

As regards the airspace above international straits the first thing to note is that all aircraft enjoy the right of transit passage, which shall not be impeded. This is stipulated in Article 38 of the Law of the Sea Convention LOSC (1982)[3] in respect of straits used for international navigation between one part of the high seas or an EEZ and another part of the high seas or an

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responsibility of the UK is broken down as follows: The Area ATC services are supplied by National Air Traffic Services from three Area Control Centres at London (LATCC), Prestwick (SCATCC) and Manchester. Traffic in the London FIR is controlled from LATCC and Manchester, and traffic in the Scottish FIR and Oceanic traffic in the Shanwick Oceanic Control Area is controlled from SCATCC. LATCC ORGANISATION: LATCC is split into various sections. There are 2 Civil ops rooms, the ACR (Area Control Room) and the TCR (Terminal Control Room). Airways control is provided by En-Route in the ACR,and Terminal Control services and Approach Radar for Heathrow, Gatwick and Stansted are provided in the TCR. The ACR is divided into 2 banks, North and South, and is further split into sectors. Each sector can also be split according to traffic conditions. NORTH BANK: Clacton sector- CLN East, West High & West Low North Sea sector- GOLES and BEENO Lakes/Wirral sector- Lakes and Wirral Daventry sector- DTY North and South SOUTH BANK: Bristol sector- Bristol, Strumble and Brecon Berry Head sector- BHD and Lands End Dover- DVR and LYD Worthing- SFD,Hurn High East/West and Hurn Low LONDON SECTORS: London Middle sector London Upper sector. The TCR is also divided into North and South banks: NORTH BANK: TC Midlands- Cowly and Welin, Bovingdon, Lambourne LOREL NW Departures NE Departures TE East- SABER and DAGGA, Stansted Approach SOUTH BANK: Heathrow Approach Ockham. SE Low Biggin, Willo, Timba, Gatwick Approach. Visit http://avism.com/atco/latcc/htm.

[2] Heere *op. cit.*, p. 76.

[3] The 1982 United Nations Convention On The Law Of The Sea (to be henceforth referred to as the LOSC (1982) contains 320 articles and 9 Annexes It was adopted by 130 votes to 4, with 17 absentations. The pressures leading to the Law of the Sea Conference lasted between 1974 and 1982 and involved a very wide range of international organisations and states. Singh describes this document as "a charter for the world's oceans". It took nine years to complete the instrument. It deals with almost every human use of the Ocean-navigation and overflight, resource exploration and exploitation, conservation and pollution, fishing and shipping. It constitutes a guide for state behaviour in the

EEZ. This is in contradistinction with what subsists with respect to the airspace above the territorial sea where there is no right of innocent passage for aircraft.

It is correct to say that the concept of transit passage in the airspace over international straits excludes any activity by an aircraft in transit that is not a constituent part of the transit flight. Brownlie, recognises a possible exception of warships from the general right of innocent passage for foreign ships through international straits.[4] The question may then be asked whether there is a similar possible exception of state aircraft (i.e. those used for police, customs or military services) from flying through the airspace of an international strait. Straits by their very nature are bounded by state territory(ies) and security considerations are expectedly important. Therefore, questions as to possible prescriptive authority and/or unilateral enforcement powers of the coastal state relating to transit passage of state aircraft are reasonable.[5]

It is however submitted that state aircraft should not normally be excluded from navigating over international straits. As to prescriptive authority it is suggested that no such powers of *jurisfaction* by bordering state(s) exist over international straits. As to enforcement powers Hailbronner's view is accepted in noting that:

> ...a breach of duties under the Convention or the municipal law by an aircraft in transit does not give the bordering state the right to take unilateral action to prevent the passage except where such action is designed for the protection of vital security interests against imminent and evident dangers resulting from activities of aircraft in transit (e.g. right of self defence; vital interests).[6]

In any case, the general principle may be recalled as enjoined in various treaties that states should refrain from activities that may be harmful towards the lawful interests of other states.

World's oceans. See further Nagendra Singh, International Maritime Law Conventions, Vol. 4 (London: Stevens and Sons, 1983) pp. 2646-2647.

[4] Brownlie in fact remains unconvinced that warships have any rights to innocent passage in territorial waters including situations "when the territorial waters are so placed that passage through them is necessary for international traffic". He based his position on both the lack of corroboration in the *travaux preparatoires* of the LOSC (1982) and because such "textual arguments advanced involve the unwarranted assumption that a question with a background of controversy was ultimately settled by leaving the issue dependent on inference". See Ian Brownlie, Principles of Public International Law, (Oxford: Claredon press, 1998) pp. 194-196, 280.

[5] Kay Hailbronner, "Airspace over Maritime Areas" in Rudolf Bernhardt, Max Planck Institute for Comparative Law, Encyclopaedia of Public International Law, (Netherlands: Elsevier Science Publishing Company 1989) p. 28.

[6] *Ibid.*

4.0.2: Contiguous Zone

The rule that national sovereignty and territorial jurisdiction should be limited to the territorial sea has been expressed in the Geneva Convention of 1958 on the Territorial Sea and the Contiguous Zone[7] and finally in the LOSC 1982. It follows therefore, that sovereignty and territorial jurisdiction extends to the airspace above territorial waters. The fact that these Conventions do not extend state sovereignty to cover the contiguous zone is definitive of the nature of jurisdiction and control, which states have in the airspace over the contiguous zone in international law. Thus, the rights that the coastal state may possess in the airspace over its contiguous zone cannot be more than what the law of the sea gives it over the underlying waters.

Indeed, we may recall that under Article 24 of the TSC (1958) all the coastal state may do in the contiguous zone is to exercise just that control necessary to: (a) Prevent infringement of its customs, fiscal immigration or sanitary regulations within its territory or territorial sea and (b) Punish infringement of the above regulations committed within its territory or territorial sea. Under Article 33 of the LOSC (1982), however, a coastal state may claim a contiguous zone (for the same purpose as the 1958 provision) up to 24 nautical miles from the baseline.

One crucial thing to note is that while under the 1958 system the contiguous zone was part of the high seas, the LOSC (1982) it would seem makes it part of the EEZ. Whatever the effect that may have, it would be clear still that in the airspace above the contiguous zone there can be no sovereignty. The jurisdictional powers exercisable over such airspace (if any at all) would also have to fall within the parameters of the reasons why the zone was created. The question may be raised as to what happens when a foreign aircraft while navigating over the territorial sea engages in acts for which Article 33 (a) and (b) of the LOSC (1982) was created. For instance, if parcels of hard drugs or toxic waste are dropped into the underlying territorial waters, it is clear that this will be a violation of international law. But can the right of hot pursuit vested upon the coastal state under the law of the sea in relation to ships be exercised in relation to aircraft committing prohibited offences in the airspace above the contiguous zone? Or can an aircraft continue or commence the hot pursuit for offences committed by ships within territorial waters? It must be admitted expressly that at the present stage of international law there is no right of hot pursuit in relation to air law as there is in the law of the sea. Therefore, attractive as the concept may be, the use of aircraft to exercise the right of hot pursuit as enshrined in the law of the Sea would not be easily supportable under

[7] UKTS 3 (1965),cmnd. 2511; 516 UNTS 205;(1 958) 52 AJIL 751.

contemporary international law.[8]

4.0.3: The Exclusive Economic Zone

Due to the novelty of the concept of the EEZ, it presents a unique problem as regards the determination of the legal status of the overlying airspace therein. The air law implications of the establishment of the EEZ were not dealt with by the LOSC (1982). Thus, the question of jurisdiction and control over the airspace above the EEZ was not delineated. This creates practical problems requiring legal solutions. For instance, wind-energy exploitation technology involves devices with physical heights that may hamper aircraft navigation.[9]

A timely warning has been offered that:

> The establishment of the EEZ world-wide would absorb at one or several points all the major trading routes. Ships would have to navigate through the zones of a third state to communicate with most other states. Important air-routes would have to pass through the airspace covering a number of EEZ's. Unrestricted coastal jurisdiction within the 200 n.m (Nautical miles) EEZ could turn a strategically placed coastal state into a modern Venice, extracting political or economic advantage for the privilege of transit.[10]

It is accepted that much can be said in favour of the establishment of the EEZ. This is because it goes a long way towards placing non-renewable mineral resources within the jurisdiction and control of coastal states. Most of these states are developing and are in dire need of such assistance. However, this advantage is in relation to the resources in the sea and under the seabed as the case may be but not necessarily in relation to the airspace over the EEZ or continental shelf. It is doubtful whether the drafters of the LOSC (1982) intended to create 'air Venices.' Article 78(1) of that Convention in fact provides that the coastal states' shelf rights do not affect the legal status of the airspace above.

There is, therefore, good reason to give a qualified acceptance for Attard's position that "... it would be imprudent to expect a coastal state not to enquire about the flight of an aircraft,

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[8] See further *infra* 4.0.4.

[9] Christol Carl Q., "Law of the Sea: Neglected issues", Proceedings of the Twelfth Annual conference of the Law of the Sea Institute; 23 -26 October. 1978, J.K. Garbie ed. The Hague, 1978, p. 127.

[10] Parenthesis added. See David Attard, The Exclusive Economic Zone in International Law, (Oxford: Claredon Press, 1987) p. 77.

which might be engaged in the exploration of its EEZ resources".[11] Hailbronner also expressed a similar opinion. He thinks that the use of aircraft to explore and exploit fishing resources as well as for prospecting in connection with economic exploitation of the EEZ must be regarded as the coastal state's exclusive right.[12] Heere misrepresents the actual words of the Law of the Sea Convention. He wrote: "Article 246 (2) LOSC reads: 'marine scientific research involving aircraft in the EEZ can be prohibited by the coastal state'."[13] What the Convention actually states is: "Marine scientific research in the exclusive economic zone and on the continental shelf shall be conducted with the consent of the coastal state". The only sovereign rights granted to the coastal state in Article 56 1 (b) are for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the sea-bed and of the sea-bed and its subsoil.

The common pitfall into which these writers would seem to have fallen is their refusal to distinguish between 'exploration' and 'exploitation'. It may be suggested that at least in respect of aerial territories above maritime zones, the distinction between exploration and exploitation is very significant. Thus, while it is true that the coastal state has rights barring foreign nationals from exploration in its EEZ it does not necessarily have such rights with respect to the airspace over that zone. The correct view to hold is that at the bottom of the rights granted to coastal states in relation to the EEZ is the preservation of its natural resources from exploitation by others without its permission and/or benefit. Exploitation is, therefore, the most crucial economic right for which the zone was created. Accordingly, an aircraft which without making any connection to the underlying water through any device, and which navigates over the EEZ should be free to do so even if its activities are in some ways exploratory. Therefore, it is consistent with legal reasoning that the consent of the coastal state required under Article 246 (2) must not be unreasonably withheld.

Thus, for instance, it should be perfectly legitimate for an aircraft, which is not flying over the territorial sea to monitor the movement of migrating fish so long as no danger is posed to artificial islands and installations. The desire may be to determine when such fish enters other maritime areas where they may be lawfully fished or for any other harmless scientific study. A coastal state may thus make laws and exercise the control necessary to protect its artificial islands and artificial installations located within the EEZ. The landing and take-off of aircraft

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[11] *Ibid.*, p. 80.

[12] *cf.* Ki-Gab Park, La Protection de Ia somerainte aerienne, (Paris: A Pendone, 1991) see also Nicholas Grief's review of this book in BYIL 1992, pp. 457-485. K. Hailbronner, "Freedom of Air and the Convention on the Law of the Sea", Vol. 77 AJIL, (1983) p. 506.

[13] See Wybo P.Heere, "Problems of jurisdiction in Air and Outer Space", Vol. xxiv Annals of Air and Space Law, No2 (1999) p. 77.

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from such places without due permission would definitely impinge upon the jurisdiction and control of the coastal state which places them there. Apart from this, exploration without more by any aircraft is perfectly legitimate. This includes activities such as aerial photography of the EEZ and remote sensing. The simple rationale for this position is that these types of activities can never in themselves lead to the loss of one single resource. In any case such activities are now conductible by means of satellite technology from outer space. In short it must be accepted that the recent development of the EEZ concept does not significantly disrupt the rights and freedom traditionally exercised by states in the airspace over the high seas, such as, over-flight, space flights, or maritime navigation and the laying of submarine cables.[14]

There is however much credit to the view that the extent of the rights enjoyed by a vessel or aircraft anywhere depends largely on the activity it is engaged in. Thus, for instance, a coastal state has a right under Article 216 (1) to take enforcement action to protect its EEZ from pollution and dumping by foreign aircraft in its EEZ and Continental shelf just as it does in its territorial sea. Furthermore the legality of reconnaissance conducted from the airspace of the EEZ is becoming a controversial issue.[15] The law abhors illegal practices. It should be noted that in relation to the delimitation of Marine airspace and the nature of jurisdiction and control exercisable therein there is an obvious lack of *opinio communis*. The creation of the EEZ concept further adds to the controversies surrounding the rule of freedom of the air above the oceans. Lastly, it should be noted that the EEZ of a state or portions of it might also fall under its Flight Information Region. In such a case it has the duty to perform the roles for which that region was created. Further theoretical problems may be foreseen where the FIR of one state covers areas which are within the EEZ of another state.

4.0.4: The Continental Shelf

A geomorphological description of the continental shelf encompasses the gently sloping platform of submerged land surrounding the continents and islands, normally extending to a depth of approximately 200 meters or 100 fathoms at which point the seabed falls away sharply. The legal definition of the Continental Shelf as contained in Article 76 of the LOSC (1982) reads: "The continental shelf of a coastal State comprises the sea-bed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical

[14] See the views of B. Oxman, "The Third United Nations Conference on the Law of the Sea: The 1977 New York Session", Vol. 72 AJIL, (1978) pp.57, 72 *et. seq.*

miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance."[16] Aware of the immense resources that lay buried in the continental shelf, certain coastal states from the mid 1940's, introduced declarations to secure a beneficial utilisation regime for themselves over this maritime zone. The US was a forerunner in this area and issued the Truman Proclamation on the Continental Shelf (1945) by which it proclaimed; "the continental shelf beneath the high seas but contiguous to the coasts of the United States as appertaining to the United States, subject to its jurisdiction and control".[17] Although this proclamation (as well as similar provisions in some other declarations) went on to state that the character as high seas of the waters above the continental shelf and the right to their free and unimpeded navigation are in no way affected by the established regime, the status of the continental shelf doctrine was subject of much controversy. The UK with much less continental shelf to claim (200 meters deep and about 300 miles off Lands End) compared with the US (with up to 750 miles to claim in places like the coast of California) but with strong interests in international maritime navigation was quick to point out it would not accept a continental shelf convention which did not clearly recognise the freedom of the superjacent waters of the high seas and that of the airspace above from any form of national jurisdiction.[18]

The Geneva Convention on the Continental Shelf (1958)[19] removed any possible ambiguity as to the juridical nature of the airspace above the continental shelf when it provided in Article 3 that the rights of the coastal state over the continental shelf, do not affect the legal status of the superjacent waters as high seas, or that of the airspace above those waters. Similarly Article 78 (1) of the Law of the Sea Convention (1982) stated: "The rights of the coastal State

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[15] It cannot be taken for granted that all states have agreed to the practice of military aerial reconnaissance from the EEZ. See further *infra* chapter 5.0.1.

[16] Note that according to paragraph 3, the coastal State may also establish the outer edge of the continental margin wherever the margin extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by either: (i) a line delineated in accordance with paragraph 7 by reference to the outermost fixed points at each of which the thickness of sedimentary rocks is at least 1 per cent of the shortest distance from such point to the foot of the continental slope; or (ii) a line delineated in accordance with paragraph 7 by reference to fixed points not more than 60 nautical miles from the foot of the continental slope. (b) In the absence of evidence to the contrary, the foot of the continental slope shall be determined as the point of maximum change in the gradient at its base.

[17] Presidental Proclamation No. 2667 28th September 1945; 4 Whiteman 756. See also Harris *op. cit.*, p. 456.

[18] See Nicholas Grief, Public International Law in the Airspace of the High Seas, (London: Martinus Nijhoff Publishers, 1994) pp. 12-13; YBILC, 1953, vol. 2, p. 267, Annex to comments by the Government of the United Kingdom; Lord Asquith in the *Abu Dhabi Arbitration* (1951) noted "...there are in this field so many ragged ends and unfilled blanks, so much that is merely tentative and exploratory, that in no form can the doctrine claim as yet to have assumed hitherto the hard lineaments or the definitive status of an established rule of law"; (1951) 18 ILR 144.

[19] UNTS vol. 499, p. 311.

over the continental shelf do not affect the legal status of the superjacent waters or of the airspace above those waters". The maintenance of the Continental shelf doctrine, in contemporary international law, therefore, appears to be solely for the purpose of exploring and exploiting its natural resources. Even though States may create and maintain artificial islands and other permanent structures in furtherance of this purpose they are not permitted to interfere with aerial navigation in anyway so as to require that other states change their flight paths or suffer any restriction such as prohibition of overflight over artificial islands, installations or structures.[20]

Many writers rightly believe that the Geneva Convention on the Continental Shelf (1958) and the LOSC (1982) have attained the necessary balance between the rights of the coastal state in exploring shelf resources and the rights and freedoms of other states. Writers like Brownlie would appear to have been too optimistic in thinking that in practice there are no further controversies or ambiguity. Contrary to his conclusion that "[l])egislation of the United Kingdom and other states indicates that the shelf regime is not assimilated to state territory",[21] more circumspect enquiry has revealed, that particularly with respect to the rights of other states in the airspace, there is ambiguity even in the practice of the UK.[22] Examples of this include the statements of a British government spokesman to the effect that unauthorised vessels and aircraft could not enter safety zones around oil and gas installations, whereas three months later it was declared that the UK had always accepted the principle of freedom of air navigation over all waters, outside the territorial sea and saw no reason to depart from the principle.[23] Another example of this equivocation can be found in Rule 5 (1) (e) of the Rules of the Air Regulations 1991,[24] which prohibit all aircraft from flying within 500 feet of any person, vessel, vehicle or structure. By virtue of Rule 2, that applies to all "aircraft within the United Kingdom and...in the neighbourhood of an offshore installation". This arguably amounts to an attempt at extraterritorial rule making for aircraft belonging to other states in international space.

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[20] Grief, (1994) *op. cit.*, p. 13.
[21] Brownlie *op. cit.*, pp. 215-216. Brownlie based his judgment on examination of the UK Continental Shelf Act 1964, c. 29 and cases such as *In re Ownership and Jurisdiction over Offshore Mineral Rights*, 65 DLR 2d (1967) 353; ILR 43, 93.
[22] See Grief, (1994) *op. cit.*, p. 13 particularly note 39.
[23] 13-14; Hansard, HL Debs, vol. 388, col. 915: 2 February 1978; *Cf* Hansard HL Debs, vol. 391, col. 168: 2 May 1978.
[24] SI 1991 No. 2437.

4.0.5: The High Seas.

The term high seas as defined in Article 1 of the Geneva Convention on the High Seas (1958) means all parts of the sea that are not included in the territorial sea or in the internal waters of any state.[25] However, the whole of section 1 of the 'General provisions' on the High Seas contained in Part VII of the (1982) LOSC is said to apply to "...all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State" (Article 86).

The freedom of the airspace over the high seas has had a comparatively long history. At the 1927 Lausanne conference of the Institute de Droit International, a declaration was adopted stating that: "The principle of the freedom of the sea implies...freedom of aerial circulation over the high seas". Article 2 (4) of the 1958 Geneva Convention on the High seas recognised the freedom of aircraft to navigate over the high seas. Similarly Article 87 (1) (b) of the 1982 LOSC recognises this freedom. A certain amount of ambiguity in relation to the concept of freedom of the airspace over the high seas was however introduced by Article 2 of the Geneva Convention. It provides that the freedom of the seas must be exercised with reasonable regard for the interests of other states in their exercise of the freedom of the high seas. As a result of this a school of thought holds that customary international law, therefore, allows states the occasional exclusive use of the airspace over the high seas such as the establishment of military exclusion zones.[26] In fact some states particularly the western military powers have established such zones. It is submitted that there is absolutely no support for this view under existing international law.

Thus, the US Air Defence Identification Zones (ADIZ), the Canadian Air Defence Identification Zones (CADIZ), the United Kingdom Maritime Exclusion Zone (MEZ) and the Total Exclusion Zone (TEZ) (both established in the wake of the Falkland War and some aspects of which are still in operation at least in relation to Argentina) and the U.S. five mile Notice to Airmen (NOTAM) zones established around US naval ships during the Iran-Iraq war are all products of international *real politic* with little or no basis under international law. The fact that there have been heavy protests against these formulations at different times is good enough reason to hold that the institution of such zones cannot be successfully justified as arising from customary international law.

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[25] UKTS 5 (1963) Cmnd. 1929; 450 UNTS 82 (1958) 52 AJIL 842.
[26] See Heere *op. cit.*, p. 76. Note also the significance of the aforementioned FIR.

As to the right of aerial hot pursuit in the airspace of the high seas it must be said that this is a right not recognised in either the Geneva Convention on the high seas or the LOSC. Some have suggested that the right already exists or ought to exist in customary international law.[27] In support of this view is the fact that no specific treaty expressly prohibits hot pursuit. In fact Article 3 (b) of the 1944 Chicago Convention (as amended) recognises the right of every state to intercept a foreign civil aircraft, which is overflying its territory without authority.[28] Thus, presumably there should be a right to pursue such aircraft from national airspace over the territorial sea into the airspace over the high seas for the purpose of escorting it back to the offended state. The Law of the Sea Convention does not grant military aircraft the right to visit foreign aircraft in the airspace of the high seas. In any case the possibilities of an actual visit on board as is possible for intruding or suspect ships are very slim.

However writers like Nicholas Grief make a distinction between pursuit and interception. He convincingly argues that the right to approach a suspect aircraft may be said to reside implicitly in the right of self-defence. State practice has also confirmed that military aircraft may approach and intercept foreign aircraft over the high seas in pursuance of the right of self-defence. Note should be taken that such interception is exercisable essentially as a factor of national interests rather than in the exercise of any international policing power.[29] In practice however, it can scarcely be said that there is a "general practice accepted as law", which constitutes evidence of a rule of customary international law permitting the hot pursuit of foreign aircraft beyond national airspace. In conclusion, it is submitted that international law does not permit the hot pursuit of foreign aircraft in the airspace of the high seas. Such a right it has been correctly noted would be open to abuse and could not be exercised without jeopardising the safety of the aircraft and endangering the lives of those on board.[30]

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[27] See M.S. Lasswell and I. Vlassic, Law and Public Order in Space (1964), p.310. In 1956 a Chilean proposal to recognise the hot pursuit of an aircraft was not discussed by the ILC. See YBILC, (1956) Vol. 2, p. 78 (Doc. A/3159). See also Nicholas Grief, Public International Law in the Airspace of the High Seas, (Thesis submitted at the University of Kent at Canterbury, 1993) pp. 218-219.

[28] 23 I.L.M. 705 (1984). Note, however, the injunction in Article 3 bis (a) to refrain from using weapons against civil aircraft in flight.

[29] Grief (1993) *op. cit.*, p. 196.

[30] *Ibid.*, p. 222. The essential conclusions relating to the dichotomy between the juridical nature of the airspace of the high seas and the territorial sea was presented by Grief as follows: "Like the subjacent waters, the airspace of the high seas is not subject to the territorial sovereignty of any State. The freedom of aviation prevails there.... The delimitation of the airspace of the high seas and that of the territorial sea is therefore inextricably linked with the question of the legal regimes applicable to those spaces". Grief (1994) *op. cit.*, p. 9; See also Hailbronner (1983) *op. cit.*, p. 506; See further *infra* Chapter 5.0.1 especially the discussion on the aerial incident off the coast of China.

4.0.6: Airspace over Antarctic Territories

It needs only be said that the international character of Antarctica also attaches to the airspace above the area.[31] However, it is submitted that in relation to the airspace over areas already subject to claims by the claimant states the position of international law is not clear. It can only be suggested that the airspace above the airfields and research facilities constructed by the claimant states should be utilised by other states in such a manner as not to disturb their ordinary usage.

Certain interesting considerations may yet be raised. A distinction can be made between ice shelves and ice islands of the Antarctic continent. Article VI of the Antarctic Treaty (1959) in delimiting Antarctica includes the fixed Antarctic ice shelves. Floating ice islands in this area no matter how large are excluded from the treaty by inference. Rights on the high seas are also expressly excluded. The distinction between the ice shelves and ice islands thus separate the Antarctic *terra firma* and the Southern Ocean, which falls under the law of the Sea.[32] Complexity, however, is introduced by the fact that the waters of the high seas flow beneath Antarctic *terra firma*. This problem as examined by Hanessian runs thus: "Although, ice shelves are carefully included within the scope of this Treaty... the intriguing question remains whether there are high seas underneath the ice shelves."[33]

The Antarctic Treaty (1959) in Article VI has already stated that the high seas applies to all parts of the southern ocean. Thus, there is a situation where the Law of the Sea Convention (1982) applies to the high seas waters which flows under Antarctic ice shelves and the Antarctic Treaty (1959) applies to the *terra firma* above these two sections. Kish would appear to conclude that the regime of the Antarctic ice shelves extends to the superjacent airspace based on the consideration that the airspace follows the legal status of the underlying surface.[34] It should however be pointed out that the underlying waters below the Antarctic surface are nonetheless to be taken into consideration in determining the juridical nature of the airspace above. This is particularly so with respect to areas of Antarctica already subject to

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[31] For the international regime governing Antarctica see the Antarctic Treaty Signed at Washington, December 1959 UKTS 97 (1961, Cmnd. 1535, 402 UNTS 71; (1960) 54 AJIL (1960) 477. Article 1. The treaty states in Article 1 that Antarctica shall be used for peaceful purposes only. Article IV (1)(a), however, states that nothing in the present treaty shall be interpreted as (a) a renunciation by any contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica. Very significantly Paragraph 2 states that no acts or activities taking place while the treaty is in force shall constitute a basis for asserting supporting or denying any claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica.

[32] Taubenfeld, "A Treaty for Antarctica", International Conciliation, (1961) pp. 285-286.

[33] Hanessian, "The Antarctic Treaty 1959", Vol. 9 International and Comparative Law, (1960) p. 472.

[34] Kish *op. cit.*, p. 35.

claims. The argument that since the high seas flows beneath those sectors national appropriation is forbidden may actually be used by states that oppose the existing claims as a contention to establish the common use of the airspace above.

Furthermore, with respect to all floating islands that are not fixed to Antarctica they are *prima facie* under the regime of the high seas. That is all floating ice islands, pack-ice and fast ice, which are not attached to Antarctic mainland, no matter how impressive they are in dimension are not under the Antarctic regime and the legal status of the airspace above them cannot be determined by the Antarctic regime.[35] The significance of this is that where such floating territory of ice emanating from the Antarctic territories floats into the EEZ or the contiguous zone or the territorial sea, of any state the juridical nature of the airspace above such formation will naturally merge into that of the zone into which it falls.

4.0.7: Airspace over Polar Territories

The general regime of the high seas applies to the high seas of the Arctic Ocean by virtue of that fact all parts of the Arctic Ocean that are not under state jurisdiction and control form part of the high seas. Therefore, the glacial nature of the surface of the Arctic Ocean does not affect the legal regime of the high seas of the Arctic Ocean.[36] Therefore, the legal nature of the high seas determines the legal status of the airspace over the Arctic Ocean as international airspace. Presently many airlines make use of air routes across the Arctic zone and it is held to be preferable in comparison to the direct North Atlantic route. The airspace in this region is, therefore, an international resource, the freedom of navigation over which must not be hampered by ambitious claims, such as the sector principle that was developed by the Canadians in 1907 and contentiously espoused by the erstwhile Soviet Republic since 1926.[37]

4. 1: Summary and Conclusions

An international space in relation to the earth is any part of the earth's surface over which no state possesses exclusive sovereignty. The legal status of any such portion of the earth as international space attaches to the airspace above it. Thus, the laws governing a specific

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[35] See also R.D. Hayton, "The Antarctic Settlement of 1959", Vol. 54 AJIL, (1960) p. 360.
[36] Kish, *op. cit.*, p. 28. See also Art. 1 High Seas Convention (1958).
[37] The controversial sector principle is based upon the argument that those states bordering the Arctic should possess territorial sovereignty over all adjoining lands and islands in the Arctic, within a sector

international space determines the legal rights in its airspace. It may however be necessary that a law of international spaces be developed. A treaty or international agreement regulating such places would be desirable. This would settle finally all controversies over the legal status of international airspace.

The maintenance and operation of Air Defence Identification Zones by a few states constitute a limitation upon the rights of other sovereign states to common and equal use of the airspace over the high seas. The legality of these zones set up by certain western powers is both questionable and unjustifiable. The creation and maintenance of the zones is in fact a reflection of the dominant interests of the powerful states. Similarly the maintenance of claims over sectors of Antarctica by certain states creates an unnecessary confusion as to jurisdictional rights over the airspace above those sectors. However since the nature of the legal regime governing Antarctica is that which makes it an international common, it may be suggested that the airspace over all parts of Antarctica remains free from national appropriation.

An interesting situation would however seem to arise in relation to the airspace over Antarctica. This is because it remains unclear whether the legal status of the airspace above parts of Antarctic territory is determined by the legal nature of high seas, which flows under parts of the Antarctic continent, or by the legal status of Antarctica itself. If the former is true then no exclusive jurisdiction can be claimed by any of the seven states making claims over certain sectors of Antarctica where the high seas flow under the ice. If the latter interpretation is accepted, then the airspace over Antarctic sectors already subject to claims would appear to be part of the exclusive jurisdiction of the particular claimant state. The absurd result of this would mean that airspace above parts of the high seas (even if covered by ice) would also be subject to sovereign claims. The preferred view is that the airspace over all parts of Antarctica and other international spaces is international airspace.

There is the need to revisit the right of passage of aircraft over the EEZ to bring it closer to reality. The present position which seems to be in favour of extending territorial jurisdiction and control over the EEZs airspace to coastal states would seem to be unfair particularly since the concept of innocent passage is simply non existent under international air law. The vast riches conferred on coastal states with regard to the resources of the sea including the soil and subsoil of the EEZ is enough strategic advantage and air Venices need not be created. The common pitfall into which many writers would seem to have fallen is their refusal to

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to be defined in by the coastline of the territory concerned and meridians of longtitude, which intersect

distinguish between 'exploration' and 'exploitation'. It must be asserted that at least in respect of aerial territories the distinction between exploration and exploitation is very significant.

Since the airspace is defined in relation to the earth the term international airspace does not include outer space. However even in those areas that may be said to fall under the emerging law of international spaces, it is necessary to ascertain where precisely the airspace ends in legal terms and outer space begins. For instance, in the determination of liability for accidents, it is crucial to determine where the liability was incurred and, which laws govern the incident –air law or space law.

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at the North Pole. See further Grief (1994) *op. cit.*, pp. 23- 25.

CHAPTER FIVE

5.0: SOVEREIGNTY AND TRESPASS IN TERRITORIAL AIRSPACE

While it remains true that every state has complete sovereignty over the airspace above its territory, the question frequently arises as to the standard of treatment, which may be meted out to aircraft, which enter a state's territory without its permission. Since the first incident in 1904 when Russian soldiers shot down a German balloon[1] there have been scores of such incidents some of which have threatened international peace and stability. Hundreds of lives mostly innocent have been lost in these incidents. Yet there has been no consensus in international law either in treaty or among *opinio juris* as to how exactly to deal with aerial trespass.[2]

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[1] The incident gave rise to considerable indignation, more so as it was alleged that the balloon was not naturally over Russian territory at the time. See D.H.N. Johnson, Rights in air space (Manchester: U.P., 1965) pp. 70-71. The round the world balloon attempt by Richard Branson's in 1998 brought into focus yet again the sensitive legal and political considerations involved in balloon flight over state territory. At a point the UK Prime Minister Tony Blair, former Prime Minister Sir Edward Heath, and the Foreign Office were all enlisted to try to persuade Beijing authorities to allow the balloon a passage through China. Eventually, China reluctantly agreed to allow it to continue through its airspace. China had given the balloon permission to travel through a limited portion of its airspace, south of 26 degrees latitude and north of 43 degrees. But the balloon missed the southern space by about 3 degrees, or 250 miles. The balloon travelled through a narrow corridor, which took it seven miles north of Iran, 10 miles from Russia and 60 miles from Iraq - three of the four countries to refuse the expedition permission to enter their airspace. (See Will Woodward, "China gives Branson balloon all-clear", The Guardian, 23 December (1998) p. 5) On the other hand China refused any passage for the Breitling Orbiter balloon (See Roving brief, "Breitling Orbiter balloon over Rangoon", The Observer 08 February (1998) p. 9). Whereas after frantic diplomatic exchanges involving the neutral Swiss government and the International Committee of the Red Cross, the Balloon with its crew of two was given approval to cross over Iraq and on to Iran though in Iraqi airspace illegally for 30 minutes. (Agence Presse, "Baghdad allows balloon crossing", The Guardian 02 February (1998) p. 13). US balloonist Steve Fossett, attempting the first circumnavigation of the globe, was also given permission to cross Libyan airspace. This was a remarkable feat considering the air sanctions against Libya principally championed by the US and the UK. Roving brief, "Balloonist to cross Libya", The Observer 04 January (1998) p. 9.

[2] For the purpose of this thesis a Chronology of the major Military Responses to Aerial Intrusions from 1946–2001 has been attempted. (See Table I in the Appendix). As a result of the special and continuing nature of conflicts arising from allegations of aerial trespass between Cuba and the United States of America, an attempt is also made to develop a chronology of Allegations of Cuban Airspace Violations by aircraft with US Nationality Between 1992-1996 (See Table II in the Appendix). It should be mentioned that the incidents included in the tables consist of military responses to intrusion per se and not military responses to actual military invasions. Thus, cases of aerial warfare and incidents arising from the modern problem of the institution of 'no- fly zones' are excluded. Both tables are an original attempt to present reported incidents relating to aerial trespass as gathered from academic literature, press reports, internet sources and government official releases. It is to be understood that many of the claims have been disputed by one side to the crisis or the other. While a lot of effort was made to make the table as comprehensive as possible, it is not meant to be an exhaustive account. The following sources were consulted: D.J. Harris, Cases and Materials on International Law, (1983) 185; D.J. Harris, Cases and Materials on International Law, (London: Sweet & Maxwell, 1998) 239-243; L. Gross, "Bulgaria Invokes the Connally Amendment", 56 AJIL, (1962) 357; O.J. Lissitzyn, "The Treatment of Aerial Intruders in Recent Intruders in Recent Practice and International Law", vol. 47 AJIL, (1953) p. 569-581; Williams J. Hughes, "Aerial Intrusions by Civil Airliner and the Use of

Unlike the regime of the territorial sea the law of the air does not recognise a right of innocent passage over state territory.[3] Even over the territorial sea there is no innocent passage for aircraft.[4] The reasons for this are clear enough. A state is particularly vulnerable from the air. The entire essence of sovereignty and the security of flight over state territory may be eradicated in one seemingly innocuous but illegal flight over state territory.

Nonetheless it may be suggested that the crucial factors to examine with respect to the appropriateness or inappropriateness of response to aerial trespass are as follows: (a) Was the incursion voluntary or involuntary? (b) Was the aircraft involved a civilian one or a state aircraft? (c) Was the flight over prohibited zones? (d) Was the aircraft warned that it was violating territorial airspace? (e) Was the aircraft given reasonable opportunity to cease the intrusion by flying back or to land for questioning?[5]

5.0.1: Deliberate Intrusion by State Aircraft

When unauthorised entry into foreign airspace is deliberately made, this is a clear violation of the complete and exclusive sovereignty granted to states by Article 1 of the Chicago Convention (1944). Such an act constitutes an affront on the territorial sovereignty and jurisdiction of the underlying state. Such trespass also raises the question of the extent of the right of self-defence under contemporary international law.[6] An example of such violation of airspace rights which was of great political significance occurred in the U-2 incident. On May 1, 1960 a U-2 aircraft, which is a U.S. high altitude reconnaissance aircraft, was shot down at an height of 20,000 metres above the territory of the erstwhile Soviet Union. The USSR promptly protested the flight and the US did not justify its action in terms of seeking a defence under any principle of international law. Neither was there protest at the shooting down or the

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Force", Journal of Air and Commerce, (1980) pp. 598-619; Sichno Acosta, "Violating Cuban airspace", The Guardian, Thursday 27, June 1996 10; Marian Nash Leich and Harold G. Maier, "Agora The Downing of Iran Air Flight 655", Vol. 83 AJIL, (1989) 319-41; Keesings Contemporary Archives 14359 (August 1955) See text accompanying notes 52 and 53; Keesings Contemporary Archives 29060 (June, 1978); Cuban Ministry of Foreign Affairs, Granma International, March 6 1996 1-5; Cuban Ministry of Foreign Affairs, Granma International, July 1996 pp. 1 *et passim*; Michael Binyon "'Mercy pilot' held at Port Stanley", The Times, 18 June (1998), p. 20. Richard Beeston, "Air chief has no tears over downed airliner", The Times, 24 January 1998, p. 16. *Aerial incident of 10 August 1999 (Pakistan v. India)* http://www.icj-cij.org). Michael Binyon and Ian Brodie, "US fighters intercept Russian jets", The Times, 02 July (1999) p. 19. See also sources in notes 12 and 13 *infra*.

[3] D.J. Harris *op. cit.*, p. 185.

[4] Nicholas M. Matte, "Air and Extra-Atmospheric Space", Achievements and Prospects, 1995 p. 951.

[5] *Cf.* William Hughes, *op. cit.*, p. 596.

[6] Johnson, *op. cit.*, p. 71.

subsequent trial of the pilot.[7] Indeed, after some hesitation, the United States (US) government and even President Eisenhower himself accepted responsibility for the flight. When the Soviet Union brought up the matter in the Security Council to seek redress, the only justification advanced by the US was one totally unknown to law. Its defence was that it was necessary to effect that flight for the 'free world' to protect itself against a government "well known for its expansionist activities and armed to the teeth".[8]

Unfortunately due to the politics of the cold war era when the Soviet Union sponsored a draft Security Council resolution, which would have condemned "the incursions as aggressive acts", the draft resolution was not carried because only Poland supported it.[9] Probably due to such selective inaction by the Security Council similar incidents have quite often repeated itself. Soon after the U-2 incident there was the RB 47 incident of July 1960 and in 1962 another reconnaissance flight was shot down over Cuba. Such incidents have continued up till very recently when the Cuban airforce downed two US civilian Cessna aircraft over Cuba in 1996.

Outside Cold War politics the problem of aerial intrusion and the question of permissible response to it remains a current legal problem in international relations. In response to a civil aviation complaint involving the Democratic Republic of the Congo, Rwanda and Uganda, the Council of the International Civil Aviation Organisation (ICAO) recently on March 12 1999 adopted a declaration urging all states to refrain from the use of weapons against civil aircraft in flight and to be guided by the principles, rules, Standards and Recommended Practices (SARPs) of the Convention on International Civil Aviation and its Annexes, and related aviation security conventions, for the safe and efficient development of civil aviation.[10] Between May and August 1999 several aircraft were shot out of the sky by both India and Pakistan ostensibly on charges of aerial trespass by military aircraft. Pakistan shot down two of India's Russian-built MiG fighter planes over the disputed territory of Kashmir. Wreckage from the MiG21 and MiG27 fighters fell four miles inside Pakistani territory, according to the country's military authorities, who insisted that the two planes had been shot down with surface-to-air missiles after violating Pakistani airspace. India confirmed that it had lost two aircraft during the second day of strafing raids against Muslim infiltrators in Kashmir, and declared that there would be no let-up in the use of air power in the disputed Himalayan

[7] D.J. Harris, (1998) *op. cit.*, p. 241.
[8] Statement by the U.S. Ambassador Lodgee. See Johnson *op. cit.*, p. 74.
[9] Johnson, *ibid.*, p. 74. It is not unusual for states to deny all knowledge of the offending flight. Thus, after the RB 47 Incident the US for 20 years denied all knowledge of the flight and would not even accept the dead pilots remains.

region. It emphatically denied that its aircraft had violated Pakistani airspace. India later on in August shot down a Pakistani military plane allegedly flying in Indian airspace.[11] On April 1 2001 an electronic surveillance US Navy's EP-3 plane collided mid air with a Chinese fighter jet shadowing it just off the Chinese Coast. The Chinese pilot died in the crash. The surveillance plane made an emergency landing without permission on Hainan Island at Lingshui and China detained the crew for 11 days before allowing the Americans to dismantle the plane and ship it out more than three months later after a carefully worded apology from the U.S. President George Bush. He however, maintained the position that United States would continue surveillance flights off the coast of China, despite Beijing's demand that they be halted. Here as in all such cases, truth is the first casualty of the incident.[12] The typical situation is one of accusation and denial. The country that shoots down the aircraft usually claims that the flight was intruding well into its airspace, that it was a reconnaissance flight/aircraft and that it was warned to desist, while the flag state usually pronounces a robust denial of these facts.[13]

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[10] PIO 03/99- ICAO Adopts Declaration on Unlawful Acts against Civilian Aircraft.

[11] Note India and Pakistan are the world's newest nuclear powers. David Orr & Zahid Hassan, "India Says it shot Down Pakistani Plane in Indian Airspace", The Times, August 10 (1999) p. 20.

[12] There were two main issues here. First was the right of over flight by reconnaissance aircraft over EEZs and second was the intrusion and consequential landing in China by the US aircraft. For a comprehensive report of the US version of the incident, see Sean D. Murphy, ed., "Contemporary Practice of the United States Relating to International Law: Aerial Incident off the Coast of China", Vol. 95 American Journal of International Law, No 3 (Jul., 2001), pp 633-635. For the Chinese view see China Ministry of Foreign Affairs Press Release on Solemn Position on the US Military Reconnaisance Plane Ramming into and Destroying a Chinese Military Plane (Apr., 3, 2001), available at http://www.fmprc.gov.cn/eng/9607.html. See also China Ministry of Foreign Affairs Press Release on Spokesman Zhu Bangzao Gives Full Account of the Collision Between US and Chinese Military Planes (Apr. 4, 2001) available at http://www.china-embassy.org/eng/9585.html.

[13] Indian officials said the aircraft it shot down was a French-built Pakistani naval reconnaissance plane, which was flying near India's western border with Pakistan, 5-6 kilometres (2-3 miles) inside Indian airspace in the Gujarat area. Pakistani officials said it was merely a naval patrol aircraft on a training mission and that it was shot down well inside Pakistani airspace, killing all 16 crew members aboard in a "totally unprovoked aggression". Pakistani officials also claim that the wreckage was located near the town of Badin in southern Pakistan's Sindh province. Within a week of that incident Pakistan admitted opening fire on Indian jet fighters near the border but denied firing at Indian helicopters carrying journalists as fears grew that a fresh conflict could flare. It is of course not in all cases that such allegation of aerial trespass leads to employment of military force. For example the sweeping flight through Greek Cypriot airspace made by Turkish fighter planes in August 1998, elicited no appreciable response to this infringement because Greece at that time was concentrating its efforts on joining the European Monetary Union. Turkey made the flights apparently to demonstrate its ability to destroy a sophisticated missile system to be sited in the Cypriot Paphos Airport. Again in some cases military tactics are used which fall short of actual combat. In a spectacular event that shows that old habits die hard in international relations, in July 1999 American fighters were scrambled to escort Russian bombers out of "Nato airspace" around Iceland. The alleged Russian intrusion, the first since the end of the Cold War, was as a result of Russia's biggest military exercise for nine years, involving an estimated 50,000 troops, ships from three fleets and hundreds of aircraft. American F15 fighters from the Iceland Defence Force base at Keflavik flew within feet of the Russian TU95 Bear bombers in a confrontation reminiscent of the weekly encounters before 1991. At the same time two Russian TU140 Blackjack heavy naval bombers peeled away and flew down the Norwegian coast. They turned back before Norwegian air force jets were able to intercept them. Western diplomats said that the confrontation may have been a Russian attempt to probe Western defences at a time of renewed

For instance, the view held by the Chinese government was that the act of the US

> constitutes a violation of the UN Convention on the Law of the Sea (UNCLOS), which provides, among other things, that the sovereign rights and jurisdiction of a coastal state over its Exclusive Economic Zone, particularly its right to maintain peace, security and good order in the waters of the Zone, shall all be respected and that a country shall conform to the UNCLOS and other rules of international law when exercising its freedom of the high seas.

What the Convention does provide in Article 58, which deals with rights and duties of other states in the Exclusive Economic Zone (EEZ), is that in exercising their rights and performing their duties in the EEZ, states "shall have due regard to the rights and duties of the coastal State and shall comply with the laws and regulations adopted by the coastal State" in so far as they are not incompatible with the Convention. The duty imposed on the coastal state in Article 56 is to "have due regard to the rights and duties of other States" and to act in a manner compatible with the provisions of the Convention. The pertinent question is whether the US reconnaissance flights over China's EEZ are within the 'rights and duties of other States' or put in another way, whether by conducting reconnaissance flights over China's EEZ the US was not having due regard to the rights and duties of China as a coastal state. Does it also mean that China can by virtue of Article 58 make regulations binding on other states not to conduct reconnaissance flights over its EEZ?[14] Clearly there is scope for disagreement on these issues. It is for this reason that scholars like Cooper,[15] Kish and Grief[16] have at various

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tensions in the wake of Nato's Kosovo campaign. See Zahir Hussain, Coomi Capoor and Helena Smith, "India loses two jet fighters in Kashmir attack", The Times 28 May (1999) p. 17; David Orr & Zahid Hassan, *op. cit.* p. 20; David Orr, "Pakistan opens fire on Indian jets", The Times 12 August (1999) p. 19; Helena Smith, "Athens loses taste for Cypriot missile row", The Guardian, 03 August (1998) p.11; See also James Meek, "Russians to let intruding pilots take off for home", The Guardian 17 January (1998) p. 8.

[14] It is worthy of note that the US is not yet a party to the Law of the Sea Convention (1982). The US attitude to the question whether its flights in international airspace are in violation of China's security is reflected in the words of Colin L. Powell, the US Secretary of State as follows: We understand what territorial integrity means in the concept of international law, not what some countries claim beyond what we think is appropriate. So we always fly these kinds of missions in ways that are consistent with the common understanding of international law and we will continue to do so." See Colin L. Powell, US Secretary of State, US Dep't of State Press Release on Interview on CBS "Face the Nation" (Apr. 8, 2001), available at <http://www.state.gov> See also Murphy ed., op. cit., p. 631.

[15] John Cobb Cooper noted over three decades ago; "too little consideration has been given to the legal control of flight above the seas which cover a large percentage of the earth's surface". J.C. Cooper Explorations in Aerospace Law (1968), p. 195.

[16] Grief believes that although there is a large measure of regulation in existing multilateral and bilateral agreements, as well as a body of applicable rules of customary international in certain areas of the airspace what is needed particularly for those important sectors such as the airspace over the high seas is for international codification mainly as an exercise in consolidation and codification. The relevance of this thesis is immediately recognisable in relation to the aerial incident off the coast of China. There is little doubt that in this case both China and the US have sought to exploit the grey areas relating to permissible state activity in the airspace above the high seas. With respect to aerial

times correctly called for specialised treaties, which will resolve comprehensively the question of jurisdiction over the airspace above seas and other international spaces.

The situation is not helped by the fact that there is no principle of *jus cogens* against aerial reconnaissance and espionage generally. Neither is the situation made better by the fact that there is no legal obligation to inform ICAO of non-compliance by military aircraft with international flight rules.[17] In fact it remains a common practice among states for surreptitious intelligence collection to be engaged in through varied and ingenious ways in each other's territory. Aerial espionage is of particularly desirable strategic advantage and remains a legitimate target for states. As a lawyer and Commander in the US airforce put it: "[o]ur spies are patriots. They take the risk of target country detection and punishment for espionage as a basic tenet of their trade, but the United States is under no obligation, domestic or international, to refrain from engaging in espionage."[18] While it is true that no international convention directly regulates espionage activities generally, it may be argued that the conduct of aerial espionage particularly in peacetime violates the basic principle that each sovereign state must have respect for the territorial integrity and political independence of other states.[19]

The rare combination of security, economic or ecological aspects of the airspace directly engages the national security interests, the sovereignty and the prestige of almost all countries

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reconnaissance from the EEZ Grief would appear to think that it is permissible because, "Article 58 (1) includes the whole range of activities traditionally covered by the freedom of the high seas, including reconnaissance and military exercises subject to Part V of the Convention". *Cf* Collin Powell's view *op. cit., supra* note 14. Without any express inclusion of military uses in this provision, it is obvious that China just like any state which has sufficient interest in not having aerial reconnaissance conducted on its territory even from international waters, will refuse to admit this understanding. From the perspective of international lawyers it would indeed have been desirable for the dispute to be submitted to the International Court of Justice. Nicholas Grief, Public International Law in the Airspace of the High Seas, (London: Martinus Nijhoff Publishers, 1994) p. 10 note 16; See also Nicholas Grief, Public International Law in the Airspace of the High Seas, (Thesis submitted at the University of Kent at Canterbury, 1993) p. 494.

[17] Heere, (1999) *op. cit.*, p. 78.

[18] (Commander) Roger Scott, "Territorially Intrusive Intelligence Collection and International Law", Vol. 46 The Airforce Law Review, (1999) p. 218. The United Kingdom also practised extensively the act of aerial reconnaissance especially at the height of the cold war. See Tim Jones, "Balloon Spy Flights to Russia planned by MOD", The Times, (10 Aug 1998) p. 4.

[19] On the other hand it is necessary to accept that there is some truth to such views as follows: "In an era plagued by the threat of terrorism, the proliferation of weapons of mass destruction, rogue sovereigns and new threats not previously contemplated by international law, where hostile, closed societies will not participate in international arms control efforts or confidence and security building measures, the need for intelligence is still as compelling as it was during the cold war." See *ibid.* Yugoslav troops and paramilitaries engaged in "ethnic cleansing" in Kosovo were monitored by an array of Western surveillance technology in the sky. Michael Evans, "Airborne cameras stalk death columns Balkans war: Air campaign", The Times 8 April 1999, p. 4. This issue will remain one of the divisive controversies among lawyers it can only be hoped that states realise the importance to adhere to the principles of international morality and to the true spirit and letter of the Charter of the United Nations 1945. The advantages of so doing will obliterate the need to spy on each other's territory and the need to engage in acts of aerial espionage.

of the world.[20] As a result of this most states with the apparent backing of international law are clear upon the point of deliberate intrusion. Switzerland for instance reserves the right to resist such intrusions by all available means.[21] Indeed the customary rule that states must refrain from resorting to the use of weapons against civil aircraft in flight (which is codified in Article 3(a) of the Chicago Convention (1944) does not apply to state aircraft on reconnaissance flights. Article 32 of the Paris Convention (1919) categorically provided that "no military aircraft of a contracting state shall fly over the territory of another contracting state nor land thereon without special authorisation". Thus, it becomes inescapable to come to the conclusion that necessary force (which may include military force) may be applied against state aircraft, which deliberately fly into foreign territory without permission. This is more so in relation to flights over prohibited zones.

This is probably why the US did not challenge the shooting down of the U-2 aircraft aforementioned. In fact on those occasions when the US protested the shooting down of the state aircraft it was either claimed that the plane was actually not over state territory or that it strayed there accidentally. The attitude of the erstwhile Soviet Union on the true nature of such flights is based upon the presumption that "...a plane used for military purpose will always be regarded as a reconnaissance plane".[22]

On many occasions the USSR also maintained that the intruder was fired upon by interceptors only in response to unprovoked fire from the intruding plane. In any case noting the inherent difficulties if not impossibility of determining the true nature of the intruding military aircraft even in time of peace, the mere fact of deliberate entry is usually seen as concrete proof of hostile intentions.[23]

A perusal of tables 1 and 2 in Appendix I to this work will reveal that though on some occasions trespass into aerial territory occurs inadvertently there are nearly always serious contentions as to whether trespass was deliberate or accidental.[24] The point should perhaps then be made that pilots of state aircraft particularly owe it as a duty for their own safety and in consonance with their duty under national and international laws to prevent accidental or

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[20] Christoper Jonsson, "Sphere of Flying: the Politics of International Aviation", Vol. 35 International Organisation, No 2 spring 1981, p. 274.
[21] H. Weaver, "Illusion or Reality? State Sovereignty in Outer Space", Boston Univ. Int. Law Journal, (1993) p. 211.
[22] Y. Korovin, "Aerial Espionage and International law", International Affairs (1960) pp. 49-50.
[23] See the B-29 incident (1952) (Aerial incident of October 7, 1952), *USA* v. *USSR,* (ICJ Pleadings 29); the P-2-Y "Neptune" incident of 1954 (Aerial Incident of September 4,1954, *USA v. USSR* ICJ Pleadings 19 and the RB incident of 1960.
[24] See *supra* notes 13 and 14.

mistaken trespass into foreign airspace. On the other hand, there is the presumption that the territorial state would at least issue to the intruding state aircraft an order to land for questioning or to turn back and leave territory.

In those cases of entry due to distress or *force majeure,* there is also the expectation that instructions to land must be obeyed. Thus, even though the intrusion may on occasion be 'intentional', it is legitimate if "...the probable alternatives, such as crash-landing or ditching expose the aircraft and its occupants to such unreasonably great risk that the entry must be regarded as forced by circumstance beyond the pilot's control".[25] Such an aircraft should not be shot down and the territorial sovereign may not subject its occupants to penalties or to unnecessary detention.

