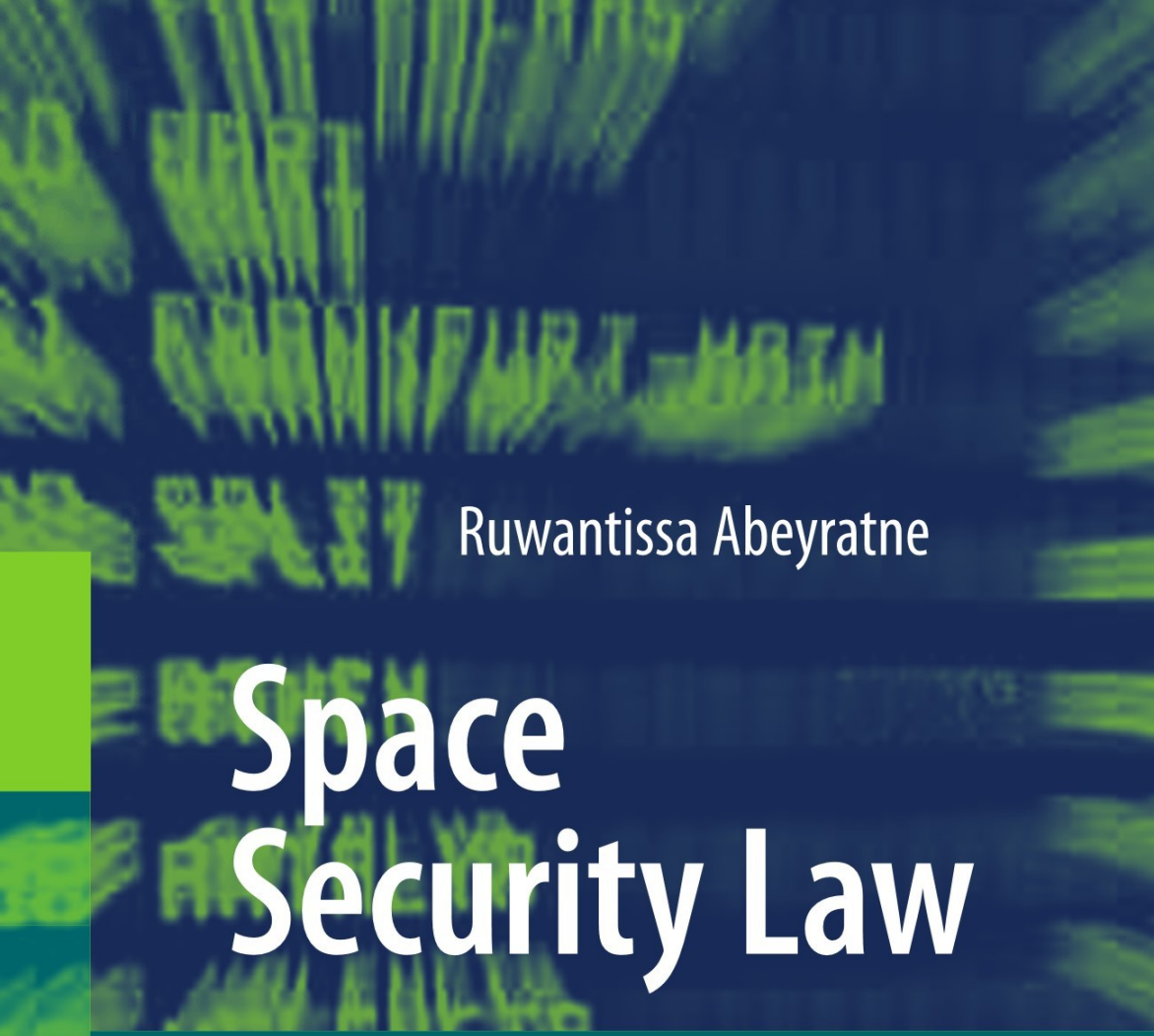

Ruwantissa Abeyratne

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Dr. Ruwantissa Abeyratne
International Civil Aviation Organization
999 University Street
Montreal H3C 5H7, Quebec
Canada
tabeyratne@icao.int

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Preface

By any modern standards of human endeavor and research, communications made possible by global navigation satellite systems and space transportation stand preeminent in the wonderment they offer. What began as exploration of outer space in the nineteen fifties and sixties is now full blown tourism in space. Added to that is the startling possibility of the existence of life in outer space which makes us not only think but wonder in amazement. Stephen Hawking – one of the world's most eminent and knowledgeable physicists – has stated that in a universe with 100 billion galaxies, each containing hundreds of millions of stars, it is unlikely that life forms are present only on Earth. Hawking has also said:

> To my mathematical brain, the numbers alone make thinking about aliens perfectly rational... the real challenge is working out what aliens might actually be like[1] ... I imagine they might exist in massive ships, having used up all the resources from their home planet. Such advanced aliens would perhaps become nomads, looking to conquer and colonize whatever planets they can reach.[2]

Against this bewildering backdrop, we continue to use and explore outer space, take pictures, calculate trajectories of planets and determine who owns the moon and what the purpose of outer space exploration is. An added dimension is the use of aerospace in terrestrial transportation where an aerospace plane will take off as an aircraft, go into orbit, enter the atmosphere using the Earth's orbit into its destination, cutting the travel time significantly. It is said that by using this method, air travel time can be reduced drastically. For instance, a journey by air between Los Angeles and Sydney, which would now take 14 to 16 hours by conventional air travel, could take 2 hours or less. None of these technological feats would be possible without the advancement of information technology and computerized knowledge-sharing. However, with the advancement of this technology would also come the threat of cyber terrorism, which is a real cause of concern to astronomical science and space travel.

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[1] http://www.timesonline.co.uk/tol/news/science/space/article7107207.ece#cid=OTC-RSS&attr=797084.

[2] http://www.telegraph.co.uk/science/space/7631252/Stephen-Hawking-alien-life-is-out-there-scientist-warns.html.

In March 1998, the web site of the National Aeronautics and Space Administration (NASA) of the United States received a "denial of service" attack, calculated to affect Microsoft Windows NT and Windows 95 operating systems.[3] These attacks prevented servers from answering network connections; crashed computers, causing a blue screen to appear on the computers. The attacked systems were revived, but this attack was a follow up of one in February of the same year, when, for two weeks the US Defense Department had unclassified networks penetrated, where hackers accessed personnel and payroll information.

Cyber-terrorism has the advantage of anonymity, which enables the hacker to obviate checkpoints or any physical evidence being traceable to him or her. It is a low budget form of terrorism where the only costs entailed in interfering with the computer programs of a space programme would be those pertaining to the right computer equipment.

Any interference with a space program of a nation, which would be inextricably linked to peaceful uses of outer space, would tantamount to an act of terrorism performed against international peace. The maintenance of international peace and security is an important objective of the United Nations,[4] which recognizes one of its purposes as being *inter alia*:

> To maintain international peace and security, and to that end: take effective collective measures for the prevention and removal of threats to the peace, and for the suppression of acts of aggression or other breaches of peace, and to bring about by peaceful means, and in conformity with the principles of justice and international law, adjustment or settlement of international disputes or situations which might lead to a breach of the peace.[5]

It is clear that the United Nations has recognized the application of the principles of international law as an integral part of maintaining international peace and security and avoiding situations which may lead to a breach of the peace.[6]

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[3]http://mgrossmanlaw.com/articles/1999/. Charter of the United Nations and Statute of the International Court of Justice, Department of Public Information, United Nations, New York, DPI/511 – 40108 (3-90), 100M at 1.

[4]Charter of the United Nations and Statute of the International Court of Justice, Department of Public Information, United Nations, New York, DPI/511 – 40108 (3-90), 100M at 1.

[5]Charter of the United Nations and Statute of the International Court of Justice, Department of Public Information, United Nations, New York, DPI/511 – 40108 (3-90), 100M at 3.

[6]On 17 November 1989 the United Nations General Assembly adopted Resolution 44/23 which declared that the period 1990-1999 be designated as the United Nations Decade of International Law (the full text of Resolution 44/23 is annexed as Appendix 1 at the end of the text of this thesis). The main purposes of the decade have been identified inter alia as:

(a) The promotion of the acceptance of the principles of international law and respect therefore
(b) The promotion of the means and methods for the peaceful settlement of disputes between States including resort to the international Court of Justice with full respect therefore
(c) The full encouragement of the progressive development of international law and its codification
(d) The encouragement of the teaching, studying, dissemination and wider appreciation of international law

No treatise on space transportation should be without a discussion on the relationship between air travel and space travel in the particular context of the legal regimes and political commonalities that apply. Therefore, against the variegated background of bewilderment and cautious optimism that space transportation offers, this book begins with an exposé on international politics, the principles of which bear upon space transportation and the closeness of air space and outer space and activities that straddle both frontiers at the same time. It discusses current issues and possibilities of communications and transportation in outer space as well as the liabilities and accountability of the key players of space exploration.