It appears that derogation from the rule that grants complete sovereignty to states in their airspace particularly the right to repel unwanted intrusion by military aircraft has been unwittingly created in recent practice. This stems from the enforcement of the so-called *no fly zones* enforced against Iraq in its territorial airspace. The concept is essentially a creation of the western industrialised and military powers -USA, Britain, and France. The legality of the *no fly zones* has been questioned by many legal writers particularly those from the developing states including those states which originally stood against the invasion of Kuwait by Iraq, the occurrence of which led to the Gulf war. Immediately after the United States and the allied forces liberated Kuwait, there was allegedly tremendous protest within Iraq. The Iraqi government was alleged to have responded with brutality on the Kurdish Iraqis in the North, on the Shia Muslim in the South and there were tremendous humanitarian difficulties. The United States through its major western allies then engineered the creation of these zones through a circuitous route. What it relied upon was a UN resolution, Resolution 688, which essentially demanded that Saddam Hussein must stop repressing his own people. The resolution itself interestingly enough never mentioned the creation of *no fly zones*. The position advanced by the Western powers was that essentially the best way to make good on this resolution is to deny the Iraqi government the ability to fly planes over large areas of its own country. The zones were delineated in the North in the spring of 1991and in the South in the summer of 1992.[26]

The UK Defence Committee of the House of Commons rationalises the existence of the no fly zones thus:

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[25] Lissitzyn, (1953) *op. cit.*, p. 588.

[26] Richard Haass "No Fly Zones", available at http://www.pbs.org/newshour/bb/middle_east/july-dec98/iraq_12-31.html. Visited 12 May 2001.

> ...the UK is making a valid contribution to stability in the Gulf, protecting the minority people of Iraq from Saddam Hussein and containing Iraq's ability to threaten its neighbours.... We have no doubt that UK participation in the no-fly zone operations over Iraq is justified on moral and humanitarian grounds.... We welcome in particular the Committee's recognition that military action is only ever undertaken in response to direct threats from Iraqi forces against coalition aircrew carrying out their humanitarian patrols. The Government remains satisfied that the no fly zones are legally justified as a measure to prevent a humanitarian crisis.[27]

The activity of U.S. and British aircraft in the so-called *no fly zones* has led to dozens of severe military conflicts with Iraqi air and ground forces. During the flyovers over Iraqi national territory, missile-bomb strikes have been launched at Iraqi forces sometimes at civilian targets. In December 1998 alone this allegedly resulted in 420 military casualties. Over a thousand civilians were also wounded.[28] Thus, *prima facie* derogation from state sovereignty in the airspace has been created on humanitarian grounds. However, it will appear that politics rather than humanitarian considerations account for this creation considering that no UN resolution, treaty or agreement specifically authorises the creation or maintenance of *no fly zones* over sovereign state territory.[29] In all likelihood the *no fly zones* represent yet another creation of the dominant forces that shape international legal rules.[30] In that case the

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[27] House of Commons Defence Committee Publications, Prepared 1 November 2000 Session 1999-2000 Publications on the Internet http://www.parliament.the-stationery-office.co.uk/pa/cm199900/cmselect/cmdfence/930/93004.htm; visited June 1st 2001.

[28] Factsheet on the Patrolling by U.S. And British Warplanes Of The "No-Fly Zones" In Iraq Unofficial translation from Russian (368-07-03-2001); http://www.ln.mid.ru/WEBSITE/BRP_4.NSF/e78a48070f128a7b43256999005bcbb3/fe2f643ea36b13c043256a08005183b0? Open Document visited May 15 2001.

[29] Note that the Council of Europe and the European Court of Human Rights have found Turkey responsible for carrying out the following against the Kurds "burning villages, inhuman and degrading treatment, and appalling failures to investigate allegations of ill-treatment at the hands of the security force". The history of Turkey's war against the Kurds is too extensive document here suffice to say in 1993 -94 alone 3200 Kurds were reported killed and 3500 villages destroyed. Between 1990 - 94 one million Kurds fled from the countryside to Diyarbakir. Yet the continuing situation has not warranted the creation of no fly zones to stop the unfortunate events. See Marco Ciglia, "The Myth of "No-Fly Zones", available at http://www.google.com/search?q=cache:8ee3854056a4d113:ns.cnlcontact.com/delorca/enanalyse/iq7.htm+Iraqi+no+fly+zones&hl=en ; visited May 15 2001.

[30] It is significant to note that there were similar uses of air power between the two World Wars by the British Royal Air Force (RAF) in air control operations over Somaliland, Mesopotamia, and Aden. At that time, the Royal Airforce Force used air power to enforce colonial rule, ensure unmolested travel and sanctity of trade routes, and generally maintain control among the tribes in the region. There are, however, essential differences between these operations and the concept and operations of the *no fly zones* developed at the end of the 20th century. For instance, the affected peoples of that era had no air forces, no air defences and no sovereignty. During the Falklands war in 1982, the British armed forces imposed a total exclusion zone in the airspace of their area of operations in the south Atlantic.

practice not being founded on international consent may not find usefulness beyond the particular situation it was created for.

5.0.2: Aerial Intrusion by Civil Airliners

It has been concluded both on functional and on legal grounds that the treatment of aerial intrusion by military aircraft be dealt with as distinct from non-military aircraft. However, there is an unwarranted assumption among writers on the subject that while the attitude of states toward military intruders show little consensus the attitudes toward civil airliners are uniform.[31] That is civil aircraft must not be shot at nor endangered by the security forces of the territorial state. However, in practice states react with equal seriousness to cases of trespass by civil airliners as they do when state aircraft intrude.

The reasons are clear; intrusion whether by civil or state aircraft is a violation of state sovereignty and jurisdiction. They both have adverse security implications for the territory overflown. Thus, while it is easy to maintain an intellectual distinction, it must also be realised that intruding aircraft generally spend quite a short time in flight over state territory and usually the offended state has no prior warning. Therefore, military men and persons who are not skilled in international law take decisions under pressure of time. The harm that can be done to the corporate image and security of a state by even small and privately owned aircraft is great. In 1990, just before the disintegration of the Soviet Union a small privately owned aircraft piloted by a fifteen-year-old German was deliberately flown into Moscow without permission and landed in the Kremlin Square. Though the culprit was arrested and prosecuted, the incident exposed unimaginable lapses in the Soviet defence and general state of the erstwhile USSR.

As an author convincingly put it:

> the fact that a violation of airspace or ... 'penetration' is sometimes effected as the U.S. affirms, by 'unarmed' civil aircraft, does not alter matters. Whatever category a plane formally belongs to, its character is determined by the function it performs, a plane used for military purposes will always be regarded as a reconnaissance plane, just like a

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However, this involved the application of force from all elements of military power – air, sea, and land and occurred mainly over disputed territory. Not until the end of the Gulf War in 1991 did *no fly zones* assume their expanded, modern form. See David A. Deptula "Air Exclusion Zones: An Instrument Of Engagement For A New Era", Paper delivered at 2000 Air Power Conference Aerospace Centre. Available at http://www.defence.gov.au/aerospacecentre/2000apc/Deptula.html#INTRODUCTION.

[31] Hughes *op. cit.*, pp. 600 619-20 *et. seq.*

> transport plane used as a bomber cannot expect to be treated as a commercial aircraft.[32]

Nevertheless, international law and the Chicago Convention (1944) reject the use of force against civilian aerial intruders as a primary remedy for the territorial state.[33] After the downing of a Korean Airliner flight 007 by the erstwhile Soviet Union in 1983 and the disastrous loss of 269 passengers and crew, an amendment to the Convention was adopted. This was in the form of an amendment to Article 3. The new Article 3 bis (a) provides that

> The Contracting States recognise that every State must refrain from resorting to the use of weapons against the civil aircraft in flight, and that in case of interception, the lives of persons on board and the safety of aircraft must not be endangered. This provision shall not be interpreted as modifying in any way the rights and obligations of States set forth in the Charter of the United Nations.

It is in this light that it becomes pertinent to discuss the Declaration Adopted by the Council of the International Civil Aviation Organisation at the Ninth Meeting of Its 156th Session on 10 March 1999. The Declaration repeats the preamble of the Chicago Convention (1944), which stipulates that the development of international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to the general security (Declaration 1). Furthermore, the Declaration recalls that the Assembly and the Council affirmed in their resolutions that the unlawful seizure of aircraft and other acts of unlawful interference against civil aviation, including acts aimed at the destruction of aircraft, have serious adverse effects on the safety, efficiency, and regularity of international civil aviation, endanger the lives of aircraft passengers and crew, and undermine the confidence of the peoples of the world in the safety of international civil aviation (Declaration 2). More importantly the Declaration notes that in accordance with Article 3 of the Chicago Convention, states must refrain from the use of weapons against civil aircraft in flight as being incompatible with elementary considerations of humanity (Declaration 4). States, which have not yet done, so are urged to ratify as soon as possible Article 3 of the Convention on International Civil Aviation and to comply with all the provisions of this Article (Declaration 7). Furthermore, The ICAO Council urges all states in exercising their authority under the Convention on International Civil Aviation and the aviation security conventions to be guided by the principles, rules, Standards and Recommended Practices laid down in these Conventions and in the Annexes to the Convention on International Civil Aviation.

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[32] Korovin *op. cit.*, pp. 49-50.

Certain observations must be made. The protection of civil aviation from acts of unlawful interference has been enhanced by the Tokyo Convention (1963), The Hague Convention (1970), the Montreal Convention (1971) and the 1988 Protocol Supplementary to the Montreal Convention of 1971 as well as by Annex 17 to the Convention on International Civil Aviation. However, it must be noted that these instruments do not in anyway purport to legislate on matters concerning aerial trespass. Thus, it remains an intriguing fact that the Declaration appears to rely on these treaties as a basis for prescribing that states refrain from the use of weapons against civil aircraft in flight (Declaration 5). The question of legitimate or illegitimate response to aerial trespass is different from the general problem of unlawful acts against civil aircraft. Clearly the latter problem relates to illegal acts done by persons or groups with the occasional suspicion of state sponsored terrorism, whereas the use of force against intruding airliners is an act perpetrated by sovereign states. Thus, it will not do to lump these problems together or hope to use the solutions designed for the one problem to solve the other.

Besides this it would appear that the Declaration has not gone as far as expected considering the enormity of the problem to deal with the precise issues that a state whose airspace is being violated may be expected to be guided by. It might have been expected that a specialised organisation such as the ICAO would be in a position to draw up a precise checklist of procedure a state may employ in a situation of aerial trespass. This was not done in the Declaration and it represents a lost chance to resolve the controversies in this area of the law. On the whole the Declaration may be said to have avoided the main issues and it very unfortunately reads as though the entire instrument is a preamble to something else which for political reasons the ICAO cannot or has refused to legislate on.

Therefore, the question remains as to what may a sovereign state do in response to an intruding airliner? In such an event, the territorial state normally has two lawful remedies, one or both of which may be employed at once. First, the territorial state must indicate to the airline in an appropriate and effective manner, without causing an undue degree of physical damage to the aircraft and its occupants that it is engaging in an unauthorised act. The territorial state may then require the intruder to return to its authorised position, within or outside the airspace of the state in question. It may also request that the intruder aircraft submit itself for inspection at an adequate airfield within the territory of the offended state and effectively indicated to the intruder in an appropriate manner. Secondly and usually

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[33] Hughes *op. cit.*, p. 630.

subsequently, the territorial state may deal with the infringement of its sovereignty by making appropriate protests or demands through diplomatic channels.[34]

In essence the employment of force against intruding civil airliners is seen as narrowly limited by international customary law. Hughes sees firing on such an aircraft as lawful only when three criteria are satisfied.

(1) It is necessary to effect a landing for the security of the offended territorial state;

(2) The importance of discontinuing the intrusion by firing upon the aircraft is in reasonable proportion to the danger to the territorial state arising from it; and most importantly,

(3) All other practicable means of discontinuing the intrusion have been exhausted - the aircraft has refused to comply with clear and appropriate instructions to return to authorised airspace or follow interceptors to a designated airfield adequate for the type of aircraft involved.[35]

It is difficult to disagree with this line of argument. Intruding aircraft must, therefore, obey all reasonable orders of the territorial sovereign, including orders to land, to turn back or to fly on a certain course, unless where prevented by distress or other *force majeure.* Lissitzyn further enunciates the position by stating that intruding aircraft, whether military or not, and whatever the cause of the intrusion, are generally not entitled to the special privileges and immunities customarily accorded to foreign warships. They and their occupants may be penalised by the territorial sovereign for an intrusion not privileged by mistake or distress.[36]

On the whole it must be said that there should be limits on the enforcement of the rights of the territorial state in respect of the treatment of violating aircraft at least with respect to civil unarmed aircraft. Firing upon such aircraft will often result in the loss of human life and such force should normally be exercised only in the most unavoidable instances.

There is, however, a category of intruding civil aircraft, which deserve separate discussion. These are those aircraft, which deliberately intrude into foreign airspace operated by political activists seeking to undermine the authority of the territorial regime. This situation is best

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[34] Hughes p. 61 9-620.
[35] *Ibid.* p. 620.
[36] Oliver J. Lissitzyn, "Some Legal Implications of The U-2 and RB-47 Incidents", Vol 56 American Journal of International Law, (1962) p. 135; see also Quincy Wright, "Legal Aspects of The U-2 Incident", Vol. 54 American Journal of International Law, (1960) p. 836.

typified by referring to the long-standing series of aerial incursions made by Cuban dissident groups based in the U.S. into Cuban territory with small civilian aircraft. As this research reveals (See Appendix I Table 2) there are allegations of at least 14 of these violations in the last decade alone made by small U.S. registered Cessna aircraft over a period of five years. In the latest incident occurring on February 24 1996, the Cuban airforce shot down two Cessna aircraft which had flown out of Opalocka airport in the state of Florida and moved into Cuban territorial waters five to eight miles north of Baracoa beach to the west of Havana. Cuba immediately justified its actions based on self-defence. On Monday February 26, the UN Security Council met to examine the situation created by the shooting down of the two planes and came out with a declaration which states that:

> The Security Council deeply laments the shooting down by the Cuban airforce of two civilian aircraft on February 24 1996, which seems to have resulted in the death of four persons. The Security Council recalls that in accordance with international law and in line with the provisions of Article 3A of the International Civil Aviation Convention of December 7,1944, modified by the Montreal protocol of May 19, 1984, States must refrain from employing weapons against civilian aircraft in flight and must not endanger the lives of persons on board nor the safety of aircraft. States are obliged to respect international law and norms related to human rights under all circumstances. The Security Council calls on the International Civil Aviation Organisation to make an indepth investigation of the incident.[37]

It is curious however; that the Security Council declaration makes no reference to whether the aircraft were actually in Cuban airspace by virtue of flying over its territorial sea. It is, therefore, difficult to understand whether the Security Council is applying a rule that in spite of intruding aircraft deliberately entering national airspace and having been warned of this, the territorial state must not apply force. If this is what is meant the rule will apparently reflect political undertones and the position of international law may indeed be different. In fact the position of the Cuban Ministry of Foreign Affairs is persuasive. It reads:

> We must carefully define what is a civilian aircraft. Many crimes have been committed against our country with supposedly civilian planes originating in the United States. We should recall that counter revolutionary pilots in "civilian aircraft" have been utilised to bring spies and saboteuring into our country; and even more seriously civilian aircraft have been used to carry out biological warfare. As for the investigation of the ICAO... we accept it and urge that it take into account all the antecedents and circumstances of gross provocation that we have suffered, due to the reiterated violation of our

[37] See Cuban Ministry of Foreign Affairs, "Cuba defends its Sovereignty", Granma International (March) *op. cit.*, p. 1.

airspace and the risks they entail for air navigation and our country. [38]

It is a notorious fact that the United States (i.e. the flag state of the downed aircraft) maintains an unfriendly disposition towards the Cuban government. Cuban authorities claim that the Havana Air Traffic Centre had warned the aircraft that the airspace zones to the north of the capital had been activated and of the risk the pilots were exposing themselves to. One of the crew was reported to have replied that it was clear that he could not fly within the zone but that he was going to do so nonetheless. The operators of the flights belonged to a Cuban exiled group known as "Brothers to the Rescue". Thus, while the exact facts of the February 24 1996 incident may forever remain in controversy it may be asserted that similar fact evidence avail the Cuban government.[39] As a Cuban journal put it "the practice of violations of Cuban airspace is a constant feature in the policy of aggression against Cuba perpetrated or permitted by successive U.S. governments throughout the 37 years of the Revolution".[40]

With such a catalogue of alleged violations of Cuban airspace it is difficult to appreciate Lissitzyn's counsel that in time of peace intruding aircraft whose intentions are known to the territorial sovereign to be harmless must not be attacked even if they disobey orders to land, to turn back or to fly on a certain course.[41] To justify this position he cited the killing of foreign nationals by U.S. border guards, which constituted the basis of awards by the U.S. Mexican General Claims Commission under the Convention of September 8, 1923. In this case the killed person was illegally crossing the border and the guards had no other means of stopping him. The Commission cited with approval the view that "human life may not be taken either for prevention or for repression, unless in cases of extreme necessity".[42]

It hardly needs to be mentioned that the deliberate infraction of national airspace by intruding aircraft cannot be so easily compared with that of an illegal immigrant who makes a dash across borders for asylum purposes. In the case of the last two US civilian aircraft shot down over Cuban maritime territory, it is clear that the Cuban authorities could not have been in a position to ascertain at once the reasons for the intrusion or the real nature of the aircraft.

Lissitzyn himself had correctly noted that:

The increasing speed of aircraft and the tremendous destructive power of new

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[38] *Ibid.*
[39] See further Table 1 Appendix.
[40] Cuban Ministry of Foreign Affairs, (July) *op. cit.*, p. 1.
[41] Lissitzyn, (1953) *op. cit.*, p. 587.
[42] See United Nations Reports of International Arbitral Awards, Vol. 4, (1923) pp. 119, 121-122. See also United States –Mexican General Claims Convention 1923, 4 R.I.A.A., p. 11.

> atomic and other weapons, as well as the memory of Pearl Harbour, make it impossible to impose any rigid, restrictions upon the freedom of a state to guard itself against sudden attack or hostile reconnaissance. Among the many relevant factors may be character of the intruding aircraft and the probable motives for the intrusion, the proximity of the intrusion to important installations or to areas in which armed hostilities (whether or not legally amounting to war) are being carried on, the frequency and regularity of intrusions by aircraft of a particular state and the availability of means for controlling the intruders movements.

That the Cuban authorities accept knowledge of the fact that the two civilian aircraft belong to the 'Brothers to the Rescue' is not necessarily fatal to Cuba's case. The said organisation is founded in the US in 1991 and purports to be humanitarian in nature. It dedicates itself to rescue searches to save the lives of men and women who take to sea to reach the Florida Coast in the U.S. ostensibly for political asylum. The organisation is, however, considered counter revolutionary by Cuba. Cuba has also alleged that the organisation drops subversive literature over its cities and on occasion sprays chemical and biological weapons over its crops. It is submitted that it lies squarely within the rightful exercise of state sovereignty to use force in repelling such intruding aircraft when found within national airspace whether over land territory or over the territorial sea. It is further submitted that the U.S. has an obligation under international law to prevent the operation of such flights by aircraft bearing its nationality and flying from its territory.

5.1: Summary and Conclusions

Trespass into airspace over state territory remains a very serious problem in international relations. The legal and political quagmire in which states find themselves when allegations and counter allegations are traded deserves closer attention by legal scholars. The politically charged nature of disputes over trespass in the airspace makes it impossible in many cases to determine where the fault really lies. This in turn ensures that this problem remains one of the seemingly intractable problems under international relations. There is much controversy regarding the use of force against intruding aircraft particularly in relation to civil aircraft. It is, however, clear that unlike in the territorial sea there is no right of innocent passage in the airspace over all parts of national territory. Therefore, it is advisable that in all cases the option to turn and fly back or to land for questioning at an indicated airport (or military airfield) should be communicated to all intruding aircraft (whether civilian or not) by an offended state. Where this is done the orders must be obeyed.

The use of force against intruding aircraft in cases of deliberate intrusion is a lawful activity

where the above caution has been exercised and refused. The right to self-defence, which logically inheres in the sovereignty, which an independent state, possesses, supports this position. The question of espionage in the airspace particularly from the fringes of territorial airspace must be addressed immediately by international law, as it is capable of undermining international peace and security. While international law remains silent on this issue, it might amount to naivety not to recognise that aerial reconnaissance particularly, would more often than not be interpreted as a hostile act. If the reconnaissance takes place in territorial airspace clearly this is an act of trespass and the nature of the aircraft as a spy plane aggravates the offence under national and international law. In that case there may be much utility in the common recognition by states that aerial reconnaissance should be forbidden.

The discussion relating to aerial incidents reveals that certain states are more prone to generating conflicts relating to airspace trespass between them than others have. General political hostility between these states has produced on going incidents of territorial airspace violations. Indeed although the law needs to be further developed many of the cases of intrusion into foreign airspace are the result of a deliberate policy (based on dual standards) to ignore existing international rules in favour of sheer demonstration of power or the pursuit of strategic or intelligence interests by powerful States. The imposition of *no fly zones* against the Iraqi government in its own sovereign airspace is a legal abnormality. *No fly zones* enforced against a sovereign nation particularly in peacetime and without specific UN authorisation remains a curious conception. This anomaly represents yet another creation of the dominant forces that shape international air laws. It is to be hoped that the practice not being founded on international consent and being directly in breach of international treaties including Article 1 of the Chicago Convention (1944) may not find usefulness beyond the particular situation it was created for. In any event the imposition should be brought to a speedy end.

It would appear from the reported cases of aerial intrusion into Cuban airspace by aircraft of US nationality that the violation of Cuba's airspace represents a pattern of abuse of Cuba's sovereignty by the U.S. either directly or indirectly. The UN must monitor the pattern of disputes over airspace violations in order to identify those states that tend to generate these conflicts and direct particular efforts towards the affected parties to prevent further occurrences and the removal of such threats to international peace and stability.

The question of trespass, however, does not arise in relation to outer space. This is because there is no concept of territorial outer space. There appears to be recognition under customary international law (as evidenced in the opinion of scholars) that spacecraft have a right of

passage through national airspace while ascending or descending.[43] It may be suggested that this right must be exercised *bona fide* by the launching state and that the territorial state possesses a right to impose safety restrictions. In that case it may be said that there is a right of innocent passage for spacecraft, whereas there is no corresponding right pertaining to aircraft. Furthermore there can be no right to repel aircraft movement in international airspace. This includes the airspace over international straits and the high seas. However, it must be realised that since it is within the inherent jurisdiction of every state to determine when to exercise its right to self-defence, any action taken against aircraft navigating in international airspace must be justified on other grounds and not on the basis of territorial sovereignty. The absence of agreement over the spatial demarcation boundary zone between outer space and airspace further makes the determination of the specific rules governing trespass in the airspace less effective. The day is set to arrive when a dispute over the spatial distance from land will be crucial in the determination of a dispute over airspace violation. The use of aircraft, which have spacecraft features and performance further, complicates the picture, especially with the impending advent of space tourism by private enterprises.

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[43] This is generally thought to be one of the principles of international law that sprung up quite quickly despite short and scarce practice, because a substantial and representative quantity of states support or acquiesce to the practice. Other examples include the principle of sovereignty over national airspace, the regime of the continental shelf and legal status of outer space. Jurists like Mendelson *et.al.*, however, argue that to state that the right of passage of spacecraft through airspace exists presently might be to preempt the rule. Apart from anything else, it is said to beg the question "whether (what might theoretically have been claimed to be) 'overflight' by a couple of States, but acquiesced in by many others, can properly be said to constitute 'scarce' practice".[43] Indeed it is possible to argue that this is another instance, where the convenience of the powerful states translate into law, examples of which include the principle that allows private aircrafts to benefit from use of national airspaces and the principle of aerial sovereignty before that. However, because (as we shall later come to show in this thesis), the space treaties and many relevant resolutions of the UN General Assembly are in favour of international cooperation in outer space exploration, it is arguably wiser to interpret their content *ut res magis valeat quam pereat*[43] (laws should be interpreted with a view of upholding rather than destroying them) and adopt an interpretation which makes it possible for states to secure uncomplicated launches and re-entry for their space vehicles. See M.H. Mendelson et al., "Final Report Of The Committee: Statement Of Principles Applicable To The Formation Of General Customary International Law", Committee On Formation Of Customary (General) International Law International Law Association London Conference (2000) pp. 25-26 and note 64; Available at http://www.ila-hq.org/pdf/CustomaryLaw.pdf.

CHAPTER SIX

6.0: JURISDICTION AND CONTROL IN OUTER SPACE

> Space Law has become a Reality[1]
> The matter (space law) has passed far beyond the stage of imaginative fiction.[2]

The previous chapters of this thesis demonstrated the manifestations of sovereignty, jurisdiction and control in the airspace. A central feature of the findings is that each and every state possesses absolute sovereignty and jurisdiction in its airspace, subject of course to specific rules of international law regulating the common use of the airspace for transportation. With the conquest of the final frontier (-i.e. outer space) however, there is a fundamental change in the conceptualisation of the manifestation of state powers. The over used concept of sovereignty it would appear has not risen above the bounds of the earth's airspace. In other words, it must be emphasised at this stage that it makes no sense in conventional terms to speak of sovereignty in outer space. This is because *ab initio* international legislation developed to govern outer space has been unequivocal on the prohibition of the application of state sovereignty in outer space. However, the concept of jurisdiction (*ratione instrumenti and ratione personnae*) on the other hand, applies to outer space and is recognised in the entire legal framework for regulation of man's activity wherever it occurs in the entire universe. Therefore, the remaining chapters of the thesis will focus on jurisdiction and control in outer space. Sovereignty is relevant only to the extent that activities in outer space are conducted either by sovereign nations or under the auspices of a sovereign nation in the case of corporations and international organisations. Requisite comparative and contrastive analysis will continually be made with the regime governing the airspace.

Lawyers indeed are said never to be too far behind the explorer. Thus, an elaborate web of treaties and conventions has been developed to govern man's activities relating to outer space. The thesis will, therefore, be making reference to many of them particularly the eight instruments that it may be said constitute the *corpus juris spatialis*. They are as follows:

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[1]Imre Anthony Csbaffi, , The Concept of the State Jurisdiction in International Space Law: A Study in the Development of Space Law in the United Nations, (Hague: Martinus Nijthoff, 1971), p. xvii.
[2] Parenthesis added; see W. Jenks, "International Law and Activities in Space", ICLQ, (1956) p. 99.

(a) The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water 1963[3]; (b) United Nations General Assembly Resolution 1962 (XVIII)[4]; (c) Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space (General Assembly Resolution 1962 of 13 December, (1963)); (d) Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Borders (1967)[5]; (e) Agreement on the Return of Objects launched in to Outer Space (1968)[6]; (f) Convention on International Liability for Damage caused by space Objects (1972)[7]; (g) Convention on Registration of Objects Launched into Outer Space (1975)[8]; (h) Agreement Governing the Activities of States on the Moon and other Celestial Bodies (1979).[9] Other recent instruments of relevance to the study include: the Principles Relevant to the Use of Nuclear Power in Outer Space (1992)[10] and 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 (1996).[11]

6.1: Exploitation and Use of Outer Space: Achievements and Prospects

The question that is usually raised by sceptics of space law is to ask whether outer space is of any real importance to the majority of states at present or even in the foreseeable future. Sceptics of space exploration especially those from developing states also question whether there is enough justification for the investment of colossal amounts into outer space exploration and activities.

The fact is that as opposed to the airspace the granting of air transit rights is not about the only way outer space can be exploited for economic benefits.[12] Celestial bodies including the

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[3] Also known as the Nuclear Test Ban Treaty. UNTS Vol. 480 (1963) p. 45 *et. seq.*
[4] G.A.O.R., 18th Session, Supp. 15, p. 13. (1963).
[5] Also known as the Space Treaty. 18 UST 2410, 610, U.N.T.S. 205.
[6] Also known as the Astronaut Agreement or Rescue Agreement. U.K.T.S. 56 (1969), Cmnd. 3997; (1969) 63 A.J.I.L. 382. In force 1968. 86 parties, including the five permanent members of the Security Council.
[7] Also known as the Liability Convention. U.K.T.S. 16 (1974), Cmnd. 5551; 961 U.N.T.S. 187; 10 I.L.M. 965. In force 1973. 76 parties, including the five permanent members of the Security Council.
[8] Also known as the Registration Convention. UNTS 187; 14 ILM 43; UKTS 70 (1978); In force 1976 39 parties including the five permanent members of the Security Council.
[9] Also known as the Moon Treaty or Moon Agreement. G.A. Res. 34/68, U.N. GAOR, 34th Sess. Supp. No. 46 at 77, U.N. Doc. A/34/664 (1979).
[10] A/RES/47/68 85th plenary meeting 14 December 1992.
[11] A/RES/51/122 83rd plenary meeting 13 December 1996.
[12] An instance of the possible financial benefits to which a sovereign state might put the exclusive rights over its airspace is displayed in the way Russia recently allowed commercial airlines to make use of its airspace in order to shorten flight routes. In one demonstration, in July 1998, the first commercial

moon and certain Earth - approaching asteroids, which may be accessible for exploitation in the near future, are rich in materials that would be useful for a variety of purposes on earth and in outer space.[13] Lunar surface materials are a possible future source of raw material, which could be processed in space to produce structural metals, oxygen, silicon glass and ceramic products. Lunar metals have potential for construction purposes. Titanium, which is a strong light metal that can withstand high temperatures, is in high demand for the aerospace industry and may also have applications in space construction. Processing lunar titanium may be easier (and possibly cheaper) than processing earth based titanium since titanium processing requires high temperatures, a vacuum and large quantities of energy. Lunar silicon could be used to build photovoltic systems in orbit or on the moon. Furthermore, the oxygen from lunar materials could be combined with hydrogen from the earth to make water and could also be used in making an atmosphere for workers in space.[14]

It has been scientifically concluded that most of the requirements for human activity and industry in space except water and hydrogen are available on the lunar surface.[15] Asteroids located in the belt between Mars and Jupiter are "thought to contain a rich variety of materials in sufficient quantities to 'support' a civilisation many thousand times larger than the Earth's population".[16] In fact from a technical point of view, Mars can realistically be 'colonised' by humans. Even scientists rather grimly speak of a New World on Mars, which would offer people who had no satisfactory role in society on earth opportunity to redefine their functions in a New World.[17] Of course to make a place such as Mars habitable, it has to be

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passenger flight to land at the new Hong Kong airport was a Cathay Pacific 747, which had flown non-stop from New York over the Pole. The journey took 15 1/2 hours compared with the usual 21. During the Cold War, the Russian Arctic and Far East - frontline defensive areas spiked with missile sites, naval bases and nuclear early warning stations - were forbidden zones for foreign airlines, as the Korean Airlines discussed earlier on (Chapter 5.0.2: Aerial Intrusion by Civil Airliners) found to its cost unfortunately in 1983 when one of its jumbo jets, apparently off-course, was shot down by Soviet fighters, killing 269 people. Presently a less paranoid, much poorer Russia is anxious to open up new routes and derive as much economic benefits as possible from the ownership of its airspace. With each passenger plane paying about 60 pence a mile in transit fees, Russia hopes to earn pounds 400 million a year to invest in its air-traffic control system. As Leonid Shcherbakov, head of the country's airspace allocation organisation put it: "It's just Russia's good luck to be sitting right where all the airways happen to go." See James Meek, "Arctic route set to shrink the world for air travellers", The Guardian, (09 July 1998) p.2.

[13] Kurt Anderson Baca, "Property Rights in Outer Space", Vol. 58 Journal of Air law and Commerce (1993) p. 1042.

[14] See the United States Senate Committee on Commerce Science and Transportation, 96th CONG., 2D Sess., Agreement Governing The Activities of States on the Moon and Other Celestial Bodies, Part 4, 417 Comm. Print 1980.

[15] ibid p.416.

[16] Grier C. Raclin, "From Ice to Ether: The Adoption of a Regime to Govern Resource Exploitation in Outer Space", Vol. 7 N.W. J. Int'L & Business, (1986) p.728.

[17] Swanley Schmidt & Robert Zubrin (eds), Islands in the Sky, from ANALOG, A Roadmap to the next frontier, Bold new Ideas for Colonising Space (John Wiley and Sons Publishers, 1996), p.125. See also

'terraformed' and the frigid lifeless planet will thus be changed into a wet and warm planet permitting the flourishing of life. As it is, Mars is endowed with all the necessities for the support of life and the actual development and the sustaining of a technological civilisation. Mars contains veritable oceans of water frozen into its soil as permafrost, as well as an abundance of carbon, nitrogen, hydrogen and oxygen, which indeed are valuable elements common in organic compounds. The physical aspect of Mars -its gravity, rotation rate, and axial tilt-are close enough to those of earth to be acceptable.[18] It has been noted that virtually every element of significant interest to industry is known to exist on Mars. It remains the only Planet that will accommodate large-scale green houses lit by natural sunlight. Rich in Deuterium and other minerals some writers predict that Mars will someday represent a commercially lucrative resource area.[19]

6.2: Jurisdiction and Control in Outer Space: Relevance of Property and Possession To The Higher Grounds

> "Property would in time be extended to almost every subject." (Adam Smith (1762)).[20]

With respect to the airspace as has been shown, three possibilities present themselves. (1) There can be national aircraft flying in national territory. (2) National aircraft flying in foreign territory or (3) national aircraft navigating over international territory. With respect to outer space, however, there is a central difference in that the proposition cannot be supported that national aircraft or spacecraft are navigating in 'national outer space'. That as we shall come to see shortly will be a misnomer in terms, a form of legal oxymoron. Simply put, while the airspace can form the object of property both in private municipal law and international law the same does not hold true for outer space.

It is made clear in the Outer Space Treaty (1967) and the Moon Agreement (1979), that Outer Space including the Moon and its celestial bodies shall be the province of all mankind (Article 1 Outer Space Treaty; Article 4 Moon Agreement). Treaty law also assures that "there shall be free access to all areas of celestial bodies" (Article I Outer Space Treaty (1967); Article 4 and 8 Moon Treaty 1979). Therefore, *prima facie* the moon, outer space and

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Robert Zubrin and Richard Wagner, The Case for Mars, The Plan to Settle The Red Planet and Why We Must, (The Free Press, 1996), p. 298.

[18] Schmidt and Zubrin, *ibid.*

[19] Zubrin & Wagner, *op .cit.* See also the following Authur C. Clarke, The Sands of Mars, (Aylesbury Buckinghamshire: Hunt Barnard Printing Ltd, 1951); Ray Bradbury, The Martian Chronicles, (Bantam Books, 1977).

celestial bodies are not subject to national appropriation by claim of sovereignty, by means of occupation or by other means (Article 3, Declaration (1963), Article II Outer Space Treaty (1967), Articles 11 (2) Moon Treaty (1979). It may be posited here that were it not for these crucial provisions, state activity in space exploration might have proceeded on such a scale and in such a manner as to possibly degenerate rapidly into belligerency.

Nevertheless, certain allowances are made for some forms of control in outer space. In the Moon Agreement (1979) for instance, it is provided that: "Without prejudice to the rights of other States Parties, consideration may be given to the designation of certain areas as international scientific preserves for which special protective arrangements are to be agreed" (Article 7 (3)). With the granting of such 'special protective preserves,' it may be argued that control and preclusion of intrusion is to some extent tolerated in outer space, at least as regarding lunar territories. This is also in line with the provision in Article 9 (1) of the Moon Agreement (1979), which provides that; " States Parties may establish manned and unmanned stations on the Moon". It is probably important to note that "such stations must not exceed the Area which is required for the needs of the station" and that the Secretary General of the UN must always be aware of the location and purpose of such stations. There is a danger, however, that these provisions of the Moon Agreement (1979) may be insufficient to deter states and persons who seek to introduce ownership, possession and the practice of appropriation of portions of outer space. This is particularly so since all that is required if a state creates preserves and stations is for it to 'inform' the UN Secretary General as provided in Article 7 (2) and to 'notify and report' as in Article 9 (1).

Article 11 (3) would, however, appear to remove all doubts as to the unsuitability of the practice of appropriation on the Moon or of the Moon itself. It states quite clearly that: "Neither the surface nor the sub surface of the moon nor any part thereof or natural resources in place, shall become property of any state, international inter-governmental or non-governmental organisation entity or of any natural person". In order to remove the possibilities of any constructive appropriation, Article 11 (3) states categorically that

> The placement of personnel, space vehicle, equipment, facilities stations and installations on or below the surface of the moon including structures connected to its surface or subsurface shall not create right of ownership over the surface or subsurface of the moon or any areas thereof

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[20] Report of 1762 [i.53] in R.L. Meek, D.D. Raphael *et. al.*, eds. Adam Smith V: Lectures on Jurisprudence, (Oxford: Claredon Press 1978) p. 23.

It is, thus, clear that to proceed surreptitiously to acquire territorial sovereignty on celestial bodies in space by placing equipment, machinery, stations there or through whatever ingenious means is contrary to international law. This is somewhat comparable with the regime governing the Deep Sea-Bed in that even the developed states preferred the security that a limited international regime of common ownership would offer their private and public undertakings to the hazards of a "free for all" scenario. Thus, the deep seabed has been recognised since 1970 as the "common heritage of Mankind" to be used to the benefit of all states and not only for those states with the capital and technology to exploit them.[21]

Furthermore, it should be noted that after giving "reasonable advance notice" to enable consultations and safety measures to be conducted, representatives of one state may visit on a basis of reciprocity, the space stations, installations, equipment and space vehicles of other states which are located on the moon or on a celestial body (Article XII Outer Space Treaty (1967). This of course makes for easy detection of unlawful activities and creates an atmosphere for checks and balances necessary for the maintenance of the Moon and other celestial bodies as the "province of mankind". Regrettably there is no specific scientific body within the framework of the UN that performs the duty of conducting inspections upon stations and facilities established on the moon.[22] This may be due to the enormous costs of space exploration, which largely removes it from the ambit of the activities of the UN. The need to have in place a serious and effective monitoring system on activities on the moon is becoming more necessary with the impending possibilities of private enterprise participation on a large scale in activities conducted on the Moon. It may also be in the interest of the international community that the UN actively conducts future research activities in outer

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[21] Note must be taken of the more recent significant changes that have been made to this regime at the behest of the developed states which suggests the triumph of parochial interests (discussed below chapter 8.0). See Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, Beyond The Limits of National Jurisdiction G.A. Res 2749 (XXV), December 17, 1970. (1970). (1971) 10 I.L.M. 220; See further D.J. Harris, Cases and Materials On International Law, Fifth Edition (London: Sweet & Maxwell, 1998) p. 471.

[22] Interesting comparison can be made here with the system in respect of Antarctica. Unlike the Outer Space Treaty (1967) and the Chicago Convention (1944) regulating air law, the Antarctic Treaty (1959) did not make express provisions stipulating that all objects, instruments and stations placed on the Antarctic continent (whether by a state laying claim to a sector or not) remains within the jurisdiction and ownership of the state which places them there. However, the Antarctic Treaty in Art VII (3) establishes a system of inspection which by implication indicates national authority over Antarctic stations and objects or instruments placed in them. This inspection system also indicates national authority over expeditions while under pinning the absence of national jurisdiction. According to this provision "All areas of Antarctica, including all stations, installations and equipment within those areas, and all ships and aircraft at points of discharging or embarking cargoes or personnel in Antarctica shall be open at all times to inspection by any observers designated in accordance with paragraph 1 of this Article." This regime of inspection ensures that the national or joint Antarctic expeditions and stations conform with the international regime of Antarctica.

space. In the alternative the present trend towards joint ventures into space exploration needs to be encouraged, as it will act as a bulwark against national aggrandisement.

As has been explained the absence of sovereignty in outer space is not tantamount to a total lack of jurisdiction. In any case it will be absurd to contemplate a total lack of the applicability of jurisdiction in a sphere of activity involving sovereign states. Just as state jurisdiction remains relevant in the discussion of the legal status of an aircraft in foreign airspace/ territory so also is it relevant in outer space. In fact as will later be shown the scope of the discussion of jurisdiction in outer space may be wider. At this stage of analysis, it suffices to mention that though outer space belongs to no one and cannot be legally appropriated, the state of registry of a space object retains "jurisdiction and control" over it and any personnel on it while it is in outer space or on celestial bodies. Ownership over space objects does not change because of their location, and if found outside the territory of the state of registry either on earth or anywhere in space it shall be returned to it after providing identifying data, if so requested (Article VII Outer Space Treaty (1967)). Similar provisions are contained in Articles 1, 2, 3 of the, Astronauts and Space Objects Agreement (1968); in Article 7 of the Declaration (1963) and Article 12 Moon Agreement (1979). Therefore, it is *lex lata* that states retain ownership, jurisdiction and control over objects and persons they employ for the conduct of outer space activities no matter where they may be placed in outer space. In this manner space ships are akin to aircraft in airspace but of course important distinctions exist between the two.

Contemporary rules of public international space law are based on time tested principles of law recognised by civilised nations. This necessitates respect for the continuity of ownership and control. Thus, we have the continuation of the operations of rules of jurisdiction *ratione instrumenti* to cover spacecraft and all space objects in a quasi-territorial manner, in much the same way this principle was extended to aircraft, and before then, ships. As discussed previously, aircraft possess the nationality of the state in which they are registered. Therefore, just as an aircraft belonging to state A cannot fall under the ownership of state B because it is found in the latter's airport, so also is it impossible for ownership of a space craft or space object belonging to state A to be acquired by state B just because it now lies on Mars or indeed is found within the territory of state B upon return to earth. Article 8 of the Liability Convention (1972) gives the state of registry jurisdiction over all space objects. Similarly, just as it is unthinkable for state A to claim jurisdiction over the airport or territory of state B just because its aircraft was parked there; it would be unacceptable for state B to claim ownership,

possession, control or jurisdiction over lunar territory just because its spacecraft are situated thereupon.[23]

Thus, far the study has dealt with the letters of the law. Clear as they appear to be certain legal writers have at various times chosen to take the view that it is possible to legally possess parts of outer space or appropriate the resources found therein by a state or private corporations. Writers in this group include Baca, Christol and at a time one of the leading authorities on air and space law -Professor Bin Cheng.[24] Matters are reaching a head with the advent of private speculators in lunar properties in some western states. Partly the reason for this may be the fact that the concept of sovereignty and jurisdiction has been so much linked both in their history and practice with the concepts of property, ownership and possession that it has become impossible for some to disentangle the issues in the newer territories that have come to be regulated by the law. The jurisprudence developed over the centuries, particularly the influence of Roman law on these concepts, has become so deeply entrenched into legal tradition and in the minds of lawyers and academics that to discard them is in fact repudiated with indignation. It might in fact be suggested that nothing short of the development of new interpretations or meanings of ownership and possession at least in respect of outer space would resolve the controversy.

Therefore, an epistemological visit to the terms ownership and possession is required. It also becomes necessary to subject these terms to what Twining refers to as 'high theory' and it is probably with reference to such a task that he declared that "there are some jobs for jurisprudence".[25] This is very true of the concept of ownership, as it has been described as being of both legal and social interest.[26] Dias correctly notes also, that possession is both a juridical concept and an instrument of juridical policy. Possession as a legal concept is the actual physical control of an object with the will to exercise the control for one's purposes. Although possession has to do with claims of control over material objects of rights, and a right of possessing may be an incident of ownership, it has no necessary connection with ownership.

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[23] It has been suggested that the best analogy in these respects would be found in the rules concerning ships. See Harris *op. cit.*, pp. 249, 430. See particularly *infra* Chapters 9-11.

[24] Cheng wrote: "But extra-territorial bodies such as the moon and other planets must prima facie be regarded as *res nullius* which, like the New World and the continent of Africa at one time, are susceptible of being appropriate as national territory through effective occupation." See Cheng, "From Air law to Space Law", Vol. 13 Current Legal Problems, (1960) p. 235; Bin Cheng, "The Extra-Territorial Application of International Law," Vol. 15 Current Legal Problems, (1965) pp. 143-152.

[25] W. Twining, "Some Jobs For Jurisprudence", British Journal of Law and Society, (1974) p. 149.

[26] R.W.M. Dias, Jurisprudence, Fifth Edition (London: Butterworths, 1985) p. 292.

Ownership is more than a concept of juridical policy in that it is also a social concept and an instrument of social policy. This is true, but it must be added expressly that from the position of international relations, ownership has in addition a political and capitalist role.[27] While it is clear that the term ownership has numerous senses, there is a general acceptance by jurists that ownership consists of an innumerable number of claims, liberties, powers and immunities with regard to the thing owned. Ownership is an institution that is generally recognised in all modern municipal systems as well as under the rules of public international law. Mansell *et. al.* correctly note that, " [a]lthough we often equate property with private property (an exclusive individual right), there is no reason why this should be so".[28] Indeed if ownership is to have relevance at all in certain respects as in outer space we would have to adopt a conceptualisation that does not equate exactly with private property.

The term ownership has had changing connotations through the centuries. It can be said that just as each legal system has had to develop its own concept of ownership so also has each era of the development of mankind. Nineteenth century French Civil Code conceives it as "[t]he right to enjoy and to dispose of things in the most absolute manner".[29] Jurists like Holland say; "[p]roprietary rights are extensions of the power of persons over the physical world". He explains that the essence of all such right lays not so much in the enjoyment of the thing as in the legal power of excluding others from interfering with the enjoyment of it.[30] The essential thing to note is that the significant difference in the definitions offered in legislation and academic writing through the centuries, (especially between the 17th -20th Century) is based on the fact that the older definitions do not recognise legal limitations of the owner's powers and rights of other persons other than the owner. The restrictions upon or limitations to the liberties and powers of an owner, which germinated in the past and flowered in the last century is, bound to reach fruition in the 21st century. We might then be permitted to say that ownership just like its grander cousin sovereignty is receding from its absolute connotation. Therefore, it is preferred to hold as Salmond did that; "[t]hat which a man owns is in all cases a right. When as is often the case we speak of the ownership of a particular object, this is merely a figure of speech. To own a piece of land means in truth to own a particular kind of right in the land, namely the fee simple".[31] As to the so-called 'right of ownership', Anglo

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[27] Social reformers particularly those of Marxist-Leninist leanings have been at pains to explain the evils that the concept of ownership has been put in capitalist systems both at the national and international levels. See Dias, ib.id. p. 301: Renner, Institutions of Private Law and Their Social Functions, El. Kahn Freund (ed.) (1949).

[28] Wade Mansell, Belinda Meteyard, Alan Thomson, A Critical Introduction to Law, (London, Cavendish, 1995) p. 49.

[29] Article 544, French Civil Code (1804).

[30] Holland, Jurisprudence 13th ed. (Oxford : Clarendon Press, 1924) p. 193.

[31] J.W. Salmond, Jurisprudence, first edn. (London: 1902) Section 871 p. 268.

American juristic thinking regards it as a bundle of rights in the stricter sense. This includes powers, liberties and privileges, rather than a comprehensive right of absolute enjoyment and power of disposal, subject to restrictions imposed by law and rights granted by others.[32]

In all cases, however, the exact value of any instance of ownership will be affected by the extent of the advantages conferred and derivable over the subject matter. Thus, Dias counsels that we should speak in terms of a 'right of ownership' as distinct from a collection of jural relations.[33] Salmond on his part states that ownership in its most comprehensive signification denotes the relation between a person and any right that is vested in him. That which a man owns in this sense is in all cases a right.[34] Indeed ownership is needed to give effect to the idea of 'mine' and 'not mine' or 'thine'. Thus, a man by himself on a desert island has no need of it. It is when at least one other person joins him that it becomes necessary to distinguish between those things that are his and those that are not his. It is only then also that it is important to determine what he may do with his things, so as not to interfere with his companion.[35] By the same token if the notion of statehood and territory did not exist in international law, then exclusive territorial ownership of the airspace would not have been developed in the 20th century. The question, however, is given the natural progression in the recognition of ownership rights (first over national landed territory and then national airspace), why are the concepts of property, ownership and possession not introduced in their normal senses to outer space?

To tackle this question it is relevant to consider the interesting submissions and analogies given by Adam Smith in his lectures on jurisprudence in apparent defence of property particularly by occupation. He wrote that there are four distinct states which mankind passed through. The first was "the Age of Hunters", the second the "Age of Shepherds", thirdly the Age of Agriculture, fourthly, the Age of Commerce. Moving from this premise he sought to develop a justification for occupation, that is the bare possession of a subject such as territory and the material benefits therefrom as a signification of the exclusive right to the subject so acquired.

He posed the pertinent question: "How it is that a man by pulling an apple should be imagined to have a right to that apple and a power of excluding all others from it- and that an injury

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[32] Roscoe Pound, Jurisprudence, Vol. II Part 3 (Minnesota: West Publishing Co. 1959) pp. 125-126.
[33] Dias *op. cit.*, p. 292.
[34] Salmond, Jurisprudence (7th Edition) p. 277.

[35] Dias *op. cit.*, p. 297.

should be conceived to be done when such a subject is taken from the possessor?"[36] To help grapple with this enquiry Adam Smith refers to "five causes from whence property may have its occasion". He lists and explains them as follows:

> Occupation, by which we get anything into our power that was not the property of another before-2dly, (sic) Tradition by which property is voluntarily transferred from one to another. 3dly (sic) Accession, by which the property of any part that adheres to a subject and seems to be of small consequences as compared to it, or to be a part of it, goes to the proprietor of the principal as the milk or young of beasts-4thly, Prescription or Usucapio, by which a thing that has been for along time out of the owners possession and in the possession of another, passes in right to the latter- 5thly, Succession, by which the nearest of kin or the testamentary heir has a right of property to what was left him by the testator- of these in order.[37]

This however, does not provide adequate explanation in answer to the question posed by Adam Smith himself. Occupation, accession, prescription and succession may at best explain why others respect ownership over say the apple and do not in themselves justify the right over the apple. What really gives the right over the apple it may be suggested is acceptance. Where there is no acceptance by others then a right does not exist or would have to be proved by extraneous means. Thus, when a society or even a community of states do not recognise or accept ownership over an object or thing, ownership over it becomes impossible.

This classically represented is the basis of western conceptualisation of property, ownership and possession. It must be added that these concepts have also formed part of the received legal system in most colonial and subjugated societies, which have at some point in time fallen under western domination. So much so that property has become law and law has become property in some respects. Jeremy Bentham captured this classically when he stated that property and the law are born together.[38] In effect up to the latter part of the 20th Century wherever the activities of western civilisation are carried out and in whatever ways, as long as there is a need to develop a body of laws to govern that area, experience has shown that the operation of the concept of property and possession has been carefully set up. Mansell *et. al.* aptly sum up this reality by noting that; so central is the idea to our comprehension of the world and to our reality that often to suggest that private property is not natural is to invite incredulity.[39] It is, therefore, not surprising that attempts have been made by some scholars, especially those from the space faring states to reintroduce the common notions of property and possession into outer space exploration. In fact Sir Frederick Pollock considers that the

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[36] Report of 1762-3 [i.27,i.32-i.38] in Meek *et al.*, *op. cit.*, pp. 14, 16-17.
[37] *Ibid.*, pp. 13-14; *Cf.* our discussions *supra* in Chapter 2.0.1: The Principle of Territorial Jurisdiction.
[38] Quoted in K. Gray, Elements of Land Law (London: Butterworths (1987).

common law abhors vacant property and "the law must needs reduce the properties of all goods to some men".[40] It must be pointed out that there is great danger in carelessly dismissing these arguments or in simply discountenancing them without carefully repudiating all attempts (no matter how small) to subject outer space or the celestial bodies therein to ownership regimes.

As has already been noted in our discussions of jurisdiction over international airspace, the appearance of many developing countries on the international scene from the last half of the 20th century has led to the recognition of certain territories as international commons. This development introduces much strain for the prevailing western theories and connections established between the concepts of ownership, possession and *laissez fairez* traditions. Developing countries constitute the majority of states and they are the most vulnerable to any adverse consequences in economic and geophysical terms as a result of outer space exploration. This puts the onus on them to be eternally vigilant regarding any threats towards sabotaging the existing legal status of outer space. The more the benefits of outer space exploration that advances in technology open up, the more there will be threats to the rules governing outer space exploration. There would also be increasing pressures to amend the existing rules of space law. At the very least immense intellectual effort will be exerted towards developing highly innovative interpretations of existing rules with a view to recognising indiscriminate appropriation of resources for private use and profit.

The historic role of the use of the concepts of ownership and possession to secure hegemonic interests by states is a pointer towards possible future trends. The express recognition of ownership over particular things and the withdrawal of recognition in it have been deftly used as a socio-political tool especially in securing hegemonic interests by the leading technological and industrial powers particularly since the industrial revolution.

If we take the concept of slave ownership as an example it would be noted that many countries including the present western industrial powers actively recognised and promoted the abominable use of slave labour. Indeed it may with some credibility be asserted that slave labour was the engine that fired economic prosperity and the industrial revolution in several western states. Though it is generally accepted as being a gross simplification of the matter, the theory persists that eventually the leading western states realised that slave trade and ownership in human beings had been exploited to its fullest by their own economies and that its continuance would be ultimately subversive of economic prosperity. Recognition of the

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[39] Mansell *et. al.*, *op. cit.*, p. 49.

right of property in human beings was thereafter withdrawn. Thinkers like Adam Smith stated that "the land can never be cultivated to the best advantage by slaves, the work which is done by slaves always coming dearer than that which is done by free men."[41] With time slavery was abolished in international law and it became illegal for any state to engage in slave trade.[42]

Of course, an enquiry into the inglorious history, causes and effects of slavery are beyond the confines of our study and may indeed be unnecessary. However, the example of slavery used above, serves as an interesting example of how international law as an aspect of international relations serves as a tool to legitimise or render illegitimate ownership in certain things. There are also other examples of how technologically developed states dictate in accordance with national interests the legal ownership in property. As was pointed out earlier in our study, the airspace was initially held to be free for all nations. This position rapidly changed in accordance with military expediencies after the First World War in conformity with western interests. At the inception of the space age, the ideological divide between the main space powers in the cold war era helped to ensure the legal regime of common ownership. However, in the increasingly unipolar world of today there are disturbing indications showing that the few space-powers left may seek to import into space law the concept of ownership and possession over space based resources in line with unbridled capitalist orientation. This is not to suggest that new entrants to outer space exploration from among the developing countries may not in the future equally pose a threat to existing egalitarian principles found in space law.

So far the thesis has highlighted the predominance of the western interpretations of the concepts of ownership and possession and pointed out the possibility of them expanding into outer space. It must be added that by no means can it be said that there are no opposing or different conceptualisations of the terms under review. Indeed there are other constructs equally valid in logic and utility, which are in opposition to the western understanding of

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[40] Quoted in Pound *op. cit.*, p.149.
[41] Adam Smith quoted in Meek *et al. op. cit.*, p. 579.

[42] This was achieved both as a matter of customary law and as general principles common to major legal systems. Slavery is also outlawed by the constitution of virtually all states A convention to outlaw Slavery was concluded in 1926, and one on forced labor in 1930. Note also the following treaties. The Universal Declaration of Human Rights (G.A. Resolution 217A (III), G.A.O.R., 3rd Sess., Part 1, Resns, p.71.) Article 4: "Everyone has the right of life, liberty and security of person." The International Covenant on Civil and Political Rights (1966) (U.N.T.S. 171; U.K.T.S. 6 (1977), Cmnd. 6702;) Article 8: "No one shall be held in slavery and the slave-trade in all their forms shall be prohibited." The LOSC (1982) Article 99: "Every State shall take effective measures to prevent and punish the transport of slaves in ships...Any slave taking refuge on board any ship shall *ipso facto* be free."

ownership and possession. In some societies there is no need to define ownership in relation to land on earth at all, not to mention the possibility of seeking to extend its application into space. Such a proposition would be so utterly bizarre in conception as to be laughable in most African societies.[43]

Mansell *et. al.* gave an insightful discussion about the offer made by Washington to an American Indian Chief Seattle, in 1854 for the purchase of large tracts of ancestral land peopled by the Indians. The reported reply given by the Indian statesman exposes crucial differences about the conceptualisation of the terms ownership and possession among different societies especially over what may be regarded as commons in many native communities. He stated in essence:

> How can you buy or sell the sky, the warmth of the land? The idea is strange to us. If we do not own the freshness of the air and the sparkle of the water, how can you buy them? ... We know that the white man does not understand our ways... He treats his mother, the earth, and his brother, the sky as things to be bought, plundered, sold like sheep or bright beads. His appetite will devour the earth and leave behind only a desert.... Whatever befalls the earth befalls the sons of the earth...This we know. The earth does not belong to man; man belongs to the earth. This we know.[44]

Thinkers like Jean Jacque Rousseau have also captured the ultimate undesirability of unbridled expansion of the institution of ownership over lands and territories. He wrote:

> The man who having enclosed a piece of ground bethought himself as saying 'This is mine' and found people simple enough to believe him was the real founder of civil society. From how many crimes, wars, murders; from how many horrors and misfortunes might not anyone have saved mankind by pulling up the stakes or filling up the ditch and crying to his fellows "Beware

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[43] That is not to say these societies are incapable of developing or operating sophisticated legal constructs. The concepts of *res nullius* and *res communis* also exist in traditional African law. Taslim Elias, rightly pointed this out, reminding us that: "When discussing the corporate nature of land holding in Africa and particularly the chief's role of allocator and reversionary on behalf of the land group, it is not often realised that from the earliest time, this apparently hide bound system has allowed for right of individuals acquisition of any part of the virgin bush. This means that it is entirely his to do with as he pleases to sell or lease or even pledge, without any family restriction or inhibition. But his children inherit such individually owned land as family property, possessing all the characteristics of customary tenure unless he disposes of it otherwise in his own life time or by Will." Under customary and Islamic law the categories of land acquired for the use of the corporate unit such as kingdoms and the ceremonial land coincided to some extent with the concept of *res communis* in international law. Thus, as will later come to be seen the position of African countries and some other developing states in relation to Antarctica and other international territories, is not based on any ignorance or unfamiliarity with basic legal concepts. The point is that their shared legal culture cannot comprehend why ownership should be claimed over resources that are so obviously the common heritage of all. See further, T. Elias, British Colonial Law, (London: 1962) pp. 235-237.

[44] See quote in Mansell *et.al.* at p. 47. It must be added that this speech has a dubious provenance and may be no more than of anecdotal importance.

> of listening to this impostor! You are undone if you once forget that the fruit of the earth belongs to us all and the earth to nobody.[45]

It is probably in deference to such views and to forestall a repeat of the certain horrors and conflicts that would occur if ownership and possession were given their free reign in outer space activities, that the treaty rules on space law were drafted and enacted into legislation. Indeed we may add as an adjunct to Chief Seattle's view that outer space like the earth should belong to no man but that man belongs to the universe.

Lastly, we must note that there is much truth in the statement that the methods by which property is acquired will depend upon the state or age each society is in at any time.[46] Returning to Adam Smith's analysis regarding the distinct stages which mankind has progressed through -i.e.: The age of the hunters, age of shepherds, age of agriculture and age of commerce, the question that suggests itself is what age are we now and what effect should that have on the notion of property? It may be suggested that since 1957 when the first human was placed in space, we have entered the space age. This of course cannot but have had an impact on the concepts of ownership. Hence we have the abolition of national ownership and possession in outer space. As has been argued earlier where there is no acceptance by the majority of ownership or a right to possess there is no right to ownership. The will of the international community as will soon be seen is not to recognise ownership over outer space. It may, thus, be suggested that in place of ownership and possession in outer space the best a state can be said to have is a *license* to conduct activities in space. This is not necessarily a defeat of national sovereignty nor is it an unfortunate disregard for the right to ownership over

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[45] Mansel *op. cit.*, p.47; *Cf.* C.B. Macpherson's treatment of Locke's theory of property right, which is, based upon the justification of a natural individual right to property. 'The great and chief end therefore, of Men's uniting into Commonwealths, and putting themselves under Government, is the *Preservation of their Property*'. Even Locke began by accepting as the dictate of natural reason and the scripture, that the earth and its fruits were originally given to mankind in common. His thesis, however, is that all these 'being given for the use of men there must of necessity be a means to appropriate them someway or the other before they can be of any use, or at all beneficial to any particular man'. Central to Locke's general political theory of appropriation and as it is probably believed by some today is the theory that private appropriation of property actually increases the amount that is left to others and that somehow appropriation by the well to do will necessarily translate to better living for others. Clearly there is room for debate as to the relevance of this theory to the fortunes of states in the international system. In the world today, it is difficult to see the benefits of the richest states' productive capacity or material successes on the least developed nations. Hence it is difficult to appreciate how this premise can serve as a reason for developing states to acquiesce to uncontrolled access to the mineral resources that may exist outer space. Other political philosophers like Harrington have argued that accumulation is honourable and respectable and that estates are got by industry, not by 'covetousness and ambition'. Without prejudice to the correctness of this view in relation to individual societies, it is arguable that modern day theorists still need to engage in enquiry into the desirability of regulating the ownership over certain resources or resource areas which are by their very nature of international concern. See C.B. Macpherson, The Political Theory of Possessive Individualism Hobbes to Locke, (London: Oxford University Press, 1975) pp. 199-202.

[46] Report of 1762-3 [i.53] in Meek *et. al.*, *op. cit.*, p. 14.

conquered, discovered or acquired *res,* which has existed over centuries. Even *laissez faire* advocates like Smith who have argued that in time property would be extended to every conceivable subject readily admit that "yet there are some things which must continue common by the rules of equity".[47] By virtue of this reasoning it is also impossible legally for individuals or corporate bodies to create ownership over outer space or celestial bodies.

6.3: Summary and Conclusions

The treaties, which have been developed and adopted so far to govern outer space and its resources, are impressive both in their scope as well as in number. These treaties are the commendable creations of the United Nations particularly the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS). It must be said that due to the fast changing nature of developments in research and outer space activities it is pertinent that further elaboration of the law is needed on a continuing basis and must be achieved in the coming years. The crucial nature of the task ahead of the UN in this field is attested to by the present and future possibilities for the derivation of valuable natural resources in outer space particularly on the moon and other celestial bodies.

While national sovereignty and exclusive jurisdiction can be exercised over the airspace relating to all parts of national territory, sovereignty is completely inapplicable to outer space and its celestial bodies. Certain jurisdictional competencies are, however, exercisable in outer space in relation to scientific stations, instrumentalities and personnel. Central to the discussion of the application of jurisdiction and control in outer space are the concepts of ownership and possession. It is important that lawyers and writers on the subject come to an agreement that contemporary space law as expressed in the treaties gives very limited scope if any at all for the application of these concepts in relation to outer space based resources.

There is presently no adequate and effective monitoring system on activities that take place on the moon and other celestial bodies. The present regime, which requires states active in space research to report on their activities, may have to be backed up by a system of independent observation. This may be in the form of actual visits to *locus* where possible or by participation in all major space activities by internationally assembled teams of scientists. This would enable the entire world to ascertain that nothing prohibited (including commercial mining or exploitation, dangerous experiments and space militarisation) takes place within space stations or on celestial bodies. These recommendations are becoming more necessary

[47] *Ibid.*,

with the impending possibilities of private enterprise participation on a large scale in activities conducted in outer space particularly on the Moon. It may also be in the interest of the international community that the UN actively conducts future research activities in outer space. In the alternative the present trend towards joint ventures into space exploration needs to be encouraged, as it will act as a bulwark against national aggrandisement. In any case it is necessary to put in place an effective system by which all space activities would have to be approved by the UN from the planning stages where possible to completion. Without these policy changes it may become impossible to stem the unfortunate push towards private aggrandisement of outer space based resources for the benefit of those states and persons who already possess the largest share of the resources that are based on earth.

Neither direct occupation nor constructive appropriation in any imaginable way can confer ownership over tracts of outer space, portions of celestial bodies or the resources based therein. In like manner, other traditional roots of title conferring ownership and right to possess such as prescription, accession and conquest are irrelevant in relation to outer space. Thus, such developments as witnessed in some western states where tracts of Lunar territory or plots of land based on celestial bodies are being sold by private enterprises as chattel are fruitless efforts, or at best mere flights of fancy without any hope at all of translating into legal ownership and possession in the present or in the future. Similarly all registries of 'lunar property' are baseless, null, void and of no effect whatsoever.[48]

An epistemological enquiry to the concepts of ownership and possession reveals that the concepts have been used as tool for the legitimisation of hegemonic interests throughout history. In reference to state ownership or sovereignty over super incumbent airspace, there need not be any form of overt effective occupation. Possessory rights reside implicitly in statehood. Thus, the correct airspace ownership is delimited *ratione loci* in respect of the space above national territories and not *ratione materiae* in respect of the air, which may at any given time, be filling this space. The current attempt towards introducing these concepts in their municipal senses to outer space comes too late in the day to effect a change in the fundamental legal status of outer space as the 'province of all mankind'. Presently, therefore,

[48] Note that such unsupportable claims have emanated from diverse sources. Two Yemeni citizens in 1997 filed a lawsuit against the United States National Aeronautics and Space Administration (NASA) for trespassing on the planet Mars, over which they claim sovereignty. Mustafa Khalil and Abdullah al-Amri claimed that they received Mars as an inheritance from ancient ancestors, and that any landing on the planet should, therefore, be subject to prior notification and permission. Papers were filed with Yemen's prosecutor-general which the men say prove their claim, and they sought injunctions from the Yemeni judiciary and the assistance of the government to force the US government to stop the current mission to Mars *"until justice has had its say."* See Clive Schofield ed., "Yemen-Outer Space: Law

the only sense in which property has any relation to outer space is in the retention of right to ownership and possession over personnel and instrumentalities used in outer space exploration. The propertisation of outer space resources would surely lead to exploitation along the same lines existing on earth and experience has shown that this would invariably lead to serious pollution. Furthermore in an era when efforts are being geared towards a new economic order that takes into account the right to development of all states particularly the developing states allowing space exploitation and the propertisation of outer space will further exclude the poor states and threaten their economy if cheap and abundant resources are brought in from outer space at the present time. It is, therefore, the duty of all scholars of space law and indeed all states particularly the developing states to safeguard the non-applicability of national and private ownership over outer space and the resources based therein pending the development of the proposed international regime for exploitation. Until this equitable regime is in place any unilateral commercial exploitation by contracting parties remain illegal.

Suit over Mars 'Tresspass'", Vol. 5 International Boundary Unit Boundary and Security Bulletin, No. 3 (1997) p. 27.

CHAPTER SEVEN

7.0: LEGALITY OF THE COMMON HERITAGE OF MANKIND PRINCIPLE IN SPACE LAW.

This thesis has considered the application of the concepts of ownership and possession to outer space. The fundamental differences those terms connote with reference to other forms of territory such as in national airspace and other landed territory has also been noted. The central summation of the tentative conclusions is that those terms have no relevance with respect to outer space activities. It was, thus, argued that the term *license* should be used to express a state's right to engage in outer space activities and to explain any form of exclusive use of territory or resources that are based outer space. What remains to be considered is the exact legal regime that governs outer space activities. In other words it is necessary to discuss the legality of the formula developed to govern the common ownership of outer space i.e. the common heritage of mankind principle[1].

The term common heritage of mankind is one that manages to appear both commonsensical and obscure at the same time. In reality it lends itself to a myriad of possible interpretations. Consequently there is a situation where both proponents as well as adversaries of commercial space activities use the term to advance their standpoints.[2] Analogies of this principle can be found in the legal regime governing virtually all the common spaces. Therefore, it is correct to note that "the common heritage principle has its main impact with respect to the establishment of an international administration for areas open to the use of all states (international commons)".[3] Impetuses for the extension of this principle into outer space would, however, appear to have come from analogies presented in the law of the sea. Though some writers find traces of the contemporary idea of the CHM in the thinking of Francisco de Vitoria[4] and even earlier St. Thomas Aquinas,[5] the more popular opinion is that the CHM principle may have been introduced to the law of the sea as a result of a speech made by

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[1] To be referred to as the CHM Principle

[2] Traa-Engelman, Commercial Utilization of Outer Space: Law and Practice, (London: Martinus Nijhoff Publishers, 1993) p. 27.

[3] Rudiger Wolfrum, "Common Heritage of Mankind", in Rudolf Bernhardt, Max Planck Institute for Comparative Law, Encyclopedia of Public International Law, (Netherlands: Elsevier Science Publishing Company (1989). p. 68.

[4] Sylvia Maureen Williams, "The Law of Outer Space and Natural Resources", 36 ICLQ (1987) p. 144.

[5] *Ibid*; see also. Juan A. Travieso, "El Patrimonio Comun de la Humanidad en el Nuevo Orden International", Vol. 2 Revista del Colegio de Abogados de Buernos Aires (1981)

Ambassador Parado of Malta to the United Nations General Assembly (UNGA) on the future of the resources of the high seas in constituting the 'common heritage of mankind'.[6]

The principle consequently received recognition in the UN Declaration of Principles Governing the Seabed and the Ocean Floor, and the Subsoil Thereof, Beyond the Limits of National Jurisdiction.[7] By the time of the completion of the UNCLOS III in 1982, it was incorporated in Article 136 of the Law of the Sea Convention that: "the Area and its resources are the common heritage of Mankind". However, it must be admitted that even in the law of the sea the exact legal effect of this principle is subject to much debate.

In relation to Space Law the CHM principle continues to be a subject of intense controversy pitting two forces against each other. As have been pointed out the divide is between the developing states and the developed space faring states. Most of the former are presently incapable of directly reaping the benefits of space exploration, and most of the latter are pushing aggressively for a favourable regime towards the commercialisation of space activities including extensive mining and appropriation rights). Indeed it is right to say that the concept of the Common Heritage of Mankind and its application still keeps the world community divided.[8] Opponents of the concept have ceaselessly attacked its legal validity from the time it was introduced in the law of the sea for predominantly the same reasons that it is today contested in relation to the law governing outer space activities. The chief reason is the incompatibility of the concept with unbridled capitalist exploitation of minerals and resources for private ends in a resource rich zone. That is those states that possess the means to exploit resources in remote places do not see any reason why the spoils should be shared with other states that do not.

Many jurists predominantly of western inclination have criticised any possible suggestion that the phrase expresses a legal concept. This is a very clever approach because once the legal validity in concrete terms has been successfully undermined there exists no need to respect any restrictions on the exercise of property rights. A member of this school of thought argues forcefully but not convincingly that:

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[6] UNGA Official Records, 22nd Session, Agenda Item 92 (2), Doc. A/6695, 18 August 1967. Article 1 states that: "The sea-bed and ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction (hereinafter referred to as the area), as well as the resources of the area, are the common heritage of mankind".

[7] Reprinted in International Legal Materials, 220 (1971) Article 1. For an illustration of the application of the principle to the legal delimitation of the sea into zones see diagram in Appendix II developed by the author contained in Gbenga Oduntan, Sovereignty, Jurisdiction and the Delimitation of Maritime Zones in International Law, (Lagos: Dissertation submitted at the faculty of Law Lagos State University, 1996) Appendix II.

> One caution lawyers, diplomats and statesmen should observe is to avoid trying to treat layman's language as if it were formulated in terms of technical legal concepts...on the other hand, the phrase, common heritage of mankind, a layman's formula if ever there was one should be given the greatest respect, while it should not, indeed cannot be viewed as a prescription, it can be accepted as a kind of policy hortatory message, a kind of policy directive...[9]

In similar terms Gorove insists that; "common heritage of mankind no matter how well motivated, in a legally binding document carries no clear judicial connotation but belongs to the realm of politics, philosophy or morality and not law".[10]

It, however, appears that on the face of it there is nothing really confusing about the CHM principle. It can also be doubted that the view would ever be popular that outer space and the celestial bodies therein should be appropriated as national territory. The real heart of the dispute is whether or not the CHM principle will be able to accommodate an international regime based on commercial principles. That is whether there is a possibility of exclusive rights such as the age-old 'miners right' as argued by M.L. Smith.[11]

To begin with it must be noted that the common heritage principle is fast becoming part of customary international law. It constitutes a distinct basic principle providing general but not specific legal obligations with respect to the utilisation of areas beyond national jurisdiction. It inherently conflicts with the principle of sovereignty since it operates from the basis of regarding an environment as 'international public utility' requiring the obligation to co-operate.[12] The CHM principle was first introduced to cover outer space by the words contained in Article 1 of the Declaration of Legal Principles (1962).

By the time the Space Treaty (1967) was drafted the resolve of states to render outer space a commons for all humanity had deepened. This led to the formulation of another interesting phraseology. In the discussion of the drafting of Article 1 of the Space Treaty (1967) the choice was between the terms 'province of mankind' and 'common heritage'. Eventually the

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[8] Engelman *op. cit.*, p.52.
[9] L. Goldie, "A General International Law Doctrine for Seabed Regimes", Vol. 7 Int'l Lawyer, (1973) pp. 796, 819.
[10] Gorove, "The Concept of Common Heritage of Mankind a Political, Moral or Legal Innovation", Vol. 9 San Diego, (1996). For further positions stating the alleged indeterminacy of the CHM principle see also Williams, *op. cit.*, p. 144 and Joynes, "Legal Implications of the Common Heritage of Mankind", Vol. 35 ICLQ, (1986) p. 190.
[11] See M.L. Smith,"The Commercial Exploitation of Mineral Resources in Outer Space", Space Law View of the Future, (Deventer: Kluwer Law and Taxation Publishers, 1988) pp. 49-55.
[12] See Wolfrum, *op. cit.*, p.68; see also Said Mahmoudi, The Law of Deep Sea -Bed Mining, (Stockholm: Almkvist & Wiksell International, 1987) *et. seq.*

former phraseology was adopted because it was thought to reflect more closely the principles of the freedom of outer space and the prohibition of appropriation. However, it must be said that introduction of the newer phrase ought not to lead to any confusion nor does this prove that these phraseologies are mere declarations of intention as some writers have mischievously suggested.

Eventually, clear reference to this term was rendered in Article 11 (1) of the Moon Agreement (1979). It reads that: "The moon and its natural resources are the common heritage of mankind". In addition to this, Article 4 (1) of the Moon Agreement combines the two terms in the following manner: "The exploration and use of the moon shall be the province of all mankind and shall be carried out for the benefit and in the interests of all countries irrespective of their degree of economic or scientific development".

It would, therefore, appear that as used in the Moon Agreement (1979) both terms emphasise different things although they are geared towards achieving the same noble objective. Article 4 (1) emphasises the co-operation of states parties in all their undertakings concerning the moon and other celestial bodies; on the other hand Article 11 coupled with Article 5 in particular provide the CHM Principle with legal teeth.[13]

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[13] Article 5 reads as follows; States Parties shall inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of their activities concerned with the exploration and use of the moon. Information on the time, purposes, location, orbital parameters and duration shall be given in respect of each mission to the moon as soon as possible after launching, while information on the results of each mission, including scientific results shall be furnished upon completion of the mission, including scientific results, shall be furnished upon completion of the mission. In the case of a mission lasting more than sixty days, information on conduct of the mission, including any scientific results shall be given periodically at thirty days' interval. For missions lasting more than six months, only significant additions to such information need be reported thereafter. (2). If a State Party becomes aware that another State party plans to operate simultaneously in the same area of or in the same orbit around or trajectory to or around the moon, it shall promptly inform the other State of the timing of and plans for its own operations. 3. In carrying out activities under this Agreement, States Parties shall promptly inform the Secretary-General, as well as the public and the international scientific community, of any phenomena they discover in outer space, including the moon, could endanger human life or health, as well as of any indication of organic life. A question that may immediately suggest itself is -why did the US accept this? A possible answer would be that up till about two decades ago the US policy regarding outer space matters was much less concentrated on commercial aims and more in tune with the realisation that outer space matters are inherently the concern of all states and peoples of the earth. In a piece of very interesting domestic legislation on Extraterrestrial Exposure- (Title 14, Section 1211 of the Code of Federal Regulations,) wherein the US took it upon itself to establish in its space operations: (a) that it is NASA policy, responsibility and authority to guard the Earth against any harmful contamination or adverse changes in its environment resulting from personnel, spacecraft and other property returning to the Earth after landing on or coming within the atmospheric envelope of a celestial body; and (b) other security requirements, restrictions and safeguards that are necessary in the interest of national security. This law makes it mandatory for a quarantine order of indeterminate period, to be issued upon all persons who have experienced extraterrestrial exposure by touching directly or indirectly extraterrestrial matter, or by exposure to the atmosphere of celestial bodies if such person was on NASA manned and unmanned space missions which land or come within the atmospheric envelope of

7.1: Outer Space _ *Res Nullius* or *Res Extra Commercium*?

In order to understand the legal status of outer space, it is considered important to determine as much as possible, which of the Latin legal classifications relating to territory apply to it. Particularly reference is made here to the well-tested doctrines of *res nullius* and *res extra commercium*. Christol rightly points out that there may be a need to identify the characteristics of the CHM principle and to distinguish it from such other principles as *res nullius*, *res communis* and *res communis humanitatis*. Indeed there are a host of other principles, which may become relevant to our analysis.[14]

Though it has already been concluded in several places in this work that outer space is *res extra commercium* it remains relevant as ever to examine arguments to the contrary. This exercise will at once reveal the falsity of similar attacks on the settled CHM principle as well as strengthen our arguments in favour of the non-appropriation regime established for outer space.

In subtle attempts to befuddle issues, the suggestion that any of the qualifications *res communis* or *res nullius* or *res extra commercium* or *res communnis omnium* can apply at any time to outer space has been rebuffed as false by writers such as Quadri[15] and later even Lachs. Lachs starts off by accepting that "it is true that some of these definitions have been accepted in other areas of international law". He, however, cleverly sought to dismiss their application to outer space and celestial bodies by stating that their application is conditioned by a reply to a basic question: "Is outer space with the celestial bodies a 'thing' -*res* within the meaning of the law".[16] Quadri also argues that such qualifications are unwarranted because

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a celestial body and return to the Earth. Whoever wilfully violates, attempts to violate, or conspires to violate any provision of regulation or orders issued there under or enters or departs from the limits of a quarantine station in disregard of the quarantine rules or regulations shall be fined not more that $5,000 or imprisoned not more than 1 year, or both. However, in 1991 Part 1211 was removed and reserved by the NASA administrator "since is has served its purpose and is no longer in keeping with current policy". See Fed Regulation, Title 14, Chapter V, Part 1211.104 Policy; see also Code of Federal Regulations, edition of Jan. 1, 1997, Volume14, Part1200 to end, (Cat#AE2.106/3:14/P. 1200-end/997) Part 1211 p. 75.

[14] Roman Law distinguished the following *inter alia*: *Res communes*, things owned by no one the use of which was common to all, such as the air, running water, the sea and shores of the sea; r*es publicae*, i.e. the property of the state- highways, rivers and harbors; r*es universitatis*, property of a city such as theatres or race courses; *res sacrae, religiosae* and *sanctae* were *res nullius divini iuris*-That is no one owned them neither could anyone legally acquire ownership of them; r*es nullius humani iuris* were not owned but could be acquired by any one. Examples include abandoned property and wild beasts. See C.Q. Christol, The Modern International Law of Outer Space, (Pergamon Press, N.Y., 1982) p. 318. See also Roscoe Pound, Jurisprudence, Vol. II Part 3 (Minnesota: West Publishing Co. 1959) p.150.

[15] Seara Vazquez, Cosmic International Law, (Detroit: Wayne State Univ. Press, 1985) p. 39.

[16] M. Lachs, The Law of Outer Space: An Experience in Contemporary Law Making, (Netherlands: Sijthoff Leiden, 1972) p. 48.

they stem from an assumption that space is a *res* and whichever of the adjectives tacked on lacks legal significance and is at best an indication of the preference of the author or the implications, which the term *res* might suggest. He thinks, "the proper procedure for approaching the question would be to study the possibility of applying the term *res* to space". Proceeding from this reasoning he, thus, concluded that cosmic space is not a *res*.[17]

Such strenuously made distinctions, however, serve no useful purpose. The bold thread that runs through the space treaties is that outer space and its celestial bodies should be explored and exploited in the interest of entire mankind and no one should be allowed to appropriate any parts thereof. In that case it is more sensible to hold that at least for now outer space is *res extra commercium.* It is important to this conclusion that no state has made incursions into space upon the basis of acquisition of territory. In fact the contrary view has always been maintained by all states that have participated in space exploration so far. Therefore, what is clearly property of all cannot be disposed of or used by any particular state or its private citizens (corporate or natural) as private property. Furthermore once the status of *res extra commercium* has been conferred upon any territory it becomes irrelevant to argue for a change in the legal status of the territory in question to make it *res nullius* considering that it already belongs to all.

Another fine distinction, which has been advanced by proponents of the *res nullius* principle is that under customary international law, resources on the moon and celestial bodies are by their very nature *res nullius,* therefore, appropriation is legally possible. Christol for instance, is of the opinion that there is a difference between the spatial area of the moon including celestial bodies and their natural resources. To explain this unacceptable position the proponents seek to make a distinction between free space and pathways on one hand and celestial bodies on the other. With regard to free space it is said that by its very nature and by analogy to the high seas there can be no appropriation since no sovereignty may be claimed without reference to dry land. Thus, the moon and celestial bodies were merely *res nullius* whereas outer space i.e. free space *stricto sensu* was *res extra commercium* and the principles of non-appropriation and free access were valid both before and after the entry into force of the Outer Space Treaty on 10 December 1967.

This view is borne out of the classical but mistaken view of the nature of outer space that lawyers have. It is wrongfully assumed that outer space is a void in which solid celestial bodies float. The easiest way to puncture Christol's argument is to admit that while of course

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[17] *Op. cit.*, p. 39.

there are geophysical differences between the moon's surface on which natural resources are presently to be found and the gases and cosmic dust which constitutes the other 'spatial territories' he refers to, however, that is the whole point of giving the widest interpretations to, the scope of operation of the CHM principle. We cannot separate the spatial territory from the surface not only because the law as it is written in the Space Treaty (1967) does not do so but because those very rarefied gases, cosmic dust and energy that constitute and fill the void that is known as outer space themselves may one day if not now constitute valuable natural resources. It is not when that day arrives that we would start to develop new laws to include further spheres within the operation of the CHM principle. Therefore, it is better to adopt the view that the CHM principle applies to the whole of outer space including the celestial bodies, as well as their surface and subsurface.[18]

The truth, however, is that the difference between the legal status of celestial bodies and that of free space is a mere academic abstraction in the light of the rules that have so far been treated in both the Outer Space Treaty (1967) and the Moon Agreement (1979). The question that poses itself at this stage is whether *res extra commercium* sufficiently explains the regime governing outer space. Other writers like S.M. Williams persuasively argue that the CHM principles goes even beyond that of *res extra commercium.* The preferable interpretation to give to this is that though *res extra commercium* (literally meaning something, which cannot be the object of commercial trade e.g. tombs under Roman Law) is applicable it lacks the element of pronouncing outer space as the property of all. In that case *res omnium*, (property belonging to all) is better. On the other hand that something belongs to all does not mean that it cannot be sold for profit, say by the agreement of the parties. Thus, if the intention is to find a terminology that reflects both characteristics as closely as possible, then we must be speaking in terms of *res omnium extra communis* (property of all and not subject to sale). Cheng developed this theme even further to the extent of stating that the CHM principle is a new category to be added to the tripartite division of the world made by traditional law.

The relevance of the two terms, ownership and possession to outer space law has been challenged and a preference for *licence* instead has been denoted. Again it has been stated that there is a need to jettison the term *res nullius* and the insufficiency of even the *res extra commercium* formula has been alluded to. The obvious criticism such sweeping positioning is exposed to is that it may be said that in the enthusiasm of elaborating new terminology, old and tested doctrines of law are being discarded. There is, however, an appropriate defence to this criticism. If indeed new concepts have been created in space law by states in the 20th

[18] Christol, 1982 *op. cit.*, p. 318.

century in response to new situations which mankind has never faced before, then there is no plausible reason to limit current thinking to older doctrines, which the drafters of the pertinent space treaties had good opportunity to refer to but chose not to and indeed creatively developed alternatives for.

7.2: The Scope of Application of the CHM Principle in Space Law

At this stage it is important that the exact scope of the operation of the CHM principle is determined. The rationale for such an exercise cannot be lost to any scholar on the subject who labours to defend the existence and the legal validity of the principle along with its allied principles such as the non-appropriation rule and the absence of a property regime in space. For what will be the use of establishing these rules in space law if it can at any time be successfully argued by a dissenting state or author that a specific celestial body or area of outer space or indeed an entire galaxy is beyond the application of the principle?

It must not be assumed that it is an easy task to determine what part of outer space the existing law covers. The answer as will become apparent has significance in the determination of liability for outer space activities and jurisdiction over space stations. As has been briefly mentioned the formula employed in the drafting of the Moon Agreement (1979) does not lend itself to sufficient exactitude. Admittedly the words of Article 1 limits the provisions contained therein to celestial bodies 'within the solar system'. The implications of this unnecessary limitation include the fact that once any activity takes place outside our solar system it is outside the regime of space law, at least that enunciated in that instrument. The only real beneficiary of such a limitation will be either a rogue state which, seeks to find a part of outer space which is not covered by law over which it can exercise full sovereignty, or another intelligence apart from the human race existing outside the solar system, or both. This suggestion may not be as far fetched as it sounds if we consider the fact that just 50 years ago it was largely held as impossible that man would engage in space flight or step on the moon and that a mere one hundred years ago the first aircraft was built. Thus, only the imagination limits the possibilities of exploration beyond this solar system and the discoveries that the next 50 years might bring. This is the essence of the preference for the view that space law particularly the provisions enunciating the CHM principle, apply not only to the solar system we exist in but to the entire universe of galaxies. Probably the apparent reason for the reference to the solar system in the Moon Agreement 1979 is that as the name of the treaty suggests the principal aim is to make legislation for the moon, which is earth's natural satellite and of which there is only one in this solar system.

Let it be assumed that the limitation contained in Article (1) of the Moon Agreement (1979) is accepted. It will be discovered that even then, the clear provisions of the Outer Space Treaty (1967) survive that limitation and still operate to cover (as it reads) "outer space, including the Moon and other celestial bodies" (Article 1). The term 'other celestial bodies' is not limited to any given solar system. The CHM and the Province of Mankind principles, thus, operate to seal forever the hopes of any space explorer to discover any spatial territory to which sovereign or private rights of ownership and control can be legally claimed.

Another way of viewing the scope of application of the CHM principle is to ask if the principle applies to all the contents of empty space. The question is does space law especially the CHM principle apply to the countless mass of meteors, rocks, rarefied gases etc. over and around the earth. The generic terms found in the space treaties (for instance, 'celestial bodies' and 'the moon') make it difficult to tell whether these terms cover all natural objects in outer space irrespective of their size, structure or flight pattern.[19] It was in fact suggested once that smaller bodies should have a different status from outer space proper.[20] In other words only "[t]he Sun and all planets and the moon" were not to be appropriated but "meteorites...any rock in space which can really be used and controlled" should belong to another class.[21]

The stance that smaller natural bodies should be subject to appropriation or regarded as *terra nullius* by virtue of their size is unacceptable. Such a proposition is as absurd as the corresponding theory among some air lawyers to limit sovereignty over national airspace to below dense clouds or those legal theorists that say that icebergs, which flow onto the high seas, should retain the sovereignty of the territory from whence they broke off. In the first place the space treaties, which pronounce the CHM Principle, did not establish this difference. Secondly, it is quite difficult to see how anyone could prescribe the minimum size below which an object would cease to be regarded as a celestial body. The preferred view is that which holds that in the present state of man's knowledge, there is little that can serve as a

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[19] M. Lachs, *op. cit.*, p. 46.

[20] *Ibid.* A list of these proposals was recorded by C.W Jenks in his Report preliminaire Institut du droit international, pp. 109-201; *cf*, also M.G. Markov, "Moon Landing and International Law", III Revista di Diritto Aereo, 1964, No 9 pp. 9 ff.

[21] E.L Fasan, Law and Peace for Celestial Bodies", Proceedings Fifth Colloquium on the Law of Outer Space, 23-29 September 1962, pp. 8 f.'; Cocca also believes that "Planets are the only celestial bodies considered from a legal viewpoint; i.e. bodies admitting occupation if they are vacant". See A.A Cocca "Basic Statute for the Moon and Celestial Bodies", Revista di diritto Aereo No. 6, 1963, 2nd quarter, para v. On Meteorites; *cf.* Mc Dougall, Laswell and Vlassic, Law and Public Order in Space, (New Haven, 1963) pp 750 ff; J. Machowski, "The Legal Status of Meteors and Meteorites", Vol. 39 Yearbook A.A.A., (1969) pp. 101 ff.

basis for any distinction between a natural or physical definition of a celestial body, on one hand and a legal definition on the other.[22]

For all relevant purposes, therefore, the CHM principle applies not only to all 'celestial bodies' no matter how small or large and no matter in which solar system in the infinity of space they are found but also to all that may be considered 'free space' including gases, particles and cosmic dust. The CHM principle, however, is not applicable at all to the airspace above national territory. As regards the airspace over territories on earth over which the CHM principle applies under another body of law such as Antarctica (the World Park concept) or the Area (in the law of the sea) it may be suggested that the legal status of the airspace above those territory cannot be different from the status of the underlying territory.[23] Therefore, the airspace over the area is also the common heritage of mankind but it derives its status in being so not from space law but from the laws of the sea or Antarctic law as the case may be.

Controversial as these positions taken may seem they are rational and in consonance with the legal rule of interpretation particularly that which dictates that. Laws should be interpreted to give effect to the intention of the drafters and to save it rather than it be destroyed. Lastly on this issue, it must be said that to engage in arguments that seek to limit the geographical or geophysical scope of the CHM principle in outer space as a method of curtailing the potency of the doctrine is a fruitless exercise. However, to engage in the intellectual exercise of determining the legal significance of the CHM principle remains a valid enquiry and is indeed a current legal problem relevant to the current century.

7.3: The CHM Principle and the Arguments for and Against Property rights in Space

No Moon, no planet shall fly a single nations flag."[24]

One of the ways in which certain writers seek to attack and undermine the regime abolishing individual property rights in space is to argue that the CHM principle if ever it has any legal value at all does not in fact operate so as to block property rights in space. This argument thus, necessitates a separate enquiry as to whether CHM principle in any way permits the operation of property over space-based resources. It remains settled law that outer space

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[22] M. Lachs, *op. cit.*, p. 46.

[23] Note our discussions on the application of the CHM Principle and the World Park Concept in Antarctica and the High Seas in the next Chapter. A similar reasoning is found in the argument that the airspace over the high seas should be legally regarded as part of the common heritage of mankind. See further on this theme Nicholas Grief, Public International Law in the Airspace of the High Seas, (London: Martinus Nijhoff Publishers, 1994) pp. 9, 12-13.

including the moon and other celestial bodies is not subject to appropriation by claim of sovereignty by means of use or occupation or by any other means. [25]

At this stage, however, it is worth drawing a parallel between the early stages of the development of air transport and that of outer space exploration. In both cases the uncertainties over the unfolding developments helped in different ways to avert the development of legal regimes, which are solely for the interest of one or two states. In the case of air law as mentioned in earlier chapters, the leading air powers recognised the importance of not allowing any one state to have unbridled access to the air space over other national territories. This was principally to contain the US, which had a clear and distinct technological advantage in the air transport industry. Thus, the theory and practice of exclusive jurisdiction over national airspace by each state was upheld. In the case of space law a similar conclusion as to the undesirability of the entrenchment of hegemonic interests within the new frontier was reached with a different prescription. Rather than grant all states equal sovereignty in outer space no sovereignty was granted at all. The ideological Cold War that was at its height around 1957 produced an effect that was akin to the effects of the First World War on the shaping of air law earlier on in the 20th century. The super powers and the leading states were not sure of the way events arising out of the space activities would turn out in the context of the prevailing cold war. They were equally not certain of the particular benefits accruable from space exploration.

Thus, though the USSR was the first state to put a man in space in 1957, explicit statements were made renouncing all claims to outer space.[26] It was stated that "No human activity on the Moon or any other celestial body could be taken as justification for national appropriation."[27] The US also took this position long before it put a man on the Moon. The position as stated then was "We have rejected the concept of national sovereignty in outer space. No Moon, no planet shall fly a single nation's flag".[28] In the words of US President Johnson "The goals now within reach of the human race are too great to be divided as spoils, too great for the world to waste its efforts in a blind race between competitive nations".[29] These noble postures along

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[24] Committee on the Peaceful Uses of Outer Space, 19 March 1962 A/AC. 105/PV. 2, pp. 13-15.
[25] Article II Outer Space Treaty (1967); Para. 3 Declaration of Legal Principles (1963); *cf. supra* last section and our discussions on the Exploration and Use of Outer Space *infra*.
[26] See Pravda, 18 November 1959 and United Nations 22 September 1960 (Official Records), p. 48 para, 58.
[27] Legal Sub-committee, 20 October 1966, A/AC. 105/C.2/SR.63.
[28] *Supra* note 24.
[29] See Adlai Stevensen in 1st Comm. statement on "International Cooperation in the Peaceful Uses of Outer Space", 2 Dec. 1963, UN Press Release No. 4323, 2 December 1963. Statement also appended to the Educational Progress of NASA, Senate Hearings on Aeronautical and Space Sciences 88th Cong. 1st Sess. 21-22 Nov. 1963. See also S. Bhatt, "Legal Controls of the Exploration and Use of the Moon

with the influence of the majority of developing states facilitated the eventual formulation of the CHM principle.

The problem is that for those states that invest heavily in Space exploratory activities the cost benefit of exploiting extensively space-based resources is quite real.[30] As time goes by and with the inevitable discovery of invaluable space based resources as well as newer and cheaper methods of exploiting them, it is understandable that pressures are on the increase for the law to recognise and permit property rights and the commercialisation of outer space.

It is probably worthy of note that the US would again appear to be at the forefront in the championing of commercialisation of space resources. This is probably comparable to the history of developments in air law where the US developed and actively sponsored the 'open skies' agenda in line with its hegemonic interests.[31] It is, therefore, no wonder that the United States National Commission on Space recommended that "steps necessary to undertake the development of ...extra terrestrial resources begin at once". A call was subsequently made for the establishment of pilot mining and production facilities on the Moon by the year 2007.[32] Western scholars such as Kosmo also believe that "the quality of America's future social and economic welfare is inextricably intertwined with the successful commercialisation of space by American private enterprise". Baca pushes the argument to extreme when he insists that "...the issue of sovereignty be reconsidered in space, as some form of sovereignty is an absolute necessity to the guarantee of the property rights required for the development of space resources".[33] Christol, also thinks that there is a distinction between the ban of Article II of the Space Treaty concerning sovereign (i.e. national), appropriation of spatial areas, and the right of legal persons to obtain property. It is also argued that the provisions of Article I, and III in particular, of the Space Treaty (1967) as well as the other Articles allowing free and equal exploration, use and exploitation of the space environment by states, must be contrasted with the rights of other legal persons to engage in such exploration, use and exploitation.[34]

It makes sense to consider at some length the most frequently cited justifications for the position adopted by those writers who believe that the CHM principle (if at all it has a legal value) does allow the existence of property rights in outer space. They are as follows.

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and Celestial Bodies", Vol. 8 INJIL (1968) p. 36-38; A Piradov and Y. Rybakov "First Space Treaty", International Affairs, (Moscow: Mar 3 1967) pp. 21-26.

[30] Anderson K. Baca "Property Rights in Outer Space", Vol. 58 Journal of Air Law and Commerce, (1993) pp. 1044-1045

[31] *Supra* Chapter 2.

[32] Baca *op. cit.*, p. 1042.

[33] *Ibid.*, p. 1047.

[34] Christol *op. cit.*, p. 318.

(1) That the term Common heritage of mankind lacks any legal or scientific clarity and therefore, means everything and nothing at all.

(2) It is claimed that the preamble to the Outer Space Treaty (1967) in fact recognises the exploitation of outer space.

(3) That Article 1 of the Outer Space Treaty (1967) (which contains the province of mankind formula a necessary adjunct of the CHM principle) is merely 'a statement of general goals' and that the ratification of specialised treaties is necessary to create any specific obligations.[35] In the absence of such treaties Article 1 (1) is seen to be more a moral and philosophical obligation than a legal requirement [36]

(4) That the general principle of non-appropriation is in effect circumscribed to a large extent by treaty provisions designed to facilitate the exploration and use of outer space. In other words, Article 1 specifically makes provision for use of outer space. Because the legal sense of the word, "use" refers to the enjoyment of property often with an advantage or profit arising therefrom, by the occupancy, utilisation or exercise of the property; therefore, some form of appropriation must be permissible in order to facilitate the use contemplated in Article 1.

(5) That since the Outer Space Treaty (1967) does allow for withdrawal, the non-appropriation principle would by the operation of the law of treaties simply not apply to any state that withdraws from it.

(6) That the Moon Agreement (1979), which introduces the CHM concept, has not been ratified by any of the space powers. Also that it has not been signed by many states. Furthermore that it is not binding upon any non-party state and the claim that it represents customary law is not credible.[37]

(7) That in respect of the geostationary orbit the characteristics of that flight path is not analogous to the situation on celestial bodies. Thus, while the CHM principle and non appropriation rules may work in the former they may be unworkable with respect to a lunar

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[35] See N. Jasentuliyana, "Article 1 of the Outer Space Treaty Revisited", Vol. 17 Journal of Space Law, (1989) pp. 129, 139; Baca *op. cit.*, p. 1064.

[36] See "Settlement and Sovereignty in Outer Space", Vol. 22 U.W. Ont. L. Rev., pp. 155, 157-158 (1984).

[37] Baca *op. cit.*, p. 1068. The Moon Agreement entered into force on July 11, 1984 with the ratification by the required fifth state, however, the record of ratification and accession to the Moon Agreement (1979) is indeed quite poor for both developed and developing states. Indeed as at 2001 only 14 states were bound by the Moon Agreement (1979) whereas 123 states are parties to the Outer Space Treaty (1976) and it may be said that developing states particularly have not justified their interest in many of the principles they fought vehemently to have included in the treaty at the conference tables by ratifying it, or by persuading other states to accede to it. It is, however, possible to over emphasise this point because the number of parties is slowly rising and dramatic increases in the number of signatories to the instrument may be easily predicted if any threat to the common understanding states have as to

base, where investments will include not only equipment but site preparation and other modifications. It is argued that in such situations the limited possessory rights and the lack of a power to dispose the property may severely limit the value of any investment. In other words space exploration may eventually suffer from space law to the detriment of mankind.

Such arguments as raised in the seven points delineated above may appear to be formidable and are indeed quite capable of attracting scholarly sympathy but again the correct view is that they are nonetheless insufficient. The arguments certainly do not justify any legal reasoning that limits the operation of the CHM principle in outer space in such a manner as to permit national or private appropriation and to recognise extensive property rights in space. Suggestions that sovereignty be introduced into outer space through a loose interpretation of the CHM principle or in any other form whatsoever is a form of legal heresy and should be dismissed for the following reasons.

In the first place it is merely mischievous to overstate the obscurity of meaning shrouding the term CHM. Doing so is clearly an undisguised attempt to avoid the legal validity of the CHM principle. Indeed it may be said with a lot of credence that specific semantic certainty has been afforded to this term in the works of many authors. R.P. Arnold impressively achieves this when he stated as follows:

> The word heritage suggests property or interests which are reserved to a person by reason of birth, something handed down from one's ancestors or the past. In defining mankind, it is necessary to make a distinction between mankind and man. Mankind refers to the collective group, whereas man refers to individual men and women...Mankind is not yet unified under one government, therefore the collective entity of mankind is represented by the various nations of the world. Thus the exercise of rights to the common heritage of mankind appertains to nations, representing mankind, and not individuals. The use of the phrase common heritage of mankind implies or prescribes worldwide ownership...[38]

Furthermore, due to the fact that the primary subjects of international law are independent states, it is logical that they should decide together and as a singular community, inclusive of all, fundamental matters that concern all. This is, therefore, what is legalistically referred to as

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the general nature of the legal regime for outer space emerges or if technological developments make the exploration of the moon easier.

[38] Rudolph Preston Arnold, "The Common Heritage of Mankind as a Legal Concept", Vol. 9 Int. Lawyer, No. 1 p. 154.

mankind.[39] It has, therefore, become possible to identify some basic elements of the CHM principle:

(a) That the areas constituting a CHM cannot be subject to appropriation.
(b) That the use of such area and the resources thereof shall be subject to a common management system.
(c) That the concept in question implies an active sharing of the benefits derived from the exploration and exploitation of those areas;
(d) That the area be used exclusively for peaceful purposes;
(e) That the area be preserved for future generations in perpetual succession.[40]

In the light of these definitions and assertions it is highly unlikely that any possible interpretation of the CHM principle allows for property rights in space. The allegation that the existing space treaties recognise exploitation of outer space through the provisions permitting space exploration is yet another unsuccessful attempt to befuddle issues. The answer to this is that there is a clear separation in space law between the issue of the use of outer space resources in outer space for scientific experimentation on the one hand and that of exploitation or mining of outer space based resources with a view to repatriating the resources to earth for economic and monetary gain, on the other hand. Regarding the utilisation of space based resources in outer space itself there is little room for controversy. The reasonable use doctrine has been established in Space Law. The Moon Agreement in Article 6 (2) for instance, permits the usage of minerals and other substances of the Moon in quantities appropriate for the support of their missions. This very much falls short of permitting mining for purely monetary gains. Furthermore as will be later elaborated upon, the right to collect and remove substances and minerals from the moon is limited to "... scientific investigations and in furtherance of the provisions of the agreement" (Article 6 (2) Moon Agreement 1979). The phrase "in furtherance of the provisions of this agreement" covers many things. This includes of course the obligation to have due regard to interests of present and future generations as well as the need to promote higher standards of living and conditions of economic and social progress and development in accordance with the Charter of the United Nations (Article 4, Moon Agreement (1979).

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[39] Neeru Sehgal, "The Concept of Common Heritage of Mankind Under the Moon Agreement (1979), 1979", Vol. 26 INJIL (1986) p. 108; See also Cocca, "Mankind as New Legal Subject – A New Juridical Dimension Recognized by the United Nations", Proceedings of the Thirteenth Colloquium on the Law of Outer Space, (1971) p. 212.

[40] See Williams, "Outer Space and Natural Resources", *op. cit.*, p. 109; Dekanozov, "The Common Heritage of Mankind in the 1979 Agreement Governing the Activities of States on the Moon and other Celestial Bodies, Proceedings of Twenty Fourth Colloquium on the Law of Outer Space, (1981) p. 186.

It might indeed be wondered whether the promotion of higher standards of living and economic progress would not be better served if those countries that can afford it are allowed to reap the benefits of their exploration by the granting of substantial mining rights in space law. The answer to this simply is that if that were what was intended, then the space treaties would have expressly stated so. However, what can be found in the treaties particularly within the instruments dictating the CHM principle is an intention not only to maintain outer space and its celestial bodies as common property until an exploitative regime is set up, but an obligation to share very generously benefits derived from scientific knowledge about outer space between all states irrespective of their degree of economic or scientific development (Article 4 (1) Moon Agreement (1979)). This obligation is central to the workings of the CHM/ Province of Mankind principles in space law so much so that states are advised to have regard to the desirability of making a portion of such samples available to other interested states Parties and the international scientific community for scientific investigation (Article 6 (2) Moon Agreement (1979)).

It is, therefore, inevitable to conclude that states are free to determine all aspects of their participation in the exploration and use of outer space. However, for the CHM principle to operate effectively, all states particularly those with relevant space capabilities should contribute to the promoting and fostering of international co-operation. This dictates an abandonment of property claims in outer space as well as the channelling of benefits of space exploration towards the interests of developing countries and countries with incipient space programmes (Declaration 2 and 3, Declaration on International Co-operation (1996).

As to the allegation that the CHM principle does not bind a withdrawing state from the treaties that incorporate it and that it also does not bind any of the Space powers, which does not ratify the Moon Agreement (1979), it must be said that these submissions again are based on an insufficient premise. In any event more and more states have ratified the Moon Agreement (1979) including at least one of the space powers. Furthermore, the regime of equal access to outer space created in the treaties has become part of customary international law. Therefore, a withdrawing party cannot legally gain ownership over what in effect belongs to all. Just as a party to the Chicago Convention (1944) cannot by withdrawing from that treaty unsettle the principle of exclusive sovereignty and jurisdiction of states in their airspace; so also cannot any state(s) undermine the status of outer space as the common heritage of mankind by inopportune withdrawal from treaty law or opportunistic approach to treaty ratification and accession.

Summary and Conclusions

The CHM and the province of mankind terminologies are two sides of the same coin. The principles exist in the space treaties to create legal obligations, which in effect dictate co-operation among states parties in aspects of their undertakings concerning outer space, the Moon and other celestial bodies, and in the sharing of the benefits obtainable therefrom. These principles represent a relatively new category of legal classification for the explanation of jurisdiction and control over international territory. Earlier analogies can be found in the law of the sea and the legal regime governing Antarctica. For all relevant purposes the CHM principle applies not only to all 'celestial bodies' no matter how small or large and no matter in which solar system in the infinity of space they are found but also to all that may be considered 'free space' including gases, particles and cosmic dust. It does not operate over the national airspace presently.

It is probably desirable that the applicability of the CHM principle extends to the airspace over the high seas as well. This is a logical consequence of the declaration of the legal nature of the high sea-bed and ocean floor (excluding the continental shelf) and the subsoil thereof as the common heritage of mankind. Furthermore it is suggested that since the sovereignty and jurisdiction granted to states in their national airspace is delimited *ratione loci* in respect of the space above national territories and not *ratione materiae* in respect of the air, which may at any given time be filling this space. Then there is scope for the separate determination of the legal status of the air itself (i.e. the gaseous envelope surrounding the earth). In that case considering the central and irreplaceable nature of the air to the existence of human beings the sole conclusion that presents itself is that the air (*ratione materiae*) is best assimilated into the concept of common heritage of mankind. In other words, if there is at least one thing worthy of being regarded as the common heritage of mankind the air that we breathe would certainly qualify.

Of the older classifications known to law the CHM principle is best represented by the classification of *res omnium extra communis.* By virtue of this the area covered belongs to entire mankind as represented by states. Sovereignty cannot in anyway be legally enforced over outer space. Until a regime of exploitation is designed for it as was done in the case of 'the Area' in the law of the sea, outer space and its resources cannot be exploited on a commercial basis. It may indeed be said that it is better that no such regime of commercial exploitation is ever developed if it would inescapably entail environmental degradation or lead to international conflicts.

International space law presently has enshrined the CHM principle and there is no convincing reason to abandon it or limit its applicability qualitatively or quantitatively. The arguments against the legal potency of the CHM Principle are altogether insufficient to credibly cast any doubts as to the necessity and the validity of the principle in present day international law. The argument that it represents no more than a hortatory provision is unsupportable given its inclusion in the substantive parts of the Moon Agreement (1979) (Article 11 (1)). The fact that the principle also has enjoyed legal, obligatory and institutional validity in the law of the sea also proves that it was intended to and indeed has legal effect in space law.