Montreal, QC, Canada Ruwantissa Abeyratne
30 August 2010

Reference

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The four tasks of the Resolution have been predicated upon the fact that the purpose of the United Nations is to maintain peace and security. See Resolutions and Decisions Adopted by the General Assembly During its Forty Fourth Session, Vol. 1, 19 Sept – 29 Dec 1989, General Assembly Official Records: Forty Fourth Session, Supplement No. 49 (A/44/49), United Nations, New York, 1990, 31. For a detailed discussion on Resolution 44/23 see Abeyratne (1992), pp. 511–523.

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Chapter 1
The Shifting Focus

Firstly, any academic treatment of air law and policy should recognize that air law and space law are closely inter-related in some areas and that both these disciplines have to be viewed in the 21st century within the changing face of international law and politics. Both air law and space law are disciplines that are grounded on principles of public international law, which is increasingly becoming different from what it was a few decades ago. We no longer think of this area of the law as a set of fixed rules, even if such rules have always been a snapshot of the law as it stands at a given moment. Fundamentally, and at its core, international law was considered in simple terms as the law binding upon States in their relations with one another.[1] A definition of international law was first given by the Provisional International Court of Justice in 1927 in the celebrated *Lotus* case when the World Court said:

> International law governs relations between independent States. The rules of law binding upon States therefore emanate from their own free will as expressed in conventions or by usages generally accepted as expressing principles of law and established in order to regulate the relations between these co-existing independent communities or with a view to the achievement of common aims. Restrictions upon the independence of States cannot therefore be presumed.[2]

The *Lotus* case provided a basis for international law and domestic law to function as separate entities, although there could be instances where issues such as piracy *jure gentium* and others concerning diplomatic immunities could be adjudicated under a domestic law system.

The abovementioned principle was implicitly derived from the basic rule of law as it applies even today, that in the sustained evolution of humanity from troglodytes to computer wizards a central role has always been played by the idea of law the idea that in every civilized society there must be order as against chaos and anarchy which were inimical to a just and stable society. Therefore law is the glue which binds the members of a community, whether national or international, together in their adherence to recognized values and standards. In international

[1] Jennings (1990), p. 513.

[2] (1927) P.C.I.J. Ser. A, No. 9, p. 18.

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law,[3] the principal subjects are nation States, not individual citizens. Public international law applies to relations between States in all their numerous and complex forms, from war to satellites and governs operational policy of many international institutions. Some of the new and emergent areas of international law govern: the use of radio frequencies; communications; the availability, exploration and exploitation of resources, whether in the sea bed or in outer space; multinational corporations; trade, investment and finance; pollution, in all its forms; international crime and multinational corporations.[4]

International law and politics overlap in instances where international disputes may emerge between nations. International law has no legislature. Although the General Assembly of the United Nations exists and functions as a regulator of international policy, being composed of delegates from all member States of the United Nations, its resolutions are generally not binding on member States,[5] except in certain circumstances. The United Nations system has no system of courts except for the International Court of Justice, based in The Hague, which can only hear cases between States if both sides to a dispute agree.[6] Even if the parties to a dispute agree to come before the Court, it has no jurisdiction to make sure that its decision is enforced or followed. Thus the question has been frequently asked that, if there does not exist any identifiable institution to make law or establish rules, to explain and clarify such rules and, more importantly, to punish those who break rules, how can what is called international law be law? Traditionally, law as perceived from a purely domestic sense, is recognized as being composed of the four – Code, Cop, Court and Clink. In other words, a law to be recognized as such has to comprise a set of rules. Second, there must be a cop or policeman to ensure adherence to the law. Third, if one breaks the law, there has to be a Court which has jurisdiction to determine the conduct of the suspect and last, there has to be a clink or punishment. International law is not strictly endowed with these four Cs and therefore remains susceptible to criticism.

The considered view of jurists and judges alike, that international law is a set of rules, is embodied in the decision of the *International Tin Council Case*[7] decided in the House of Lords in 1985 where Lord Oliver observed:

> A rule of international law becomes a rule whether accepted into domestic law or not only when it is certain and is accepted generally by the body of civilized nations; and it is for those who assert the rule to demonstrate it, if necessary before the International Court of

[3]International law itself is divided into private and public international law, the former being also referred to as conflict of laws and the latter just termed International law. See Shaw (2003), p. 1.

[4]Jennings (1990), p. 521.