CHAPTER EIGHT

8.0: UTILISATION REGIME OVER SPACE BASED RESOURCES: ANALOGIES FROM THE INTERNATIONAL SEABED REGIME AND ANTARCTICA

Though knowledge about the available resources on celestial bodies (particularly the moon and mars) and the means of exploiting them economically is still in its infant stages it is becoming of pressing importance to develop a balanced regime for the mining and removal of mineral resources. This is primarily because certain states display a high degree of restiveness towards the possibilities of mining space-based resources. Even though outer space is the most recent to be conquered in the trilogy of international spaces with the most elaborate legal regime it would appear that the stakes are higher and the potential for damage to the environment more worrisome. In this light it is pertinent to examine how the problem of avarice has been curtailed both in economical and environmental terms in the other two most important arenas, which states have designated international commons i.e. the deep-sea bed and Antarctica. The analogical deductions attempted may not reveal the ideal mineral exploitation regime for outer space but will definitely show us the road down which it will be unfortunate to travel.

In recent years, the degree of wealth that lies beneath the high seas has become more and more apparent. It is estimated that some 175 billion dry tonnes of mineable manganese noodles are in existence scattered over some 15 per cent of the deep seabed. This exceeds by far the land-based reserves of the metals involved (primarily manganese, nickel, copper and cobalt).[1] The technology to mine the high seas for the minerals is still at the infant stages and it is said not to be feasible before the year 2010.[2] Nonetheless (for reasons that will be examined shortly) the prospect of doing so is already proving to be a very controversial area of the law, pitting the developing states against the developed states.

By 1969, the UN General Assembly found it necessary to adopt resolution 2574 (xxiv) calling for a moratorium on deep-seabed activities. A year later, the Declaration of Principles Governing the Seabed and Ocean Floor and the Subsoil thereof, Beyond the limits of National Jurisdiction was adopted. The Area (i.e. the deep sea bed) and its resources were then declared the "common heritage of mankind". Thus, the Area cannot be appropriated and no rights could be acquired over it except in accordance with the international regime established to govern exploration and

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[1]M.N. Shaw, International Law, (Third Edition Cambridge: Grotius Publication, 1991) p. 388. See also Seabed Mineral Resource Development, UN Department of Int. Economic & Social Affairs 1980 ST/ESA/107 pp. 1-2.

[2]See Tono Eitel "A Convention for the Peaceful Use of the Seas", Vol. 51 Law and State, (Institute for Scientific Co-operation, Federal Republic of Germany, 1995) p. 83.

exploitation therein. The history of the development of the CHM principle is a long and chequered one. Some writers find traces of the principle in the thinking of Francisco de Victoria[3] and even earlier to St. Thomas Acquinas.[4] The more popular opinion is that the CHM concept may have been introduced to the Law of the Sea as a result of a speech made by Ambassador Pardo of Malta to the UN General Assembly on the future of the resources of the high seas in constituting the Common Heritage of Mankind.[5] By the time of the completion of the third UN Convention on the Law of the Sea (UNCLOS III) in 1982, it was incorporated in Article 136 of the Law of the Sea Convention that, "the Area and its resources are the common heritage of mankind". However, in the law of the sea the exact legal effect of this principle is subject to much debate.

The geophysical scope of application of the principle covers "The Area". This is defined in Article 1 of the convention to be the "seabed and ocean floor and subsoil thereof beyond national jurisdiction". It starts at the outer edge of the continental margin or at least at a distance of 200 nautical miles from the baselines.[6] Thus, unlike the situation in space law the geophysical scope of the CHM principle is settled beyond reproach and there has been little or no attempt to subject it to controversy in academic writing. All exploratory and exploitative activities in the Area are to be conducted with the aim of securing the benefit of mankind as a whole by or on behalf of the International Seabed Authority (called the Authority), which is established under the Convention. The Authority under Articles 140 and 150 is to secure the equitable sharing of the benefits derived from the Area. Activities in the Area are to be conducted under Article 153 by the Enterprise (i.e. the organ of the Authority established as its operating arm).

The United States, the United Kingdom, Japan and their wealthy allies have vociferously opposed the regime for the deep-sea bed. The U.S. voted against the adoption of the 1982 Convention. It views the deep-sea mining provisions as "contrary to the interests and principles of industrialised nations" and "of no help to attain the aspirations of developing countries".[7] It is important to understand the historical legal and ideological basis of the American position on these matters. Proprietary rights over minerals prospected for through private efforts is so sacred to the spirit of capitalism and free market that US citizens may go upon the public

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[3]Sylvia Maureen Williams, "The Law of Outer Space and National Resources", Vol. 36 ICLQ, (1987) p. 144.
[4]*Ibid.*
[5]U.N. G.A. Official Records, 22nd Session, Agenda Item 92 (2), Doc. A/6695, 18 August 1967.
[6]Shaw, *op. cit.*, p. 388 note. 205.
[7]See ILM Vol. 22 (1983) pp. 464-465. See also Wolfgang Graf Vitzthum "Sea-bed and subsoil" in Rudolf Bernhardt, Max Planck Institute for Comparative Law, Encyclopedia of Public International Law (Netherlands: Elsevier Science Publishing Company 1989) p. 282.

domain of the general government and acquire mining rights by discovery, whereas there is no public right to go upon privately owned lands in order to seek for and discover minerals.[8]

The U.K. also expressly declared that it would not sign the Convention until a satisfactory regime for seabed mining was established. Many writers from the Western States are naturally predisposed towards this view. Wolfgang Vitztham for instance insists that

> ...the new regime cannot be imposed on States which, by persistent objection and non-ratification of or non accession to the 1982 Convention continue to evidence the lack of a sufficient degree of unanimity which would be required for the emergence of new general International Law.[9]

It may be said that *prima facie* the principle of common heritage of mankind as it applies to the seabed is a commendable development. As far as the prohibition of appropriation of "the Area" by states or organisations is concerned, one can easily accept the principle as consistent with modern international law. That the seabed and subsoil of the high seas beyond the territorial jurisdiction of all states should be *res communis* is arguably a desirable result. Indeed, there is much to be said in favour of the statement made by the Ghanaian representative to the 1982 conference. He stated that there is a need for:

> ... the establishment of an autonomous regime with legal bodies of its own and in effective control of all activities in the area of the seabed and ocean floor beyond the limits of national jurisdiction. That position stemmed from memories of the 18th and 19th centuries when, in the scramble for overseas territories, the colonialists had parcelled out African lands which it had taken over a century to recover from them.[10]

But it is equally in the interest of all states that the fears of the developed ones among them should be taken into account. For a long time to come they would be the principal explorers of this frontier and may, therefore, have legitimate concerns regarding their lack of proportionate voice in decision making for the Area. There is also the issue of departure from the free play of market forces in the development of seabed resources. Not surprisingly a lot of western writers have come to the conclusion that the LOSC (1982) regime has the propensity to condemn the Area to the fate of a "ghost city" and that the law has to be further developed and fine tuned.

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[8] See L. Lindley, American Law of Mines and Mineral Lands, 3rd edition. (1914) p. 55: See also Roscoe Pound, Jurisprudence Vol. II Part 3 (Minnesota: West Publishing Co. 1959) p. 195.

[9] Vitztham, *ibid.*

[10] UNCLOS III, Official Records, Vol. 1, Plenary Meeting 25th Meeting 2 July 1974, p. 86 at para. 92. See also N.S. Rembe, Africa and the Int. Law of the Sea: A Study of the Contribution of the African States to the Third United Nations Conf. On the Law of the Sea U.S.A. Sijthoff & Nijthoff 1982 p. 58.

It would appear that significant steps have been taken in recent times in recognition of this fact. While the common heritage of mankind status of the Area remains intact with the administration still under the Authority, the recent Implementation Agreement introduces profound changes.[11] Under the implementation agreement, the authority's mining arm, the "Enterprise" has lost its privileged position and is placed on a par with other "contractors". In order to help it with deep-sea mining technology - transfer, obligations on the part of the Convention that had been stipulated have now been reduced to declarations of intent by the States parties, providing that the technology is not commercially available. The Enterprise is expressly recommended to employ "joint ventures" for its initial deep-sea mining activities; and the States parties' obligation to finance an Enterprise mining site has been deleted (Implementation Agreement, Annex Section 2).

Complicated production limitations on deep-sea mining are now reduced to a ban on certain subsidies for deep-sea mining on discrimination against land-based production, as well as to the establishment of an assistance fund-based production. There would also be established an assistance fund financed by the Authority's surpluses (Implementation Agreement Annex Section 6). There has been a considerable simplification of the system of fees to be paid (Implementation Agreement, Annex Section 8). The new fee structure has been described as more "pro-industry".[12] This is because it is intended to create greater incentives for deep-sea mining. Not only does the Enterprise and the Contractor have to pay less, but the Implementation Agreement also relieves the States' parties of a financial burden contained in the convention. Apart from cancelling the obligation to finance the Enterprises mining sites, as mentioned above, the agreement requires that initial operations of the Seabed Authority shall be small scale and modest and that its executive bodies must be economical (Implementation Agreement, Annex Section 6 ff.). It remains to say that hopefully with these changes the regime for the Area has been improved to the extent that the developed states are willing to accept it.

However, the course of events relating to the deep sea-bed regime, especially the near complete turnaround on the initial regime for exploitation contained in the 1982 LOSC support the belief that throughout the ages, what masquerades as the "position of International Law" has always reflected the prevailing view of the predominant forces in the international system. Therefore, it is reasonable to believe that that the present law of the sea cannot but be a reflection of the interests of the predominant forces that shape international law today within the United Nations Organisation. If that is true, the LOSC (1982) is nothing but the wishes of the developing states

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[11]33 ILM, 1994, p.1309. See Tono Eitel *op. cit.*, pp. 82-84. See also B.H. Oxman, 'The 1994 Agreement and the Convention' 88 AJIL, (1994).
[12]*Ibid.*

writ large. This is so because they had a majority voice at the UNCLOS III concluded in 1982. By the time the conference started the de-colonisation process had gone very far. Therefore, there was full participation by the newly independent states in the development of a legal regime for this important international resource area. This accounts for the success of the Latin American and African viewpoints on matters such as the management of the resources of the high seabed. This may also be said to be the case in relation to the making of the Moon Agreement (1979).

The question then is, is this just, fair and equitable? If indeed the technologically advanced nations had their vital interests defeated during the negotiations at the (1982) LOSC, would this not amount to a kind of reverse discrimination? Another jurisprudential query would be whether this kind of discrimination is distributive or corrective justice? In other words, is the present regime really geared towards the creation of equal opportunities, access and use of the seas? On the other hand, does the law as it stands represent a successful reversal of pre-existing inequities, which were perpetuated through past discrimination by the Western powers?

It is no secret that the history of international law is closely associated with the conduct of international relations between the Western nations. In short, as a writer puts it: "certain customs of wide scope became incorporated into positive law when in fact they were the work of five or six powers".[13] Developing states have stressed it many times that certain institutions of International Law "... were the juridical expression of a few special political interests, of a particular social structure and of a certain state of international relations".[14] There is no reason to think that the hitherto existing rules of the law of the sea were any different. Therefore, the major changes introduced by the LOSC (1982) are necessary to the extent that they represent the interests of the majority of states.

On the other hand care must be taken to determine that an unrealistic regime or an equally invidious reverse discrimination is not created or perpetuated under the current regime. In particular, the international seabed regime must be re-examined often and again. This area of the law has been subject to severe criticism by the developed states. It may be recalled that to protect land producers of those minerals also extracted from the seabed (almost all of them developing states) the LOSC (1982) provides for complicated and extremely burdensome production limitations on deep-sea mining. Developed states also detest the situation where they were committed to budgetary and financial obligations in the funding and running of the "Enterprise". They also fear that the same strong lobby groups at the 1982 conference will continue to affect

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[13]See Judge Amman in *Barcelona Traction Case* I.C.J. Reports 1958, p. 308.
[14]Martinez Morcillo (Spain) UNGA O.R. 25th Sess. Sixth Committee, Provisional Summary Records. U.N. Doc. A/C B/SR 1211. 10 Nov. 1970.

adversely their applications for exploration and exploitation in the Area. These fears may indeed not be as unreal as it may appear at first.

Eventually, a lot has been done in recent times to mitigate these problems with the help of vigorously negotiated implementation agreements. Present indications, however, show that the emphasis of the law is shifting back towards the protection of the interests of the leading industrialized nations. Thus, the victory of the developing nations is proving to be illusory. It may, therefore, be wondered whether the same fate will befall many of the initial principles that were included in the first generation of space treaties. However, it is hoped that nothing would detract from the true spirit of the common heritage of mankind principle. The developing states must endeavour to shed the image that they always adopt a dog-in the-manger approach to issues of exploitation of resources found in international spaces. They must display honest effort towards partaking in such legitimate activities. In retrospect, African states have not justified the importance they attached to participation at the LOSC (1982). Taking Nigeria as an example, the private sector has not even made basic attempts at exploitation of the seabed. The Nigerian government for its part does not seem to be convinced that investments in deep-sea mining offers any short-term or even medium term profit. Involvement in sea activities is in the main restricted to transport purposes and offshore oil rigs. This is unlike the interest shown by France, Japan, the U.S.A, Britain, and Russia. There will be nothing gained if such states are completely discouraged from making regulated use of the International Seabed Area. Thus, while it may be reasonable to eventually adopt a system for outer space based on the establishment of an equivalent of the Enterprise it is also advisable to learn from the system of compromise that has been achieved in the law of the sea.

The regime governing the mineral resources found in the over 14 million square kilometers Antarctic Continent[15] is a very recent and controversial subject. The Continent lies almost completely within the Antarctic circle (66 degrees 33'S) and 98 percent of its surface is covered by a thick layer of ice, averaging 2,000 meters and sometimes exceeding 4,000 meters. Antarctica is the highest, coldest, driest and windiest Continent of the world. These factors combine to limit human habitation.[16] However, what Antarctica lacks in terms of hospitable conditions for humans it amply compensates for in terms of prospects for natural

[15] This amounts to about 57 times the size of the United Kingdom.

[16] See Dept. of Foreign Affairs for the Secretary-General of the U.N., "Introductory Report on South Africa and the Antarctic Treaty System to the Secretary-General of the U.N.", 9 International Affairs Bulletin, No. 1 (1965) p. 50; Antarctica has never had a permanent population. It was only since the International Geophysical Year when the requisite technology and equipment became available, that scientists have faced the extremely bad weather and darkness of the Antarctic winter on a regular basis. As at 1985, there were 39 bases permanently occupied on the Antarctic with between 400 and 600 persons on the continent during the winters.

resources. At first activities in Antarctica were limited to scientific purposes, but again that is where most state activities in newly discovered areas start. But now knowledge of the immense wealth of natural resources that is exploitable is quite widespread. Even Dr. Mahathir the incumbent Prime Minister of Malaysia a country which attacks the solidarity of the claimant state and maintains that Antarctica did not and still does not legally belong to the discoverers betrays elements of economic avarice in the posture of that country towards Antarctic resources. He is quoted to have said "I have heard that the South Pole is made of gold and I want my piece of it."[17]

The issue of a mineral resources regime specifically assumed prominent discussion since 1979 by the consultative parties and a series of special meetings on the subject were held.[18] The development of laws specifically governing Antarctic natural resources covers two aspects --marine resources and mineral resources. The conservation of marine living resources was dealt with by a special meeting and resulted in the establishment of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) in 1980.[19] This Convention entered into force in April 1982 and guarantees co-operation for the safeguard of marine life and the protection of the Antarctic Marine ecosystem.[20]

With due regard to other important achievements of the Antarctic Treaty the greatest achievement of the treaty so far in jurisdictional terms is the freezing of claims to territories on the Continent. This was impressively achieved for the first time concerning any international space through the means of Article IV (2) of the Antarctic Treaty. It states:

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[17] See Michael T. Kyriak "The Future of the Antarctic Treaty System: An Examination of the 'Common Heritage' and 'World Park' Proposals for an Alternative Antarctic Regime", Auckland University Law Review, (1992) p. 117; Beck, "Antarctica at the United Nations 1988: Seeking a Bridge of Understanding", Vol. 25 Polar Records, (1989) p. 329.

[18] See Shaw, p. 365; Keesings Contemporary Archives, p. 32834; 21 *(9)* UN Chronicle, (1984), p. 45.

[19] (1980) 19 I.L.M. 841. The Convention entered into force on 7 April 1982.

[20] Traditional explanation of marine living resources began near the turn of the 19th century but it was not such low scale exploitation, which prompted the Antarctic Treaty System to consider living resources exploitation. The major concerns started in the 1962/62 season when the USSR began exploratory fishing for *Euphansia superba* (Krill - derived from the Norwegian word `krill' meaning young fry of fish) taking four metric tonnes. For the next ten years the USSR was the only nation taking Krill, its catch reaching in this period a peak of 21,000 tonnes in 1971/72. Japan joined in 1972/73 with a take of 59 tonnes. The USSR was also taking substantial catches of three species of fish by the end of 1971/72 season: - *Notothenia rossil* (the marbled *notothenia*) *Notothenia squanmifrans* (the *scarted notothenia*) and *Champsocephalus gunnari* the Antarctic ice fish. The general development in international environment law coupled with the threat of wider exploitation and depletion of such species as the Krill, which is at the base of the Antarctic ecosystem among other reasons led to the formation of the CCAMLR regime. See Matthew Howard, the "Convention on the Conservation of Antarctic Marine Living Resources: A Five-Year Review", Vol. 38 ICLQ, (1989) pp. 119-110.

(1) Nothing contained in the present Treaty shall be interpreted as: (a) a reununciation by any contracting party of previously asserted rights of or claims to territorial sovereignty in Antarctica; (b) a renunciation or diminution by any contracting party of any basis of claim to territorial sovereignty in Antarctica which it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise; (c) prejudicing the position of any contracting party as regards its recognition or non recognition of any other State's right of or claim or basis of claim to territorial sovereignty in Antarctica.

(2) No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force.

This provision is, however, far from unimpeachable and is definitely not free from controversy. A similar norm was much later included in Article IV of the CCAMLR (1980). It is on this basic rule that all claims of sovereignty jurisdiction and control revolves presently as regards Antarctica. As would be expected the subject of territorial claims to Antarctica was one of the most controversial issues addressed by the Conference that adopted the Antarctic Treaty. The solution finaly arrived at in the form of Article IV was that of respecting the status quo and freezing further claims. The contracting states decided to 'mumify' claims of territorial jurisdiction and sovereignty for at least the next 30 years with respect to the Antarctic Continent.[21] Putting various claims into "cold storage"[22] in accordance with Article IV means that nothing contained in the treaty was to be interpreted as a renunciation or diminution by the states of any territory or to be considered in any way as prejudicing their positions as regards their recognition or non-recognition of any other states claim to territorial sovereignty in that region. Furthermore, any activity that has been taking place since the treaty has been in force, cannot serve to support or deny sovereignty claims in Antarctica. In short no new sovereignty claims or extension of the claims already asserted at the time of drawing up the Treaty would be authorised.

Fortunately, the development of space law did not go through a similar stage and it may be said that claims over Antarctica exist because of the imperialist old law of domination and acquisition which masquraded as international law at the early stages of Antarctic expeditions. However, as a result of the longer history of activities conducted in Antarctica it may be said that the regime of mineral exploitation fashioned for Antarctica is more mature than that for outer space. In operational terms, however, both are less mature compared to the

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[21] Being the period after which any member may call a review if such member is entitled to participate in the consultative meetings.

[22] As some writers put it. See E.T. Rey Caro, "Antarctic Treaty, Air and Extra Atmospheric Space" in International Law: Achievements and Prospects, M. Bedjaoui (ed.) (Doderecht: Nitjhoff, 1991), p. 982.

regime governing mineral exploitation in the high seas. The truth also is that both space law, the law of the sea and Antarctic law have a lot to borrow from each other. For instance, while a much more elaborative regime has been set up to govern exploitative activities in Antarctic law, space law is commendably more unequivocal on the legal status of the entire area involved.

Initial controversies as to whether Antarctica is *res nullius* have been settled, though some writers still cling to this discredited view of the Antarctic Continent. Antarctica simply presents the paradox of a land belonging to nobody in spite of its having been occupied by several states. It is, therefore, *res communis.*[23] Thus, it is necessary to disagree with Ian Brownlie's statement that " ...from the jurisdictional point of view the area (ie Antarctica) is treated as res nullius".[24] The fact that a few states regarded it as *res nullius* does not mean that it is. It was indeed and it remains land belonging to no one but that does mean it is susceptible to outright ownership and control by anyone who gets there. It must be realised that all the international spaces known to mankind today are definitely no longer *res nullius* even if they ever were.

The Antarctic Treaty system is clearly an instance of cooperation that should serve as a model for other such international organisations.[25] Indeed territorial sovereignty and jurisdiction should have no place in Antarctica. This relic of the old law of domination should be discarded promptly. In its place a hybrid of the several suggestions emanating from international lawyers, developing states, international Organisations and NGOs should be established because these propositions appear to have taken into sufficient account the fragile ecology of Antarctica.

Some of the better known legal theories proferred as *lex feranda* for Antarctica include the 'World Park Challenge'. This is a relatively new concept and is not yet properly defined. Kyriak, therefore, is of the opinion that "...before the political viability of any World Park

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[23] Wolfrum wrote: "States expect an economic/political spin off, in terms of a share in the resources and a slice of the last *terra nullius*". See Ramantullah Khans review of Wolfrum's work; Ramantullah Khan, "Book Review", Vol. 25 Indian Journal of International Law, (1985) p. 362.

[24] Parenthesis supplied; Ian Brownlie, Law Principles of Public International, Third edition (Oxford: Claredon Press, 1983), p. 266.

[25] The Antarctic Treaty System is an informal reference in Legal Literature to the following: (a) The Antarctic Treaty (1959) and its recommendations; (b) The Agreed Measures for the Conversation of Antarctic Fauna and Flora, (1964); (c) The Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) (1981). This does not undermine the fact that the latter two conventions stand in their own right. It is also suggested that the Convention on the Regulation of Antarctic Minerals Resources Activities would also be referred to by the term Antarctic Treaty System once the treaty comes into force following 116 ratification or accessions necessary.

proposal is considered it is vital to define the concept".[26] Nonetheless the approach is worthy of active consideration since in any case so many other concepts with which international lawyers deal are still undefined. The phrase 'World Park' has been most often employed by enviromentalists but it has also been used by a host of other writers and political organisations. The emphasis here is to bestow on the entire Antarctic Continent the intrinsic qualities, legal and scientific, of a huge Park held in common for the entire human race. Four basic principles define this concept in relation to Antarctica.

I. The wilderness values of Antarctica should be protected;
II. There should be complete protection for Antarctic wildlife (though limited fishing will be permissible);
III. Antarctica should remain a zone of limited scientific activity, with cooperation and coordination between scientists of all nations ; and
IV. Antarctica should remain a zone of peace free of all weapons.[27]

The 'World Heritage Park' view developed since the mid 1960's and has gathered a lot of followers. This concept developed under the auspices of the United Nations and a spring board from Educational, Scientific and Cultural Organisation (UNESCO). It provides a close parallel and a spring board from which the World Park Concept developed.[28] This view is an extension of the concept of national parks; that is areas which are recognised as having such significance and value to the nation's heritage that they ought to be protected. To be a World Heritage Park, however, such area must;

> ... represent the major stages of the Earth's evolutionary story; represent significant ongoing geological processes, biological evolution and human interaction with the natural enviroment; certain superlative natural phenomena, formations or features of areas of exceptional natural beauty; or contain the most important and significant natural habitants where threatened species of animals or plants of outstanding universal value still survive.'[29]

While it is arguable whether Antarctica fits this description, the approach is useful to the extent that it encompasses the inclusiveability of all states in the ownership of Antarctica and sees the area as the common heritage of all.

Another view and probably the most appropriate suggests that the present regime should be replaced by the CHM principle which already operates over "the Area" in the law of the sea

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[26] Kyriak *op. cit.*, p. 120.
[27] May, ed. The Greenpeace Book of Antarctic, (1988) p. 158.
[28] Kyriak, *op. cit.*, p. 121.
[29] May, *op. cit.*, p. 158.

and over outer space in space law. This agenda has been pushed mostly through the Non-Aligned Movement in the UN system and particularly Malaysia.[30] Needless to say this argument is not popular among the consultative parties especially the claimant states. This is because once this position is accepted not only will the resource utilisation regime reflect this but it will put paid to territorial claims to sovereignty.

It comes as no surprise that of the three approaches discussed only the first one the "Common Heritage" concept has been proposed to apply to outer space and its celestial bodies. The other two are by their very nomenclature unsuitable for outer space environment. It would for instance take a fantastic stretch of the imagination to see Mars or Jupiter as World Parks.

Apart from the freezing of claims achieved in Article 4 of the Antarctic Treaty (1959), other notable features of the Antarctic Treaty are the demilitarisation and nuclear free regimes contained in Article 1and 5 respectively.[31] These provisions put together have ensured so far that Antarctica remains an area of scientific co-operation rather than political conflict.[32] Of particular significance to the enquiry as to whether Antarctica offers any examples for the utilisation of resources in an international commons such as in outer space, it is necessary to note the utility of the mechanism of the Consultative Meetings. This takes the form of biennial meetings as a result of which close to 200 (non-binding recommendations) concerning resource management and scientific activities have been adopted. Importantly, conservation and environmental safeguards have been put in place. A good example of this is the 1972 Convention for the Conservation of Antarctic Seals[33] and the CCAMLR (1980). The

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[30] 'The common heritage approach' also known as the 'world park challenge' has been a major agenda of the Group of 77. This is a coalition of originally 77 developing states who have now grown far much than that number. See Hayashi, "The Antarctica Question in the United Nations", Vol. 19 Cornel International Law Journal, (1986) p. 275.

[31] The requirement of use for peaceful purposes only established in Article 1 of the Antarctic Treaty probably was the very first of such in any international space prior to the repetition of the similar formula in the Outer Space Treaty (1967)[31] and the Moon Agreement (1979). In order to facilitate this aim the Antarctic Treaty (1959) institutes the delimitarization and denuclearization of Antarctica. Activities such as the establishment of military bases and fortifications, military manouvres as well as the testing of weapons are strictly prohibited. However, the use of military personnel or equipment for scientific research or for any other peaceful purpose (Article I paragraph 2) is not prevented. Bases with military personnel exclusively engaged in scientific tasks or activities have in fact been established by some states since the first decades of the twentieth century. See Caro *op. cit.*, p. 978.

[32] The sectors claimant states are noted not to have even exercised territorial jurisdiction in their claimed Antarctic sectors. Therefore, they have not established even customary rights of territorial jurisdiction in these sectors. This attitude demonstrates the absence of territorial jurisdiction in Antarctica. See Kish, *op. cit.*, p. 120.

[33] This Convention was established in advance of possible renewed seal exploitations. It came into force in 1978 and prohibited the taking of Ross, Southern Elephant and Southern Fur Seals and sets quotas for Crabeater, Leopard and Weddel Seals. It also provides for an inspection system regulating an eventual resumption of commercial sealing (U.K.T.S. 45 (1982), Cmnd. 8714; 1080 U.N.T.S. 176; 11 I.L.M. 251). Entered into force in 1978. 16 parties including the U.K. Whales on the other hand are protected by the 1946 International Convention for the Regulation of Whaling, which is not restricted

latter establishes a Commission charged with the conservation of marine living resources, primarily krill (a small crustacean). Thus, the active participation of states interested in Antarctica produced a commendable environmental regulation for that continent.

As regards exploitation of minerals it is to be noted that the Antarctic Treaty (1959) just like the Space Treaty (1957) contained no provisions on the exploitation of mineral resources. In order to fill this gap the 1988 Convention on the Antarctic Mineral Resources Activities was signed into law by states. This provided for stringent environmental safeguards. Interestingly international opinion favoured even more drastic measures in the form of a complete ban on mineral exploitation. Therefore, the 1991 Protocol on Environmental Protection to the Antarctic Treaty was created.[34] The important contributions the Protocol offers for the present analysis are threefold. First, in designating Antarctica as "a natural reserve, devoted to peace and science" (Article 2) it embodies the hopes of humanity in keeping common spaces such as outer space conflict free. Second, the stringent and mandatory rules for environmental protection in Article 3 Annexes I-IV are broadly indicative of the direction space law could be shaped in order to ensure that exploitative activities are in no way harmful to the natural environment. An example, of this is the establishment of the Committee on Environmental Protection. Surely until such a body is created for outer space as well, there can be no assurance of effective policing of the international community's resolve in keeping outer space as free as possible from human contamination and harmful practices. Lastly and probably most importantly the Protocol imposes a ban on mineral resource activity, except for scientific research (Annex V).

The *de facto* moratorium on mineral exploitation in Antarctica serves as a pointer as to what is desirable for outer space territories. Though there are immense reservoirs of natural resources on celestial bodies, there is no reason to believe that even with reckless exploitation they are infinite. Furthermore, environmentally harmful activities may not have a direct effect on earth but that is not a sufficient reason to engage in them. The USSR in any case had always insisted that commercial exploitation should not begin until an international regime including appropriate procedures has been created to govern exploitative activities on the moon in accordance with Article 11 of the Moon Agreement (1979).[35] The US on the other hand kept on rejecting this position. This is probably why the US particularly has refused to

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to Antarctica (U.K.T.S. 5 (1949) Cmnd. 7604; 161 U.N.T.S. 72. In force 1948, 38 parties, including the UK).

[34] 30 I.L.M 1455. Whereas ratification by all 26 Consultative Parties are needed the USA, Russia, Finland and Japan have not done so.

[35] (1979) 18 ILM 899.

ratify the Agreement.[36] It can only be said that this moratorium has not been effectively achieved in space law. Although it is possible to argue that a moratorium already exists *de facto* by virtue of Article 11 of the Moon Agreement (1979). Indeed nothing short of observing a moratorium will guarantee that all possible implications and consequences have been considered before potentially dangerous environmental situations are created through commercial exploitation. Furthermore an eagerness 'to beat other states to it' can only create severe conflicts both now and in the future. It is hoped that by the time states get around to review the Moon Agreement (1979) in accordance with its provisions (Article 18), a similar position as stated in Annex V of the Antarctic Protocol will be inserted.[37]

Quadri, however, thinks that in the final analysis states are interested in the internationalisation of Antarctica not because of its intrisic value, but with regard to the advantages it holds for them.[38] Be that as it may the developing states (as earlier on pointed out) led by Malaysia have been challenging the Antarctic Treaty in the United Nations and other international fora have perfectly legitimate viewpoints. The existing regime is quite exclusive: for example, in order to become a consultative Party and thus, acquire considerable decision-making powers under the treaty, a state must demonstrate an interest in Antarctica "by conducting substantial scientific research activity there" (Article IX Antarctic Treaty 1959). The state of the law is merely a reflection of the desires of the early 'discoverers' mostly European Nations to re-assert undue hegemony over this important area of the world. The hope presumably is that since most states in the world are developing and indeed indigent, there will continue to be just a few states in the 'Antarctic Club'. These exclusively few countries would then continue deciding over issues relating to the whole Continent and sharing its resources. The fallacy inherent in the arguments in favour of the continuance of the

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[36] I.H. Ph. Diederiks- Verschoor, An Introduction to Space Law, second revised Edition (London: Kluwer Law International, 1999) p. 53.

[37] Pursuant to Article 18 of the Moon Agreement (1979); "[t]en years after the entry into force of this Agreement, the question of the review of the Agreement shall be included in the provisional agenda of the General Assembly of the United Nations in order to consider, in the light of past application of the Agreement, whether it requires revision". However, in 1994 when this opportunity arose the matter was indeterminately postponed. Due to a Mexican proposal made in 1996, the Committee for the Peaceful uses of Outer Space adopted in 1997 an agenda item entitled "Review of the Status of the Five International Instruments Governing Outer Space". However, in accordance with the Mexican proposal the purpose of the review of the status of the five legal international instruments governing outer space is not to revise or amend them. Rather, issues relating to improving and maximizing accession to the treaties, as well as their effectiveness, have been raised since the process began. See UN Doc A/AC 105/C 2?L 206 Rev. 1 of 4 April 1997 UN Doc A/AC 105/674; See also Proceedings of the Third United Nations Conference on the Exploration and Uses of Outer Space, "UNISPACE III Delegations Emphasize Environmental Aspects Of Outer Space Technology In Conference's Continuing Exchange Of Views", UNISPACE III SPACE/V/5 AM Meeting 21 July 1999, available at http://www.un.org/events/unispace3/pressrel/e21am.htm.

[38] R. Quadri, Droit International Cosmique (The Netherlands: A.W. Sijthoff Leiden, 1959).

special status of the consultative party formula is clearly shown in the absence of such an arrangement in the treaties regulating outer space even though this is an area not only infinitely larger in scope but also involving great economic and financial burdens. The issues that arise in both environments are of relevance to states that are unable to join in exploratory activities.

The argument raised here is that since decision making over such an important environment as outer space has always been effectively taken in a collective manner by both space powers and non space powers then Antarctica should not be different. In this way Antarctic law has a lot to learn from space law. States like Chile and Argentina that insist on the status quo should be made to realise that their interests are protected on equal terms with every other state under the Space treaties whereas they obviously cannot afford space programms. Chile's claims as typified by a Chilean diplomat's statements that the Antarctic treaty system is not a rich man's club rings hollow. His arguments reflect the very opposite considerations which should inform the development of a legal regime to regulate any international space. He stated unconvincingly that:

> My country is one of the consultative parties. We are not a rich country. We have problems every year in sending our scientists to Antarctica, but we want to participate (in the treaty system because we feel very close to the Antarctic concept. We are very close to the Antarctic Continent ... if a country is interested in Antarctica and cannot afford the expense) it can send a scientist with one of our expeditions and start getting knowledge to be able, in the future, to contribute to the Antarctic Treaty. The two-tier system-I think-it is just and it is a necessity. Otherwise you would have say thirty Consultative Parties and only fourteen discussing all the problems that affect the whole Continent. [39]

Other contemporary writers (prevalently European authors) like Rudiger Wolfrum give support to this two-tier system of the Antarctic Treaty. Wolfrum thinks it is justifiable since the world community has for over twenty years accepted activities of the Consultative Parties in Antarctica and has, thus, acquiesced to the Consultative Parties in Antarctica, the general validity of the Antarctic Treaty as such and the special functions exercised by the Consultative Parties. Wolfrum stretches the tenuous logic of the "special functions" of the Consultative Parties to argue that in as much as the world community has benefited from the performance of such "special functions" by this elite group of states in terms of an enviromentally preserved, dispute-free, demilitarized Continent - that group alone has the legal interest and competence to decide upon the future mineral resources regime for

[39] Cited in Khan, *op. cit.*, pp. 362-363.

Antarctica.[40] Wolfrum, therefore, claims for the Consultative Parties the Status of the "trustees of the world community." He argues that they have been successful performing the role of "trustees".[41] By so doing they should, therefore, be awarded rights over Antarctic resources, "that is recognisable and good as against the rest of the world."[42] Rich tries to justify this position stating that:

> These claims add up to an interest which must be accommodated and the Consulative Parties have virtually admitted as much. In this light it is worth examining the advantages and disadvantages of a minerals regime based on territorial sovereignty. The advantages of a minerals regime based on territorial sovereignty greatly outweigh the two main problems associated with such a regime. Commercial mineral exploitation is not taking place under any other type of regime anywhere in the world. No other regime can offer the same degree of certainty of title, clarity in respect of rights and duties, predictability in day to day administration and economy of super structure. A minerals regime based on territorial sovereignty is not just the best solution with respect to the first two premises, it is the only solution which satisfies these preconditions.[43]

The basic truth is that the two tier system of the Antarctic Treaty attacks that basic norm of International law and diplomatic relations which is the doctrine of equality of states. It also raises questions as to compliance with the legal maxim *nemo judex in causa sua*. For indeed instances abound of grave enviromental degradation caused by some Consultative Parties in their activities in Antarctica.[44] These same treaty members cannot be trusted with the task of effecting necessary changes within the Treaty system nor can they be impartial in the treatment of violations of treaty rules by any member of their elite group.[45] Furthermore none of the Treaty system's efforts to protect the enviroment has created a body capable of effective enforcement, nor has there been any significant finding to date for such enforcement. The

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[40] *Ibid.*, p. 162.

[41] See Roland Rich, "A Minerals Regime for Antarctica", Vol. 31 I.C.L.Q., (1982) p. 715, Wolfrum, *op. cit.*, p. 47 at passim.

[42] . Rich, *ibid.*, p. 717.

[43] *Ibid.*, p. 719-720.

[44] A recent example of serious enviromental damage is the construction of the D'Urmont D'Urville airstrip in the French sector. While information provided by non-governmental agencies has revealed impressively the extent of environmental damage done to the Antarctic enviroment by this construction, it is probably no surprise that no treaty state has done as much as to make any formal complaint. In another instance an Argentine research vessel *Bahia Paraiso* was irresponsibly sunk resulting in substantial oil spil in Antarctic waters and causing severe damage to wildlife and other sea creatures like the Krill. Mr Gbeho of Ghana submitted pungnantly on this disaster that "... we cannot fail to take note of the reports that despite explicit warnings of dangerous ledges and pinnacles in the area, the vessel steamed through the channel, apparently to press national territorial claims to that part of the Continent". Certain states have also been criticised for the routine disposal of untreated sewage in certain sectors.

[45] Kyriak, *op. cit.*, p. 115; UN Doc. A/C 1/44/42; See also Shaw, *op. cit.*, p. 310, Keesings Record of World Events, (1989) p. 37019.

Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) has a functioning Secretariat but the absence of significant powers of inspection and enforcement renders this body relatively ineffective.[46] While it is true that the Treaty System has seen the creation of various enviromental conventions and now even an enviromental protocol has been created, the effectiveness of these agreements must be questioned. In 1959 when the treaty was created there was no real conception of the economic or strategic value of Antarctica.[47] This again is a similar fact relating to the Space Treaty yet a two tier system was avoided. Fortunately, the exclusivity of the Antarctic club is being increasingly questioned in the light of the practices of the treaty states.[48]

In conclusion though the Antarctic Treaty System is designed in part to avoid such international conflict, states continue to be concerned with questions of territorial sovereignty, and the exercise of illegitimate territorial jurisdiction poses great danger to Antarctic Treaty System. Therefore, it becomes pertinent to change the treaty system in its entirety. The developing world should strive to use the relevant U.N. fora to establish this change in the form of a new treaty. Ideally the change should be spearheaded under the provisions of Article XII (2). The provision here (which can be brought into operation since 1991) envisages a situation where any of the consultative members or any other state which acquires that status by "conducting substantial scientific research activity there" (Article IX paragraph 2) requests a conference of all the contracting Parties to be held as soon as possible to review the operation of the Treaty. Such review is long due. But realising that not only a majority of the contracting Parties have to approve of such modification or amendment but also a majority of the consultative members (as defined by Article IX) the chances of success are admittedly slim.

As Caro already notes, the various attitudes adopted by states in relation to Antarctica are fraught with political overtones, which makes it difficult to take a purely legal approach to the problems".[49] Furthermore since the concepts of a Common Heritage of Mankind, World Park, and World Heritage Parks are relatively new and undefined it can be expected that this

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[46] Kyriak, *op. cit.*, p. 115.

[47] *Ibid.*, p. 107. A view holds it that scientists, eager to carry out their work in Antarctica without political constraint and for a common goal of increased knowledge outwitted statesmen, politicians and diplomats. Territorial ambitions, which would either have been a free for all fight, as at 1959 were drowned in the euphoria created by the International Geophysical Year (IGY) - "a triumph admittedly of the spirit of co-operation among scientists of the world". See Wolfrum *op. cit.*, pp. 45-46; In an interesting submission reflecting a deliberate effort to discourage governmental interest a certain Dr. Gould stated to the U.S. Committee on Foreign Relations in 1960: "My profession is geology and I would not give a nickel for all the mineral resources in Antarctica". See Triggs, International Law and Australian Sovereignty in Antarctica, (1986) p. 207.

[48] Kyriak, *ibid.*

inspecificity would be exploited by those states disatisfied with the existing regime. This has been the case not only in relation to Antarctica but also in relation to the CHM principle in the laws of the seas and outer space.

It in fact makes sense to recommend a new territorial regime for Antarctica which would take into cognizance the new concepts which are being evolved to regulate the international spaces. The world has nothing to gain and has a lot to lose from a rigid adherence to old rules in any area or resource of international concern. Kyriak´s view is, therefore, not accepted that;

> the challengers to the Treaty System do not provide a better alternative ... (and only)[50] constitute a real threat. Neither the World Park nor theCommon Heritage challenge fulfill these criteria. The Group of 77, where the Common Heritage challenge arises do not have a particularly credible enviromental record, nor is there any argument supporting their claim that they have a greater ability to govern the Continent in the interests of humankind.[51]

It is also necessary to reject the view that since inhospitable places like the Sahara desert and the Arctic ocean have been subjected to national ownership, therefore, Antarctica may also be subjected to territorial sovereignty.[52] Those holding this view seem to have missed the point entirely. The question is not whether a group of nations are technologically better at exploiting a particular resource area or have better enviromental records nor is it whether an earthly territory can be rightfully occupied for rational use or scientific study. The entire point rests on the Latin expression. *Quod Omnes tangit ab omnes approbatur.* That is, what concerns all must be approved by all. The importance of Antarctica to the ecological balance and climatic conditions of this earth alone, not to speak of its lack of any indigenous population, marks it apart just as outer space as an area not to be subject to any form of territorial sovereignty. In any event it may be neccessary to note that it took a long time to develop a minerals regime for Antarctica. The moratorium on commercial mining is very commendable. This may, therefore, serve as a pointer to the inevitability of the future development of a specific regime for the exploitation of minerals and resources in outer space. It can only be hoped that the obvious pitfalls in the CCAMLR regime for instance will be avoided.

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[49] Caro, *op. cit.*, p. 985.
[50] Parenthesis added.
[51] Kyriak *op. cit.*, p. 115.
[52] Rich, *op. cit.*, p. 214.

8.1: Jurisprudential Basis for Common Ownership, Possession & Control over Outer Space

There are certain contradictions in the argument of those writers who expound the legality of unbridled private exploitation of resources on celestial bodies, which must be dispelled. Christol for instance, admits that, "being unable to possess sovereignty, a State may not create exclusive property rights".[53] Yet he goes on to conclude as follows:

> However, those public entities or those private institutions that have the capacity to engage in exploitative activities are fully competent to do so. They are as required by Article VI of the Principles Treaty, to conform to the "authorization and continuing supervision by the appropriate State Party to the Treaty." As a result of this provision it is clear that parties may exercise important jurisdictional controls. Most importantly, the distinction between national sovereignty, and the right of a State to engage in jurisdictional authority, has been recognised. The extent of such jurisdictional authority will depend upon whether a State is bound by either or both of the 1967 Principles and the 1979 Moon treaty.[54]

But the real issue is not whether private organisations can engage in space exploration because of course they can; however, it is clear that no state may grant exploitative or exclusive property rights to public or private entities, which go beyond that which the state itself possesses under the general principles governing space exploration in international law. In fact the authorisation and continuing supervision required of states is there in order to ensure that the conduct of space exploration and exploitation proceeds in consonance with international law. Furthermore it is important to stress that the jurisdictional duties imposed on states are not limited only to the Principles in the Outer Space Treaty (1967) and the Moon Agreement (1979) but also encompass duties that are laid down under the customary international law that has been developed in relation to outer space activities. Thus, the fact that some space faring states particularly the US, Russia, Japan and China have not ratified the Moon Agreement (1979) does not make it possible for them to totally ignore those rules of space law which are central to the regime created for the moon since they serve as evidence of contemporary international law and may in some cases arguably have become part of customary international law.[55]

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[53] Carl Q. Christol, "The 1979 Moon Agreement: Where Is It Today?", Vol. 27 Journal of Space Law, No. 1 (1999) p. 4.
[54] *Ibid.*
[55] China for instance has recently been reported to announce plans for a lunar station to exploit valuable resources. Again a distinction may be made between exploitation of infinite resources and those that

The effect of both the *res communis* principle adopted in 1967 Space Treaty and the CHM principle adopted in the 1979 Moon Agreement (1979), is to produce a prohibition against the grant of exclusive right to private property. The argument that the *res communis* principle, which prevents a nation from exercising sovereignty on the high seas, but allows their fishermen to exploit fisheries and gives them proprietary rights, also applies to the natural resources in outer space is only correct in the sense that that will be the course the development of the law will have to take once commercial exploitation of outer space resources begins. Moreover, there are important distinctions. Firstly, the practice of exploitation of the high seas for commercial fisheries has been going on for centuries and there is a settled recognition of that fact, prior to the development of treaties regulating the high seas in the last century, whereas the exploitation of outer space resources has hardly begun and the rules contained in the pertinent space treaties are largely in favour of sharing the benefits of exploitation between all states. Secondly as recognised by the United States delegate to the General Assembly conference adopting the Moon Agreement in 1979, even though the Agreement did not specifically put in place a moratorium on the exploitation of natural resources, any such exploitation must be carried out in accordance with Article 11, paragraph 7, and Article 6, paragraph 2.[56]

Article 6 (2) deals principally with the removal of samples for scientific studies. Article 11, paragraph 5 envisages that states parties to the Moon Agreement (1979) will establish an international regime to govern the exploitation of natural resources on the moon and Article 11 (7) provides that he main purposes of the regime shall include; (a) The orderly and safe development of the natural resources of the moon; (b) The rational management of those resources; (c) The expansion of opportunities in the use of those resources; (d) An equitable sharing by all states Parties in the benefits derived from those resources, whereby the interests and needs of the developing countries, as well as the efforts of those countries which have contributed either directly or indirectly to the exploration of the moon, shall be given special consideration. In any case Article 11 (8) very importantly stipulates that all the activities with respect to the natural resources of the moon shall be carried out in a manner compatible with the purposes specified in paragraph 7.

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involve finite mineral resources. The former is typified by the ambition of the Chinese to collect sunlight in orbiting stations and beam either direct light or microwave energy down to earth-based collecting points. See John Gittings and Tim Radford "The Moon –a Giant Leap for the Chinese who Spy a Business Opportunity in Space", The Guardian, Tuesday 21 May 2002, p. 3.

[56] UN Doc. A/SPC/34/19, 6, 7 November 1979. Note particularly Article 11 (8) which stipulates; All the activities with respect to the natural resources of the moon shall be carried out in a manner compatible with the purposes specified in paragraph 7 of this article and the provisions of article 6, paragraph 2, of this Agreement.

A possible argument that may be presented is that if commercial exploitation can only take place in accordance with Article 11 (7) and that paragraph simply explains what is to be achieved by the envisaged international regime for the exploitation of natural resources on the moon as demanded by Article 11 (5) then commercial exploitation may only begin after that international regime has been put in place.

Even the Outer Space Treaty (1967), which is considered user friendly by the proponents of the theory that exploitation for commercial benefits is currently permitted, expressly stipulates in Article II that, "Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means". This means that the drafters acknowledge that appropriation may arise by 'use'. Therefore, it may be argued that it is not possible even under this treaty,[57] for any state to exploit resources on the moon for commercial benefits without at least by implication 'appropriating' it.

The requirement in Article IX that a state which is about to conduct an activity which may potentially cause harmful interference with activities of other states parties should undertake appropriate consultation before proceeding with such activity also supports the argument that any state that wants to introduce commercial exploitation must first of all embark upon international consultations. In order words such a state even if not a party to the Moon Agreement (1979) must consult with the parties to that treaty as well as the parties to the Outer Space Treaty (1967) before commercial exploitation begins. In any case one of the most likely candidates for such a move in the near future the United States has already committed itself upon the conclusion of the Moon Agreement (1979) to future participation in negotiations respecting the establishment of an international regime for governing the exploitation of the moon's natural resources.[58]

There is no doubt that the wish of the space faring states is to be able to carry out extensive commercial exploitation of available resources on the moon and eventually on other celestial bodies. This reality also informs the arguments of many writers on the subject. However, it may be said that pretending that the present laws allow unbridled commercial exploitation based upon property rights is not the way to go about it because they clearly do not. The

[57] To which very importantly the space faring states that have expressed the wish to embark on commercial exploitation (mainly the US, China and Japan) are parties.
[58] A representative of the US also stated that the US "would, when and if negotiations for such a regime were called for under articles 11 and 18, make a good faith effort to ensure that they are successfully concluded". UN Doc. A/SPC/34/19, 6, 7 November 1979.

problem is also not with the Moon Agreement (1979) as many writers have sought to argue.[59] The real issue is that further consultations and international negotiations are still required before large-scale exploitation of the moon's resources may begin. This has been envisaged by both treaties that have been considered and cannot be ignored by any state which wants to embark on space mineral exploitation. This is also a reality that must be coped with by both statesmen and writers who advocate the concept of space 'real property rights'.[60] It is, therefore, possible to question the objectivity of views such as those of Professor Bin Cheng when he stated that the Outer Space Treaty (1967) "while it precludes the space powers from appropriating territorially portions of outer space, the moon and other celestial bodies, leaves them free, *notwithstanding views to the contrary*, nevertheless to appropriate their resources".[61] (Emphasis added). If indeed the common heritage principle is in any way vague and imprecise then the right to real property on the moon is even more vague as no such thing is mentioned in any treaty.

The Aristotelian analysis of justice may still serve as a crucible into which we may pour the current problems of air and space law of the 20th and 21st Centuries. Thus, it is sensible to adopt the distinction between particular justice and universal justice on one hand and distributive and corrective justice on the other hand.[62] While it may be taken for granted that justice has been achieved with respect to the airspace in that every state has exclusive jurisdiction in its national airspace, the enquiry remains particularly relevant and of contemporary significance with respect to the regime governing control over outer space based resources. There is credibility in the jurisprudential premise that distributive justice is based on the principle that there has to be an equal distribution between equals and that corrective justice restores equality whenever this has been disturbed (for example by a

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[59] See for example Christol *op.cit.*, p. 4. *Cf. supra* Chapter 7.3: (The CHM Principle and the Arguments for and Against Property rights in Space). Note particularly such views like that of Kosmo that "the quality of America's future social and economic welfare is inextricably intertwined with the successful commercialisation of space by American private enterprise". (Quoted in C.Q. Christol, The Modern International Law of Outer Space, (Pergamon Press, N.Y., 1982) p. 318.) and Baca's view that "...the issue of sovereignty be reconsidered in space, as some form of sovereignty is an absolute necessity to the guarantee of the property rights required for the development of space resources". Anderson K. Baca "Property Rights in Outer Space", Vol. 58 Journal of Air Law and Commerce, (1993) pp. 1044-1045.

[60] See W.N. White, Jr., "Real Property Rights in Space", 40 Proceedings Colloq. L. Outer Space (1998) p. 380.

[61] *Ibid.*; It is obviously not enough for scholars to adopt the position of the proverbial ostriches that bury their necks in the sand. A lot of intellectual effort has been expended by some writers to proclaim property rights that simply are not there presently. Their position is very well captured in the opening quote to Christol's Article which interestingly attempts to dismiss the formidability of the Moon Agreement (1979) as an obstacle to the concept of space propertisation: It reads: "As I was going up the stair I met a man who wasn't there. He wasn't there again today. I wish, I wish he'd stay away." (Hughes Mearns, 1875) See Christol (1998) op. cit., p. 1.

wrongdoing). The relevance of these terms in relation to the ongoing debate about the legal status of outer space and its resources comes into sharper focus in the next few paragraphs.

To start with it may be necessary to recall the principle of the equality of states. Just as in the municipal setting justice connotes the legal equality of all persons so also among nations, equality of states reign supreme. One of the most opportune areas to test the doctrine of state equality and the obligation to take into consideration the interests of other states in resource management is found in relation to the special problem of the geostationary orbit.[63] Note that it has been concluded that there is no basis for excluding the legal nature of that orbit from the legal nature of outer space in general at least for the purposes of application of the CHM principle. The unfortunate situation has arisen in which the geostationary orbit is being clogged up by satellites that belong to a few states. Since the geostationary orbit is a finite resource, the *de facto* commandeering of slots must not be allowed to impede distribution and access to it by a few active states. It is clear that the present position with respect to geostationary orbit use, whereby the orbit is occupied principally by a few countries, accompanied by prompt replacement of spent satellites with newer satellites is unacceptable. Surely if it continues it may mean that other states may not in the future have orbital positions and related frequencies available.[64]

Significantly the CHM principle in at least this instance also works against the selfish instincts informing the usual positions taken by both developed and developing states. On the one hand, it renders untenable the central thesis of the Bogota Declaration (1976) in that no equatorial state can validly claim sovereignty over the orbit since it is the property of all. On the other hand in line with the corrective aspects of justice the 1985 Report of the Legal Committee on the Peaceful uses of Outer Space (UNCOPUOS) recognises that by reason of their geographical position the equatorial countries should be considered as having special rights to segments of the geostationary orbit superjacent to their territories.[65] Yet there is the

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[62] See Aristotle, Nicomachean Ethics, V. trans. Rackham (Cambridge: Harvard University Press, 1968). See also R.W.M. Dias, Jurisprudence, fifth ed. (London: Butterworths, 1988) p. 65.

[63] For further discussion of the issues relating to the geostationary orbit see *infra* chapter: 10.4: The Bogota Declaration View. Note particularly the Bogota Declaration of 3rd of December 1976; ITU Document WARC-BS (1977) 81 E of 17 Jan. 1977. Text available in Journal of Space Law (1978) p. 193-196. The parties to the declaration are Brazil, Columbia, Congo, Ecuador, Indonesia, Kenya Uganda and Zaire.

[64] The geostationary orbit is a finite resource that can be 'clogged up' in the sense that there is in reality only a few 'parking spaces' in that orbit in which satellites can be placed along the same plane, for efficient coverage of the earth and without interfering or crashing into other satellites. What makes matters worse is that after a number of years some satellites wander off course and can very easily crash into nearby functioning satellites. See further Maurice N. Andem, International Legal Problems in the Peaceful Exploration and Use of Outer Space, (Finland: University of Lapland, 1992) p. 162.

[65] See A/AC.105/352 (April 11, 1985) pp.32-34; see further A/AC.105/370, pp.19-27.

likelihood in this century that an equatorial state may wish to launch its own satellite or group of satellites and would be told it cannot do so by the International Telecommunications Union (ITU) because there are no available positions or frequencies for it. The ITU under its present rules may be justified in placing precedence to those states which have already launched satellites in accordance with its 'first come first served' policies. But then, it may well be argued that it would be completely inequitable to expect an equatorial state to accept such a scheme as just. By virtue of geophysical realities there can be no equality of circumstances at least in a factual sense between it and the non-equatorial states, which monopolise the orbit.

A simple way of providing for the interests of these states is to make special slots available for them now and reserve them in perpetuity even if they do not yet have the technological capabilities to exploit the geostationary orbit. This it must be emphasised does not create ownership or sovereignty over the orbit as it is recognised for the airspace. It merely creates a licence to operate geostationary satellites and recognises the importance of justly sharing the finite resource that the geostationary orbit constitutes.

This brings us back to the question of equality. Aristotle claims that justice is equality but only among equals, and inequality is just but only among the unequal. Therefore, he enjoins, that we treat equals equally and the unequal, unequally. Applying this to the regimes governing airspace and outer space, it must be said that both benefits and burdens must be shared equally among states. The benefits of the 'equal' distribution of sovereignty in the airspace include the right to exclude unwanted foreigners, goods, flying objects, the assurance of state security, aviation safety, financial gain through the use of airspace as bargaining chips, etc. The burdens may be said to include the obligation to respect the sovereignty of other states over their own airspace, the duty to observe rules such as the privileges and duties exchanged in the Five Freedoms and Privileges Agreement.[66] In relation to outer space, benefits include the recognition of equal access to outer space (i.e. both orbital flight paths and celestial bodies). An adjunct of the right of access to outer space is the right to ascend into outer space and to descend. This operates as derogation from airspace sovereignty in that the airspace of a state might be traversed for this purpose. Other benefits include the freedom to engage in scientific experimentation and exploration, the removal of samples from celestial bodies, space tourism and the establishment of space stations.

Delineating the burdens to be shared may prove to be more difficult. Presently some developing states seek an active role in different areas of space exploration. These include

China, India, Brazil, Argentina, Indonesia, Pakistan, Mexico, Iran, and Nigeria. Nigeria for example, announced with fanfare in 1986 its plans to launch space based telecommunication satellites in the 1990s.[67] In the early months of the year 2000, the President of the country announced that he was sorry but the scheme would have to wait, as there were more pressing priorities of development. Save the obligation to assist in the return of space objects and astronauts which exists in treaty law, most states simply do not stand the chance of bearing the smallest burden neither do they make even the minimal capital outlay towards outer space activities. In this way alone it becomes difficult not to see that following the Aristotelian analysis of justice there may be an amount of injustice in a regime that shares all benefits and burdens equally among transparently unequal states. If some states expend tremendous effort both in financial and intellectual terms in order to engage in outer space activities, it may indeed be argued that they deserve some preferential treatment in the sharing of rights and liabilities. An alternative will be to ensure that all states have an active participation in Outer Space activities, say for example by making equal contributions to a common body, which engages in Space exploration. However, it may be unjust to share such a burden among handicapped or disadvantaged states, which are patently unlikely to possess the necessary capacity to discharge them.

This brings us to the inescapable conclusion that scholars must locate the rationale/ justification for the prevailing regime of common ownership and control over outer space in something else apart from bare reference to the concept of 'equality'. Obviously the CHM principle/ province of mankind formula are based on the idea of distributive justice and as Dias correctly notes justice is a process, a complex and ever shifting balance between differing factors an aspect of which is equality.[68] Therefore, the better view will be to state that the common ownership over outer space is a factor of universal justice. The prevailing principles operate on the basis of the common good of all states. Again it must be reiterated that just as it is makes for world order and peace that all states possess exclusive jurisdiction in national airspace, so also is it equally in the universal interest that all spatial territories above sovereign airspace should not belong to any state. Admittedly this is no more than a value judgment but it is one, which accords with international peace and harmony as well as the general tenor of the development of space law so far.

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[66] The Chicago International Air Transport Agreement 1944. BFSP 1; 171 UNTS 387; In force since 1945. 11 parties; UK not a party; *Supra* Chapter 2.
[67] Andem *op. cit.*, p. 165.
[68] Dias *op. cit.*, p. 66.

This reservation of mineral exploitation in outer space until a time in the future when an equitable regime of sharing has been established is a political and legal requirement. The right of all states to contribute to the development of this regime has nothing to do with the relative capacities of states to engage in scientific research. It is better to adopt the 'theory of justice'; used by John Rawls, to explain the fact that inequalities of wealth and authority are irrelevant to the imperatives of maintaining compensating benefits for everyone, and in particular for the least advantaged members of society. This is because it is undoubtedly an intuitive idea that everyone's well being depends upon a scheme of co-operation without which no one could have a satisfactory life. The division of advantages should be such as to draw forth the willing co-operation of everyone taking part in it, including if not particularly those who are less well situated.[69] However, much attention must be paid to Dias' view when he wrote that; "It is not enough to work out a just scheme of distribution, from whatever point of view but there is the further problem of getting it accepted and keeping it acceptable; which requires constant redistribution according to changing circumstances".[70]

It might be suggested, therefore, that rather than introduce the concepts of sovereignty or property into outer space what may be needed is a realignment of duties with respect to state participation. It may not be enough for states to send delegates to UN fora where legal and policy issues relating to outer space are deliberated upon such as the Committee for Space Research (COSPAR) and the UN Committee on the Peaceful Uses of Outer Space (COPUOS) but they may have to contribute in small ways at least to actual space research and projects. The modalities of this would have to be created under the aegis of the United Nations System.

8.1.1: The Significance of Morality

The claim by some writers that there is no room for morality in the creation of international law deserves some consideration. It is thought for instance, that moral considerations are unnecessary in space law since there have been no serious conflicts with respect to outer space. Also connected to this is the argument that the lack of a demarcation between the airspace and outer space has not generated any serious conflicts. Plausible as these arguments may sound they are not acceptable because it is very possible that serious conflicts have been avoided so far as a result of the moral content and equitable considerations inherent in the law. In other words, military and political conflicts may have been defused well ahead by the existence of those very laws which critics of the present regime claim are unnecessary.[71]

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[69] John Rawls, (1972) quoted in M.P.A Freeman, (ed.) Lloyd's Introduction to Jurisprudence, (London: Sweet and Maxwell Ltd., 1994) p. 466.
[70] Dias *op. cit.*, p. 66.
[71] The relation of law to morals was one of the three subjects most debated by nineteenth –century jurists, the other two being the nature of law and the interpretation of legal history. Jhering called it the

The assertion of Sir Harold Nicolson that "[t]here does not exist such a thing as international morality" is inapplicable to air and space law.[72] The preferred view is that held by Arnold Wolfers who wrote; "the 'necessities' in international politics, and for that matter in all spheres of life (that states) do not push decision and action beyond the realm of moral judgment". Earlier discussion in this thesis has shown that considerations of morality had an influence on the development of air law. It is sufficient to recall that examples of this include the universal response to the heinous crime of aerial hijack;[73] the formulation of the *aut dedere aut punire* principle and Article 3 of the Chicago Convention, which states that states must refrain from the use of weapons against civil aircraft in flight as being incompatible with elementary considerations of humanity (Declaration 4).[74]

Clearly this is one of the reasons why the major air and space treaties are replete with provisions that recognise the imperatives of preventing economic avarice from making an inroad into spatial territories.[75] Rules of law, which permit commercial exploitation for private ends, were not advanced even though the Cold War was raging around the time the first space flight and the first moon landings took place. Indeed the United States delegate after the approval of the Moon Agreement by the COPUOS and Committee Four of the General Assembly in 1979 stated expressly that this 'balanced' and 'reasonable' agreement "would have to meet the approval of the United States Senate".[76] The United States also committed itself to future participation in negotiations respecting the establishment of an international regime for governing the exploitation of the moon's natural resources. International law and politics is, therefore, rooted in ethics. States and non-state actors share a basic moral vocabulary. Therefore, if a sceptic of space law poses the question, what stops a state from acquiring outer space resources solely for its exclusive use and in an unbridled manner, the answer would be "international law forbids it". It may also be asserted that unbridled exploitation of the moon's natural resources without reference to the expectation that it is an international commons also offends international morality. Needless to say any

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Cape Horn of jurisprudence. The juristic navigator who would overcome its perils ran no risk of fatal shipwreck. Roscoe Pound, *op. cit.*, p. 215.

[72] H. Nicolson, Diplomacy, 3rd ed. (NewYork: Oxford University Press, 1973) p. 147. See Arnold Wolfers, Discourse and Collaboration Essays on International Politics, (Baltimore: Johns Hopkins University Press, 1973) p. 147.

[73] *Supra* Chapter 3.2: Control over Unlawful Interference with Civil Aviation.

[74] Note also the Declaration Adopted by the Council of the International Civil Aviation Organisation at the Ninth Meeting of Its 156th Session on 10 March 1999. See *supra* Chapter 5.0.2: Aerial Intrusion by Civil Airliners.

[75] The preamble of the Chicago Convention (1944) for instance stipulates that the development of international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to the general security.

[76] UN Doc. A/SPC/34/19, 6, 7 November 1979.

state(s), which disregard this, attacks the rationale of its own peaceful existence. This reasoning is further reinforced by the experience of the erstwhile USSR, which was a space power and the pioneer in manned space flight. As events turned out the USSR today exists no more and Russia the main successor to its outer space programmes can hardly fund space exploration. In fact it has recently lost its last independent space station -the Mir station. Fortunately the USSR had from the beginning of its involvement with space activities acknowledged outer space as *res omnium extra commercium.* If this had not been so, it would have secured for itself a merely transient victory.[77] The lesson to be learnt is that contemporary technological capability in any sector (aviation, Antarctica, high seas, or outer space) is not good enough reason to advance positions that are not in line with the general international interest.

In essence to ask whether it is fair and moral that the moon should be free for all nations at all times is to beg the question. Naturally a scholar adopting a capitalist, he- who- dares- wins approach would advance the position that if there is gold on the moon whoever can fetch it should keep it.[78] The truth, however, is that astronomically the moon is the earth's natural satellite. Any adverse changes to the moon's geophysical and environmental state will be of concern to the entire mankind. Its resources may eventually be utilised but at this stage its use must be protected and managed in the interest of both the present and future generations of mankind. Since no one is capable of laying claim to the earth then no one can own the moon.

Another justification of the morality of the prevailing regime lies in the fact that international law particularly Article 2 (4) of the UN Charter enjoins all states to eschew wars.[79] History has shown that many major wars have arisen from conflicts over territorial conquests.[80] The

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[77] *Supra* 7.3: The CHM Principle and the Arguments for and Against Property rights in Space. Note the position taken by Soviet scholars. Y.A. Korovin. He eloquently submitted: "of possible conception of outer space -either as 'no one's', belonging to no one (*res nullius*) or as an object of common use (*res communis omnium*) we in my opinion, should choose the second one, naturally, if the other states take the same stand." Quite prophetically, he continues; "...proceeding from the conception of outer space as an object of common use for all mankind, it is necessary to recognise that forms and methods of this "common possession" can be established only with the mutual consent of all 'users' i.e., as a result of international agreement among all the states interested in the exploration and use of outer space". Y. A. Korovin, "Conquest of Outer Space and problems of International Relations", International Affairs, (1959), p. 90. See also A.S. Piradov (ed.), International Space Law, (Moscow: Progress Publishers, 1976 p. 86.

[78] *Cf.* the views of President Mahithir of Malaysia *supra* note 17.

[79] All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the purposes of the United Nations. Note also the 1970 General Assembly Declaration on Principles of International laws concerning Friendly Relations and Co-operation among States U.N.G.A Resolution 2625 (XXV); note further Article 2 Moon Agreement (1979).

[80] Particular note must be taken of the wars and conflicts resulting from the expansion of colonial territories by the European powers.

morale, therefore, is that the moon and other celestial bodes must not become the theatre or subject of conflicts in the future. Andem is correct in noting that;

> It is logical and rational that anything common and general to all, calls for the general agreement of those concerned to formulate rules regulating its use and disposal...Any exploitation of the moon, for instance, through mining might affect the geophysical structure and composition of the atmosphere surrounding our earth, which would in turn have severe consequences not only on those states now actively engaged in the exploration and exploitation of outer space, but on all other states, developed as well as developing.[81]

There is no doubt that the entire world has an interest in the development of space activities as a writer correctly put it; "This notion of 'general interest' is not to be taken for granted and requires to be re-defined in reference to the fast development of modern technology that mostly benefit those (a few hundred million people) who control them while others (billions of people) still creep in the back, fighting for their essentials in life".[82]

8.2: Summary and Conclusions

Outer space is the most recent to be conquered in the trilogy of most important international spaces. Before the utilisation of outer space based resources can commence on a large scale or for commercial benefits, an elaborate legal regime would have to be developed. At this stage there is no such regime in place. However, as a result of the CHM principle, which applies to outer space and the celestial bodies, commercial exploitation is presently forbidden. Due to the growing restiveness of certain developed states particularly those states that also have been the keenest to exploit the deep-sea bed and Antarctica, it is imperative that all independent states should consider an exploitation regime shortly. Reasons for this include the potential for damage to the environment and the growing importance of outer space activities in the conduct of technological and scientific development. It is also important to put in place a progressive system before illegal or divergent state practice emerges in terms of space exploration and exploitation.

Before there can be any form of commercial exploitation of resources based in outer space an autonomous regime must be established under space law, with legal bodies of its own and in

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[81] Andem *op. cit.*, p. 95.
[82] Patrik A. Salin, "An Overview of US Commercial Space Legislation and Policies –Present and Future", Vol. XXVII Air and Space Law, No. 3 (2002) pp. 209-210.
[82] 35 U.S.C. ssc. 101 *et seq.* (1982).

effective control of all activities. The Enterprise which was created for high sea-bed mining provides a good model upon which a similar organ for space exploitation may be based. The employment of "joint ventures" for outer space mining activities as is designed for the deep-sea mining is also recommended. However, unlike developments in the deep-sea regime the obligation of states Parties to finance an Enterprise mining activities must be retained. The amounts to be contributed may, however, be calculated on means related criteria. In the absence of this regime there can be no legal basis for the introduction of the concept of property or appropriation over resources based in space and on celestial bodies. It is hoped that when eventually such a progressive utilisation regime over space-based resources is put in place there would be scope for active participation in outer space activities, for all states irrespective of size and financial resources. A proportionate contribution system to the common body, which engages in Space exploitation, is desirable. It would clearly be unjust to share equally the burden among handicapped or disadvantaged states.

In terms of environmental concerns it would appear that the emerging space law has a lot to learn from the development of the Antarctic regime. An example, of this is the establishment of the Committee on Environmental Protection. The equivalent of this organ would also be necessary to take control over environmental issues arising from outer space exploration and exploitation. Surely until such a body is created for outer space as well, there can be no assurance of effective policing of the international community's resolve in keeping outer space as free as possible from human contamination and harmful practices. The establishment of such a specialised body is also a *sine qua non* of the commencement of large-scale mineral exploitation of outer space based resources.

It is important that an invidious system of special status for certain states such as the 'consultative party' system that exist under the Antarctic system is not introduced into outer space law. All states must remain equal in all respects possible under the Space Treaties. This is to avert similar hostility to the concept of consultative parties and the hegemony they possess as found in relation to the Antarctic regime. The present system also provides the best possible checks on any potential excesses that may arise in the practice of space exploration. It suffices to repeat that the repercussions of any dangerous activity in space exploration would more likely than not be felt by all states or other states apart from the particular state that conducts the activity. It is not enough to work out a just scheme of distribution, but such a system must be achieved through compromise and negotiation. This will entail getting it accepted and keeping it acceptable. This of course requires constant redistribution according to changing circumstances.

What must be avoided at all costs is a situation whereby a few states share the commercial, technological or scientific benefits that accrue from outer space exploration and exploitation between themselves alone without reference to the envisaged regime of international cooperation and equitable sharing stipulated in the major space treaties. Furthermore it may indeed be reiterated that it is better if no commercial exploitation ever takes place on celestial bodies than for severe environmental damage to be done to the earth through the repatriation of resources from outer space. It needs also be considered if indeed human exploitation should be allowed to cause irreversible geophysical or environmental degradation to other celestial bodies all in the cause of generating economic profit for the present generation. It may also be better that a moratorium on exploitation is established to cover the better part of this century somewhat along the lines of the 50-year moratorium placed on the exploitation of Antarctica's natural resources, rather than for the world to be drawn into such international conflicts as was witnessed in the scramble by the colonialists for overseas territories, in Africa, Asia and Latin America. Lastly it must be realised that not all things that can be exploited should be exploited. The fact that technology someday makes it possible to commercially exploit the air we breathe by for instance harnessing it in some form and making it scarce for resale does not mean that the law should lend legitimisation for such an abomination.

The jurisprudential basis for common ownership, possession and control over outer space can be said to be based on the simple logic that what concerns all must be approved by all. The principles of equality of states, justice and the theory of *nemo dat quod non habet* apply to outer space. Therefore, the better view will be to state that the common ownership over outer space is a factor of universal justice. The use of all potentially finite resources must be regulated tightly under an effective international regime. Thus, resources such as the geostationary orbit need to be regulated under more effective laws, which make the *de facto* commandeering of slots impossible, by a few active states. It is clear that the present position with respect to geostationary orbit use, whereby the orbit is occupied principally by a few countries, accompanied by prompt replacement of spent satellites with newer satellites without any allowance for the future interests of developing states is unacceptable and may eventually culminate in friction and disputes among states. It is not difficult to predict that both the technology and ability to place satellites into geostationary orbit will become feasible to very many states within the course of this century. The ITU policy of 'first come first served' may not be adequate to cope with this eventuality and may in fact occasion indirect injustice in certain cases.

There is significant scope for the operation of the precepts of morality by states in their exploratory activities in outer space. Just as certain principles regarding the exercise of

jurisdiction and control in the airspace have a moral basis so also there is a moral basis for the CHM and province of mankind principle in space law. International morality does forbid the appropriation of outer space for private ends either by the nation-state or by private individuals and corporate bodies. This is why technological capability or superiority in any sector (aviation, Antarctica, high seas, or outer space) has never been the sole necessary and sufficient reason to secure hegemonic interests over and above the general international interest.

CHAPTER NINE

9.0: JURISDICTION AND CONTROL *RATIONAE INSTRUMENTI* AND *RATIONAE PERSONNAE* IN OUTERSPACE

9.0.1: Jurisdiction And Control Over National & International Space Stations

It must be emphasised that the advent of space stations is a notable advance in the legal and scientific history of space exploration. The impending proliferation of national and international space stations in this century opens up new vistas for legal studies particularly in the area of civil and criminal jurisdictions. Space stations may be said to consist of two kinds: a long -life spacecraft generally geostationary, placed in free space or an established post or centre constructed upon a celestial body.[1] Space stations can exist for a determined or fixed period or can be of a permanent and on going nature. There is an increasingly international dimension to the ownership and running of space stations. There is also an increasing involvement and participation at various levels of private organisations in space station activities. These factors cannot but render the legal regime governing space stations more complex compared to that of the national aircraft in foreign airspace or in international airspace.

The international dimension to the operation of space stations reflects in the definition and characterisation offered by many authors on the subject. In fact as far back as 1974 writers such as S. Robinson wrote that the international space station is characterised in part as a "quasi-permanent habitat, with mixed sexes, representatives of various cultures, different races, alien life support systems, acute sensory deprivation/overload, etc.".[2] Recently Diederiks-Verschoor in describing the salient features of Space stations noted that:

> One characteristic they share is the high level of international co-operation required to assemble them and to ensure their operational efficiency: this is largely due to their multi-purpose activities and the complexity of the structures involved. Another thing they have in common is the size of the structures, a necessity imposed by

[1] J.E.S. Fawcett, Outer Space New Challenges to law and Policy, (Oxford: Claredon Press, 1984) p. 86.
[2] George S. Robinson, "Scientific Renaissance of Legal Theory: The Manned Orbiting Space Stations As a Contemporary Workshop", Vol. 8 International Lawyer, No. 1 (Jan. 1974) pp. 20-21.

> their wide-ranging functions. A third common factor is that space stations must be adequately equipped for many years' service.[3]

It should not, however, be assumed that the classification of what is and what is not a space station is an easy task. The differing and sometimes conflicting definitions found in legal literature attest to this. G.P. Zhukov states that a space station may be defined as, any object or its component launched into outer space or constructed there for the direct exploration and utilisation of outer space, including the moon and other celestial bodies, and also the launch vehicle for such objects or any parts thereof.[4] This definition includes artificial satellites of the moon, spaceships, orbital platforms, interplanetary stations and laboratories. For this reason it is considered too wide a definition making it capable of bringing within the scope of discussion objects best treated separately, therefore, creating analytical confusion. A spaceship does not have to be considered under the definition of a space station unless of course by a layman whose understanding of what a space station is may be limited to the fictional 'Star Trek'. This may be just as inappropriate as defining an aircraft to include airports.

For a suitable definition Diederiks-Verschoor suggest that we must turn to the 'Background Paper on Space Stations and the Law' prepared by the United States Government. For the purposes of this report a space station is "...an object, or a collection of objects, which is in an intentional long-duration orbit and is, at least in part habitable". An explanatory note points out that this definition explicitly excludes space transportation systems like the Space Shuttle.[5] It is important to adopt such a fairly flexible definition. This definition is acceptable and has been adopted by this thesis. Thus, structures like the Salut -Soyuz, Skylab, Spacelab, Mir and the International Space Station Freedom now called Alpha are all space stations. Nevertheless some scholars have argued that Skylab was not a real space station because it was not a station that could have been used over a multi-year period.[6]

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[3] I.H. Ph. Diederiks- Verschoor, An Introduction to Space Law, second revised Edition (London: Kluwer Law International, 1999) pp. 90-91.

[4] G. P Zhukov, Artificial Satellites for Meteorology and Radio Communication, (Moscow: Naula Publishers, 1970; See also A.S. Piradov (ed.), International Space Law, (Moscow: Progress Publishers, 1976) p. 130.

[5] US Congress, Office of Technology Assessment, Space Stations and the Law: selected legal issues, Background Paper, OT-ABP-ISC-41, August 1986.

[6] See K.-H. Bockstiegel, "Legal Aspects of Space Stations", Proceedings 27th Colloquium, (Lausanne, 1984), pp. 225-229.

The functions space stations perform include data gathering, transmitting of information, material processing, repairing facilities, energy-generation, storage facilities and scientific research. The construction of huge space stations capable of holding a large population of people is well within contemplation.[7]

9.0.2: Nature of Jurisdiction over Space Stations

The special problem posed by space stations was correctly identified by the older authorities in space law. Fawcett observed in 1968 that a space station whether manned or unmanned on the moon or mars would require freedom from interference with communications between it and the Earth and with any observations, physical or astronomical it engages with. If the station is manned then there would be the need for free movement around it and for use of any mineral resources in its vicinity, that might serve as fuel.[8] For space stations in free space such as the erstwhile Mir and its successor Alpha, the problem of space debris is of grave importance. This is because most man-made debris in outer space is found in the vicinity of space stations. It is in fact only a matter of time before damage to a space station caused by debris will lead to legal and political conflict.[9]

As was noted above, although the major powers are apparently prepared to date to accept the non-national regime created for the celestial bodies (despite recent attempts to introduce appropriation of natural resources) their view has always been that objects and stations placed on these bodies by them are to remain under national ownership, jurisdiction and control.[10] Indeed it is difficult to see how a permanent station could be maintained without some form of tenure of the ground on or under which it is placed. The same goes for the area around the station sufficient for its maintenance, effective use including necessary rights of way. As a result of this it may be noted

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[7] Individual space station components mentioned most in scientific and legal literature are as follows. Laboratory modules for scientific research; unmanned, remote controlled 'orbital manoeuvring vehicles' to service instruments on platforms and free-flying satellites; orbital construction facilities, fuel dumps and 'dry docks' for satellite assembly and maintenance; a reusable orbital transfer vehicle to ferry satellites into geosynchronous orbit. See Diederiks -Verschoor *op. cit.*, p. 91; See also W. Von Kries, 'State Supervision and Registration', in Space Stations, Legal aspects of scientific and commercial use in a framework of Transatlantic co-operation, Proceedings of an International Colloquium, K.-H. Bockstiegel, ed (Hamburg, 1984) *passim.*

[8] J.E.S. Fawcett, International Law and the Uses of Outer Space, (U.S.A.: Oceana Publications Inc. 1968) p. 27.

[9] It has been recommended that current space stations could be designed and used for debris-tracking purposes. See Dierderiks-Verschoor, *op. cit.*, p. 98.

[10] Houston Lay and H. Taubenfeld, The Law Relating to Activities of Man in Space, (U.S.A.: The University of Chicago Press, 1970) p. 99.

that the closest analogies to the space station in jurisdictional terms are the Antarctic station and artificial islands on the high seas.

According to Fawcett, the essential elements of such tenure should be as follows: (1) That the establishment of the station and the area required for its operation should be notified to the Secretary-General of the United Nations. (2) That the area so notified be reasonably proportionate to the size, functions and needs of the station. (3) That the station and area notified would be under the exclusive jurisdiction of the state of registry of the spacecraft bringing the component parts of the station. (4) That the station should be permanent, in the sense that, whether affixed to the ground or not, it is not to be returned to earth again.[11] It would appear that all but the last two points are quite essential to the law governing space stations. It would also appear that the author's insistence upon the last point arises out of a faulty interpretation of Article 8 of the Space Treaty (1967) which states that a state party on whose registry an object launched into outer space is carried shall retain jurisdiction and control over it. This provision is, however, not designed to deny the real owner of a space object or station the continued enjoyment of property merely because it is carried on the spacecraft of another state (this of course is the implication of Fawcett's third point). It is crucial to make this distinction in the light of the recent development of the space shuttle. This particular species of spacecraft has made possible the construction and operation of space stations by a state that cannot or does not want to invest in the building of launching crafts. The shuttle can assemble prefabricated modules and the docking of space shuttles with existing space stations presents unique opportunities of co-operation and specialisation especially for developing countries. This should not be prevented by an unfortunate interpretation of the law. The important thing is that the owner of the space station or the space object must have registered it on its own registry and that of the UN as later on stipulated by the Registration Convention (1975).

In short for the purposes of determination of jurisdiction it is the state, which registers the space station with the UN, and on its own register, that matters and not the state, which registers the spacecraft. As regards the thesis that the space station must remain permanently in space, this is a non-existent rule in any space treaty and it does not serve any useful purpose. Whether or not a space station or parts of it is returned to earth, the important thing is that the tenure of its existence in outer space should have been successfully and legally obtained before it is launched.

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[11] Fawcett *op. cit.*, p. 27.

Indeed the introduction, withdrawal and reintroduction of the same space station would not be unsupportable by the law.

Particularly at this stage in the development of space exploration it is important to address the exact nature and scope of the powers of an operator whether private business or state controlled in the operation of a space station. In comparison to the jurisdiction and control over the airspace, jurisdiction over space stations is potentially a much more technical and complex area of the law. Unlike aircraft that have the sole purpose of transportation, space stations can be of much more value in scientific experimentation and exploitation including remote sensing activities. For instance, there is the question of legitimate mining and use of mineral resources on the Moon. Space manufacturing of drugs and other materials are engaged upon in space stations. These problems have no analogy in the law of the air because very little if anything at all can be exploited in the airspace. Besides assuming it were even possible for an aircraft to stay stationary in the airspace for long periods of time, such permanence can never create any right over territory or present the same legal problems a space station can. If anything such an aircraft can only create a continuous violation of territorial sovereignty and cannot claim a freedom from interference from the offended state.[12] The only real similarities between an aircraft and the space station whether it is a simple orbital platform or a small space laboratory are the requirements of registration and nationality.

It has already been concluded above that the idea of creation of property rights over space based resources is not supportable under contemporary space law. But speaking particularly of proprietary or property rights over minerals found on celestial bodies on which a space station exists (at this stage in the course of things principally the moon), a distinction would have to be made. This is between the use of resources for the conduct of scientific exploration and for the sustenance of the mission and the mining of resources for the purpose of commercial repatriation to earth. The former is expressly permitted under existing rules particularly Article 6 (2)[13] of the Moon Agreement (1979) and the latter is expressly forbidden under the various rules that have been considered above.[14]

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[12] The consequences of such hovering and trespass have been treated above. *Supra* Chapter 5.

[13] The Article provides that; "...the States Parties shall have the right to collect on and remove samples of its mineral and other substances...States parties may in the course of scientific investigations also use mineral and other substances of the moon in quantities appropriate for the support of their missions".

[14] *Supra* Sections 4.1-4.4. It is also to be noted that in the absence of an international regime to govern the exploitation of the natural resources on the moon envisaged under Article 11 (5) and to be implemented

Therefore, it is trite observation that prudence must be the watchword of any state that makes use of resources on a manned or unmanned space station based on the moon. Due regard must also be given to the status of celestial bodies under the CHM principle and the province of all mankind formula. On the other hand, where the resource made use of is of an inexhaustible class, the prohibition of national appropriation enshrined in Article II of the Outer Space Treaty (1967) would not apply. Thus, this prohibition will not apply to the spatial utilisation of solar energy. Any prohibition of such use would only be against good reason and common sense.[15] In the absence of any assurance that states would continue to use good reason and common sense in all matters particularly where immense commercial gains are at stake, a clarification of inexhaustible resources would eventually have to be made by the UN Scientific Committee on Outer Space. This would have to be done taking into consideration present scientific knowledge. It is probably worthy of note that the principal space faring nations such as the US, Russia, China, France and India are all parties to the Outer Space Treaty and are bound by the reciprocity rule, whereas only France, India Australia and Austria are the technologically advanced states that are parties to the Moon Agreement (1979). Thus, with the impending entry of China into actual space exploration on the moon, the applicable rule relating to any proposed visit to an American space station thereon will appear to be that based on the principle of reciprocity alone. China would have to conclude special negotiations on these terms with the US and may not rely only upon advance notice of any visit.

It is perhaps very important to a discussion on the nature of jurisdiction over space stations to highlight the differences between the system of visits to space stations based in free space and those based on the moon. The general rule is that space stations must be open for visits by the representatives of other states on the basis of reciprocity Article XII of the Outer Space Treaty (1967). This same provision requires that an advance notice of any visit should be given to the state of registry. This is in order that appropriate consultations may be held to secure safety and to avoid interference with normal operations. It should be noted that the Outer Space Treaty (1967) being a legal instrument, which applies to space stations generally, has the need to emphasise on the aspects of agreement and reciprocity. The Moon Agreement (1979) on the other hand disposes of the requirement of reciprocity. As long as reasonable advance notice is given a state

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under Article 18 of the Moon Agreement (1979), space stations must not be operated in a manner as to exploit natural resources.

[15] See Stephen Gorove, Vol. 10 The International Lawyer, No. 3 (1976) p. 534.

party may move in to other states' stations to assure itself that the activities therein are compatible with the provisions of the Agreement (Article 15 (1).[16]

With all these points in mind it is clear that the jurisdiction a state has over the portion of outer Space occupied by its space station is in no way exclusive but functional. This is probably what gives birth to the concept of functional jurisdiction advanced by Ryszard Hara as a substitute for the concept of exclusive jurisdiction over space stations whether national or international. Functional jurisdiction is impressively described as encompassing;

> the right of persons to affect property, things, events and occurrences in designated zones in outer space or areas on celestial bodies, by legislative, executive or judicial means, to the extent and for the period of time that is necessary to safeguard and secure its rights to explore and exploit outer space including celestial bodies.[17]

9.0.3: Nationality and Registration over Space Stations

Just as it is required of any aircraft that conducts international flights it is important to note that the nationality principle applies to and determines jurisdiction over space stations. This in a sense completes a legal tradition which as noted earlier began with the law of the sea in relation to ships and then moved on to apply to Antarctic stations and equipment as well as aircraft. The nationality of space stations as well as other space objects is established by registration by a state. Accordingly the space station is subject under this principle to the authority of the state of registration. Every state is entitled to determine the conditions of granting its nationality to space stations and a state may indeed assign its rights over a space station to another state or international organisation by agreement, registrable under Article 102 of the UN Charter.[18] The rule of nationality and flag jurisdiction over space station is as important as it is in the law of the air because it determines international responsibility for national activities. Thus, the flag state has not just jurisdiction over, but also responsibility for its national activities conducted on or in

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[16] For the number of states potentially subject to this regime see *supra* Chapter 7 note 37; It may be envisaged that the US and China will probably be the first states to put these provisions to test this century. See *supra* Chapter 8.1 (particularly note 55). See also Appendix III.

[17] See Ryszard Hara, "Jurisdiction of States in Outer Space", Vol. 17 Polish Yearbook of International Law, (1988) pp. 80-81; See also Imre Anthony Csbaffi, The Concept of State Jurisdiction in International Space Law: A Study in the Development of Space Law in the United Nations, (Hague: Martinus Nijthoff, 1971) pp. 24 and 131.

[18] Fawcet, International Law & the Uses of Outer Space, *op. cit.*, p. 27; John Kish, The Law of International Spaces, (Netherlands: Sijthoff Leiden, 1973) p. 137.

relation to space stations. This principle applies whether its private corporations or the state itself runs the space station.

Kish suggests that national markings of "space stations constitute the evidence of nationality established by registration..."[19] This statement is far from being false. However, it must be noted that just as it is in relation to aircraft, the best evidence is to be found not just in the physical markings but in the fact of registration and inclusion in the prescribed register, in this case on the registry of the UN (opened for that purpose) and on the registry of the state itself. To begin with examination of the markings on a space station in the event of a dispute may have to be conducted *in situ*, an obvious difficulty not only because of the distance but also because as a symbol the markings may be difficult to locate. This is more so with the construction of some stations, which may be up to five kilometres in size.[20] Again markings on the space station just as on an aircraft may indeed be altered at any time. That is not, however, to suggest that the markings on space objects and on aircraft have little or no utility. Clear instances of this lies in the use of physical markings as identification in the case of aircraft trespass and identifying data in the case of crash-landing into foreign territory of space objects and components thereof.

This of course brings us to a consideration of the issue of registration. While registration of aircraft operated by international operating agencies is dealt with under Article 77 of the Chicago Convention the principles of registration of space craft and space stations are enunciated in Article XI of the Space Treaty (1967); General Assembly Resolution 1721 (XVI) of December 20 1961 (International Co-operation in the Peaceful Uses of Outer Space) and the mandatory system established by the Registration Convention (1975).

Later it will be necessary to elaborate on the general issue of registration of spacecraft and objects. What must be done here is to draw attention to the peculiar problems presented by the registration of international space stations. Reference has already been made to the controversy presented over the years with respect to the registration of aircraft jointly owned by several states. The position of the law is that no matter how many states jointly own an airline the registration of the individual aircraft must be carried on the register of a particular single state. This position, however, is unsatisfactory within certain academic circles. The position of the law with respect to registration of spacecraft unfortunately is not as clear. The problem as noted by Gorbel is that the

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[19] *Ibid.*
[20] J.E.S. Fawcett, Outer Space New Politics and Challenges, (Oxford: Claredon Press, 1984) p. 22.

Registration Convention (1975) contains a gap as regards registration of space stations specifically.[21] A similar regime to that of aircraft is, however, dictated by Article II (2) of the Registration Convention with respect to 'space objects'. The question then is whether 'space objects' include space station.

The answer to this is contentious considering that several space objects may together constitute one space station. It is reasonable that the present trend towards evolution of multinational space stations would necessarily lead to a reassessment of the international instruments governing registration of space vehicles and objects. It has in fact been argued in certain quarters that the practical application of the principle of registration as determinant of jurisdiction as enshrined in Article VIII of the Space Treaty might prove to be too rigid to be generally accepted by the international community. This is probably what is responsible for the prevalent trend of supplanting existing international legislation with supposedly more flexible systems established by parties that are involved in the space station projects.[22]

For instance, an International Government Agreement (IGA) was developed in 1988 to regulate affairs between the Partner States to the Columbus Programme under the International Space Station Project.[23] The Partner States are mainly the US, the European Space Agency, Canada and Japan. Article 5 (1) which covers registration states that "In accordance with Article II of the Registration Convention each Partner shall register as space object the flight elements which it provides (listed in the Annex) to make up the station". The European Partners having delegated the responsibility of registration to the ESA have that agency acting for them and in their collective interests. Furthermore, Article 5 (2) stipulates that pursuant to Article VIII of the Space Treaty and Article II of the Registration Convention, each Partner shall retain jurisdiction and control over the elements it registers in accordance with Article 5 (1) and over personnel in or on the space station. With the admission of Russia into the Space Station programme in September 1993, it was agreed to replace the IGA (1988) with a new agreement, which was signed on 29

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[21] Gorbiel, "Large Space Structures: the need for a special treaty regulation", Proceedings 27th Colloquium Lausanne, (1985) pp. 247-250.

[22] *Cf. supra.* 2.1.2: Nationality of Aircraft and the Question of 'Genuine Link. See also H.L. Van Traa-Engelman, Commercial Utilization of Outer Space: Law and Practice, (London: Martinus Nijhoff Publishers, 1993) pp. 54-55.

[23] Done at Washington D.C., 29 September 1988. See IGA Proceedings of the Colloquium on Manned Space Stations- Legal Issues, Paris 7-8 November 1989, ESA SP- 305, ISBN 92- 9092-062-9, Jan 1990.

September 1998.[24] The new IGA retained nearly all the original responsibilities in the management and control of the programme including registration.[25]

The question, however, is why must one single state of registry be appointed for a group of states when they commonly own an aircraft whereas it is possible for a single space station to be severally registered as if into shares?[26] Is it air law that needs to be brought to maturity on the reality of international co-operation and shared liability or is it space law that must proceed with caution in this guise. The position adopted by this thesis is that if a space station is to function, as a single unit there is no point in the separate registration of the flight elements or the component parts of what is for all intents and purposes a single unit. The directive consideration already exists in the provisions of Article II (2) of the Registration Convention (1975) which states that: "Where there are two or more launching states in respect of any such space object, they shall jointly determine which one of them shall register the object in accordance with paragraph 1 of this article..." While it cannot be disputed that there are factual differences if nothing else between an aircraft and a space station it, can still be said that the desire to determine where exactly liability lies when something goes wrong is the rationale for the requirement that dictates in air law and in the Registration Convention (1975) that one single member state be the state of Registry of every aircraft or space object. This clarity may be jeopardised when a single functioning space station is registered in parts. It must, however, be admitted that prior to the docking together of the component parts in space there may be the need to register the parts separately. In that case another registration may be necessary for the entire unit when it starts operating as a single body. There would then have to be appointed a single state of registry for the Space station as a whole.[27]

On a last note on the issue of registration it may again be stated that it is paramount that the old and familiar problem to the international lawyer i.e. flags of convenience must not be allowed to flourish or exist with respect to spacecraft and particularly space stations.[28] Concurrent with the

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[24] For text of the 1998 IGA, see Journal of Space Law, Vol. 26 (1998), pp. 90-98.
[25] It confirms the leading role of the US and most of the changes relate to technical realities of Russia's participation including the revision of the European contributions to the project. See further A. Farand, "Space Station Cooperation: Legal Arrangements", Outlook on Space Law over the Next 30 Years, G.L. Laferranderie and D. Crowther, eds. (1997), pp. 90-98.
[26] *Cf.* the fate of the Arab states attempts to register aircraft under the Pan-Arab Airline in 1960 and that of the registration of aircraft belonging to Air Afrique. *Supra* 2.1.2: Nationality of Aircraft and the Question of 'Genuine Link'.
[27] *Cf.* Gorbiel *op. cit.*, pp. 248-9.
[28] *Cf. supra* the discussions on the problem of flag of convenience and need to pre-empt it in air law.

increasing commercialisation of outer space activities in recent years the problem of flags of convenience even with respect to space stations is not far fetched. Therefore, it must be concluded with respect to aircraft that states wishing to register space stations must be made to demonstrate a 'genuine link' with the private organisations involved. This position is consistent with developments in international law since the *Nottebohm case*.[29]

9.0.4: Civil and Criminal Jurisdiction over Space Stations

Though this thesis has largely left out civil matters in the analysis of jurisdiction over the airspace it considered the aspects of civil liability for damage, therefore, it is necessary to mention briefly some of these matters in respect of the emerging law of Space stations. Again though jurisdiction *ratione personae* in outer space generally is to be treated later, certain considerations peculiar to space stations must be observed here. The basic problem presented by space stations both in civil and criminal terms is that of jurisdiction and control. To this extent there is a large similarity between space stations and aircraft in airspace. Space stations may be manned or unmanned, national or international, floating in open space or based on international bodies. Similarly, aircraft may be piloted or unpiloted, nationally owned or owned by two or more states and may be traversing in airspace or may have landed on some *terra firmae* or even on the sea. The connecting thread between these situations is that international law grants civil and criminal jurisdiction to the flag state based on the need for control and determination of liability. The extent of this control is always shifting and dependent on the advancement of technology and the prevalent mischief to be cured. George S Robinson adopts a rather romantic view of the civil and criminal problems posed by the advent of space stations. He wrote;

> Legal relations among space station participants, alone while existing in a shared, long duration, confined, alien life-support environment, will rest upon a new theory of law, i.e. such space station participants will establish new value-forming processes and consequent judgments, based on the manifestations of totally different neurophysiological phenomena. Concisely, any legal theory evolved must consider such space station participants either as neo-colonialists or preferably, as "alien" life forms to evolve their own juridical systems while in long-duration flight, and to be dealt with on at -arms-length basis by Earth-indigenous institutions.[30]

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[29] I.C.J. Reports 1955, p. 4.
[30] Robinson, *op. cit.*, p. 28.

These remarkable submissions open up the writer to criticisms of exaggeration but there already are a number of civil issues that have received judicial attention in some states having a bearing on the operation of space stations. For example, the provisions governing civil liability over mishaps arising from the operations of a space station are likely to become one of the most contested areas of space law. Article 16(3) (a) of the IGA (1988) regulating the Columbus Space Station Project incorporates rules, which are now common practice in the drafting of international space contracts.[31] Very much unlike the practice in aviation law, this provision allows for a cross waiver of liability in relation to claims based on damage, whatever the legal basis (including negligence of every degree and kind) that may arise out of a space station's operation.[32] Among the things that may go wrong on a space station is that a module or component part may altogether fail to function. This may affect the entire workings of the station. In any such eventuality the cross waiver signed by the parties will become definitive.

Prior to recent developments in space law and particularly with respect to aircraft the position of the manufacturer is largely defined by the concept of product liability. There is general agreement that this concerns the liability resulting from damage caused by a defective product. There is in fact no international convention regulating the rights and duties of a manufacturer, neither in space law nor in air law, although there exist regional agreements and Directives of the European Community. The basis here both in air law and space law is always strict liability of the manufacturer.[33] If a product turns out to be defective after it has been sold, there are under Anglo Saxon law two remedies available against the manufacturer; (1) breach of warranty and (2) tort. But when large-scale expansion of space activities started and with the advent of private manufacturers and users of space equipment and stations, questions regarding the liability of private manufacturers became important. This is what has led to the invention of purely commercial devices such as the cross waivers referred to above.

Again closely linked to the position of the manufacturer in space law and air law is the position of the insurer. In neither sphere of law has the contract of insurance been regulated on an international level. Whereas particularly in space law this is a lacunae that needs filling

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[31] Especially in space contracts entered into in the US.

[32] The liability cross-waiver will, however, not apply to; claims made by a Partner State and its own related entities or between its own related entities; claims made by a natural person, his/her survivors, subrogees estate for any injuries, death occurring to that natural person; or claims for damage caused by wilful misconduct (Article 16 (d)).

[33] For an air law civil case concerning the subject of "warranty", see *Helicopter Sales (Australia) Pty., v. Rotor-works Pty. Ltd.*, High Court of Australia; 1 Air Law, pp. 189-190.

considering that space operations insurance including those involving space stations has been provided mostly by private companies. The result of the apparent lacuna in international regulation of civil liability arising out of space contracts is that a patchwork of legal rules is being developed through the device of the Memorandum of Understandings (MOU) and national acts such as the US Commercial Space Launchings Act (CSLA) of 1978. A deplorable consequence of this is that legislation over matters of international concern is exclusively being shaped by a few states, as a matter of fact mainly by the US. For instance, if India enters into a contract with a US launcher to place its space station in space, it would appear that if for any reason at all the launching fails and the space station is lost India would have little or no remedies against the private US launcher at least not in US Courts. It is also clear that for a long time to come the US will always be favoured by the contracts which allocate insurance responsibility.

In the *Martin Marietta Corporation v. International Telecommunications Satellite Organisation (Intelsat)*,[34] Martin Marietta contracted with Intelsat for the launching of two satellites on Titan II rockets. One of them failed to reach its proper position in the correct orbit, which resulted in substantial losses for Intelsat. The contracting parties were in agreement that the state with civil jurisdiction over the case is the US and litigation centred over the questions of liability. Intelsat's position was that the contract on which Martin Marietta relied did not relieve it of liability for breach of contract. Intelsat also believed that through faulty programming and testing Martin Marietta had breached the contract, including its obligation to use its 'best efforts' to secure the launching; and that Martin Marietta had been negligent or grossly negligent, in failing in its 'duty of care'; and lastly, that Martin Marietta had committed negligent or grossly negligent misrepresentation and failed to disclose material information.

Martin Marietta demanded confirmation and enforceability of (1) the exclusive remedy provisions available to Intelsat; (2) the so-called 'cross-waivers' in the contract with Intelsat which were required under the US CSLA (1978). The decision reached by the Federal District Court dismissed the claims based on tort, because it found that Intelsat's damages arising from the satellite's failure were essentially economic in nature. Under Maryland law a party cannot sue for purely economic loss unless an entirely separate duty of care exists. The Court concluded that "equally sophisticated parties, who have the opportunity to allocate risks to third party insurance or among one another, should be held only to those duties specified by the agreed upon

[34] See Journal of Space Law, Vol. 19 (1991), pp. 173-176 See also Diederiks-Verschoor *op. cit.*, pp. 156, 160.

contractual terms and not by general tort duties imposed by state law". The Court also dismissed Intelsat's tort claims on the basis that they were barred by the cross-waiver in the CSLA contract. It was stated categorically that the CSLA (1978) changed the law with the creation of an exception to the general rule that parties are not permitted to exclude liability for gross negligence.

Similar *ratio* have been followed repeatedly in the US and legal experts predict it will be the law in other space faring jurisdictions.[35] The correctness and fairness of the *ratio* of this case will depend on which side of the divide the person examining it stands. To the tort lawyer the decisions reached may seem reasonable. However, the decision may appear suspect to anyone who considers the peculiar needs and protection desirable for developing states presently involved in space activities and those who may in the near future summon up the necessary resources to engage in space station activities. The reality of the situation as it is dictates that US private concerns handle the highly technical aspects of production and launching of space stations. Accordingly it is essential that any developing state, which participates in commercial space ventures, protect itself to the fullest against unsuccessful operations caused by negligent and or accidental failures. This, however, is a Herculean task given the prevalent practice of the application of the strictest limitation of liability, dictated by the practical commercial considerations under the civil laws of the US and other Space faring nations.[36]

Another intriguing aspect of civil jurisdiction over space stations is that which deals with intellectual property. There is no direct analogy nor verifiable instance provided in air law but it might be said that when an invention takes place in a country's airspace it takes place for all intents and purposes in that country's territory and, therefore, is subject to its laws. By similar reasoning if an invention takes place on an aircraft bearing the nationality of a state, that state's intellectual property laws would normally operate subject of course to the inventor's nationality, choice of jurisdiction to register the invention as well as applicable pre-existing contracts. Again there was a lacuna in international legislation over this matter in space law and the space faring

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[35] See for instance *Appalachian Insurance Co. v. McDonnell Douglas,* Journal of Space Law, Vol. 18 (1990), pp. 41-44.; See also *AT&T v. Martin Marietta,* Journal of Space Law, Vol. 23 (1995) p.p. 177-183. Note this case was settled eventually.

[36] Note that the monetary requirements to engage in space station activities are mind boggling and crippling to struggling economies. The price for delivery of scientific material to Mir was about $20,000 per kilogram (US$9,000 per pound). Dierderiks-Verschoor *op. cit.*, p. 99; See also *R.V. Pino Jr.*; F.A. Silane, "Civil Liability in Commercial Space Ventures under United States Law", Vol. 21 Air and Space Lawyer, (1993) pp. 166-167.

states have sought to fill this through mutual agreement, which would in time translate into evidence of international practice if not customary international law. A case in point is Article 21 of the IGA (1988), which establishes a nationality basis for intellectual property and patent rights. The problems raised by such provisions are many.

The first problem is that it extends territorial jurisdiction into space without any proper basis in international law. Whereas it is quite possible and desirable to achieve the protection of patent rights over inventions and discoveries made on space stations without extending national jurisdiction into outer space. The IGA (1988) regime can be criticised on the following basis:

(1) An invention in space will establish the same priority as if it had taken place in the very country whose nationals makes the invention. This is in contrast with the position of an invention made on foreign territory. It is preferred wisdom to hold that such an invention not having taken place on national territory but in *territorium communis res extra commercium* takes place (at least in a loose sense) in foreign territory.
(2) A space activity conducted *bona fide* by one state may evoke without its knowledge an infringement of another state's patent laws.
(3) Legitimate scientific experiments and activities conducted in outer space would ultimately be treated as if they had occurred within the jurisdiction of any state, which considers itself the primary inventor.[37]

In the final analysis Article 21 of the IGA (1988) constitutes a threat against the spirit of co-operation and lack of territorial jurisdiction, which the main space treaties stand for, particularly

[37] Van Traa -Engelman *op. cit.*, p. 298-299. Again what seems to be of concern to some authors is that the space powers could through such domestic legislation be gradually introducing territorial jurisdiction and sovereignty into outer space. Salin formulates a balanced view of this development thus: "The United States is the predominant space power on earth, due to its sheer economic, technological and political might. But the business dimension does not explain the whole story. The United States also administers a full-fledged body of space laws and regulations that is unchallenged in volume, sophistication, and coherence by any other nation, or group of nations on earth.... One cannot but observe the will of US lawmakers to grant their nation the legislative means to support a flourishing industry so that it can maintain its leadership imposition far ahead of its competitors, political ones in a recent past with the USSR, and commercial ones nowadays with Western Europe and Asia... In this last respect, we should not forget that Outer Space does not belong to anyone and should beware of inroads that are right now carved into this last common heritage of mankind". See Patrik A. Salin, "An Overview of US Commercial Space Legislation and Policies –Present and Future", Vol. XXVII Air and Space Law, No. 3 (2002) p. 236 note 72; see also Francis Lyall, "The Role of the World Interest in Space Communication Activities", 52nd Astronautical Congress, 1-5 October 2001, Toulouse (France), Paper reference IISL-00-IISL.2.02.

the Declaration on International Cooperation in the Exploration and Use of Outer Space (1996).[38] The issues highlighted above underscore the dangers inherent when space law rules pertaining to jurisdiction and control are developed piecemeal through a proliferated arrangement by a select group of states. The emerging trend in both air law and space law as have been argued so far is that the technologically advanced states have sought to exploit any equivocation or lacunae in the law to advance national hegemonic interests. Not surprisingly the US legislature purportedly acting under obligations to bring the US laws on patent rights and inventions in conformity with the IGA (1988) added a new section to the existing US Patent Act.[39] This section called the Patents in Space Act[40] stipulates: "Any invention made, used or sold on a space object or component thereof under the jurisdiction or control of the U.S. shall be considered to be made, used or sold within the U.S."

Note should be taken that the terminology employed in the Act is 'jurisdiction or control'. This obviously deviates from the formula 'jurisdiction and control' used in the International Space Station Agreement (i.e. IGA (1988) which actually conforms to the wording of Article VIII of the Space Treaty (1967). The significance of the wording of the US Act is that it underlies the possibility that the US may in fact have jurisdiction over a space station but may not be in control of it. An example of this lies in Station Alpha jointly established by states including the US and Russia. In order to avoid conflict the following proviso was added to the aforementioned Act. It states:

> Inventions made, used or sold in outer space on a foreign registered space object or any components thereof, shall not be subject to US patent laws, even if the object or component is at the time within the jurisdiction or control of the US, unless it is specifically so agreed in an international agreement between the U.S. and the State of registry.

The fact is that through these provisions the US surely incorporates into its national laws what Traa-Engelman correctly refers to as the 'fiction of territoriality'[41] introduced by the IGA (1988).

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[38] A/RES/51/122; 83rd plenary meeting 13 December 1996.
[39] 35 U.S.C. ssc. 101 *et seq.* (1982).
[40] The US House of Representatives passed on July 20 1989, HR 2946, a resolution to amend Chapter 10, title 35, U.S.C., with respect to the use of inventions in outer space. The Text is reproduced in Journal of Space Law Vol. 18 No. 1 1999, pp. 89-91. Subsequently a similar US Senate measure, S. 459 was passed in lieu-clearing the measure for the President. The Text of version 5 of Section 459 passed on Nov. 7, 1990, has been reproduced in the Journal of Space Law, No.2. The regulation appears as Section 105 of 35 U.S.C. (1982).
[41] Traa-Engelman *op. cit.*, p. 299.

There is also the implication that other national laws such as the US Invention Secrecy Act[42] also applies to outer space and other states must take them in to account. It suffices to query here the necessity for these rules in view of the fact that protection of rights to inventions and patents may be held to flow from Articles VIII and IX of the Outer Space Treaty (1967).

The 1998 MOU strives to provide a clearer regime for the control of intellectual property rights but does not represent any radical departure from its predecessor. For the purposes of the 1998 Agreement, "intellectual property" is understood to have the meaning of Article 2 of the Convention Establishing the World Intellectual Property Organisation.[43] Furthermore, for the purposes of intellectual property law, 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, except that for ESA-registered elements any European Partner State may deem the activity to have occurred within its territory. For avoidance of doubt, participation by a Partner State, its Co-operating Agency, or its related entities in an activity occurring in or on any other Partner's Space Station flight element shall not in and of itself alter or affect the jurisdiction over such activity provided for by the state of registry of the component. The temporary presence in the territory of a Partner State of any articles, including the components of a flight element, in transit between any place on Earth and any flight element of the Space Station registered by another Partner State or ESA shall not in itself form the basis for any proceedings in the first Partner State for patent infringement. In any event this provision does not introduce any further certainty as to the right to retain control over all launched objects more than Article VIII of the Outer Space Treaty 1967 already does. Though no serious controversy has arisen yet regarding civil or criminal jurisdiction over patents and inventions made on international space stations it must be said that in light of the commercial end to which space activities are directed this area of the law is set to be one of the most contested jurisdictional issues space lawyers would face.

As to criminal jurisdiction on space stations, it suffices to mention that in the absence of elaborate rules in the space treaties this also is increasingly determined through the mechanism of agreement between the participating states in any international space station. If the space station consists of nationals of only one state the matter is more straightforward and the primary state with criminal responsibility is that which sends the astronauts. An example of what occurs on a multilateral space station is Article 5 of the IGA (1988). It states: "The exercise of such

[42] 35 U.S.C. Sections 181-188 (1982).
[43] Done at Stockholm on 14 July 1967

jurisdiction and control shall be subject to any relevant provisions of this Agreement, the MOUs[44] and the implementing arrangements, including relevant procedural mechanisms established therein."

In Article 11 it is stipulated that all the Partners in accordance with the MOUs will develop a code of conduct for the Space Station Crew. In accordance with Article 22 specific provisions on criminal jurisdiction stipulate that specified states may exercise criminal jurisdiction on the international space station over personnel in or on the respective elements. In a remarkable provision which proves the hegemonic tendencies of space law, the second paragraph to this Article empowers the US with additional capability to exercise criminal jurisdiction over misconduct committed by a non-US national in or on a non-US element of the manned base or attached to the manned base or the personnel placed thereon.

The 1998 agreement would seem not to introduce any surprises in terms of Registration; Jurisdiction and Control. In accordance with Article II of the Registration Convention (1975), the Partner undertakes to register as space objects the flight elements constituting the station as listed in the Annex. The European Partners having delegated this responsibility to the ESA have that body acting in their name and on their behalf. Pursuant to Article VIII of the Outer Space Treaty (1967) and Article II of the Registration Convention (1975), each partner retains jurisdiction and control over the elements it registers in accordance with Article 5 (1) and over personnel in or on the Space Station who are its nationals. Such exercise of jurisdiction and control is, however, to be subject to certain provisions within the MOU, and other implementing arrangements, including relevant procedural mechanisms established therein. The mechanism of a code of conduct is retained and each Partner, in exercising its right to provide crew, undertakes to ensure that its crewmembers observe the Code of Conduct.[45]

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[44] This refers to Article 8 of the Memorandum of Understanding between ESA and NASA, which entered into force on June 3 1985. It contains a large number of provisions on the Management Aspects of the Space Station Program Primarily Related to Operations and Utilization, elaborating *inter alia* on a Multilateral Coordination Board (MCB), a Systems Operations Panel (SOP) and a Users Operations Panel (UOP).

[45] Regarding liability the utility of the Liability Convention (1972) is exploited in that it is provided that except as otherwise provided in Article 16, the Partner States, as well as ESA remain liable in the event of a claim arising out of the Liability Convention. It is also envisaged that in practice the Partners (and ESA, where appropriate) may have to jointly redress any potential liability according to extent of apportionment of such liability, and on the defence of such claim.

Article 17 of the 1998 MOU is crucial to the determination of criminal jurisdiction in view of the unique and unprecedented nature of the international space station. Canada, the European Partner States, Japan, Russia, and the United States are allowed criminal jurisdiction over personnel in or on any flight element who are their respective nationals. Canadian crewmembers for instance face prosecution for acts or omissions that would constitute an indictable offence as if such act or omission was committed in Canada.[46] In a case involving misconduct on orbit that: (a) affects the life or safety of a national of another Partner State or (b) occurs in or on or causes damage to the flight element of another Partner State, the Partner State whose national is the alleged perpetrator may, at the request of any affected Partner State, consult with such state concerning its wish to prosecute.[47] An affected Partner State may, following such consultation, exercise criminal jurisdiction over the alleged perpetrator provided that, within 90 days of the date of such consultation or within such other period as may be mutually agreed, the Partner State whose national is the alleged perpetrator either: (1) concurs in such exercise of criminal jurisdiction, or (2) fails to provide assurances that it will submit the case to its competent authorities for the purpose of prosecution. It is, however, not clear what will happen if several states other than sending state of the astronaut seek to punish the same offence. Again what will be the exact recourse of the offended state if the offender remains on board the station indefinitely with the obvious collusion of the sending state or if he is allowed to escape arrest upon return to earth?

Nevertheless it may be observed that space law is witnessing a shift towards the -extradite or punish regime found in air law. Albeit this formula in air law is reserved for the strict offences of hijacking and hostage taking, it would appear that in space law, lesser grave offences may trigger extradition. This is because a Partner State, which as a legal practice makes extradition conditional on the existence of a treaty, may at its option consider the Agreement as the legal basis for extradition in respect of the alleged misconduct on orbit. At the very least it is evident that each Partner State must, within its national laws and regulations, afford the other Partners

[46] Criminal Code (R.S. 1985, c. C-46) Part 1 Section (2.3) (2.33) Again in similar fashion to some other jurisdictions like Nigeria with respect to crimes in the airspace no proceedings in relation to an offence referred to in subsection (2.3) or (2.31) may be instituted without the consent of the Attorney General of Canada.

[47] In its Criminal Code (Part 1 Section 4 (2.31) Canada for instance insists a crew member of a Partner State who commits an act or omission outside Canada during a space flight on, or in relation to, a flight element of the Space Station or on any means of transportation to and from the Space Station that if committed in Canada would constitute an indictable offence is deemed to have committed that act or omission in Canada, if that act or omission (a) threatens the life or security of a Canadian crew member; or (b) is committed on, or in relation to, a flight element provided by Canada or damages a Canadian flight element.

assistance in connection with alleged misconduct on orbit. Extradition is, however, subject to the procedural provisions and the other conditions of the law of the requested Partner State (Article 17 (3) 1998 MOU). Furthermore the duty to prosecute or extradite not only leaves the choice to the state in whose territory the offender is but where that discretion has been exercised as in the *Lockerbie case* (and under a similar formula as in the Montreal Convention) a challenge to the exercise of discretion will only produce a confusion as to who is infringing the treaty provisions.[48]

A good indication of the apparent inadequacies of the seemingly detailed MOUs was revealed when Russia put into orbit a 'non-professional' and allowed him on Space Station Alpha as a commercial space tourist. The US National Aeronautical and Space Administration (NASA) disagreed with the development and insisted that the passenger would be a safety risk. It also emphasised his trip was a one-time exemption. To win NASA's approval, the passenger Dennis Tito who happened to be a US national had to sign an agreement that he would not wander through American segments of the station without an escort. He also agreed to pay for anything he broke. It is interesting to note that NASA administrator, Daniel Goldin criticised the first space tourist Tito before a congressional subcommittee. His pronouncement was that he has put "incredible stress on the men and women of NASA...Mr. Tito does not realise the effort of thousands of people, United States and Russia, who are working to protect his safety and the safety of everyone else".[49] This incident highlights the fertile ground for disagreement over criminal jurisdiction in space. A visit, which was properly and legally conducted according to the standards of one state, was seen as incredible stress by another even though the visitor has the nationality of the complaining state. Space tourism like air flight on commercial aircraft will come in the natural course of things to be common practice. It is hoped that the 16 Partners in the international space station Alpha would set reasonable and practical ground rules which may serve as precedents upon which future excursions may be conducted.

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[48] *Cf.* The discussions on the Hague Extradition/Prosecution Formula in Chapter Three.

[49] Washington (CNN) "Glenn: Tito flight a 'misuse' of space station", May 6, 2001 Web posted at: 8:41 AM EDT (1241 GMT) http://www.cnn.com/2001/TECH/space/05/06/glenn.tito/index.html; See also Washington CNN. "Russia 'plans more space tourism", April 29, 2001 Web posted at: 11:05 a.m. EDT (1505 GMT).
http://www.cnn.com/2001/TECH/space/04/29/shuttle.tourists/index.html.

9.1: Jurisdiction and Control *Rationae Personae* in Outer Space

> The manned space station, characterised in part as a quasi-permanent habitat, with mixed sexes, representatives of various cultures, different races, alien life support systems, acute sensory deprivation/overload, etc., is too synthetically oriented to permit reliable application of empirically unverified legal fictions, such as those comprising the mechanical and jurisprudential mysticism by which the average Earth indigent is guided and controlled in daily activities.[50]

9.1.1: Terminological Confusion

It is preferable to employ the phrase jurisdiction and control *ratione personae* in our analysis rather than the term jurisdiction over astronauts or cosmonauts as is common in most literature on the subject. This is because just like the term pilot and cabin crew the term astronaut/cosmonauts has not been satisfactorily defined anywhere in any multilateral treaty.[51] Obviously such a situation is fraught with problems in that it can lead to analytical confusion. This is more so in those grey areas of jurisdictional discourse where air law and space law overlap. The term astronaut should have been defined when it was first employed in Article V (1) of the Outer Space Treaty (1967). But even if that occasion was missed it is unforgivable that in the more specific Astronauts Agreement in (1968) the term was yet again left undefined. This has led to differences of opinion among scholars and even states.

Cheng thinks that the term astronaut is descriptive rather than technical and that it refers to a person who ventures into outer space or who travels on board a spacecraft.[52] This position is probably based on common definitions found in dictionaries and may, therefore, be inadequate for legal treatment. The Websters Third International Dictionary defines an astronaut as "a traveller in interplanetary space" or/and "a student, devotee or advocate of astronautics".[53] It is quite easy to spot the flaw in the view that anyone found travelling through space is an astronaut. This is as absurd as saying that everyone on a ship is a sailor or everyone on an aircraft is a pilot or crewmember. It makes sense to distinguish between (a) astronauts in the strict sense of the word (b) mere passengers on a spacecraft or scientific personnel performing restricted

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[50] G. S Robinson "Scientific Renaissance of Legal Theory", *op. cit.*, p. 28.
[51] Bin Cheng, "Astronauts", Encyclopædia Vol. 11 *op. cit.*, pp. 40-43.
[52] *Ibid.* p. 40.
[53] Websters Third International Dictionary of the English Language Unabridged, (Springfield G & C Merriam) 1981.

experiments or operations in respect of the mission (c) a journalist (as it has occurred at least once) or (d) a tourist (as it will soon become commonplace in this century). The jurisdictional powers over such persons as well as their rights and duties would differ from that of an astronaut just as there are legal differences between the jurisdictional competencies rights and duties of passengers on an aircraft and the pilot and crewmembers.

Whereas western scholars favour the term 'astronauts', the Soviet scholars favoured the word 'cosmonaut'. Attempting to explain the distinction, Piradov wrote that the term 'cosmonaut' is wider in meaning, since it applies to persons who make any type of flights in outer space, whereas the term 'astronauts' is narrower and less definite (meaning a person who flies to the stars). This explanation is neither clear nor convincing. Others like Kamenetskaya collapse the two words into one definition thus: "From the point of view of international law, cosmonauts/astronauts are people who carry out professional activities connected with the exploration and use of outer space in outer space itself and on celestial bodies, in accordance with the principles and rules of international space law".

Certain provisions of the Moon Agreement (1979) bring about further terminological confusion. In what may have been the clearest indication that space law, anticipated non-scientific visitors to outer space, within the first decade of outer space activities on the moon, the Moon Agreement (1979) in Article 10 made provisions for "practical measures to safeguard the life and health of *persons on the moon*" (emphasis supplied). For this purpose the Moon Treaty adopts the curious position that states parties shall regard 'any person' found on the moon as an astronaut within the meaning of Article V of the Outer Space Treaty and as 'part of the personnel' of a spacecraft within the meaning of the Astronauts Agreement (1968). To begin with, Article V of the Outer Space Treaty (1967) contains no description and definitely not a definition of Astronauts. Then again it may be wondered whether in Article 10 the word 'and' is used in the disjunctive sense (in which case 'persons' are either 'astronauts' or personnel of spacecraft) or in the conjunctive sense in which case they are both. But it should not be forgotten that persons may be astronauts and not personnel of the particular spacecraft or space station -say for example an astronaut launched into space on behalf of another state. Though the Moon Agreement (1979) is again unhelpful as to

what it means by a state's personnel, Cheng persuasively suggests that this can be taken to refer to astronauts that are its nationals.[54]

The essential difference between the Space Treaty (1967) and the Moon Agreement (1979) is that while Article 12 (1) of the Moon Agreement simply confers jurisdiction and control over astronauts who are nationals i.e. on the state of origin of any person in space, Article VIII of the Space Treaty (1967) confers jurisdiction on the state of registry irrespective of the nationality of all persons aboard the space vehicle. Both treaties, however, have somewhat failed to take into account the position of an astronaut who no longer forms part of the personnel of a space vehicle.[55] Should the state with overriding jurisdiction be his state of nationality or should it be the state on whose vehicle he was transported into space? In the absence of any agreement covering this situation it is suggested that his state of nationality continue to possess overriding jurisdiction.

9.1.2: Cases of Unsettled Jurisdiction

It must be said *ab initio* that the exact workings of jurisdiction over persons sent into outer space by whatever name they are referred to has not been as clearly worked out as that of jurisdiction over persons in the airspace. Obviously space travels have not had as long a history as have air flight. Besides the scope and categories of persons sent into outer space is increasing. The important hypothesis to test is whether all the categories of persons that can be found on a spacecraft are subject to the legal jurisdiction of at least one state as is the situation with respect to persons aboard aircraft.[56] It is necessary to recall the principles of personal jurisdiction as discussed above under the overall doctrine of state sovereignty. It refers to the totality of powers a state has with respect to natural and legal persons possessing its nationality, enjoying its protection or owing it allegiance wherever they may be. The concept of nationality is the legal basis of personal jurisdiction. There must also be a genuine connection between the state and the persons over whom it wishes to exercise personal jurisdiction. These rules found in the law of the sea and the law of the air apply with minor exceptions to jurisdiction over persons wherever they

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[54] Bin Cheng, "The Moon Treaty: Agreement Governing the Activities of States on the Moon and other Celestial Bodies within the Solar System other than the Earth, December 18, 1979", Current Legal Problems, (1980) p. 225; See also Hara, Jurisdiction of States in Outer Space, *op. cit.*, pp. 82-83.

[55] Say for instance when he completes his tasks and becomes so to speak *functus officio* and is not within a recognised space station.

[56] See generally Chapter 3.

may be situated in outer space.[57] Thus, it is trite observation that spatial distance does not diminish the personal jurisdiction a state has over its citizens.

It is stated clearly under Article VIII of the Outer Space Treaty (1967) that states retain jurisdiction and control over personnel they launch into space on their own vehicles. Under Article VII it is also clear that they remain vicariously responsible for any damage caused to other persons. The use of the term 'personnel' in the wordings of Article VIII is instructive in that it covers any person no matter in what capacity he/she serves. However, it is interesting to raise certain questions relating to jurisdiction over two categories of persons. They are (a) persons on board spacecraft who are sent on the mission by private enterprises and (b) persons charged with no functional purpose or carrying out no official functions onboard a spacecraft.

As regards the first category the situation is no different from the personal jurisdictional powers a state has over pilots of its privately owned aircraft who are nationals of that state. This principle has achieved such settled finality that even those states that have incorporated the principles of space law into local acts take it for granted and do not often make specific provisions pronouncing it. For example the Australian Space Activities Act 1998 (Cth) which came into force on 21 December 1998,[58] creates a regulatory regime for commercial and other forms of private space activities where Australia would be responsible under the Liability Convention. However, this Act makes no specific reference to Australia's powers over astronauts and scientists on board any space flight (private or not) launched under the Act. This lacuna, however, does not avail Australia in the event that its citizens on board a spacecraft engage in acts that create liability for Australia. Where the person in question is not a national of the sending state, it may be suggested that the contract of employment between that person and the private enterprise establishes a linkage of protection and allegiance to the flag state of the spacecraft. In that case civil jurisdiction is surely established and can be with some credit argued for depending on the circumstances. In any case where personal jurisdiction cannot be found, any of the five principles or grounds of criminal jurisdiction would avail the state of registry of the spacecraft. [59] Again it must be stated here as in the introduction to criminal jurisdiction of states that it is advisable for a

[57] A specific instance of this is the US Jurisdiction over astronauts of other states in the in the Station Alpha under the IGA (1988).
[58] For a discussion of this act see Ricky J. Lee, "The Australian Space Activities Act: Creating a regulatory Regime for Space Activities", Vol. XXV Air and Space Law, No.2 (2000) pp. 56-61.
[59] *Supra* Chapter 1.1: Criminal Jurisdiction Of States.

state to refer to the specific basis of jurisdiction relied on. For instance, the territorial or territoriality principle will not be useful where the acts in question took place in outer space.

As regards persons having no official functions on board spacecraft (these again may be sent by a private commercial arrangement) it is suggested that this category calls for no different consideration from passengers aboard aircraft in international airspace. Such persons may be a mere passenger, tourist or observer. Examples of this class of persons include Toyobuama, a Japanese journalist who was transported by special agreement to the Russian space station Mir as a commercial customer and U.S. Senator Jake Garn also made a political flight on the space shuttle.[60] To highlight the impending possibilities of increased traffic by non-scientific persons, it is worthy of mention that another U.S millionaire businessman who planned a trip to the Russian space Station-Mir this year (2001) had his trip re-routed to the international Space Station.[61] In these cases it is suggested that joint jurisdiction over such persons would be exercised by the state of registry and the state of nationality of the persons concerned. In which case following the Chengian analysis of jurisdictional powers, which was adopted earlier on in this thesis, the *jurisfaction* (ability to make rules governing the person) of both states would be applicable. As regards *jurisaction* (ability to enforce and concretise the rules made) it would appear that the immediate powers and possibilities to act belong to the state of registry of the spacecraft or space station. Where persons performing no official acts onboard spacecraft are also not citizens of the state of registry but are physically in free space or are actually on a celestial body and not within a space station, then it may be argued that the state with jurisdiction over such persons as regards acts done by them is the state of nationality. Where such persons re-enter a spacecraft or return to a space station the immediate rights of arrest or detention will naturally be held by the state of registry.

In the interesting case of the American millionaire who visited the International Space Station by virtue of an Agreement with the Russian participants it is instructive to note that the US did not seek to exercise any control over him based on his nationality. Despite NASA's earlier opposition to the visit the only concrete jurisdictional demands were that the tourist should sign an

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[60] See N. Jasentuliyana, "Legal Aspects of Human Safety and Rescue in Space:, Manned Space Flight Legal Aspects in the Light of Scientific & Technical Development", Proceedings of an International Colloquium, K.H. Bockstiegel ed. (Cologne: Carl Heymans Verlag, 1992) p. 168. See also Stephen E. Doyle, "Astronauts and Cosmonauts in International Cooperation in International Cooperation. A View of the American Experience" in Proceedings of an International Colloquium *ibid.* p. 55.

[61] See Richard Stenger, Mir-bound tourist detour to international space station", January 4, 2001; available at (http://www.cnn.com/2001/TECH/space?01/04/tito.iss/index.html.

undertaking waiving his rights *vis a vis* the US to compensation for injury and death in the case of mishap and to pay for all damages he may cause while onboard the space station. The experience of the visit by the American tourist to the International Space station also reveals the inadequacies in the current Memorandum of Understanding regulating the International Space Station. It is to be hoped that in practice, bilateral or multilateral intergovernmental agreements or MOUs will always cover these matters in the future.

9.1.3: The Legal Status of Astronauts

Unlike the situation found in air law where thousands if not hundred of thousands of people are within the purview of states' jurisdictional powers and responsibilities the main human subjects of rights and liabilities in outer space are astronauts. The basic distinction here is that astronauts are distinguished scientists performing some form of official duties or the other of a scientific nature. Astronauts, therefore, enjoy a special status in space law way beyond the status conferred on pilots of aircraft and their crew. No further proof of this may be necessary beyond reference to Article V of the Outer Space Treaty (1967), which confers on astronauts the status of "envoys of mankind". Apart from references to the powers of control over unruly passengers and persons involved in unlawful interference with civil aviation conferred on the commander and crew members of aircraft contained in the Tokyo Convention (1963), (which has been discussed) and the responsibilities of the pilot spelled out in the Chicago Convention (1944), international law is largely silent on the status of pilots and crew members of aircraft when in airspace. In fact professional groups of airline workers are beginning to clamour for international legislation, which protects them from the peculiar dangers they face.

The precise import of the status of astronauts as envoys of mankind is that all possible assistance is to be rendered to such persons wherever they may be in distress in the entire universe. The right to the safe existence of astronauts when in outer space is assured under law. Even where the condition of distress is within a foreign state's territory as a result of accidents during ascent or descent to or from outer space such distressing condition must be removed or remedied. The Astronauts Agreement (1968) elaborates on the protective status designed for astronauts. It provides that a State, which receives information that astronauts are in distress or have unintentionally landed in its territory, on the high seas, or in territory not under the jurisdiction of any state, is to immediately notify the launching state or if that is not possible, make a public announcement regarding the incident. The state is also expected to notify the Secretary General of

the United Nations who shall disseminate such information as widely and as expeditiously as possible using all appropriate means (Article 1). If astronauts land unintentionally in the territory of a state, that state is to immediately take all necessary measures to assist them, and shall inform the launching authority and the UN Secretary-General of the action taken. The launching authority should where necessary assist and contribute substantially to search and rescue operations but overall direction and control over search and rescue operations lies with the territorial state (Article 2). To cover the eventuality of astronauts alighting onto a territory which is not under the sovereignty or jurisdiction of any state,[62] Article 3 provides that those states "which are in a position to do so" shall extend assistance in search and rescue operations and shall inform the launching authority as well as the Secretary General of the United Nations. Jurisdiction and control *ratione personae* do not change as a result of rescue after unintended and emergency landings into an area belonging to no state. Such rescued personnel must be promptly returned to representatives of the launching authority (Article 4). It is clear from all these rules that the development of the law (especially the Astronauts Agreement (1968)) has been much in favour of space exploring states. This is an instance of the law moving fast to cover possible problems that the technological powers may face even before they arise. It may be noted that these principles have remained sacrosanct whereas effort is being geared by the principal beneficiaries to change other principles, which are for the benefit of all in favour yet again of the powerful states.[63]

The Moon Agreement (1979) also contains interesting provisions relating to the legal status of persons on missions to that planet. States are under the obligation to adopt all practicable measures to safeguard the life and health of any person on the moon and to offer shelter in their stations or other installations to such persons that are in distress (Article 10). Article 12 (3) states that "in the event of an emergency involving the threat to human life, States Parties may use the equipment, vehicles, installations, facilities or supplies of other States Parties on the Moon". In this particular manner the Moon Agreement (1979) goes even further than the Astronauts Agreement (1979) or any of the other major space treaties in securing the interests of humans in outer space. Thus, the earthly injunction to be your brother's keeper extends further and finds expression in space law.

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[62] That is any of the international spaces that have been discussed earlier such as the high seas and Antarctica. *Supra* Chapter 4: Jurisdiction and Control in the Airspace over International Spaces.

[63] The Astronauts Agreement (1968) presently has 114 states that are parties to it and it remains of both strategic and practical importance to space faring states in that, it makes space exploration a less hazardous activity for astronauts and serves as evidence of international law even in relation to those states that are not party to it.

It can be conclusively said that compared with the situation in air law the duties of states towards astronauts are much more clearly set out. This probably is one of the reasons why force has not been readily employed by states in reaction to aerial trespass by spacecraft, as has been the case with respect to aerial trespass by aircraft. As it has been noted previously, foreign pilots accused of aerial trespass have been repeatedly shot down by territorial states and when arrested they face prosecution. Cases of hostile treatment after unintentional entry into foreign airspace abound. These have on many occasions led to mass loss of life. The Declaration Adopted by the Council of the ICAO in 1999 goes a long way to prescribe a better treatment for aircraft passengers and crew based on elementary considerations of humanity (Declaration 4) but it falls short of the clear rights and duties spelt out in the Space treaties for the protection of persons engaged in outer space activities. Therefore, apart from the factual differences between the commander and crew of an aircraft and those of a spacecraft there are also far reaching legal differences.

It must, however, be pointed out that the legal protection given to astronauts and personnel of a space vehicle does not imply that such persons are placed above the law. They are not exempted from bearing the consequences of any unlawful activities they may commit while for instance, in the airspace of another state or for acts done after landing.[64] In short, as succinctly put by Ryszard Hara, "the recognition of astronauts as envoys of mankind does not confer upon them any privileges other than those formulated by the legal instruments in question".[65] Thus, it will for instance be illegal under national laws for an astronaut just like a pilot to engage in aerial espionage while in the airspace.

It is advisable that academic attention be turned to the following salient points in the prevailing major treaties. In the first place the Astronauts Agreement covers persons who are situated in outer space and not simply astronauts in the technical sense of the word. However, the question of the extent of protection to be accorded to persons or astronauts who are not in outer space legally is a debatable point. This may take the form of astronauts accompanying an unregistered vehicle or performing acts, which are by their very nature illegal in international law. For instance, with respect to military personnel engaging in military manoeuvres or activities, which are against Articles III and IV of the Outer Space Treaty, it is submitted here that such persons whether they

[64] M. Lachs, The Law of Outer Space: An Experience in Contemporary Law Making, (Netherlands: Sijthoff Leiden, 1972) p. 72.
[65] Ryszard Hara *op. cit.*, p. 82.

are astronauts or personnel of a space vehicle are not "envoys of mankind" and are not entitled to the special status and protection given by the space treaties. If they are on the Moon they can (if possible) also be lawfully denied access to space facilities of others.

Article III stipulates clearly that activities in the exploration and use of outer space, including the moon and other celestial bodies, must proceed "...in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding." In this way the territorial validity of the Charter of the UN extends to outer space and celestial bodies. So also do the normal rules of public international law on the responsibility of States for the actions of persons acting under their jurisdiction. The threat or use of force against a foreign spacecraft or any other space object in outer space would constitute a violation of the political independence of the flag state. Similarly the right of self-defence as enshrined in Article 51 of the Charter applies to attacks from outer space. It is thus possible for a State to subject any astronaut or other personnel to arrest and punishment for any illegitimate actions committed against it while such person(s) were in outer space. Some authors like John Kish are of the opinion that in the event of such attacks against foreign spacecraft or space objects in outer space, a counter attack may be launched, as a measure of self defence against the space craft or space stations and presumably against the astronauts or personnel involved.[66] It is necessary to underscore the importance of the exercise of absolute care in such cases. The uniqueness of the environment in which these actions will take place alone marks it out as dangerous for states to resort unimaginatively to military actions. Indeed since the Space treaty has imported into outer space the contents of the Charter that means the provisions relating to the Pacific settlement of dispute in Article 33 enjoy a particularly significant position in terms of the options open to states in times of acute disagreements.[67]

Under Article IV States undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, or to install such weapons on celestial bodies, or station such weapons in outer space in any other manner. The moon and other celestial bodies are to be used by all States Parties to the Treaty exclusively for peaceful

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[66] John Kish, p. 183.

[67] Article 33 provides that the parties to any dispute, the continuance of which is likely to endanger the maintenance of international peace and security, shall, first of all, seek a solution by negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice.

purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies is forbidden. The use of military personnel for scientific research or for any other peaceful purposes is however not prohibited. The use of any equipment or facility necessary for peaceful exploration of the moon and other celestial bodies is also not prohibited. Thus the mere presence of a military man in space as an astronaut does not violate the Outer Space Treaty and such persons are to enjoy the full benefits and privileges accorded to astronauts in the major space treaties.

It must be added as a *caveat* here that because the legality or illegality of persons in outer space may not be immediately determinable it is better for states parties to the treaties to always grant all protection and duties incumbent on them in situations of emergencies. But where it is clear beyond reasonable doubt that the presence of any person(s) in outer space was for an illegal or hostile purpose the duty to hand them over to the sending state's representatives upon return to earth becomes debatable. Indeed it is possible to liken jurisdiction over such persons to that of pirates in international law.

Important as Article 12 of the Moon Agreement (1979) is to the safety of Astronauts the implementation of that provision may eventually lead to intense contentious disputes. Central to the scheme is the fact that there is no need to obtain the consent of the launching state of any facility on the Moon in the event of emergencies. The astronauts involved are in themselves the sole determinants of what constitutes a "threat to human life." In fact nothing in that provision categorically requires that the intrusion or trespass be reported to the real owners. In these contemporary times of cut-throat competition in the design and manufacturing of space equipment it requires only common sense to anticipate the possibilities of espionage on the moon. The Astronauts Agreement is also ominously silent on the question of compensation for damages and/or wastage that may be committed during the visit. Finally it may be noted that these provisions are derogations from the jurisdiction *ratione materiae* states possess over their installations and facilities on the moon. With all these in mind it can be said that further elaboration of Article 12 is called for. In the mean time it can only be hoped that states will always remain circumspect in their operations on the moon. Fortunately though, most of these fears will be redundant if states adhere to the overall spirit and letters of the Space treaties. Allowance has already been made for the continuous sharing of scientific knowledge and the reporting of observations and events.

9.1.4: Civil and Criminal Jurisdiction over Envoys of Mankind

The criminal jurisdiction of states in the airspace has already been discussed in this thesis. Whereas the problem of human criminality has not manifested itself in the sphere of outer space activities with as much regularity or even seriousness as it has in the airspace and on board aircraft, there is an increasing sense of importance of the need to establish adequate criminal jurisdiction over persons in outer space. It should be recalled that though airspace activities began in earnest around the turn of the 19th century and it was not until 1950 that the lacunae regarding criminal jurisdiction in the airspace were exposed in the cases of *R v. Martin* and *R v. Cordova.*[68] It took another thirteen years before the first international convention that dealt with criminal jurisdiction was signed by states. A cocktail of conventions (a number of which have been dealt with) are now in place to govern crimes in the airspace. Each in its own way regulates jurisdiction over human actions in the airspace or onboard aircraft. Even with these developments it has already been concluded that there appears to be need for further conventions to deal with other forms of criminality in the airspace such as the problem of unruly passengers on board aircraft. If the legal history of airspace activities is anything to go by, we may be fast approaching the time when a crucial development of a criminal nature would involve astronauts or other persons in outer space or onboard spacecraft. Haley in his Space Law and Government anticipated these problems in 1963, when he wrote, "men on these bodies cannot be left completely free and unrestrained. Abuse of life-giving materials [oxygen and food supply] might well become a felony or even capital crime".[69]

From our treatment of jurisdictional issues so far, it may be seen that the sources of criminal jurisdiction over persons in outer space arise in three possible ways. Firstly criminal jurisdiction can be exercised by the state of registry of the space vehicle on which the person is transported into outer space.[70] Second, in the case of the Moon Agreement (1979) states simply retain criminal jurisdiction over their personnel (Article 12). In this case it does not matter on whose space vehicle they are transported into outer space. Third and very importantly it must be argued that the universal jurisdiction states have over *Pirates Jure Gentium* also extends into outer space.

The principle that states that unless otherwise provided for, the criminal laws of the state of registry applies to all astronauts and persons on board a spacecraft is an extension of the law of

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[68] *Supra* Chapter 1.
[69] A.G. Haley, Space Law and Government, (New York: Meredith Publishing Company, 1963) p. 149.
[70] Article 7 Declaration (1963); Article VIII, Outer Space Treaty (1967).

flag jurisdiction found in air law and in the law of the sea. Thus, criminal jurisdiction accrues automatically to the flag state of a Spacecraft under international law. But it may also be enacted into national law.

The US for instance enjoys in practice both *jurisfaction* and *jurisaction* over its astronauts in outer space. This is exercised through the powers conferred on the mission commander contained in (subpart 1214.7) "Authority of the Space Transportation System Commander".[71] Sections 1214.700 establishes the authority of the STS commander to enforce order and discipline during all flight phases of the STS flight to take whatever action in his/her judgement is necessary for the protection, safety, and well-being of all the personnel and on board equipment, including countdown, following crew ingress, the STS commander has the authority to enforce order and discipline among all personnel on board. During emergency situations prior to lift off, the STS commander has the authority "to take whatever action in his/her judgement is necessary for the protection or security, or safety, and well-being of all personnel on board".

Thus, state jurisdiction in outer space can be exercised not only in terms of *jurisfaction* but also in terms of *jurisaction*. Personal *jurisaction* (i.e. ability to enforce laws) is in some ways realisable in outer space as attested to by the provisions of Sections 1214.702 Authority and Responsibility of the STS Commander where it is stated that;

> (a) During all flight phases of an STS flight, the STS commander shall have the absolute authority to take whatever action is in his/her discretion necessary to (1) enforce order and discipline, (2) provide for the safety and well being of all personnel on board, and (3) provide for the protection of the STS elements and any payload carried or serviced by the STS. The Commander shall have authority throughout the flight to use any reasonable and necessary means including the use of physical force to, achieve this end. (b) The authority of the commander extends to any and all personnel on board the orbiter including Federal officers and employees *and all other persons whether or not they are U.S. nationals.* (Emphasis supplied).

These provisions are strengthened by Section 1214.704, which puts the authority of the commander as absolute and unquestionable. In this manner, as has been shown earlier on, his status is akin to that of a ship's captain and that of the commander of an aircraft under the Chicago Convention. The connecting thread in all these provisions is the obvious need to ensure

[71] Authority Pub. L. 85-588, 72 Stat. 426(42 USC 2473, 2455: 18 USC 799); Art. VIII TIAS 6347 (18 UST 2410). Source 45 FR 14845, MNar. 7, 1980.

the safety and survival of crew and passengers (if any). A remarkable aspect of S. 1214.704 is the imposition of a fine of $5,000 or imprisonment of not more than one year upon anyone who violates wilfully or attempts/conspires to violate the sub part by any form of disobedience. But as Doyle rightly notes: "it is likely to be in the interest of any crew member to abide by instruction of the commander to ensure his/her own survival..."[72] Therefore, in the final analysis the role of the 'commander' is central not only in the maintenance of discipline and safety on board aircraft and spacecraft but also in the determination of which state is in control of the craft in question. Whereas recent academic opinion questions the factual control of 'commanders', whether of aircraft or spacecraft for navigational offences in light of the increasing computerisation of both aircraft and spacecraft,[73] it is better to conclude that from the legal standpoint, the Chicago Convention[74] and the provisions discussed immediately above, the pilot and Commander are in ultimate control of their vessels.

9.1.5: Jurisdiction and Control over Mixed Nationality Crews

The present regime found in space law is unspecific and in any case may be said to be inadequate. An example of the contradiction between the Outer Space Treaty (1967) and the Moon Agreement (1979) as to which state exercises jurisdiction over persons on board spacecraft has already been cited. The former bestows it on the state of registry i.e. *lex loci registratonis*, while the latter places jurisdiction in the hands of the state which places the person there. It suffices to mention that this kind of confusion is simply not found in air law. Clearly in the event of a mixed nationality crew on an aircraft jurisdiction *ratione personae* will be retained by the state of registry of the aircraft. In any case the likelihood and significance of any conflict about jurisdiction over aircraft crew may be said to be predictably less than that of a conflict on jurisdiction over a mixed crew of astronauts on a space station. The advent of the formation of regional and sub-regional astronaut corps makes the resolution of all aspects of jurisdiction *ratione personae* in outer space even more necessary.

For instance, the formation of the European Space Agency, which in the relatively short period of its existence has been increasingly active in sponsoring individual astronauts for space missions.

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[72] Doyle "A View of American Experience", *op. cit.*, p. 55.
[73] See Ronald Schmid, "Pilot in Command or Computer in Command? Observation in the Conflict Between Technological Progress and Pilot Accountability", Vol. XXV Air and Space Law, Number 6, (2000) pp. 286-287 *et seq.*
[74] Appendix 6 No. 4.5.1 states: "The pilot-in-command shall be responsible for the operation and safety of the Traffic Regulations".

This includes joint programs with other states outside the region as well as regional programs.[75] In fact the ESA aims "to transform European citizens into European astronauts".[76] In the face of these developments and with the insufficiency of international rules designed to regulate joint crews it has been suggested quite reasonably that with respect to crews comprising different nationalities new rules of private law will have to be formulated.[77] It has also been correctly pointed out that private international law forms part of national law. Accordingly, national laws will apply in full on board space stations and spacecraft with crews of mixed nationalities. This is more so where there are no further binding agreements specifying a different distribution of jurisdictional powers by the participants in the particular mission. It has, however, been pointed out that unavoidable as the practice of separate agreements is, caution must be exercised. Where participants to a joint mission have drawn up a separate agreement to regulate jurisdiction over personnel the rules contained therein must conform substantially to that found in the space treaties.

For example where a state by agreement surrenders jurisdiction over its astronauts to another in a space mission, it cannot be said that by virtue of that fact it also escapes liability for the actions of such persons in outer space. Therefore, the assumption that contract is king in relation to joint crews in outer space operates within limits. The limits being that at this stage in the development of space activities states may have to ensure that when their nationals are in outer space they do not engage in illegal acts which may incur state responsibility. Jan Klucka remains correct in stating that "special agreements relating to private international law will constitute *lex specialis* and the scope of the conflict rules which apply to space objects with crews of different nationality will be determined by the agreements". However, the fundamental test of overall conformity to the rules of space law remains relevant.[78]

Where as it occurs with more frequency nowadays that there are astronauts of different nationalities on board a spacecraft or space station, they would be subordinated to the disciplinary authority of the commander. The commander in all likelihood will have been appointed by the state of registry of the Spacecraft or space station. However, wherever the Moon Agreement

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[75] Stephen E. Doyle, " A View of the American Experience", *op. cit.*, p. 55.
[76] Kevin J. Madders, "The Formation of the European Astronauts Corps: The Legal Framework" in Proceedings of an International Colloquium, K.H. Bockstiegel ed. (Cologne: Carl Heymans Verlag, 1992) p. 25.
[77] Jan Klucka, "The Role of Private International Law in the Regulation of Outer Space", Vol. 39 ICLQ, (1990) p. 920.
[78] *Ibid.*

(1979) is applicable (which includes the moon and other celestial bodies within the solar system) it is the position of this thesis that jurisdiction and control is retained by the state of nationality of the astronaut(s).

The formula employed in the Convention on the Establishment of the European Space Agency[79] is of relevance here. The Policy objectives of the ESA are said to be informed by the "novelties introduced by the international Space Station co-operation and by entering the business of flying 'aero space objects'".[80] On board the Freedom ISS manned base, jurisdiction over the ESA team is determined by the code of conduct established under the IGA and MOU and this code applies to the ESA Columbus Free Flyer.[81] Another source of the law regulating mixed nationality crews, at least in relation to the European Astronautics Corps, is the special Staff regulations. Issues elaborated upon include: categories of astronauts (both grade and functional status), selection, training, assignment, the applicability of codes of conduct, intellectual property rights, criminal jurisdiction, disciplinary procedures, special insurance, status during missions and powers of attorney. Doyle correctly notes that other examples of laws that are designed to regulate foreign astronauts on board national spacecraft can be found in the NAS Act.[82]

9.1.6: Socio-scientific Considerations in the Exercise of Criminal Jurisdiction in Spatial Territories.

In a thesis such as this it is pertinent to inquire whether there are any connections to be made between criminal behaviour in the air and criminal behaviour in outer space. If there are the question that arises is whether this should have any bearing on the exercise of criminal jurisdiction in spatial terms. Any similarities found thereby can only enrich the analysis on the exercise of criminal jurisdiction in spatial territories as well as serve as a pointer as to potential areas of development in both air law and space law. As a matter of fact it was quite fashionable at a time for some scholars to focus rather fixedly on arguments of a paranormal and psychological kind as a basis for the development of criminal jurisdiction over humans in outer space. Lawyers like Robinson urge that international space law must not be allowed to apply shop-worn legal

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[79] See the ESA Convention May 1975, Basic Texts of the European Space Agency, Convention and Rules (1980); U.S. Congress, U.S. Congress, Space Law and Related Documents, 101st Congress 2 d Sess., Committee Print, S. Print No. 101-98, GPO, Wash., D.C. 1990.
[80] K.J. Madders, *op. cit.*, p. 26.
[81] See the Columbus and Hermes Declaration set down in Annex III to the ESA Convention.
[82] See Doyle, "A view of the American Experience", in Proceedings of an International Colloquium, *op. cit.*, p. 53.

positivism in relation to the exercise of jurisdictional powers over persons in outer space. He, therefore, postulates that the development and application of criminal behaviour should be based upon a theory of "Biochemical law". His position is that since nature was not made to suit man but man made to suit nature; therefore, "space jurists must be acutely aware of the behavioural consequences of environmental changes permitted by technological manipulations". He concluded that a new juridical regime should be developed for astronauts on space stations with different and very specific standards for crew members *vis-à-vis* civil and criminal law.[83]

Christol is also of the opinion that account must be taken of the artificial environment and special human reactions, which may be anticipated under the novel conditions that exist outer space. Therefore, he insists that;

> ...the lawyer, scientist, and technologist must jointly investigate the emotional, psychological and sociological problems created by such conditions as extended periods of weightlessness, artificial gravity, communal operation, in congested quarters, and reliance upon possibly uncertain supplies of life supporting substances. Their purpose should be to prepare acceptable legal norms for those embarking on extended space station activities. It is not too soon to think carefully about a normative code of space conduct which would carry fixed sanctions and which would be quite distinct from the operational rules and procedures designed to achieve safe passage.[84]

Lawyers trained in the common law tradition might find the exploration into extra legal considerations in a discussion of spatial sovereignty and jurisdiction as unnecessary if not downright unacceptable. But it must be said that it would be avoiding reality to hold that the special conditions in which air flight and outer space flight take place will not have an impact on criminal behaviour. Examples of 'perfectly normal and respectable persons' who assume appalling and morally as well as legally abhorrent behaviour while on relatively short air flights have already been shown. Whether and to what extent such conditions should reflect in jurisdictional competencies of states and particularly in terms of punishment of wrong doers is the

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[83] G.S. Robinson, "Renaissance of Legal Theory", *op. cit.*, pp. 27, 28, 30 *et. seq.*; See also Ernst Fasan, Relations with Alien Intelligences: The Scientific Basis of Metalaw (Berlin: Verlag, 1970) *et. seq.*; *Cf.* C. Voicu and T. Olteneanu, "Study of the Correlation between Flexibility of Attention and Dynamism of Nervous Processes", in Biological Bases of Individual Behaviour, V.D. Nebzlitsyn and T.A. Gray (eds.) (1972) pp. 325-332.

[84] Carl Q Christol, "Space Stations: A Lawyers Point of View", Proceedings of an International Colloquium, 1992) *op. cit.*, p. 494.

sharpest point of divergence among jurists. One of the more innovative theories developed to understand the inevitability of violence among astronauts and persons in space goes thus:

Sensory Deprivation + insecurity + Boredom = Potential Violence[85].

The aim of this theory, like others like it, is to make the lawmaker aware of the peculiar vulnerability of persons in space towards uncharacteristic and potentially criminal behaviour. It is possible to disagree with this thinking. Robinson never does enlighten us on the applicability of his formula to crimes in the airspace. Indeed most if not all of the constituent factors he claims may lead to violence may also be said to apply to persons in the airspace. At any rate it may be doubted that violence may be understood or excused in the law on the basis of predisposing factors. If the argument is pushed to its logical conclusion then similar considerations will have to apply to people in confined spaces such as buses and offices.

The development of legal reasoning has shown that even under extremely extenuating circumstances the law eschews criminal conduct and states impose the strictest standards on their subjects to avoid crime. Thus, for example in the case of survival homicide, a situation that increasing outer space activities may soon lead to, there is no indication that space law will evolve different rules from pre-existing law. In isolated situations of extreme duress in outer space, self-sacrifice as opposed to survival homicide is recommended. It has been rightly noted that;

> In a space disaster the potential for rescue or abandonment is likely to be known with some certainty. When all available sources of oxygen have been totalled, and allowing for maximum narcosis of the crew there is simply too little oxygen for all to breathe, it is unlikely there is much room to wonder whether the next week will bring unforeseen rescue to the crew. But there are conceivable calamity situations, where the lives lost could be mitigated by sacrifice, and that the value of that sacrifice will be as predictable with as much certainty as humans can ever hope to obtain.[86]

This position follows British and American jurisprudence, which deal with survival homicide situations. In *US v. Holmes* the presiding circuit justice charged that; "it was the duty of the

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[85] See G.S. Robinson, "NASA's Space Station and the Need for quantifiable Components of a Responsive Legal Regime" *op. cit.*, pp. 303.

[86] See the Institute for Creative Studies in Washington D.C report entitled Long Duration Manned Space Missions Certain Non-Engineering Aspects quoted in Robinsion "NASA's Space Station" *Ibid.* p. 295.

sailors to sacrifice themselves first to save the passengers".[87] Because of this the defendant who assisted in throwing fourteen people into the sea in order to save those remaining in a lifeboat was convicted. Also in *R v Dudley and Stephens* where starvation and cannibalisation occurred as a result of the sudden sinking of a yacht one thousand miles from land culpability was found for the consequent execution of the youngest survivor who was the weakest and was near death. Lord Coleridge clearly stated that, "self sacrifice was the approved solution to such dilemmas".[88] There would seem to be no compelling reason to adopt any different rules for homicide in outer space or on board aircraft. In conclusion, in the absence of convincing sociological and scientific evidence it is advisable that space law and air law should not be concerned with the reasons for criminal behaviour in spatial territories. What must be done is to continue developing the law to cope with newer challenges in terms of criminal jurisdiction in spatial territories in order to ensure that no lacunae exist.

9.2: Summary and Conclusions

It is important to adopt a fairly flexible definition of space stations. Thus, we might say that a space stations is an object, or a collection of objects, which is in an intentional long-duration orbit and is, at least in part habitable. This definition explicitly excludes space transportation systems. Rockets and shuttles that go into Space for brief and transitory periods of time such as a few days or weeks are merely transport systems analogous to aircraft and deserve separate legal treatment from space stations.

The functions space stations perform are varied and increasing. Space law has to develop quickly to cope with the questions of jurisdiction and control that are presented by technological possibilities. Current use of space stations include (but are not limited to) data gathering, transmitting of information, material processing, repairing facilities, energy-generation, storage facilities and scientific research. The construction of huge space stations capable of holding large population of people is well within contemplation. The exact workings of jurisdiction over persons sent into outer space have not been clearly worked out as in respect of jurisdiction over

[87] Fed. Cases 360, No. 15, 383 (U.S. Cir. Ct. E. Pa., 1842).
[88] (1884) L.R. 14; 14 Q.B.D. 273 (1885). See also A.W.B. Simpson, Cannibalism and the Common Law, (Univ. of Chicago Press, 1984).

persons in the airspace. With the advent of space tourism and the development of space hotels and multi-purpose space platforms the wholesale extension of criminal laws over persons to cover activities in outer space is now a pressing necessity. In this way the problem of oases of lawlessness that existed in respect of aircraft in international airspace prior to the legal developments starting from the 1957 will be avoided in space law. Questions of civil jurisdiction over contracts and intellectual property among others will also have to be addressed soon.

The present laws governing jurisdiction over civil and criminal matters on existing space stations and spacecraft would appear to reflect the interests of the powerful space faring states. A good instance of this is found in provisions, which empower the US with respect to the international space station to exercise criminal jurisdiction over misconduct committed by non-US nationals in or on a non-US element of the manned base or attached to the manned base or the personnel placed thereon. Similarly the contemporary rules governing intellectual property over inventions and discoveries made in outer space are very much based on competitive capitalistic ideology without enough regard for the essentially co-operative nature of outer space activities. It is important that space faring states should not forget when enacting domestic legislation or making regional treaties that outer space does not belong to anyone. Therefore, particular care must be taken to avoid provisions that directly or indirectly contradict the rules laid down in existing space treaties. Most importantly all new legislation must respect the legal status of outer space as the province of mankind as well as the common heritage of mankind principle that applies on the moon and other celestial bodies.

It is necessary to repeat the distinction regarding the right to collect in appropriate quantities and remove samples of mineral and other substances on celestial bodies in the course of scientific investigations and the right to conduct commercial mining on space stations in outer space. The former is expressly permitted under existing rules including the Outer Space Treaty (1967), whereas arguably the Moon Agreement (1979) has in effect forbidden the latter until states parties put into place an international regime for the exploitation. In the running and operation of space stations due regard must also be given to the status of celestial bodies under the CHM principle and the province of all mankind formula. An exception may, however, be made where the resource made use of is of an inexhaustible class such as solar energy. In such cases the prohibition of national appropriation enshrined in Article II of the Outer Space Treaty (1967) would not apply. However, even here commercial exploitation cannot be legally conducted until a suitable regime is developed which takes account of the CHM principle.

The principles of registration and nationality are of such utility in international law that they not only apply to spacecraft and space stations but also to aircraft, ships and Antarctic stations. If a space station is to function, as a single unit there is no point in the separate registration of the flight elements or the component parts of what is to all intents and purposes a single unit. It must, however, be admitted that prior to the docking together of the component parts in space there may be the need to register the parts separately. In that case another registration may be necessary for the entire unit for the purpose of its operation as a single body. There would then have to be appointed a single state of registry for the Space station as a whole. Just as concluded with respect to aircraft, states wishing to register space stations must be made to demonstrate a 'genuine link' with the private organisations involved. This position is consistent with developments in international law since the *Nottebohm case*. Only in this way can the determination of control over space stations and other space instrumentalities such as satellites and rockets be determined with the desirable certitude.

The rule expressed in Article 12 (3) that in the event of an emergency involving the threat to human life, states parties may use the equipment, vehicles, installations, facilities or supplies of other states parties on the Moon goes a long way in revealing the true spirit of co-operation governing outer space activities. The earthly injunction to be your brother's keeper extends further and finds expression in space law. In this light air law has a lot to learn from space law.

It can be conclusively said that compared with the situation in air law the duties of states towards astronauts are much more clearly set out. This probably is one of the reasons why force has not been readily employed by states in reaction to aerial trespass by spacecraft, as it has been the case with respect to aerial trespass by aircraft. However, the Astronauts Agreement (1968) does favour sending states over territorial states. As has been noted previously foreign pilots accused of aerial trespass have been repeatedly shot down by territorial states many times without adequate respect for human life. Cases of hostile treatment after unintentional entry into foreign airspace abound. These have on many occasions led to mass loss of life. In essence it must be said that there are more prospects within existing international law for peaceful resolution of jurisdictional conflicts in relation to outer space activities than in airspace activities.

CHAPTER TEN

10.0: LEGAL THEORIES ON THE SPATIAL DEMARCATION BOUNDARY PLANE BETWEEN AIRSPACE AND OUTER SPACE

> "There is no universally agreed precise legal, technical or political definition of either the boundaries separating airspace from outer space or of the term outer space itself."[1]

This thesis has identified the legal status of the airspace and the legal status of outer space. In the former, states possess exclusive jurisdiction and in the latter there can be no exercise of sovereignty and territorial jurisdiction. The legal distinction between the airspace and outer space and the two bodies of law governing them is not only factual but ultimately very necessary. What remains to be done is to determine where exclusive sovereignty ends and where the province of all mankind begins. Patrick Del, Duca[2] and Carl Q. Christol[3] rightly noted that the demarcation point is still an open question and an unsettled issue in Air and Space Law. This point arguably must exist somewhere in between the airspace, atmosphere and outer space. The determination of a demarcation line is primarily of legal significance. The scientific considerations are merely necessary to arrive at a suitable legal demarcation which would have a concrete and sensible basis, and around which the consensus of states can be built.

The core of the problem lies in the fact that air law (being the older body of law) has never come up with a definition of what the term 'airspace' actually denotes. Also left unanswered is the question of where precisely its boundary lies in relation to 'outer space'.[4] The matter of the delimitation has been discussed since the beginning of space flight in 1957 and some even say discussion on it existed before then.[5] Views and literature on the subject abound. However, most

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[1] The Minister of State, FCO, Hansard, H.C., Vol. 546 W.A. 66, July 23, 1993.
[2] Patrick Del Duca in a review of Gabrella Catalano Sgrosso's book: La Responsibilita Staki per le attivita svolte nello spazio extra atmosferica in Vol. 87 American Journal of International Law, No. 2 (1993) p. 355.
[3] Carl Q. Christol refers to it as "the unsettled issue of formal boundary between sovereign airspace and non sovereign outer space. See Vol. 87 American Journal of International Law, (July 1993) p. 491.
[4] Diedericks-Verschoor, An Introduction To Space Law, (London: Kluwer Law International, 1999) p. 17
[5] The views of Dr. Bess C.M. Reijnen in the preface to Robert F.A. Goedhart, Forum For Air and Space Law: The Never Ending Dispute: Delimitation of Air Space And Outer Space, Vol. 4 Marietta Benko, Willem de Graaff (eds.) (France: Editions Frontieres, 1996). Other notable writers have stressed, that

of these concentrate on scientific and political considerations.[6] It is from this medley of ideas that scholars must distil and formulate legal criteria for the resolution of the spatial delimitation dispute.

To arrive at this point it is possible to classify the existing theories into schools of thought. These theories range from the highly probable to the novel and the absurd.[7] The boundary problem involves a number of pertinent and distinct issues. Boundaries might be set in Space for many different purposes. For example, space-craft using nuclear fuels might be prohibited from operating below a certain altitude; launchers might be prohibited from discharging waste in certain layers of the atmosphere; space craft returning to earth or moving away from it might be required to control their flight in such a manner as may be dictated by the super-adjacent state. The right of self-defence over super-adjacent space might also be settled.

10.1: The No Present Need Theory

Most of the theories on the issue of a demarcation line presuppose that a demarcation line must be drawn somewhere in Space and the problem is to determine where. However, some authors like Jessup and Taubenfeld, simply assume that "at some point there is a limit to the extension of territorial sovereignties". It is only hoped that "...in due course practical international necessities will lead to its definition".[8] Other authors belonging to this school like J. Morennoff believe that establishing a boundary altitude "might fetter Space activities or needlessly interfere with the

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international lawyers have an interest in assisting towards the development of clearly defined boundaries and frontiers. Prescott wrote: "Boundaries attract the interest of international lawyers because they mark the position ...where international rights are determined and obligations assumed". Nicholas Grief more recently expressed similar views when he stated: "To the international lawyer, in particular, the delimitation of national and international areas has vertical and horizontal aspects which require the application of legal principles and rules". International Organisations that have consistently considered this problem to no avail include both scientific and Legal or Political Organisations. These include the International Law Association; the International Institute of Space Law and The International Astronautical Federation (IISL of IAF); the Committee of Space Research (COSPAR) of the International Council of Scientific Unions (ICSU); International Civil Aviation Organisation (ICAO). See J.R.V. Presscott, Boundaries and Frontiers, (London : Croom Helm, 1978) p. 20; Nicholas Grief, Public International Law in the Airspace of the High Seas, (London: Martinus Nijthoff publishers, 1994) p. 7.

[6] Goedhart, *op. cit.*, preface .

[7] It must be noted that it is not all the existing theories that have been discussed here. Indeed it is difficult to ascertain just how many theories there are. The schools are in some cases not sharply defined and the ideas of one may flow into the other or be subsumed in them. Therefore, the way they are treated and the classifications made herein will necessarily be different from those of other writers on the topic. What has been attempted is a general treatment of the existing theories.

[8] Jessup and Taubenfeld, Controls for Outer Space and The Antarctic Analogy, (New York: The Michie Company, 1959) p. 207.

existing regime of international aviation".[9] Hurwitz also thinks that while the need for such delimitation is fast growing "...it is not of crucial importance".[10]Cheng would prefer that such exercise should be left to scientists to solve at a later date.[11]

The representatives of Canada, Great Britain, the United States and some other Western states also expressed such opinions in the early stages of legislative work at the United Nations Committee on the Peaceful Uses of Outer Space. At that stage even the representatives of the Soviet Union commented that, "it is not possible at the present time to identify scientific or technical criteria, which would permit a definition of outer space."[12]

The arguments of this school can be summarised thus:

(a) That the absence of explicit agreement has not yet led to international tensions and does not appear likely to be able to do so.
(b) That an attempt to reach explicit agreement on establishment of an altitude boundary would invite many states to make claims to sovereignty which in analogous cases such as the high seas, have led to immoderate claims. In other words, the Pandora's box might be harder to close than to open.
(c) That any boundary set might have to be set too high because fear of the unknown would lead states to claim as much as they could. On the other hand, that future activity at lower altitudes may be acceptable if there is no explicit agreement on the extent of airspace.
(d) That an agreement reached later is likely to fix a lower altitude than an agreement reached now.
(e) That an agreed altitude once achieved will be next to impossible to reduce.[13]
(f) That an arbitrarily chosen upper limit could easily become a bone of contention. This is in that disputes may arise from boundary violations, which are all the more likely because space objects

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[9] Jerome Morenoff, World Peace Through Space Law, (Virginia: The Michie Company, 1967) p. 1.
[10] Bruce Hurwitz, The Legality of International Air Transport, (New York: Elezevier Science Publishers BV, 1986) p. 31.
[11] Cheng, The Law of International Air Transport, (London: Oceana Pub. Inc., 1962) p. 121. It is surprising to note that the same author two years earlier wrote in respect of "...the identification of upper limits of national sovereignty" and concluded that "[s]uch a definition while hitherto unimportant in air law, is one of the first and most important problems that have to be tackled in Space Law". See Bin Cheng, "From Air law to Space Law", Vol. 13 Current Legal Problems, (1960) p. 230.
[12] See UN Doc A/AC. 98/2 passim. See also A.S. Piradov (ed.), International Space Law, (Moscow: Progress Publishers, 1986) pp. 183-184.
[13] For these and other submissions see Houston Lay, and H Taubenfeld, The Law Relating to Activities of Man in Space, (U.S.A.: The University of Chicago Press, 1970) p. 46.

are in fact difficult to track or identify.[14]

Indeed several authors have taken the position that the answer to the demarcation problem is primarily a political issue and that probably the answer lies in the political field with the law only rendering the possibility of assisting in the formulation of a solution.[15] This view is difficult to accept. Political resolution normally would have to take place before or at least contemporaneously with legal codification. Without things going in that order it is quite difficult to see how legal rules will be drawn up in the first place. It might, however, be suggested that the reason why the indecision over the issue of spatial demarcation has been allowed to fester so long is because the absence of a precise boundary is advantageous to the dominant interests in international space exploration.

Admittedly though, the fault of a lack of a demarcation regime cannot be said to rest with the industrialised powers alone. Complacency on this issue is fostered by the fact that prior to 1976 states have not protested at the passage of satellites over their territory. [16] Prior to the 1970s the call for a demarcation enjoyed much less popularity.[17] This is probably why the question was not dealt with in the seminal General Assembly resolutions and in the 1967 treaty. By the mid 1970s, the states that insisted on a demarcation spanned both the developing and developed state divide. Apart from the case of the erstwhile Soviet Union there was a common factor linking the states making a call for demarcation and that was the apparent lack of capabilities to engage in large-scale space activities. Thus, states like France, Belgium, Italy, the USSR, Poland Egypt, and a majority of other states were unified in a call for spatial delimitation. As time went by the more developed states could be perceived to have become relatively cool towards the idea probably as the possibilities of space exploration opened up to them as well. Sometimes this took the form of joint space exploratory activity through such structures as the European Space Agency. The immutable US position is that there is no real usefulness to the various proposals to establish a boundary. This is because the region is devoid of physically observable landmarks and most countries are not capable of accurately determining the altitude of space objects and, therefore, have no way to monitor any agreed altitude boundary.[18]

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[14] Goedhart, *op. cit.*, p. 7.
[15] *Ibid.*, preface.
[16] D.J. Harris, Cases and Materials on International Law, (London: Sweet and Maxwell, 1998) p. 253.
[17] Diederiks-Verschoor, *op. cit.*, p. 17.
[18] This was the reaction of the US to a working paper submitted by the USSR in 1987 to COPUOS suggesting the 110 km above sea level limit as the demarcation point See A/AC.105/C2/SR.316, paras. 1-7; see also A/AC.105/C.2/7/Add.1,para.42, p.15.

Presently, most states are agreed upon the necessity for establishing a demarcation boundary line between the two territories. It may, however, be noted that more stringent calls emanate from the ranks of the developing countries. This may be a reflection of the fact that the relative quiet that exists on the matter presently may have been calculated by the states active in space to be a much safer situation than to open the matter up for multilateral treaty consideration. This indeed may establish a solution, which will not be in the interest of the space faring states. On the other hand the need to resolve the question would appear to be assuming a crucial dimension for the developing states as a result of the increase in traffic between earth and outer space and as a result of the increasing stakes, economic and political of outer space activities. By 1990 the tide in international opinion at least in the developing states was to achieve a solution to this never-ending dispute. Nigeria lent its voice to the matter when in June 1990, in an address at the 33rd session of the UN Committee on Peaceful uses of Outer Space it called for "a clear definition and delimitation of the airspace of various countries as distinct from outer space".[19] This call reflected the swell of opinion among the non-space faring nations, which had no direct participation in outer space activities but are nonetheless rightly concerned about the questions of sovereignty and jurisdiction raised by contemporary developments in space.

As to the erstwhile absence of protest over the occurrence of space flights going through or flying above state territory this may be no more than evidence of a right of innocent passage. [20] One of the submissions by those who think there is no need to maintain a strict demarcation is that even in the event of an accident when the issue of liability is raised the defence of the state of registry will not depend on the place where the accident happened but will depend on the Outer Space Treaty (1967) and the Liability Convention (1972). It is also said that, at any rate the obligations that ensue from these treaties will not make it necessary for the contracting state to delimit airspace from outer space.[21] This of course is a fallacy, for as soon as the fact of a case borders upon uncertainties as to where in spatial terms an accident is caused or liability for damage or

[19] See A/AC. 105. 105/C.2/SR.417-435 Summary record of the Legal Sub-Committee forty fifth session April 4- May 1990. See also Nigerian Institute of International Affairs, Nigeria Bulletin On Foreign Affairs, New Series Vol. 5, No.1 (June 1990) p. 6. See also New Nigerian (June 14, 1990) p. 8. Note that in 1987 the Nigerian reaction to the Soviet proposal of 110 km suggestion by the US was to support the adoption of a linear delimitation. See A/AC.105/PV.234, p. 58.

[20] *Cf.* Harris, *op. cit.*, p. 253. Harris thinks this view is highly unlikely but recognises the possibility of this interpretation.

[21] Goedhart, *op. cit.*, p. 6.

contamination arises, it can be expected with near certitude that lawyers for the defence will spring to attention and raise all possible doubts as to the regime that will govern the occasion.

Again, it should not be forgotten that two different registries exist for aircraft and space objects. This of course presupposes that different spheres of operation exist for them as well. Thus, the question really should not be whether there should be spatial demarcation but why it has not been achieved so far. Space objects particularly are a class of things, which are difficult to trace and identify. That is the more reason to insist that a demarcation will make it necessary for space faring nations to obey very strictly the laws on markings, registration and provision of flight paths as well as other information.

As to the fear that states may begin to unreasonably veto space flights that might have to pass through national territory on ascent or descent, it is more reasonable to presume that in view of the general tendency not to do so thus far, this fear may be more imaginary than real. Indeed it has become customary practice to allow the ingress and egress of space vehicles through national airspace.[22] Rather than the delimitation of airspace from outer space having the effect of making space exploration operate under more difficult circumstances, it may well be that a well reasoned conclusion on the matter and a proper demarcation regime would in fact assure the development of space technology. Agreement reached now will buttress the settled nature of the main principles of space law. In any case leaving things in a state of flux will more likely than not create a lot of tension, the ground swelling of which we are beginning to see between states and which may in turn lead to the outbreak of war.[23]

Thus, it would appear that the only thing that the idea that there is no need to establish a spatial boundary demarcation plane has in its favour is that none has been established just yet. But of course, not only is that not a good reason at all but it is a tenuous justification soon liable to change in the light of the recurrent discussions over this matter in various UN fora. What better way to dismiss the 'no- present- need' theory than to adopt unequivocally the view of Maurice Andem that "As a matter of fact, mankind cannot wait another 50 years in order to accumulate

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[22] Again this is an instance of the rules of international law being developed or tailored to take cognisance of the interest of the powerful nations. It is in some ways similar to the freedom of peaceful transit for private aircraft through national airspace. Although there are clear reciprocal benefits in an ideal scenario where all states have enough money and resources to run aircrafts, it is still neccesary to consider the commonsense of the current situation where many states have neither succesful airlines of their own nor private aircraft yet accept the existing servitude for nothing in return.

[23] Witness the developments of the Bogota Declaration *infra*. *Cf.* Goedhart *op. cit.*, pp. 7-9.

enough scientific and technical data before practical steps could be taken to select a specific altitude above sea level as a boundary between air space and outer space."[24] For sure, if it was premature as at the time many of the 'no- present- need' theorists put their ideas to paper some years back, it is no longer premature now. There are lots of scientific and technical data, which have been accumulated during the past decades of practice of space flight. These data must, therefore, be sufficient to provide a very solid, reliable and objective basis for the establishment of a frontier between air space and outer space.[25]

As a fledging discipline and an increasingly important area of international law it is crucial that space law must develop in a manner as to put its subject matter in an appropriately delimited context. It indeed may be better not to grant sovereignty over the airspace at all than to grant it without specifying precisely where it ends. For as we know there can be no limit to which such latitude can be exploited by humans. The exact vertical and horizontal airspace appertaining to each state must always be known. The fact that demarcation has been done without thus far without any serious consequence is no reason why that position of things must continue. As Lord Denning once had occasion to say "if you do not do a thing because it has not been done before then the world will stand still, Law should develop".[26] The outer limit of the airspace must be fixed.

10.2: The Criteria of Space Activities or The Functional Approach

Some writers have developed the highly interesting theory that states should not worry as to the fixing of a demarcation boundary plane but rather should concentrate on the regulation of activities in space, regardless of the location of these activities.[27] That is to say, the concept of outer space has to be defined on the basis of a definition of the concept of space activities, or at any rate in close relation with that term. The approach, therefore, is functional. Reduced to its simplest basis outer space is to begin where space activities can be said to have begun. Subsumed in this school is the theory of a uniform legal regime, which insists that both air flights and space flights should be subject to the same rules of law.

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[24] Andem Maurice, International Legal Problems in the Peaceful Exploratron and Use of Outer Space, (Finland: University of Lapland, 1992) p. 153.
[25] *Ibid.* p.143.
[26] *Parker v. Parker* 1954 A.C. 15 at 22.
[27] The possibility of such an approach was referred to as early as 1959. See Ad hoc Committee On The Peaceful Uses of Outer Space, U.N. Doc. A/AC, 198/2 General Assembly, June 1959, p. 8. See also McNair, The Law of the Air 3rd ed. (London: Stevens and Sons, 1964) p.16.

This school is populated with the likes of F. B. Schick, D. Goedhuis, Chaumont,[28] R. Quadri[29] and Seara Vazquez. Vazquez for instance claims that if we are seeking a point in Space to be governed by Space Law, "we must consider our planet as part of the universe and an insignificant one at that".[30] For theorists of this school the area surrounding the earth should not be thought of as a place legally speaking but as a focus for activities. Thus, an expression like 'international cosmic law' is preferred, as it is non-spatial and could include all manners of activities.[31] Maurice also appears to belong to this group though in a not committed manner because he recognised that the solution to the demarcation problem may not depend solely on this functional criterion. He wrote that it will "require the political will of all states to find a political solution by establishing a boundary between air space and outer space either by adopting the *functional or spatial approach*" (emphasis supplied).[32]

Though the functional school may at face value appear to be *sui generis*, the school in actual fact attempts to discount the contributions of the spatial theories and take them into consideration. The implications of the central submissions of the functional school may be represented thus: (a) space law covers among others the area of transport through airspace; therefore, space law should be applicable to all transport from the earth to any point in space; (b) noting the definition of 'aircraft' that exists in Annex 7 of the Chicago Convention, all other vehicles passing through and beyond the atmosphere should be classified as 'spacecraft'; (c) airspace extends to the maximum altitude attainable for aircraft, while outer space starts at the lowest point where spacecraft can orbit the Earth. It is, therefore, postulated that in between these two points there exists a 'mesospace' for which authors like Wassenbergh have advanced a 'right of innocent passage' of space objects through foreign airspace. [33] (d) In the light of the above all space activities are best permitted at any level of altitude as long as the security of the underlying state is respected; (e) given the absence of a demarcation line in the Space Treaty (1967) and the lack of a definition of spacecraft in other space treaties, then the Space Treaty (1967) is by nature a functional treaty.

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[28] According to Chaumont "splitting of the area above the earth would lead to a host of legal rules applicable to one and the same spacecraft in quick succession...wherefore it would be impossible to say clearly and exactly at any point of time which legal regime is relevant to the spacecraft concerned." Chaumont, Le Droit de l'espace, (Paris: Universites de Prance/ P.U.F, 1960) pp. 37-61.

[29] R. Quadri, Droit International Cosmique, (The Netherlands: A.W. Sijtoff Leiden, 1959) pp. 509-524.

[30] J.E.S Fawcett, International Law and The Uses of Outer Space, (U.S.A.: Oceana Publications Inc. 1968) p. 22.

[31] *Op. cit.*, p. 521.

[32] Maurice *op. cit.*, p. 143.

Putting all these together Space law is seen as a functional body of laws and the definition of outer space must be a functional one.

The basic difference between the spatial approach and the functional approach is that while the former is based on the adoption of certain scientific and technical criteria; for example the gravitational pull of the earth, lowest perigee of satellite orbits etc. the latter is based on the definition of space objects and their functions or purposes and space activities.[34] The crux of the functional approach lies then in the nature of the activities displayed or to be displayed. Thus, there is no distinction between air flight and space flight as well as between aircraft and spacecraft.[35] By virtue of this reasoning wherever space objects may be found to be in operation, outer space laws apply.

The fatal error in this approach is the over enthusiastic attempt to put together in an untidy manner a jumble of considerations best treated alone and to hazard a single criteria from this. As will shortly be seen acceptable and precise definitions of 'aircraft' and 'spacecraft', are just as elusive as similar definitions of air law and Space law.[36] Having sought to include too many considerations into the development of the functional theory the theory itself shares most of the criticism appertaining to those other theories it borrows heavily from.

What is more when the functional theorists say they are not interested in the adoption of scientific and legal criteria for a spatial demarcation decision and that therefore, they do not stand the chance of failing on that score, they are only correct to the extent that the little scientific considerations they do employ open that approach itself up to other cogent criticism. For instance it is submitted that every movement with less than circular velocity (i.e. the launching velocity of a spacecraft amounting to 9.4 km/s) has to be considered a flight through airspace regardless of its height. That is why such a flight is subject to the jurisdiction of all states that are in such manner overflown. On the other hand every movement with escape velocity or one exceeding that velocity (i.e. 11.2 km/s or faster) should be considered a space flight, which of course by definition (presumably as a result of acceptance under customary law of the right of ingress and egress of spacecraft) is free from all state interference, irrespective of the height at which it is

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[33] H.A. Wassenbergh, Principles of Outer Space in Hindsight, (Dordrecht; Boston: M. Nijhoff Publishers, 1991) p. 18.
[34] Maurice op cit., p. 133.
[35] Goedhart, *op. cit.*, p. 91.
[36] *Cf.* Diedericks-Verschoor *op. cit.*, pp. 8-9, 20-21.

carried out. In other words the speed of objects in itself is the distinguishing feature.[37] Note should be taken that the approach is supposed to take into account the security of the state from falling objects. While the security considerations are quite apt and necessary there is an apparent naivety in the functional theory argument because it fails to account for the following: (a) movements in outer space at less than circular velocity speed,[38] (b) launching manoeuvres slower than escape velocity which thereby endanger the underlying state, (c) the special problem of those aircraft which can also perform space flight (d) the possible harm that can be done by spacecraft on an ascent and descent trajectory through foreign airspace. This is because every flight with circular velocity or more will begin and end dangerously, at launch and at landing.

One shade of the functional theory is based on the assumption that since the largest part of the earth is covered by the sea-, which is not subject to state sovereignty-, there is no need to draw a boundary line between airspace and outer space. The one can be regarded as an extension of the other with a gradual transition for the purpose of conducting air and space activities.[39] This reasoning would have been more credible if most if not all launchings and re-entry of space objects take place solely at sea and outside state territory. The situation in practice, however, is that most space activities naturally emanate from national territory and involve the interests of other states. Therefore, justification of the functional approach on this ground fails. Also subsumed in this school of thought is the view that a uniform regime encompassing both air law and space law would in any case eliminate the need for demarcation all together.[40] Such a premise exposes the theorists of this school of thought to the accusation that their, "thinking testifies to some naivety" and furthermore as Diederiks Verschoor put it, "there are compelling reasons supporting the opposite view".[41]

Thus, despite its attractions, this view must be rejected in its entirety. Among the things it does not account for even though it is supposed to be an all encompassing view is whether or not that the term space activities in its legal sense applies also to activities still in the planning stage or

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[37] Goedhart *op. cit.*, p. 82.
[38] Such movement s are still possible at an altitude of 1000 km or even higher. See Goedhart *ibid.*, p. 89
[39] Diedericks-Verschoor *op. cit.*, p. 20.
[40] This is the theory of a uniform legal regime. This theory makes both air flight and space flight subject to the same rules of law. Its cornerstone is the enactment of a single and uniform legal regime (i.e. a legal continuum) covering all space immediately surrounding the earth. The joining of air flight and space flight is chiefly inspired by the belief that air flight will be dwarfed by space flight as a result of technological progress. In that situation, the controversial concept of sovereignty as it exists today in state practice and under international law will become obsolete. See further H. T. Binet, "Toward solving the Space Sovereignty Problem", in Proc. 2nd Coll. I.IS.L./I.A.F. (1960). See also Goedhart *op . cit*, p. 91.

partially performed on earth, but directed toward space. In any case the proposition that outer space law covers such activities happening on earth does not solve the spatial demarcation issue neither does it remove the need to solve it. To say that outer space is not a place but a focus of activities is only a half truth. It is both a place and a focus of activities. To insist that outer space factually or functionally begins from earth is a conception colossal in its mistaken value. There is no compelling reason to adopt the position that all spatial space should be subject to a single legal regime. This would run counter to the natural inclination of states to preserve and even expand their sovereignty. It would run against most existing international treaties on air law and on space law. It would make nonsense of the provision of the Chicago Convention (1944) that every state has complete and exclusive sovereignty over its airspace.[42] Furthermore it neglects the obvious value of developments in the law such as in Article II Outer Space Treaty (1967) which quite distinctly make outer space virtually a sovereignty free area.[43] The principle of free and equal utilisation of outer space can only mean that there is a limit at some point to national sovereignty. In sum the criteria of space activity is not of much help in determining the precise beginnings of outer space or a spatial demarcation line between airspace and outer space.

10.3: The Aerodynamic Lift Theory

> The displacement of an aircraft through air space at a constant height meets a simple condition which can be expressed equation-wise: weight = aerodynamic lift + centrifugal force. With increasing altitude the density of air, as well as the upward pressure of air, decreases. Beyond an estimated elevation of 83 km the air buoyancy would altogether disappear and only the centrifugal force or Kepler force would remain, which could keep an aircraft in flight, if it can travel at a certain speed. To continue flight after the air lift has been reduced to zero, circular velocity (i.e. +/– 7,900 m/s) is required; in this way the aircraft would describe the demarcation line between two areas with legal regimes (i.e. air space and outer space).[44]

An aircraft is commonly described as a machine depending on the reactions of the air as its means of flight.[45] Therefore, a group of lawyers including Haley,[46] B. Potter, J.C. Hogan[47] (and at a time

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[41] Diedericks-Verschoor *op. cit.*, p. 17.
[42] Article 1; see the discussions earlier on the legal status of the airspace.
[43] "Outer space including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by other means."
[44] Goedhart. *op. cit.*, p. 61.
[45] Fawcet, *op. cit.*, p. 22.
[46] Pitman B. Potter, "International Law of Outer Space", Vol. 52 American Journal of International Law, (1958) p. 305. Potter also reiterated the persuasive belief that "...the functions of the physical scientist and the lawyer are inextricably intertwined".

J.C. Cooper)[48] have concluded that airspace ends where an aircraft will no longer find sufficient aerodynamic lift to sustain a flight. This position exists in the stratosphere. It is held in scientific and legal circles that twenty-five miles above sea level is perhaps the maximum height for the practical use of aircraft requiring aerodynamic support to sustain flight and using breathing motive power. Fifty miles above sea level is perhaps the maximum height at which the atmosphere is sufficiently dense to provide any appreciable aerodynamic lift. At about 53 miles an object travelling 25,000 feet per second loses its aerodynamic lift and centrifugal force takes over. This is the Karman primary jurisdiction line,[49] which represents the highest distance the theorists of this school will admit as the point where sovereignty can no longer be enforced.

The lure of this school lies in the knowledge that sovereignty of the air granted in air law relates to the regulation of aeroplanes and other aviation craft, which of course need aerodynamic lift. Thus, once a point is reached where a vacuum exists and all the aerodynamic features, which give a normal aircraft the needed 'lift', exist no more then claims to sovereignty and jurisdiction should cease. Demarcation here is based upon the aerodynamic features of flight instrumentalities.

The aerodynamic lift theory enjoys considerable support in scientific circles. This has translated into acceptance in legal academic opinion and very importantly in the position adopted by some states on the issue. According to the South African government airspace refers to the space above the surface of the earth and below the outer space. The country's Aviation Act, 1962 (Act No. 74 of 1962), defines an aircraft as a machine that can derive support in the atmosphere from the reactions of the air, other than the reaction of the air against the earth's surface. In terms of the Space Affairs Act, 1993 (Act No. 84 of 1993), outer airspace is defined as the space above the surface of the earth from a height at which it is in practice, possible to operate an object in an orbit around the earth. From these two definitions, the position is taken that for the purposes of

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[47] Hogan, "Legal Terminology for the Upper Regions of the Atmosphere and Space Beyond the Atmosphere," Vol. 51 American Journal of International Law, (1957) p. 362.

[48] J.C. Cooper, "High Altitude Flight and National Sovereignty", in Explorations in Aerospace Law: Selected Essays, Vlassic (ed.) (Montreal: McGill Univ. Press, 1968) pp. 368, 370.

[49] Defined as the height at which aerodynamic lift ceases and centrifugal force takes over; a suggestion put forward by Von Karma at a speech delivered in 1957 at the Univ. of California later modified by Haley who applied the diagrams of Mascon and Gazely. See A.G. Haley, Space Law and Government, (New York: Meredith Publishing Co., 1963) pp. 77, 97-107.

South Africa the airspace is the space above the surface of the earth up to a height where an aircraft is no longer able to derive support from the atmosphere.[50]

The aerodynamic theory it has also been said has a natural relation to air law. Air law of course is the older body of law in comparison with space law. Thus, the aerodynamic yardstick is mentioned in so many words in Annex A of the Paris Convention (1919) and in Annex 7 of the Chicago Convention (1944).[51] Besides buoyancy in the air is a feature of the atmosphere that may well serve the purpose of distinguishing between aircraft and spacecraft. The argument of the aerodynamic school, therefore, is that in the context of air law as enshrined in Articles 1 of both air treaties, the aerodynamic yardstick determines the scope of 'the complete and exclusive sovereignty' a state possesses over its aerial territory. Sovereignty, therefore, does not exist beyond the uppermost height at which aircraft are capable of flying.[52]

Goedhart after comprehensively reviewing the various schools of thought would appear to lend more credence to the aerodynamic theorists. He commits himself on this point after reviewing the aerodynamic theory by stating:

> "In summary, it might be said that a height between 80 km and 90 km is most appropriate for drawing a legal boundary line between airspace and outer space. The lower and denser part of the atmosphere is as good as homogeneous in its chemical composition, whereas the upper part of it is in more than one respect equivalent to cosmic space, thus differing essentially from the deeper air layers. Luckily enough, this intermediate area which presents itself as a matter of nature, happens to coincide with the numerous proposals done in Western literature on international law: most of them are directed at choosing a height between 80 km and 100 km above mean sea level."[53]

This theory, however, is not without obvious shortcomings, not the least of which is the advent of a new class of aircraft - the X-15 which is capable of flying to a height previously considered supra-atmospheric.[54] These hybrid rocket planes combine elements of the traditional aircraft and of spacecraft and, therefore, can fly above the lower airspace. Countries like Japan are now

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[50]Depending on weather and other conditions, this height is put at approximately 30,000 metres above sea level. See The South African Government White paper http://www.transport.gov.za/docs/white-paper/airport-wp02.html

[51] Entitled 'Aircraft Nationality and Registration Marks.' Both of these instruments have been discussed earlier. See further supra 2.0.2: Development of the Concept of Sovereignty over Airspace.

[52] Goedhart, *op. cit.*, p. 60.

[53] *Ibid.*, p. 59-60.

developing and specialising on such space planes for their future transportation system. The space plane has several concepts in one technology and it is rather difficult to apply one legal regime to it.

Space planes may be categorised into 'surface to surface' (STS) type and 'surface to outer space' (STO) type according to the purposes of their usage. These two types have different purposes while both are based upon the same technology. Therefore, different legal systems, space law and air laws are applicable. With respect to both there are problems, which are not covered by present laws and regulations. These are problems, which admittedly confuse many of the distinctions this thesis has sought to establish so far and with respect to which further research will be necessary. However, one thing is for sure, the aerodynamic lift planes need to function can no longer be a criterion to denote the boundary between airspace and outer space. It is also clear that states may consider twenty-five miles above sea level too close for security purposes.[55] Note that the U-2 spy plane shot down in 1960, which was discussed earlier on, was about 20 miles above Soviet territory.[56] In fact it is very unlikely that states will ever remain content to restrict their claim to sovereignty to 20 miles when they might claim substantially more than that without unduly interfering with outer space activities. Commonsensical as the aerodynamic lift theory seems to be, it fails to offer a sufficiently precise criterion in law or in fact for drawing the line in the air between the airspace and outer space.

As to the utility of the so-called Karman primary jurisdictional line, it can only be said that the fate of that conception cannot be different from the fate of the aerodynamic theory itself. It should be stressed that the Karman line is no more than "an average outcome, comparable to the notion of the mean sea level, although more complicated than that".[57] Up to now, therefore, the Karman line is no more than a valuable reference boundary. The evolution of aircraft that are capable of navigating in the atmosphere above this line also diminishes the usefulness it has as a criterion to achieve legal spatial demarcation. Though some writers have tried to shore this theory up by stating that the line is subject to change in line with technological progress it is still not

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[54] The X15 is said to be able to attain heights up to 47 miles as opposed to the 25 miles that apply to conventional aircraft. See Harris *op. cit.*, p. 252.

[55] Some like Harris and Maurice, even say 20 miles. Whereas other accounts go up to 30 to 40 miles. This is again an indication of the scientific uncertainties that afflict research into this area. *Ibid.*

[56] See Maurice *op. cit.*, p. 152. For further details see Amin V.G., Kosmicheskiye Apparaty I Mezhdunarodnoe Pravo, (1977) p. 55; NASA, High Altitude Perspective, NASA SP-427 (1978) p. 4.

[57] Goedhart, *op. cit.*, p. 60

satisfactory.[58] This is because the desirable legal demarcation regime should ideally be of a near permanent if not final nature and not based upon the possibility of change due to slight changes in technological progress.

10.4: The Bogota Declaration View

In the Bogota Declaration of 1976,[59] eight equatorial states; Brazil, Columbia, Congo, Equador, Indonesia, Kenya, Uganda and Zaire claimed sovereignty up to the geostationary orbit (GSO) above their territories, which is at a distance of 22,300 miles (i.e. 36,000km) away from earth. In the GSO, the orbit of a satellite around the earth is synchronised with the rotation of the earth on its axis. An object in that orbit over the equator travels at the same speed as the earth so that it appears to be stationary. The orbit is particularly essential for satellite telecommunications among other things.[60] With only three satellites placed in the geostationary orbit any state or operator can have satisfactory worldwide commercial coverage.

However, Article 2 sub. D of the Bogota Declaration 1976 stipulates that:

> Devices to be placed permanently on the segment of a geostationary orbit of an equatorial state shall require previous and expressed authorization on the part of the concerned state, and the operation of the device should conform with the national law of that territorial country over which it is placed.

In other words these states claim that segments of orbit of geostationary satellites are not in outer space but are an integral part of the territory below.[61] So for them outer space over which the space treaties pronounce as the province of mankind begins after the geostationary orbit. Indeed it may well be argued that when an object hangs permanently over a state it has a special relationship to it, which cannot easily be overlooked. Thus, lawyers from the developing countries like Umozurike counsel: "While the freedom of outer space exploit (sic) and the concept of common heritage to all mankind should be preserved, the special interest/risk to the subjacent states should not be ignored."[62]

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[58] Diedericks-Verschoor *op. cit.*, p.18.
[59] For the text of the Bogota Declaration see Journal of Space Law, Vol. 6 No.2 (1978) p. 194; see also N.M. Matte, Aerospace Law; Telecommunication Satellites, (1982) pp. 341-344.
[60] S. Gorove, "The Legal Status of the Geostationary Orbit: Some Remarks", Journal of Space Law, (1985) p. 53.
[61] L. Martinez, Communication Satellites: Power Politics In Space, (Dedham USA: Arctech House Inc., 1985), p. 53.
[62] U.O Umozurike, Introduction to International Law, (Lagos: Spectrum Law Publishing, 1993) p. 118.

The Bogota Declaration was obviously an attempt to alter the international legal status of outer space in favour of those underlying equatorial states. The fact that the Declaration was made at all lends credence to the idea that certain powerful states had failed to heed the warning expressed in such documents as the ITU Malaga – Torremolinos Convention of 1973, which stipulates *inter alia*; "Members shall bear in mind that radio frequencies and the geostationary satellite orbit are limited natural resources, that...must be used efficiently and economically". The enormity of the problems faced by developing states is reflected in the fact that even in such instruments as the ITU Convention (1973), the right of states to these finite resources is calculated to be based not on possible future competence or capabilities but as expressed in this instance, "according to their needs and technical facilities at their disposal". From this perspective it can be seen that while such documents purport to ensure 'equitable access' the premise upon which this access is based is far from equitable since it is short-sighted and limited to present realities and to the neglect of future changes and needs which will surely take place. For instance as at the time the ITU Convention was made in the early 1970s the expression space powers would refer mainly to the US and the then USSR, today the term is said to include not only the major industrialised countries but others like China, India and Brazil.[63] By similar reasoning the list will surely continue to expand. The question is by the time it does, will there literally be any space left? It is for this reason among others that the parties to the Bogota Declaration insist that the ITU documents are impractical and unfair. Indeed they located within UN General Assembly resolutions support for their position.[64] The Bogota declarants have been careful to excise from their claims all portions of outer space that do not fall within their spatial territories. Thus, it is recognised that the international legal status of the segments of the orbit corresponding to the areas of the high seas beyond the national jurisdiction of states falls under the common heritage of mankind. Note should also be taken of the peculiar position of those equatorial states which had not ratified the Space Treaty (1967).

As would be expected the claim by the Bogota Declaration has run into the most formidable brick wall of technically constructive and legally framed refutations by the industrial powers including the communist states. Reactions emanated both in the legal subcommittees and technical

[63] Bergquist, Michael Laffaitur and Kai-Uwe Schrogl, "A European View on UNISPACE III follow up", Vol. 16 Space Policy, Issue 3, (2000) p. 193.
[64] For instance General Assembly resolution 2692 (XXV) and even Article 2 (1) of the 1974 UN Charter of Economic Rights and Duties of States (1974) G.A. Res. 3281 (XXIX) (1975) 14 ILM 251.

Committee from the USA[65] the Soviet Union,[66] the United Kingdom,[67] the German Democratic Republic,[68] Italy,[69] France,[70] Japan,[71] Poland,[72] and Czechoslovakia.[73] While not exactly enjoying unanimous support among the developing countries the Bogota view received a more studied reception, not with a view to immediately declaring it as invalid but as a reflection of the special interests that must be taken into consideration in the development of a legal regime for outer space. Thus, countries like Brazil and Mexico and the Latin American states[74] have been quick to point out the need to place discussions over the use of the geostationary orbit on the agenda of the international community until it is resolved. It is also stated that any regime finally adopted should take account of those special cases in which equatorial countries might have particular need to use segments of the geostationary orbit above their territories.

Indeed the 1985 Report of the Legal Sub-committee notes

> "...Some delegations, though agreeing that a special legal regime should take account of the position of the developing countries, were unable to concur in the view that by reason of their geographical position the equatorial countries should be considered as having special rights to segments of the geostationary orbit superjacent to their territories."

Very impressively the report continues by noting that, "nor can the present system of 'first come, first served' be condoned if equitable access to the geostationary orbit is to be guaranteed to all countries. Moreover, the view was expressed that the geostationary orbit as part of outer space is a common heritage of mankind."

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[65] See A/AC. 105/C.2/SR-297 of 5 April 1978 4-9. See also , A/AC.105/C1/SR.219 of 26 Feb. 1979, paras.7-1; A/AC.105/ C.2/315 of 5 April 1979

[66] *Ibid.*, paras. 30-35. See also, for example, A/AC,105/ C.2/SR.314 of 9April 1979, para. 16 esp.

[67] Ibid paras. 24-27

[68] A/AC.105/C.2/SR-297 of 5 April 1978, paras. 28-29 See also , A/AC.105/C1/SR.219 of 26 Feb. 1979, paras.7-1; A/AC.105/ C.2/315 of 5 April 1979 paras 1-2.

[69] See A/AC.105/C.2/SR.297 of 5 April1978, paras. 19-23

[70] *Ibid.*, paras.12-14.

[71] A/AC.105/C.2/SR.314 of 5 April 1979, paras. 13-17. See also A/AC. 105/-C.1/SR.199 of Feb. 1978, para. 28.

[72] A/AC.105/C.2/SR.297 of April 1978, paras. 1-2;A/AC.105/C,-1/SR.219 of February. 1979, paras. 16-20; See also A/AC.105/PV.236, paras. 23-25.

[73] See A/AC. 105/C.2/SR-297 of 5 April 1978, paras. 10-11

[74] See the following: A/AC.105/C.2/SR.297, paras. 35-36.GAOR: 38th Sess. Suppl. No. 20 (A/38/20), p.11, paras. 60-64; A/AC.105/320 pp. 7-11, paras. 40-45; A/AC.105/318, p. 15, paras. 80-83. See also UNGA Res. 37/89 of Dec. 10, 1983, paras. 5 (b) (iii) and 7 (b) (ii); UNGA Res. 45/72 of 11 Dec. 1990, paras. 4(b) and 7(b) (ii); GAOR: 45th Sess. Supp. No 20 (A/45/20), paras. 18-19, 112-118. For the views of the Republic of Ecuador see A/AC.105/PV.234 (March 26, 1982), pp. 27-28.

The Bogota Declaration also raises certain questions about the *consentment tacite* (tacit consent) which many writers have presumed about the practice of space flight over state territory, particularly the flight or placement of satellites through national airspace. As if to consign to the dust-bin of history the right of non-spacefaring nations to object to any abuses or injustices inherent in the existing regime relating to outer space activities, Goedhart insists that it is a recognised principle that:

> "[i]n particular circumstances a state must protest in order not to lose a right. A response from a state denoting disagreement (i.e. a protest) is always important if a state's violated right has been recognized in international law. Should a right, however, have a weak foundation, merely protesting will not suffice to maintain that right. In addition, objections against any infringement of law have to be made repeatedly: only if a state has objected from the outset to an international custom (i.e. the principle of the persistent objector). [75]

It may well be argued that the Bogota Declaration represents a veritable tool in the armoury of any state which in the future may seek to argue that the flight of satellites over its territory violates its airspace. This is particularly true where such state is a party to the Bogota Declaration and if the spatial demarcation problem persists. As to the condition that such objections must be made repeatedly,[76] it can only asked what repetition is more potent than that the Declaration has not been unanimously withdrawn? The withdrawal of two states out of the eight evidently reduces somewhat the moral potency of this instrument but it does not remove the legal threat it poses. The statement that only if a state has objected from the outset to an international custom in the process of formation, may it contract out of that custom (i.e. the principle of persistent objector) is not as damaging to the arguments of the Bogota declarants (or indeed any other state that challenges outer space activities in or over its territories) as it may at first appear. To begin with there is no agreement in international law as to how many years is sufficient for the formation of an international custom. Nor is there any prescribed time limit within which states must declare their objections to a legal or factual practice. It may, therefore, be suggested that in all cases regard must be given to the circumstances surrounding the particular matter and to the nature of the particular state(s) involved.

In the nature of things the time lapse between 1957 (time of the first Space flight) and the making of the Bogota Declaration in 1976 may appear quite long but it must be mentioned that

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[75] Goedhart *op. cit.*, p. 125.
[76] *Ibid.*

geostationary satellites did not immediately become fashionable. It is, therefore, fair in making any assessment to make allowance for the time it would have taken the states concerned to realise and comprehend the immediate and potential dangers they may be exposed to as well as calculate the potential benefits they may be forfeiting. With these considerations in mind it must be said that from a logical point of view these are not the most damaging arguments against the potency of the Bogota declaration (1976). In any case the question may well be raised as to why the economically poor equatorial states should adhere to the treaty obligations of maintaining outer space as a common area for all mankind while those states that are economically well off already as things are, reap the financial benefits available in the orbit and go ahead to arguably derogate from international space law by stealthily introducing the concept of private property rights over resources based even much farther than the geostationary orbit and on celestial bodies.

However, one may wish to romanticise the ideas propagated under the Bogota view there is no escaping the fact that on a general note the claim, however, is quite unpopular among non-equatorial states and the majority of Space lawyers and it is especially unacceptable to the Space Powers. But again this is no compelling argument why the claims under it must be dropped. Therefore, it is still necessary to locate the real reason why the declaration cannot stand. A convincing view is that the declaration of sovereignty to a distance of 22,300 miles is a colossal proposition, which amounts to declaration of sovereignty over outer space, in violation of Article 1 Outer Space Treaty (1967) and Articles II and IV Moon Treaty (1979). It is indeed doubtful that such a distance can mark the spatial demarcation boundary between outer space and airspace.

This should not, however, be seen as a victory for the industrialised states' point of view. If anything it is a victory for the generality of states. It will be a very powerful argument indeed which will wrest from the equatorial states the rights to claim economic or strategic benefits over orbits literally hanging over their heads based on the common heritage principle and grant unrestricted property rights to the industrialised powers over space based resources without international agreement as to the nature and extent of the regime for exploitation.

10. 5: The *Usque Ad Infinitum* Theory

There are some scholars who hold steadfastly to the view that sovereignty extends *usque ad infinitum*. This is based on the exaggerated view expressed in the ancient Roman maxim *Cujus est solum ejus usque ad coelum et ad inferos*. It is no wonder then that it has few followers. As Mc Mahon correctly puts it, "such a view may be more accurately characterised as *usque ad*

absurdum".[77] It is agreed that any projection of territorial sovereignty into space infinitum will not only violate international law, but will be inconsistent with basic astronomical facts. The revolution of the Earth requires that its position in relation to space and celestial bodies is never constant for the slightest conceivable fraction of time. Such a projection into Space would give us a series of adjacent irregularly shaped cones of jurisdiction, continuously moving into themselves; with celestial bodies moving into and out of these cones ceaselessly.[78] In these circumstances the concept of a space cone of sovereignty is both meaningless and a dangerous abstraction.

10.6: The National Security and Effective Control Theory

According to this theory state sovereignty should extend as far out as the subjacent state could exercise effective control. The view among African scholars is that state sovereignty persists to any point in outer space if activities conducted therein affect state security or human welfare.[79] It is in fact posited that "...a state can deny the freedom of outer space flight above its territory if the activity endangers state security or human life".[80] Cooper also suggested that "at any particular time the territory of each state extends upward into space as far as the scientific progress of any state in the international community permits such state to control Space above it".[81]

The appeal to realism of this school of thought is very strong but it is considered mistaken, harsh and unacceptable, in that the richest and most powerful states that possess the monopoly of space technology will inevitably acquire outer space both for military and other uses. It is better to be in agreement with the likes of Lachs and Schacter who see this view as fraught with serious dangers.[82] For it is not only the degree and form of control that is the issue. It is more a question of the age-old principle of equality of states. Following this rule of effective control, states that do not possess adequate technological or military potential would be deprived of rights, which should be theirs as equal subjects of international law. This will be an affront on the principle of

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[77] McMahon, "Legal Aspects of Outer Space," Vol. 38 British Yearbook of International Law, (1992) p. 339.
[78] Wifred Jenks, "International Law and Activities in Space", Vol. 5 International Comparative Law Quarterly, (1956) pp. 99, 102.
[79] Umozurike, *op. cit.*, p.264.
[80] *Ibid.*
[81] Cooper *op. cit.*, p. 264.
[82] Manfred Lachs, The Law of Outer Space: An Experience in Contemporary Law Making, (Netherlands: Sijthoff Leiden, 1972) p. 571. See also O. Schacter, "Legal Aspects of Space Travel," Journal of British Interplanetary Society, (1952).

equality of nations and is, therefore, rejected.

10.7: The Lowest Point of Orbital Flight Theory

This is a widely popular theory. Here it is suggested that sovereignty should extend to the lowest height at which an object requires to enter into orbit and circle the Earth. That point has been variously put between 70 km and 160km. This principle of the 'lowest perigee demarcation' was adopted by the International Law Association at its meeting in 1968 in Buenos Aires.[83] Mc Mahon sees it as a sensible approach[84] and J. Harris admits that it would appear to be the most likely to be accepted; but he set its limit at a lower height (between 50 and 60 miles) than that indicated by other scholars.[85] Other notable lawyers in this school include McNair,[86] Jenks,[87] Cooper (at a later stage in his writings),[88] Jastrow,[89] Vosburgh[90] and very recently Grief[91]

Expressed in scientific terms the central precepts of this school are explained thus, by one of its proponents:

> The reference to orbiting vehicles, or satellites immediately introduces the possibility of a physically sound definition for the limits of airspace...I have in mind the fact that at low altitudes a satellite is quickly destroyed by friction. Therefore, I suggest that the boundary to the airspace of a nation should be

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[83] The word perigee is an astronomical term representing the point in the orbit of the Moon or an artificial satellite around the Earth when it is closest to the Earth; See L. Perek, "Scientific Criteria for the Delimitation of Outer Space", 5 Journal of Space Law, (1987) p. 111.

[84] Mc Mahon *op. cit.*, p. 343. He accepted the suggestion that a state should only exercise sovereignty over that area whose boundary is the lowest orbital at which an artificial satellite may be put in orbit at least once around the earth.

[85] D.J. Harris, *op. cit.*, p. 253.

[86] McNair, *op. cit.*, p.16. He wrote "a more sensible approach is reflected in the view that a state should only exercise sovereignty over that area whose boundary is the lowest altitude at which an artificial satellite can be put in orbit at least once around the earth.

[87] W. Jenks, International Law and Activities in Outer Space, *op. cit.*, pp. 103-104.

[88] Cooper, "Fundamental Questions of Outer Space Law" Lecture given at Leiden University, October 1960, p. 3. Cooper as has been noted, at an earlier time belonged to the Aerodynamic Lift School of thought as reflected in earlier papers written in 1951. See Cooper *op. cit.*, p. 259. As late as 1958, he wrote "I am convinced that the term airspace as used in the Paris Convention in 1919, was there meant to include only those parts of the atmosphere above the surface of the earth where gaseous air is sufficiently dense to support balloons and airplanes, the only types of aircraft then in existence." See Cooper, "Flight –Space and the Satellite", Vol. 7 International and Comparative Law Quarterly, (1958) p. 82. *Cf.* his views in Cooper, "Legal Problems of Upper Space" in Vlassic ed., *op. cit.*, pp. 209-271.

[89] R. Jastrow, Proceedings, 1st Collquium on the Law of Outer Space, (1958), p. 82.

[90] J.A. Vosburgh, Vol. 56 American Bar Association Journal, (January 1970), pp. 134-136.

[91] Grief surveyed the theories on the demarcation problem and showed preference for the arguments of the lowest orbital altitude school, noting that "[a]lthough final agreement has not been reached, the lowest orbiting altitude of satellites commends itself as a logical basis for delimitation." He also suggested that the 'von Karman formula' is very much in agreement with this view and both criteria, therefore, reinforce each other. See Grief, *op. cit.*, p. 45.

> defined as the altitude at which the density of the atmosphere is sufficiently low to permit the completion of one circuit by an orbiting vehicle, without destruction by atmospheric friction...Our calculations of satellite lifetimes indicate that critical altitude is 100 miles for a satellite of a typical weight and dimensions, i.e., a weight of one ton and a cross sectional area of 30 square feet. The critical altitude of 100 miles will vary by uncertainty of the density of the atmosphere at that altitude, and also for reasonable variations in satellite mass and cross sectional area, or more properly, the ratio of those last two quantities. This figure of 5 miles represents the degree of arbitrariness in the proposed definition."[92]

Though it is clear that technological progress can also change things, modern writers on the subject like Goedhart and Kopal[93] are very much still in favour of the lowest perigee approach. Admittedly there is something about this approach that appeals to the scientific mind since it takes physical concepts and technological considerations into account. This is so much so that Goedhart found no difficulty in concluding that "[a]s a matter of fact, there are very few convincing arguments against the (lowest perigee) boundary criterion..." and that "[a]t any event, it is hardly possible to exaggerate the acceptability of the lowest perigee criterion."[94] A closer examination of the central arguments of this school, however, reveals no overwhelming and convincing quality. In fact, it may be argued that its strengths and weaknesses are very much shared by the other demarcation theories based on scientific and technological criteria.[95] To begin with proponents of this school regularly confuse it with the aerodynamic criterion. Thus, Goedhart appears to favour that argument as well.[96] Similarly the South African perspective relies heavily on the lowest perigee criterion so much that it is not easy to say exactly which of the two approaches it has adopted.

However, the arguments of this school are not satisfactory. In the first place the minimum perigee required for orbital flight apparently has not been determined with exactitude. The distances suggested vary widely. The exact distance cannot be given because of the vagaries of the atmosphere. Thus, no matter how sensible this approach may sound it leaves us still at the point at which we were, that is no precise demarcation line separating territorial airspace from *res*

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[92] Jastrow op.cit., p. 82.

[93] V. Kopal, The question of defining Outer Space , (1980) pp. 170-173; See also Kopal, "Issues Involved in Defining Outer Space, Space Objects and Space Debris", Proceedings 34th Colloquium, (Montreal: 1991), pp. 30-44.

[94] Goedhart, *op. cit.*, pp. 50 & 51.

[95] These are the aerodynamic school (and its Von Karman line variant), the gravitational effect argument, and the atmospheric zone theories among others. The scientific basis category of schools is in contrast to the other categories such as the demarcation by arbitrary or conventional criteria theories; the security school (which some like Goedhart quite erronously classify under the scientific criteria category) and the functional approach category.

[96] It has been noted that Goedhart himself falls within the aerodynamic school; *supra* notes 5 and 53.

communis outer space.

Furthermore, it is in complete contrast with the equally sensible Aerodynamic Lift theory in that the minimum height at which satellites can remain in orbit is at least twice the maximum height at which aircraft can fly.[97] Thus, an attempt to pick one of these theories will definitely mean a disregard of the obvious advantages in the other. Another possibility is to pick a middle distance between the two claims, but of course that distance which would be arrived at will not satisfy the security or effective control school. It is also to be noted that the lure of this theory previously was probably based on the nearly total acquiescence of states to the placement of satellites in space. Since no state complained over the placement of a communication satellite over its territory it was assumed that such distance is acceptable to the generality of states. However, with the signing of the Bogota Declaration (1976) by the concerned states this position has changed.

10.8: Theories of Arbitrary Distances

Since the above basic schools of thought on the demarcation line between airspace and outer space have produced no overwhelming consensus and no international agreement, legal writers have suggested several arbitrary distances. The criteria for choosing these arbitrary distances vary and depend on the particular factors that appeal most to the imagination of its proposer.

One of the most intriguing suggestions was that which fixes outer space to a few meters above the tallest building.[98] It is sufficient to state that this is totally unacceptable as a taller edifice can always be built. Some writers break space into zones and establish different demarcations to suit different purposes. For instance a distance may be suggested to serve as a limit to territorial airspace, in which states possess exclusive jurisdiction and control, and another intermediate zone (sometimes labelled neutral zone[99] or *neutralia*[100]) as an area of innocent passage and finally comes outer space.

Murphy suggested a height of 30 miles and another 4000 miles for neutrals in wartime.[101] Azreges, suggests 200-300 km, being the supposed limit of air-filled Space; Neuman, thinks it is

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[97] Perek, *op. cit.*, p. 111.
[98] Seara Vazquez, Cosmic International Law, (Detroit: Wayne State Univ. Press, 1985) p. 34.
[99] Lachs *op. cit.*, p. 58.
[100] Houston Lay, *op. cit.*, p. 49.
[101] *Ibid.*, p.43

250 miles (where there is too little air).[102] Cheng thinks it is between 310-610 miles[103] and later 300 to 500 miles based on assumptions as to where the atmosphere ends.[104] Danier on his own part puts the limit of the atmosphere at 650 miles and thinks Space begins there; Galina and Meyer citing some Western meteorologists put it at 7,000 miles.[105] If we accept Professor Westlake's immunity—from—falling—objects approach, then we must be willing to grant territorial sovereignty up to 327,000km or 161,000 miles; for it is at these distances that astronomic opinion holds that a rocket would leave the Earth's area of attraction and pass under the predominance of the moon and sun respectively, thus, eliminating all possibilities of a fall back to Earth.[106] In fact between 1957 and 1960 alone the proposals made ranged from 20 km to 1,500,000.[107]

10.9: Developing a Conclusive Theory on A Legal Spatial Demarcation Boundary Plane between Airspace and Outer Space

From what has been argued so far, it would seem that all attempts at pinpointing the exact beginnings of outer space are doomed to fail logical tests. No matter which of the theories is finally adopted in international law, there will be obvious disadvantages and criticisms. However, as has been stated earlier this is no reason to leave the issue in the state of flux it is in now. The argument that the job should be left to competent scientists to deal with in the future is not cogent enough and therefore, is unacceptable. Scientists will, like lawyers, remain undecided on this. In any case any consensus reached now on the basis of science alone is at the mercy of the inevitable, next scientific or technological development. Besides it is more realistic to hold the view that the problem of the lack of demarcation is basically legal and political in terms of the problems and conflicts it would lead to.

Once national space is defined, the result will be that no vehicle whether aircraft or spacecraft may fly in, into or through another state's national space without its permission, acquiescence or tolerance. Thus, the demarcation line must not be too low; as this would put a Space vehicle

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[102] *Ibid.*
[103] Cheng, "Recent Developments in Air Law", Vol. 9 Current Legal Problems, (1956) p. 208. Cheng "From Air Law to Space Law", *op. cit.*, p. 23.
[104] Cheng "From Air Law to Space Law" *op. cit.*, 23.
[105] Houston Lay, *op. cit.*, p. 49.
[106] See above 2.0.2: Development of the Concept of Sovereignty over Airspace; See also Cooper *op. cit.*, p. 258.

launcher at the mercy of surrounding states through whose airspace its vehicle must pass, on its way to or from outer space. Thus, all the low demarcation line theories must be rejected.

At the same time the demarcation line must not be too high especially since the security of the state (which is the fundamental reason for seeking jurisdiction and control over airspace) can only be safeguarded by regulating activities rather than by an extensive projection of state sovereignty. In any case (at least for now) most states do not have the requisite technical and military ability to exercise any effective control or even detect intrusion.

With these considerations in mind support is appropriate for a staggered demarcation regime in international law to regulate jurisdiction over spatial territories. This approach would have the advantage of softening the effects of any rigid demarcation. It is also suggested that an arbitrary distance will have to be chosen. Arbitrary as used here is not in the sense of a wild suggestion but on the basis of an attempt to synthesise the existing theories on the subject into one single legal theory. This spatial regime will, thus, not be based on one single consideration or criterion but will represent the smallest of all the evils that are represented in the other theories. Therefore, the following seems appropriate.

(a) A lower demarcation line for territorial airspace of approximately 55 miles to be considered as the maximum height for the airspace, which will be subject to the complete and exclusive sovereignty of the subjacent state.

(b) A Buffer Zone for the next 45 miles, which should be recognised as an area of innocent passage for all states.

(c) An Outer space demarcation line of 100 miles, which should mark the beginning of Outer Space (completely free from all claims of sovereignty and jurisdiction. For graphic clarity the hypothesis may be represented in the following manner.

(0.S. = 1OOm) - (A.S = 55m) = (45m B.Z.)

0.S = Outer Space

A.S = Airspace

BZ = Buffer Zone

M = Miles

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[107] For a tabulation of these proposals see Goedhart *op. cit.*, pp. 3-4.

The appeal of this recommended formula lies in the fact that it takes consideration of approximate estimations and it is a synthesis of several other theories on the subject. The general consensus of scientific opinion appears to speak of a 25-mile limit for sufficient aerodynamic lift for an aircraft; thus, for the 'aerodynamic lift theorists' airspace ends there. To this because of the vagaries of the nature of the atmosphere, has been added another 30 miles. In like manner the generality of the 'lowest orbital flight theorists' point at a distance of around 70-90 miles as the lowest points of orbital flight. To this has been generously included 10 miles, Therefore, the suffocating feeling states have of the nearness of space objects literally 'hanging over their heads' without their permission would have at least been symbolically taken care of.

The creation of a Buffer Zone of 45 miles is justified for many reasons. First, it establishes a zone of innocent passage as recognised in the law of the sea; thus, making it possible for small and landlocked states to launch space rockets without having to seek express permission from neighbouring states before passing through that zone while ascending or descending. It is a fact that a rocket inclines in flight in such a way that it may need to utilise that area of space over other territories. Without the recognition of such a zone of innocent passage such states may in the future be particularly vulnerable to unnecessary veto of space activities. This of course means that there will be recognisable sanctions against non-innocent passage. The security theorists would be comforted to have such a zone in which suspect aircraft particularly those that can make space flights, may be legitimately investigated. This might also involve the development of a positive right of hot pursuit in air law. Secondly, the creation of a Buffer Zone accommodates further scientific discoveries, which may necessitate an increase in the area recognised as airspace or a lowering of the precise limits of outer space. Thirdly, the legal status of the atmosphere would be better elaborated in that the lower reaches of the atmosphere, that is, troposphere and some parts of the stratosphere would be under territorial sovereignty. The upper parts of the stratosphere would constitute the Buffer Zone. The ionosphere (sometimes subdivided into the mesosphere and the thermosphere) and the exosphere would, thus, be legally in outer space. Fourthly, the Buffer Zone can become a bargaining chip and negotiating weapon for states in their international relations for various purposes.

An international convention would ultimately be needed for the recognition of such demarcation regime as has been recommended. While conceding that physical and scientific information needed to reach a controversy free decision is not yet available (and may never be available); this

is no reason why the law should not anticipate scientific development. More so, once legal demarcations are fixed the law becomes specific irrespective of a probably eternal scientific indecision. Any frontier that is not unequivocal is bound to be a source of controversy.

These ideas put forward are only suggestions. They are in no way meant to be infallible. The hypothesis will of course attract all the usual arguments that any line - in - the - sand (in this case line - in - the - air) solution will attract. However, given that the settled maritime zones in the law of the sea are no more than arbitrary lines in the ocean (there is really no logical reason why the sovereignty of a state should be limited to exactly 12 miles from baseline); the adoption of this hypothesis will be equally workable. States may adopt eventually another formula. Indeed any equitable agreement among states would be a good starting point regarding this problem of legal demarcation in spatial terms. That this can be done against all odds and despite varying if not contentious opinion has been demonstrated in the delimitation of maritime zones in the law of the Sea. But then even there the regime in operation continues to generate controversies and conflicts often and again.

Ideally decisions finally reached should enjoy the greatest possible acceptance by all states. It is necessary that issues of sovereignty over airspace and outer space should be determined by all, in such a way that a balance is maintained between the interests of individual states and the general international interest. There is much wisdom in the Latin saying - *Caveat humana dominandi, quod omnes tangit ab omnes approbatur.* That is to say, what concerns all must be approved by all.

As noted earlier, the traditional concept of absolute sovereignty has become considerably eroded. So also has the concept of absolute freedom. States are under an obligation as provided for in international agreements and treaties to co-operate with one another to share the resources that are based in outer space in an equitable manner and to exploit outer space for the benefit and the interests of all mankind. The freedom of use of outer space and exploitation of its celestial bodies is not absolute and it must be exercised not only in such a way that the freedom of exploitation of others is not jeopardised but also the future of coming generations must not be threatened.

The space powers continue to play a leading role in the exploration and exploitation of outer space. They also influence considerably the drafting of space law. They must, however, realise that it is not sufficient to offer humanity a perpetual promise of respecting outer space and its

celestial bodies as the common heritage of mankind. There is a basic obligation upon all states capable of exploring and exploiting space now to be responsive to the interests of developing states. It is in this light that the General Assembly Declaration on International Co-operation 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, adopted in 1996 (resolution 51/122) must be viewed as a commendable development. This instrument recognises the importance of international co-operation in the exploration and use of outer space for the benefit and in the interest of all states, in particular the needs of developing countries. The question of harmonising the interests of developed and developing states in the economic and technological benefits accruable from state activities in outer space is not merely a voluntary requirement or luxury with which the space powers can dispense. In it probably lie our collective survival as a race and the entire earth's survival.

While the political will and the legal backing seem to be in place among majority of states to achieve these purposes a lot still has to be done in respect of the monitoring of space activities and the enforcement of legal rules in space. In this era of possible total destruction due to environmental and military catastrophes this is the least that is demanded from this generation, which has dared to penetrate the innermost sanctuaries of space. There is definitely no place for Machiavellian precepts in the building of space law. The continuing partnership of law, politics, science and technology in respect of space activities needs to be further consolidated in the interests of mankind.

General Conclusion

> "Two things fill my mind with ever increasing wonder and awe the more often and the more intensely the reflection wells on them: the starry heavens above me and the moral law within me".
>
> Immanuel Kant (1724-1804)
> Critique of Pure Reason

The problems that this thesis has sought to resolve may be described in terms of concentric circles. At the core of the analysis is the overall consideration about the fairness and adequacy of the past and existing rules of air law and space law as manifested particularly within the central principles of sovereignty and jurisdiction in public international law. The larger tasks involve comparing and contrasting the legal regimes governing the status of the airspace and outer space with a view to exposing existing lacunae and bias within the law towards national or group interests. At the outermost parts of the circle is the question of delimitation of the scope of applicability of both legal regimes. The aim was to suggest a fair resolution to the age-old spatial demarcation problem in a manner that neither reflects mainly the position of the dominant interests in international law, nor ignores the practical considerations of international business and scientific progress.

The methodology adopted and employed in the analysis involved: (a) extensive literature review of the standard works of reference on the subject area and analysis of the main international conventions and treaties having a bearing on sovereignty and jurisdiction in the airspace and outer space; (b) epistemological approach to the treatment of the pertinent principles and legal issues relating to sovereignty and jurisdiction in airspace and outer space; (c) comparative and contrastive approach to the major findings particularly in the second halve of the thesis (i.e. in the last five later chapters wherein the issues of space law are discussed in contradistinction to the regime governing the airspace); (d) analogical analysis calling upon knowledge contained in relatively older or more mature bodies of law, such as the law of the sea and the Antarctic regime; (e) treatment of significant issues and principles by simultaneously testing them against the theory that there may be proven bias in the general development of the public international law relating to airspace and outer space; (f) continual realignment of the pertinent issues and principles with general jurisprudential thought which ought to guide any legal regime, particularly the doctrines of fairness, equality, equity, justice and morals.

Although the conclusions that have been reached at the end of each chapter to the thesis remain valid, the following general conclusions are considered necessary. It is notable that the

thesis has not treated in depth or has simply excluded from its scope issues such as environmental damage to the airspace and the environment, space debris, liability for air and space accidents and militarisation of airspace and outer space. These issues are important but were largely excluded to focus the discussion and analysis to the specific problems of the study and for reasons of time and space.

Problems encountered during research into the topic are many. However certain problems deserve to be singled out at this stage because of their uniqueness. The first is the vacillation of leading scholars in the area on a few of the central issues in air law and space law. Two examples will suffice here. As pointed out earlier, some of the leading authors would appear support two or more of the schools of thought on the resolution of the spatial demarcation issue at the same time or frequently change their opinions. Thus, a writer like Cheng wrote in 1960 that although spatial demarcation was hitherto unimportant in air law it had matured by that date to "one of the first and most important problems to be tackled in law". Whereas in 1962 the same author would prefer that the matter be left to scientists to solve at a future date. Similarly, Professor Cooper at the drafting stage and in an article in 1950 considered that the definition of "State aircraft" is already contained in article 3 (b) of the Chicago Convention (1944) and is based on functional approach. Later in 1962 during a session of the ICAO legal committee held in relation to adoption of the Tokyo Convention (1962), he denied that the definition in Article 3 (b) was restrictive and stated that other aircraft could also be State aircraft.

A second point, which may explain to some extent the reason for the first, is that a lot of ideological posturing may be said to account for much of the contribution of many authors in this area of the law. The writers from the western developed nations would appear to shirk very much away from any position, which might be against the interest of the development of free market principles in both air and space law. Therefore, their contributions are heavily influenced towards the facilitation of western business in air and space activity. On the other hand, writers from the developing states would appear to instinctively adopt certain intellectual positions on some issues, irrespective of the practical realities that may dictate different conclusions. In this way it becomes difficult to conceptualise a consensus on many issues. A closer inspection of some issues on which there appears to be consensus would reveal that the prevailing position is no more than the views of regional or ideological bedfellows who have bothered to write on the issue.

A third problem relates to the dearth of contribution from authors from the developing states on most burning questions in air and space law. The bulk of their contributions are discernible

only by combing through reports of various legal committees of the ICAO or other relevant fora within the UN dealing with space law matters, such as the UN Committee on Peaceful Uses of Outer Space (COPUOS). This may however prove an insufficient method considering the general suspicion in legal; and political circles that many of the representatives that appear before such bodies are mere political appointees without the necessary legal expertise or experience on the highly technical matters that come up before such bodies.

The thesis has revealed that there are numerous instances in the law and practice of airspace and outer space activities, which arguably constitute evidence of bias in legal development in these areas. Certain advantages have been retained by the leading technological and political powers, in respect of the contents of both bodies of law up till the present. It is envisaged that some of these will constitute grounds for severe tensions as well as political and legal conflicts in the future.

There is a clear advantage given and retained by those States that made the first steps towards developing the rules of air law since 1913. They had a unique opportunity to consider at length the legal, security and political ramifications of the development of air flight at a time when most of the presently existing states were no more than colonies and vassal states. The inclusion of colonies in the legal definition of national territory over which airspace sovereignty was granted in the major multilateral air treaties since 1919 stands as one of the best testimonies of the role of public international law in the legitimisation of colonial spoils. As at 1943 when the grant of complete and exclusive jurisdiction in the airspace was included in the drafting of Article 1 of the Chicago Convention (1944), only Liberia was an independent State in Africa. Thus, it is arguable that the general provisions of that Convention and the privileges exchanged in the Chicago air transit and air transport Agreements of 1944 were designed to facilitate the business of airspace activities for the richer states that possessed the necessary, political/economic independence, flight instrumentalities and navigational infrastructure.

A relevant example may be found in the allowance made in air law for the operation of pilotless aircraft over national territory. Although such flights may only be undertaken with the permission of the underlying state, it may be suggested that if the matter was to be decided upon today, it would be the natural inclination of the vast majority of states to discourage such flights in consonance with security considerations by imposing a complete ban on pilotless flights over any national territory. The impending possibility for

misunderstanding and abuse is reflected in the current use of American pilotless, spy planes in the prosecution of the so-called 'war on terror' or 'operation enduring freedom'.[1]

The pre-eminent position that the advanced technological powers have in international relations and significantly in air law, have made it possible for them to exhibit agenda setting functions by which they influence the development of air law. Instances of these identified within the thesis include the unbalanced attention the crime of hijacking has received in air law in comparison with other serious problems facing states in the airspace such as aerial espionage, aerial trespass and the drastic increase in other common crimes or penal offences committed on board aircraft.

Wherever disputes arise as to rights and liabilities in air law, it will appear that the more advanced the military and political clout a contending state has the greater the chances it has to have the dispute resolved in its favour. This is typified by the arm twisting methods resorted to by certain Western States in the resolution of the dispute arising out of the Lockerbie incident and the seeming impotence of the International Court of Justice (ICJ) to adjudicate the matter according to the principles contained in the Hague treaty 1970. The right of a state such as Libya to try its citizens suspected of executing heinous crimes has been ascribed as falling within with the category of *jus cogens* by judge Bola Ajibola in his dissenting judgement in the *Lockerbie* case. This fundamental truth has been evaded so far in the legal history of this dispute. Libya was effectively arm twisted into submission of its nationals to a foreign court against its own laws in a procedure that led to a predictable end.

Not only is there a discernible double standard in the application of air law in the practice of the international institutions, but also there is a certain air of impunity surrounding the practice of certain developed states in their aviation practice and in relation to their actions in the airspace. On the one hand, the US claimed recently that its conduct of reconnaissance flights over Chinese EEZ is legitimate, on the other hand it continues to maintain its self proclaimed Air Defence Identification Zones (ADIZ) over its own EEZ and even beyond that zone. In the past states such as Israel have displayed even more egregious attitudes to the rules of air law. In 1973 Israel in clear violation of Lebanese airspace sovereignty intercepted

1 Note is taken of the shooting of suspected Al Qaeda terrorist suspects in Yemen via a pilotless Predator American spy plane in November 2002. The remote-controlled spy plane can lurk in an area for up to 16 hours, undetected at 15,000 feet, its cameras transmitting live video, and infrared or radar pictures to military commanders or intelligence officials anywhere in the world. Although the particular overflight may have taken place with the knowledge of the Yemeni authorities it is envisaged that the American Central Intelligence Agency will make expanded use of these contraptions in the months following this first attack in various states in the Middle–East and indeed beyond.

and forcibly diverted civil aircraft away from Lebanese airspace into Israeli territory, to land for the purpose of arresting suspected militants on board. Reports of such violations continue till the present. Probably no instance supports the disregard for international consensus in the shaping of air law better than the creation and expansion of the practice of so-called *no fly zones* in Iraq by the US, UK, and France.

Selective inaction of the ICAO and the Security Council to some of these developments has allowed a certain degree of permissiveness in areas of the law in which the most absolute certainty and unanimity is required. When the USSR sponsored a draft resolution to condemn the incursion of US U2 spy aircraft into Soviet airspace as aggressive only Poland supported it. But when Cuba shot down two Cessna aircraft which made deliberate and orchestrated forages into its maritime airspace, the Security Council was quick to point out (correctly) that States have a obligation to avoid shooting down civil aircraft, whereas the Council refrained from examining the legality or propriety of the continuous operation of the so-called 'Brothers to the Rescue' flights emanating from US territory.

It has been observed that wherever the interest of the developed technological powers are divided on issues of air law or where there are principled differences among them, then the particular issue involved would usually receive the most favourable and thorough consideration leading to the most equitable solution. Thus, for instance, the strong shipping interests of the UK have been opposed by the significant benefits of abundant natural claims to a shelf that the US possesses. This has necessitated the curtailing of the continental shelf principle to the extent that the rights over the continental shelf do not affect the overlying airspace. Such differences may be found on other issues such as the initial suspicion of the European powers to the US Open Skies Agenda and the present coolness shown by the US to the single European Skies.

With respect to space law a clear line may also be established linking the wishes of the technologically advanced nations to the development of legal principles and at any rate the practice of space law. The championing of commercial rights in space property through occupation and appropriation represents a current and disturbing trend by certain scholars who are predominantly from a very few states that have advanced in outer space activities. The case for the so-called right to commercial exploitation of outer space resources is derived only through the adoption of a highly innovative interpretation of the existing space treaties. In reality, however, the letter and spirit of the major space treaties do not permit such a conclusion and a regime of common heritage has been created. Where the provisions of one treaty are clear upon the point that treaty is maligned as irrelevant and a permissive

interpretation is sought from another treaty. The problem is not in the law but in the desire to introduce a principle, which is against the spirit of the law. The antecedents for the current attacks on the CHM regime created for outer space are to be found in similar attacks launched against the concept in the law of the sea (particularly LOSC (1982)) leading to the near complete turn around in relation to deep sea mining in the 1990s. The resort to the mere freezing of claims to Antarctica instead of a bold dissolution of territorial claims in the Antarctic Treaty System also testifies to the potency of certain vested interests in the regulation of resource control in international spaces. Developing states have a duty to prevent myopic interests from successfully subverting *lex lata* relating to appropriation of resources in space law and to prevent space law from suffering the fate of the international deep-sea mining regime.

Because the consistent principle that governs the existing multilateral treaties preclude national appropriation of outer space by use or by any means whatsoever, nothing short of a collectively determined overall policy change in the form of a multilateral treaty of universal importance, may be allowed to trump this fundamental principle within the existing international regime of space law. In any event it is presently unnecessary to make these changes in light of the unfolding evidence of irrevocable damage to the earth's atmosphere as a result of economic and commercial exploitation of mineral and non-renewable resources. This is not however to suggest that all debate on the possible directions the law may take in the future must cease. It is in fact very desirable that such discussions must continue among scholars, as well as, in the relevant international fora, particularly in the COPUOS.

Other concrete instances of the acute differences between developing and developed states in space law abound. In 1983, all the Western Governments voted against the General Assembly resolution 37/92 entitled Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting, which calls for a notification to proposed receiving states before broadcasting may be directed therein. The question of remote sensing has also remained a sore point between developing and developed states in the regulation of space law and would remain so despite the adoption since 1986 of fifteen principles by the General Assembly which notably does not even require prior consent of states that are sensed.

The clogging up of the geostationary orbit by a few Western states and the obviously inequitable policy of first come first serve that has been the practice of the ITU represent a continuing injustice in space law. This is in the sense that it mortgages the interests of the majority of States to have access to that orbit and may particularly affect the inherent interests of the equatorial states to that orbit. The fact that eight Equatorial States adopted the Bogota

Declaration probably stands as good reason to suggest that enough attention has not been placed on the requirement in the ITU Convention 1973, which stipulates, "Members shall bear in mind that radio frequencies and geostationary orbits are limited resources".

The argument that by retention of signature to the any of the major space treaties a state may by virtue of that fact retain its freedom to act in any way it chooses in relation to the principles of space law is wholly unconvincing and indeed misleading, particularly when principles such as that prohibiting appropriation of outer space and its celestial bodies are concerned. It is suggested that such central principles have transcended the scope of mere treaty rules and have crystallised into customary international law. The non-appropriation rule, for instance, is not only repeated in all the major multilateral space treaties along with other central principles such as the prohibition of militarisation of outer space but it also represents a logical, factual continuation of a legal principle with roots back into the law of the sea, Antarctic Treaty system and even ancient concepts of *res communis*. By virtue of this reasoning any of the developing states which is a party to the Bogota Declaration but is not a party to any or all of the space treaties will find that it cannot derogate from the non appropriation rule/CHM principle by exerting any form of territorial jurisdiction over the geostationary orbit. Equally any developed State, which is not a party to any of the space treaties, will have no opportunity to derogate from the non-appropriation rule or the CHM character of outer space.

A great deal of legislation both multilateral and bilateral has been made on many crucial areas on air law and space law. There is also no shortage of scholarly literature in this area. It is desirable that the in the interest of certainty and steady application of the law, drastic changes should not be made to the existing multilateral space treaties. Although the opportunity has arisen in the last few years for the review of virtually all the major treaties, it is more important at this stage that emphasis should be directed towards getting more states to accede to the existing treaties and increase ratification rather than to make drastic changes to them.

There are, however certain undecided issues and grey areas having a bearing on sovereignty and jurisdiction in the air space and with respect to jurisdiction and control in outer space on which further work must still be done. These are areas on which there is pressing need for international legislation in the form of specialist treaties. These areas include the following; the propriety of determination of nationality of aircraft in accordance with place of registration as opposed to the nationality of its owners as in British Shipping practice; the question of a conclusive definition of what constitutes an aircraft in legal terms, taking into consideration the diverse crafts that may need to be regulated in air law such as balloons,

seaplanes, gliders, and the *sui generis* category of the X15 and space shuttles; legality of aerial reconnaissance and intelligence gathering at high altitudes and from areas coterminous with State territory such as from the airspace above the non sovereign maritime zones; scope and extent of applicability of space law in view of the ambiguity introduced by the "within the solar system" formula adopted in the Moon Agreement (1979), and the impending scenario of technological advancement making travel to other universes a possibility; the regulation of damage caused by debris to space stations and satellites; regulation of manned space flights and space stations, including international space stations. Lastly, it needs to be repeated that the spatial demarcation between airspace and outer space requires urgent attention in the form of a definitive international agreement. It has already been suggested that perhaps one of the main reasons why this issue remains unresolved in air and space law is because the absence of a delimitation and demarcation regime is advantageous to the interest of those states most closely related to intense aerospace activities. It is hoped that the solution suggested in this thesis will constitute the basis of the eventual solution accepted by states and scholars

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Appendix I (Table 1)

CHRONOLOGY OF MILITARY RESPONSES TO AERIAL INTRUSIONS 1946 - 1999

Date	Type of Aircraft	Nationality	Territorial State	Purpose/Intended Route	Military Response & Place of Incident	Consequence	Diplomatic Response
Aug. 9, 1946	State Aircraft C-47	U.S.	Yugoslav	On regular flight from Vienna to Udine	Shot at by Yugoslav fighter Planes over Yugoslav territory	Aircraft crash-landed: A Turkish Officer wounded.	- Disagreements over facts - U.S. alleges entry due to distress - Yugoslavia alleges that between July 16 to August 29 a total of 278 intrusions were made.
Aug. 22, 1946	As above	U.S.	Yugoslav	Not known	Shot at by Yugoslav fighter planes over Yugoslav territory	All 5 Crews dead	Same as above.
April 8, 1950	State aircraft: US Naval B-29 bomber	U.S.	USSR	Not known	Shot down over Latvia in the area of the Baltic Sea	Aircraft Personnel & Crew perished	- U.S. denies aircraft was armed; was not a B-29 and did not fly over Soviet territory. - USSR alleges that intruder initiated exchange of gunfire. - U.S. Demand, indemnity (22 (22 Dept of State Bulletin (1950)
Nov. 1951	U.S. Bomber	U.S.	USSR	Not known	Shot down	Aircraft & Crew Perished	- Disagreements as to actual position of aircraft - U.S. denies intrusion and reports the incident to the U.N. (25 Dept. of State Bulletin (1951) 905).
Nov. 1951	State aircraft C-47 (military transport)	U.S.	Hungary	Not known	Intercepted by Soviet fighters over Hungary	Successfully ordered to land in Hungary	U.S. alleges mistake - Crew of 4 detained and tried by Hungarian military tribunal and

							convicted of premeditated crossing of Hungarian frontier. - Aircraft & Cargo confiscated by order of court. - U.S. pays under protest 30,000 dollars each on the crew and crew was released. - U.S. closed Hungarian consulate in the U.S.
April 29, 1952	Civil Aircraft	France	East Germany	Scheduled flight from Frankfurt to Berlin via air corridor prescribed for flights from the West to Berlin	Fired upon by a Soviet fighter aircraft within East Germany	Aircraft damaged but landed safely, 2 passengers wounded	- Disagreement as to whether aircraft left prescribed air corridor - Allied High Commissioners in Germany jointly protest the shooting. - France lodged separate protest on diplomatic level.
June 13, 1952	State Aircraft: Swedish Military DC-	Sweden	USSR	Flight over the Baltic Sea	Not clear	Plane and Crew missing	- USSR admits 2 foreign aircraft were "driven off" on alleged day. - Sweden asserted that both missing aircraft and rescue aircraft were shot over international waters. (See Sweden Royal Ministry for Foreign Affairs, "Attacks Upon Two Swedish Aircraft over the Baltic in June 1952" Series II: 2 Stockholm 1952)

June 16, 1952	State Aircraft Catalina flying Boat	Sweden	USSR	Flight in search of missing DC-3 above along route over the Baltic Sea.	Fired upon and made to make forced landing on Baltic waters	Passing German vessel picked up the crew	
Oct. 7, 1952	State Aircraft B-29 Bomber	US	USSR	Not known	Shot down and disappeared over or near the Pacific Ocean in the vicinity of Northern Japan and Soviet held islands.	Aircraft & Crew disappeared	- US refuses to regard Yuri as part of Soviet territory and denies over-flight of same. Alleged also that the aircraft's guns were in operative and demanded compensation. - USSR alleged intrusion into Soviet airspace over island of Yuri and that the aircraft initiated gunfire.
Oct. 8, 1952	State Aircraft; Hospital Plane	U.S.	East German	Flight to Berlin	Machine guns used to force aircraft to land in East German	Investigations by territorial state.	U.S. alleges that militant use of weapons constituted gross violation of agreed rules and procedures governing air traffic to and from Berlin.
Mar. 10, 1953	State aircraft; U.S. Jet fighter	U.S.	Czechosl ovakia	Not known	Shot down near the Czechoslovak West German border	Pilot bailed out and landed safely in U.S. zone where wreckage was also found	- U.S. charged that no warning given and aircraft was well within the West German airspace and demands compensation and assurances. - Czechoslovakia asserted disobedience of orders to land.
Feb. 16, 1953	Two State Aircraft, Soviet type fighters	USSR	Japan	Not known	Fired upon by U.S. Airforce	Damage to aircraft but both fled to Soviet held Kurile Islands	- No report of official response by USSR

March 12, 1953	State aircraft British Lincoln Bomber	U.K.	East Germany	On training flight, Route unknown	Shot by Soviet fighters near the British-Soviet zonal boundary. Wreckage found on both sides of the boundary	All 7 Crew members dead.	- Britain admits possible intrusion due to navigational error but states that aircraft carried no ammunition. Demanded compensation. - Soviet Govt. charged penetration into East German airspace, refusal of orders to land and initial firing by British bomber. - French and U.S. High Commissioners joined their British counterpart in protesting through diplomatic notes.
March 12, 1953	State Aircraft, British bomber	U.K.	East Germany	Not known	Mock attack by Soviet fighter aircraft	Landed safely	- U.K. alleged that attack was over Kasel in W. Germany. - USSR charged that aircraft strayed out of corridors over East Germany.
March 12, 1953	Civil Aircraft	U.K.	East Germany	Commercial transport to West Berlin	Same as above	Same as above	- U.K. admits that the aircraft strayed from the Berlin-Munich Corridor in East Germany
March 15, 1953	RB-50 Weather reconnaissance aircraft	U.S.	USSR	Not known	Exchange of Gunfire	No damage	- U.S. alleged aircraft was on international water and at no time closer than 25 miles of the coast of Kanchatta demanded punishment for Soviet personnel. - USSR alleged that U.S.

							aircraft initiated gunfire after violating Soviet national airspace twice, as far as 17 km inland.
July 29, 1953	State aircraft Airforce RB-50	U.S.	USSR	Not known	Shot by Soviet fighters	Aircraft crashed into sea of Japan off the coast in the area of Vladivostok crew of 17 dead or missing	- U.S. alleged no warning was given and that attack was made 40 miles from nearest Soviet territory. U.S. demanded compensation for aircraft and lives lost. - USSR alleged that the aircraft intruded Soviet airspace and fired in response to requests to depart.
July 23, 1954	Civil aircraft (Cathay Pacific)		China	Scheduled flight from Bangkok to Hong Kong	Shot down 10 miles east of China.	2 Passengers dead (drowned in sea) Captain survived.	- Allegations that no warnings were issued. - China accepts responsibility and right to compensation.
July 27, 1955	Civil aircraft (E1 A1 Company)	Israel	Bulgaria	Scheduled flight from London to Israel via Paris Vienna and Istanbul	Shot down by Bulgarian fighters near the Greco Bulgarian border	All 51 passengers and crew of 7 dead	- Agreement as to fact that no warning was given. - Contentious disagreement as to fact whether aircraft was identified as a civil aircraft - Protest notes from Israel, Britain, Canada, South Africa, U.S., France. - Dispute submitted to the ICJ - Bulgaria accepts duty to compensate.
May 1, 1960	State aircraft U.2 high altitude	U.S.	USSR	Took off from Pakistan and scheduled to land in	Shot down at 20,000 metres over	Aircraft destroyed and pilot arrested	- U.S. did not justify its action in terms of international law nor

	reconnaissance aircraft			Finland after taking aerial photos of Soviet territory	Soviet territory		protest the shooting and the trial of the pilot.
Feb. 21, 1973	Civil aircraft. Libyan Airlines Boeing 727	Libya	Israel	Scheduled flight from Tripoli to Cairo over flew Cairo	Shot down 12 miles into occupied Sinai	108 lives lost	- Disagreement as to whether warning was given. - Israel justified its action stating the flight was over highly sensitiveness Israeli Controlled area - ICAO Resolution of June 4, 1973 condemned Israeli action.
April 20, 1978	Civil aircraft Korean Airlines (KAL) Boeing 707.	South Korean	USSR	Polar flight from Paris to Seoul with scheduled stop at Anchorage	Intercepted and shot at by Soviet fighter aircraft, forced to land on frozen lake	2 dead, 11 injured and aircraft destroyed	- No disagreements as to facts alleged by Soviet Union. - South Korea in various messages expressed gratitude for speedy return of passengers and crew.
Sept. 1, 1983	Civil aircraft. Korea Airlines (KAL 007)	Rep. of Korea	USSR	From Anchorage Alaska to Seoul.	Shot down by Soviet Fighter pilot with two air launched, heat seeking missiles after straying a second time into Soviet airspace first over Kamchutka Peninsula and then the Sakhalin Islands.	All 229 Persons on board perished.	- USSR vetoed a draft Security Council resolution condemning and prohibiting force against civil airliners. - USSR rejected calls for compensation for 60 U.S. nationals on board and other claims of other governments - ICAO seised of the matter; gave resolutions. On Oct. 1 1953 ICAO Assembly adopted resolution by the Council (see ICAO Doc. A24-

							WO49, P/38 and Ex/9, 26/9/83 and 27/9/83.
July 31, 1988	Civil aircraft, Iran Air A300 Airbus; Flight 655	Iran	None	Iran	Shot out of the sky by two surface to air missiles launched from the USSR Vincent a guided missile cruiser in the international waters of the Persian Gulf	250 persons perished. Aircraft destroyed.	- Iran protests and condemns the act. - U.S. admits mistake but claimed *USS Vincennes* acted in self-defence in apprehension of aircraft flying over battle zone. - U.S. President decided to make *ex gratia* compensation to victims.
Jan. 1998	Civil Aircraft	U.K	Russia	Strayed into Russian airspace in the Baltic Region	Intercepted by a Sukhoi-27 Russian jet fighter and forced to land. Pilots held for 5 days	Landed safely. Pilots held for 5 days, refused food and drinks foe three days of interrogation and kept standing in the cold	UK foreign office hinged right to institute an enquiry of alleged human rights violations on the wishes of the pilot
June 17 1998	Private aircraft	Argentina	Falkland Island. (British colony)	Pilot Ernesto Barcella claimed to be on a humanitarian, mercy mission laden with 2200 teabags, 80 oranges and 70 Ib of flour	Fighter pilots scrambled to pilot intruder into the Islands' military airport. Pilot arrested and questioned	Landed safely	-Argentine authorities contacted in Buenos Aires and pilot released to fly back upon assurance by Argentine government that pilot would face prosecution for violating air traffic control and air safety rules.
May 1999	Two State Aircraft Russian MiG 21 and Mig 27	India	Pakistan	Indian Aircraft on raid on 'Muslim infiltrators' in the disputed Kashmir territory	Both aircraft shot at by Pakistani fighter jets.	Both aircraft wrecked . One surviving pilot captured by Pakistan held as prisoner of war.	- India denies violation of Pakistan airspace - India warns there would be further use of air power in the disputed Himalayan region

July 1999	Several Russian TU 95 Bear and TU145 Blackjack heavy Naval Bombers	Russia	None But within NATO Air Defence Identification Zone ADIZ (a 200 mile box) and close to the 12 mile Icelandic airspace	All Russian aircraft part of a big military exercise involving hundreds of aircraft, ships from three fleets and 50,000 troops	Several American F15 Fighters were scrambled from the Icelandic Defence Force Base at Keflavic and flew within feet of the Russian bombers to' escort' them as they flew clockwise around the Island.	No casualty	-White House states incident was a military and not diplomatic affair. -No formal complaints from any party
10 August 1999	State Aircraft Pakistan Naval Aircraft *Antlantique*	Pakistan	India	Routine training mission with 16 personnel on board	Fired upon with air to air missiles by Indian Airforce Planes	19 personnel on board perished and aircraft destroyed	-Case submitted to the International Court of Justice. Aerial Incident of 10 August 1999 (India v. Pakistan)
1 April 2001	Electronic surveillance US Navy EP-3 plane	U.S.	China	One in a series of Electronic surveillance missions made just off the coast of the Chinese territorial sea	Chinese fighter jets approached and followed US surveillance aircraft	Collision between a Chinese jet and the US aircraft. Both aircraft damaged. Chinese fighter jet plunges into the sea and pilot dies. US aircraft with 24 crew made emergency landing without permission in Chinese territory and were detained	-After 11 days standoff US Ambassador delivers letter to China stating *inter alia* "Please convey to the Chinese people and to the family of Pilot Wang Wei that we are sorry for their loss". April 12 American crew allowed to depart and aircraft dismantled and returned on July 3. -Pentagon Offers China US$34,000 compensation and China rejects the offer and continued its demand for $1000.000.00.

TABLE 2
CHRONOLOGY OF ALLEGATIONS OF CUBAN AIRSPACE VIOLATIONS BY AIRCRAFT OF US NATIONALITY BETWEEN 1992 - 1996

Date	Number of Aircraft	Position of Aircraft & Actions	Type of Aircraft	Registration Number	Diplomatic Response
July 18, 1992	3	Reserved Zone MUD-12 And MUD 52 MUD-42 And MUD-52 MUD-9 And MUD-15	C-337 C-310 PA-23	N-2432 S N-6737 T N-769 JH	Violations officially communicated to the U.S. Interests Section via Diplomatic Note 908 of July 21 1994.
Dec. 28, 1993	2	Reserved Zone MUD-9 And MUD-15	Not specified	Not given	As above.
Dec. 30, 1993	2	MUD-9	Not specified	Not given	As above.
Jan. 2, 1994	1	MUD-9	C-337	N-415 D	As above.
July 10, 1994 at 10.00 a.m.	1	Violated Cuban airspace 20 km north of Havana Province. This aircraft violated an airspace of 18km to a depth of 3 km abandoning Cuban national airspace to the north of City of Havana at 10 hours.	Not specified	N-2506	No diplomatic response.
April 4, 1995 (Between 10.14 an 10.57 a.m.)	1	Violated Cuban airspace in zones to the North of the Western, between Santa Fe and Gunabo in City of Havana province, over a longitude of five miles, maintaining a distance from the Cuban coast which ranged between five and ten miles.	C-337 light aircraft	Not given	Officially communicated to the U.S. Interests Section in Diplomatic Note 694 May, 25 1995.
July 13, 1995	4	Overflew Cuban Territorial Waters to the North of city of Havana, penetrating prohibited zone MU-P1, overflying city of Havana at a low altitude in a dangerous and negligent manner.	Not specified	N-108 LS N-2506 N-54855 N-312 MX	Officially communicated to the U.S. Interests Section via Diplomatic Note 1100 of August 21, 1995 together with a copy of the letter sent by the Cuban Institute of Civil Aeronautics (IACC) to the Federal Aviation Administration (FAA).

April 4, 1995 (Between 10.14 a.m. and 10.57 p.m.)	1	Violated Cuban Airspace in zones to the North of the Western, between Sante Fe and Guanabo in City of Havana province, over a longitude of five miles, maintaining a distance from the Cuban Coast, which ranged between five to ten miles.	C-337 light aircraft	Not given	Officially commissioned to the U.S. Interests Section in Diplomatic Note 694 May 25, 1995.
May 15, 1994	5	Violated Cuban airspace in the Western region between Carden, in Matanzas province and the part of Mariel in Havana province between 15 to 80 miles maintaining a distance from coast of between 1.5 and 5.5 miles	Not specified	-	Officially communicated to the U.S. Interests Section in Havana via Diplomatic Note 908 of July 21, 1994.
May 17, 1994	2	As above.	Cessna - 337 Light aircraft,	N-58 BB and N-108 LS	As above.
May 25, 1994	5	Same as above	Not specified	Not given	As above.
May 29, 1994	5	Same as above	Not specified	Not given	As above.
Jan. 9, 1996	1	Violated air territory over City of Havana dropping subversive leaflets inciting actions against Cuba's Constitutional Order.	Light aircraft	Not given	Officially communicated to U.S. Interests Section via Diplomatic Note 45 of January 15, 1996.
Jan. 13, 1996	1	Same as above	As above	Not given	As above.
February 24, 1996	2	5 to 8 miles North of Baracoa Beach, West of Havana	Cessna aircraft	Not given	Disagreements over actual position of aircraft. Matter reported to the Security Council by the U.S.

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Appendix II: Diagrammatic Representation of Sovereignty and Jurisdiction over Maritime Zones

APPLICABLE LEGAL PRINCIPLES	COAST	12 Nautical Miles TERRITORIAL SEA	12 Nautical Miles CONTIGUOUS ZONE	200 Miles EXCLUSIVE ECONOMIC ZONE			HIGH SEAS
				Continental Shelf	Continental Slope	Continental Rise	
							Deep Seabed
Sovereignty	+	+	-	-	-	-	-
Jurisfaction	+	+	-	-	-	-	-
Jurisaction	+	+	+	+	+	+	+
Right of Hot Pursuit	+	+	+	+	+	+	+
Jurisdiction over Pirates	+	+	+	+	+	+	+
Application of the Common Heritage of Mankind Principle	-	-	-	-	-	-	+

+= applicable
- = not-applicable

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Status of international agreements relating to activities in outer space
(as at 1 January 2001)

(**R** = ratification, acceptance, approval, accession or succession; **S** = signature only;
D =declaration of acceptance of rights and obligations)

Country, area or organization	United Nations treaties				
	(1) 1967 OST	(2) 1968 ARRA	(3) 1972 LIAB	(4) 1975 REG	(5) 1979 MOON
Afghanistan	R				
Albania					
Algeria	R		S		
Andorra					
Angola					
Antigua and Barbuda	R	R	R	R	
Argentina	R	R	R	R	
Armenia					
Australia	R	R	R	R	R
Austria	R	R	R	R	R
Azerbaijan					
Bahamas	R	R			
Bahrain					
Bangladesh	R				
Barbados	R	R	R		
Belarus	R	R	R	R	
Belgium	R	R	R	R	
Belize					
Benin	R		R		
Bhutan					
Bolivia	S	S			
Bosnia and Herzegovina		R	R		
Botswana	S	R	R		
Brazil	R	R	R		

Other agreements										
(6) 1963 NTB	(7) 1974 BRS	(8) 1971 INTL	(9) 1971 INTR	(10) 1975 ESA	(11) 1976 ARB	(12) 1976 INTC	(13) 1976 IMSO	(14) 1982 EUTL	(15) 1983 EUM	(16) 1994 ITU
R		R	R							
								R		R
S		R			R		R			R
								R		R
		R								
R										
R	S	R					R			R
R	R	R						R		R
R	R	R					R			R
R	R	R		R				R	R	R
		R						R		R
R		R					R			R
		R			R		R			R
R		R					R			R
		R								R
R			R				R	R		R
R	S	R		R			R	R	R	R
										R
R		R								R
R		R								R
R		R								R
R	R	R					R	R		R
R		R								R
R	S	R					R			R

Country, area or organization	United Nations treaties				
	(1) 1967 OST	(2) 1968 ARRA	(3) 1972 LIAB	(4) 1975 REG	(5) 1979 MOON
Brunei Darussalam					
Bulgaria	R	R	R	R	
Burkina Faso	R				
Burundi	S		S	S	
Cambodia			S		
Cameroon	S	R			
Canada	R	R	R	R	
Cape Verde					
Central African Republic	S		S		
Chad					
Chile	R	R	R	R	R
China	R	R	R	R	
Colombia	S	S	S		
Comoros					
Congo		S			
Costa Rica		S	S		
Côte d'Ivoire					
Croatia					
Cuba	R	R	R	R	
Cyprus	R	R	R	R	
Czech Republic	R	R	R	R	
Democratic People's Republic of Korea					
Democratic Republic of the Congo	S	S	S		
Denmark	R	R	R	R	
Djibouti					
Dominica					
Dominican Republic	R	S	R		
Ecuador	R	R	R		
Egypt	R	R	S		

Other agreements										
(6) 1963 NTB	(7) 1974 BRS	(8) 1971 INTL	(9) 1971 INTR	(10) 1975 ESA	(11) 1976 ARB	(12) 1976 INTC	(13) 1976 IMSO	(14) 1982 EUTL	(15) 1983 EUM	(16) 1994 ITU
		R					R			R
R		R	R			R	R	R		R
S		R								R
S		S [a]								R
										R
S		R					R			R
R		R		[b]			R			R
R		R								R
R		R								R
R		R								R
R		R					R			R
R		R					R			R
R		R					R			R
		R								R
		R								R
R	R	R					R			
R	S	R								R
R	R	R					R	R		R
			R			R	R			R
R	S	R					R	R		R
R		R	R			R	R	R		R
		R	R							R
R		R								
R		R		R			R	R	R	R
					R					R
										R
R		R								
R		R								R
R		R			R		R			R

Country, area or organization	United Nations treaties				
	(1) 1967 OST	(2) 1968 ARRA	(3) 1972 LIAB	(4) 1975 REG	(5) 1979 MOON
El Salvador	R	R	S		
Equatorial Guinea	R				
Eritrea					
Estonia					
Ethiopia	S				
Fiji	R	R	R		
Finland	R	R	R		
France	R	R	R	R	S
Gabon		R	R		
Gambia	S	R	S		
Georgia		R			
Germany	R	R	R	R	
Ghana	S	S	S		
Greece	R	R	R		
Grenada					
Guatemala			S		S
Guinea					
Guinea-Bissau	R	R			
Guyana	S	R			
Haiti	S	S	S		
Holy See	S				
Honduras	S		S		
Hungary	R	R	R	R	
Iceland	R	R	S		
India	R	R	R	R	S
Indonesia	S	R	R	R	
Iran (Islamic Republic of)	S	R	R	S	
Iraq	R	R	R		
Ireland	R	R	R		

Other agreements										
(6) 1963 NTB\	(7) 1974 BRS	(8) 1971 INTL	(9) 1971 INTR	(10) 1975 ESA	(11) 1976 ARB	(12) 1976 INTC	(13) 1976 IMSO	(14) 1982 EUTL	(15) 1983 EUM	(16) 1994 ITU
R		R								R
R		R								
										R
										R
S		R								R
R		R								R
R		R		R			R	R	R	R
	S	R		R			R	R	R	R
R		R					R			R
R										R
			R					R		R
R	R	R	R	R			R	R	R	R
R		R					R			R
R	R	R					R	R	R	R
R		R								R
		R								R
R										
										R
S		R								R
		R						R		R
R		R								R
R		R	R			R	R	R		R
R		R					R	R		R
R		R	R				R			R
R		R					R			R
R		R					R			R
R		R			R		R			
R		R		R				R	R	R

Country, area or organization	United Nations treaties				
	(1) 1967 OST	(2) 1968 ARRA	(3) 1972 LIAB	(4) 1975 REG	(5) 1979 MOON
Israel	R	R	R		
Italy	R	R	R		
Jamaica	R	S			
Japan	R	R	R	R	
Jordan	S	S	S		
Kazakhstan	R	R	R		
Kenya	R		R		
Kiribati					
Kuwait	R	R	R		
Kyrgyzstan					
Lao People's Democratic Republic	R	R	R		
Latvia					
Lebanon	R	R	S		
Lesotho	S	S			
Liberia					
Libyan Arab Jamahiriya	R				
Liechtenstein			R	R	
Lithuania					
Luxembourg	S	S	R		
Madagascar	R	R			
Malawi					
Malaysia	S	S			
Maldives		R			
Mali	R		R		
Malta		S	R		
Marshall Islands					
Mauritania					
Mauritius	R	R			
Mexico	R	R	R	R	R

Other agreements										
(6) 1963 NTB	(7) 1974 BRS	(8) 1971 INTL	(9) 1971 INTR	(10) 1975 ESA	(11) 1976 ARB	(12) 1976 INTC	(13) 1976 IMSO	(14) 1982 EUTL	(15) 1983 EUM	(16) 1994 ITU
R	S	R					R			R
R	R	R		R			R	R	R	R
R	R	R								R
R		R					R			R
R		R			R					R
		R	R					R		R
R	R	R					R			R
R		R			R		R			R
		R	R							R
R			R							R
							R	R		
R	S	R			R		R			R
R							R			
R		R			R		R			
		R						R		R
								R		R
R		R						R		R
R		R								R
R		R								R
R		R					R			R
										R
S		R								R
R		R					R	R		R
							R			R
R		R			R					R
R		R					R			R
R	R	R					R			R

Country, area or organization	United Nations treaties				
	(1) 1967 OST	(2) 1968 ARRA	(3) 1972 LIAB	(4) 1975 REG	(5) 1979 MOON
Micronesia (Federated States of)					
Monaco		S			
Mongolia	R	R	R	R	
Morocco	R	R	R		R
Mozambique					
Myanmar	R	S			
Namibia					
Nauru					
Nepal	R	R	S		
Netherlands	R	R	R	R	R
New Zealand	R	R	R		
Nicaragua	S	S	S	S	
Niger	R	R	R	R	
Nigeria	R	R			
Norway	R	R	R	R	
Oman			S		
Pakistan	R	R	R	R	R
Panama	S		R		
Papua New Guinea	R	R	R		
Paraguay					
Peru	R	R	S	R	S
Philippines	S	S	S		R
Poland	R	R	R	R	
Portugal	R	R			
Qatar			R		
Republic of Korea	R	R	R	R	
Republic of Moldova					
Romania	R	R	R		S
Russian Federation	R	R	R	R	

Other agreements										
(6) 1963 NTB	(7) 1974 BRS	(8) 1971 INTL	(9) 1971 INTR	(10) 1975 ESA	(11) 1976 ARB	(12) 1976 INTC	(13) 1976 IMSO	(14) 1982 EUTL	(15) 1983 EUM	(16) 1994 ITU
		R								R
		R					R	R		R
R		R	R			R				R
R	R	R			R		R			R
		R					R			R
R										R
		R								R
R		R								R
R		R		R			R	R	R	R
R		R					R			R
R	R	R	R							R
R		R								R
R		R					R			R
R		R		R			R	R	R	R
		R			R		R			R
R		R					R			R
R	R	R					R			R
R		R								R
S		R								R
R	R	R					R			R
R		R					R			R
R		R	R			R	R	R		R
S	R	R		R			R	R	R	R
		R			R		R			R
R		R					R			R
								R		R
R		R	R			R	R	R		R
R	R	R	R			R	R	R		R

Country, area or organization	United Nations treaties				
	(1) 1967 OST	(2) 1968 ARRA	(3) 1972 LIAB	(4) 1975 REG	(5) 1979 MOON
Rwanda	S	S	S		
Saint Lucia					
Saint Vincent and the Grenadines	R	R	R	R	
Samoa					
San Marino	R	R			
Sao Tome and Principe					
Saudi Arabia	R		R		
Senegal		S	R		
Seychelles	R	R	R	R	
Sierra Leone	R	S	S		
Singapore	R	R	R	S	
Slovakia	R	R	R	R	
Slovenia		R	R		
Solomon Islands					
Somalia	S	S			
South Africa	R	R	S		
Spain	R		R	R	
Sri Lanka	R		R		
Sudan					
Suriname					
Swaziland		R			
Sweden	R	R	R	R	
Switzerland	R	R	R	R	
Syrian Arab Republic	R	R	R		
Tajikistan					
Thailand	R	R			
The former Yugoslav Republic of Macedonia					
Togo	R		R		
Tonga	R	R			

Other agreements										
(6) 1963 NTB	(7) 1974 BRS	(8) 1971 INTL	(9) 1971 INTR	(10) 1975 ESA	(11) 1976 ARB	(12) 1976 INTC	(13) 1976 IMSO	(14) 1982 EUTL	(15) 1983 EUM	(16) 1994 ITU
R		R								
										R
										R
R										R
R								R		R
										R
		R			R		R			R
R	S	R					R			R
R										R
R										
R		R					R			R
R						R	R	R		R
R	R							R		R
S		R			R					
R		R					R			R
R	S	R		R			R	R	R	R
R		R					R			R
R		R			R					R
R										R
R		R								R
R		R		R			R	R	R	R
R	R	R		R			R	R	R	R
R		R	R		R					R
		R	R							R
R		R					R			R
	R							R		R
R		R								R
R										R

Country, area or organization	United Nations treaties				
	(1) 1967 OST	(2) 1968 ARRA	(3) 1972 LIAB	(4) 1975 REG	(5) 1979 MOON
Trinidad and Tobago	S		R		
Tunisia	R	R	R		
Turkey	R	S			
Turkmenistan					
Tuvalu					
Uganda	R				
Ukraine	R	R	R	R	
United Arab Emirates				R	
United Kingdom of Great Britain and Northern Ireland	R	R	R	R	
United Republic of Tanzania			S		
United States of America	R	R	R	R	
Uruguay	R	R	R	R	R
Uzbekistan					
Vanuatu					
Venezuela	R	S	R		
Viet Nam	R	S			
Yemen	R	S			
Yugoslavia	S	R	R	R	
Zambia	R	R	R		
Zimbabwe					
Palestine					
European Space Agency		D	D	D	
European Organization for the Exploitation of Meteorological Satellites				D	
European Telecommunications Satellite Organization			D		

Note: When there is no entry in a row in which a State's name appears, that State has not signed the agreement referred to in that column heading, or is not a party to it or has withdrawn from it.

[a]Burundi has not yet filed an instrument of ratification, acceptance or approval in accordance with its declaration under article XIX and has not yet signed the operating agreement.

[b]Canada has a cooperation agreement with the European Space Agency (ESA) but is not a member of ESA.

[c]The accession procedures for Estonia are ongoing.

Other agreements										
(6) 1963 NTB	(7) 1974 BRS	(8) 1971 INTL	(9) 1971 INTR	(10) 1975 ESA	(11) 1976 ARB	(12) 1976 INTC	(13) 1976 IMSO	(14) 1982 EUTL	(15) 1983 EUM	(16) 1994 ITU
R	R	R								R
R		R			R		R			R
R		R					R	R	R	R
			R							R
										R
R		R								R
R			R				R	R		R
		R			R		R			R
R		R		R			R	R	R	R
R		R					R			R
R	R	R					R			R
R		R								R
		R								R
										R
R		R								R
S		R	R			R	R			R
R		R	R		R					R
R	R	R					R	R		R
R		R								R
		R								R
					R					