[5]See Article 10 and 11(1) of the United Nations Charter, which alludes to the General Assembly making recommendations to the member States. Also, Johnson (1955–1956), p. 97.

[6]See Article 36(2) of the Statute of the International Court of Justice, which calls for States Parties to the Statute to declare consensually that they recognize the jurisdiction of the Court.

[7][1989] 3. W.L.R. 969 (H.L).

> Justice. It is certainly not for a domestic tribunal in effect to legislate a rule into existence for the purpose of domestic law and on the basis of material that is wholly indeterminate.[8]

According to this decision a rule of international law has to be accepted by civilized nations to be considered as binding. The acceptance has to be demonstrated in some form or other. One of the ways of determining acceptance and adherence by States of a rule or set of rules that could be considered international law is to observe whether a rule is observed globally through a sustained period of time. The difficulty in accepting this approach is that there have been instances in recent times where such rules have been breached or not observed by States, placing the credibility of international law in a flux and the position of international lawyers in a grey area. The four main areas of international law that have been brought to question are: firstly, the basic conceptual framework of international law as a structure based on relations between States (which was seriously questioned by the aftermath of the events of 11 September 2001); secondly, the rules governing the use of force by States (which some international lawyers have questioned with regard to the United States' occupation of Iraq in 2003 and thereafter); thirdly, the legal regime of military occupation (personified by the occupation of Afghanistan and Iraq); and fourthly, the law governing the treatment of combatants and prisoners of war.[9]

These four issues in particular, which are symptomatic of events that bring to bear the need for a renewed approach to international law call upon jurists and judges to question the fundamental premise that international law is a set of rules that are adhered to by nations amongst themselves. Followers of the New Haven or Yale School of thought have maintained that law is a process rather than a set of rules.[10] Judge Roslyn Higgins has observed[11] that law is a specialized social process rather than a set of rules, which reflects a practical approach to and recognition of modern exigencies of international relations. The idea that law is a set of rules is rejected on the ground that the process of authoritative and effective decision- making does not involve the mere application of a pre-determined set of rules but is molded by social, moral and political considerations as well.[12] The realities of international relations are not reducible to a simple formula or set of principles but are dictated to by the interaction of States based on the primacy of a State and the philosophy that the world is organized on the basis of co-existence of States.[13] The interrelation of States and comity takes away from international law the common attribute which many have assigned to it, that it is a stable domain which relates in some complicated way to society or political economy or class structure. Instead, international law is now regarded as practice and argument about

[8][1989] 3. W.L.R. 969 (H.L) at p. 1014.
[9]Lowe (2003), pp. 859–871 at 859.
[10]Arend (1999), p. 26.
[11]Higgins (1999), p. 1.
[12]Bull (1977), p. 128.
[13]Freidman (1964), p. 213.

the relationship between something posited as law and something posited as society.[14] One commentator has even gone to the extent of recognizing that international law is merely a particular type of discourse about international social life.[15]

International law and international politics are, in a way, a type of discourse which is manifested both by oral and written communication and state practice between officials of States. This is supplemented in certain circumstances with symbolic acts of States. The discourse which occurs at international politics drives the process and development of international law, to the extent that one commentator argues, quite validly, that international discourse paves the way for the establishment of international rules.[16]

States may, through interactive discourse, either between themselves or through the United Nations or other international or regional organizations, establish international custom and practice which may mature through the effluxion of time into principles of international law. One example is the declaration by one State of its territorial boundaries. If such a declaration is not challenged and is acquiesced by other States concerned, it would represent a legal principle to be followed in the future. Another way in which a State could influence international politics through the legal process is by invoking the international institutional legal process. This process often results in pronouncements being made by the United Nations General Assembly. For example, in Resolution 788, the United Nations commended the Economic Commission of Western African States (ECOWAS) for its efforts in restoring peace, stability and security in Liberia and conversely, in Resolution 1244, the Security Council condemned NATO action in Kosovo.

The shift of focus in international law and politics is due in part to the unique nature of events of recent times, which have deviated from established public law principles of war and belligerence. States have been under a certain compulsion to interpret their own positions with regard to self defence in the face of unknown enemies and threats by groups of persons rather than States whose geographic and territorial boundaries are known. For instance, consequent upon the events of 11 September 2001, the action taken by the United States in Afghanistan was first perceived to have been against the group of persons who were deemed responsible for the attacks on the World Trade Centre and other buildings within United States territory. Therefore the military presence of the United States in Afghanistan was not against the governing authority of the State itself but against persons who had found refuge in the country. The next development was justification for the military presence against the Taliban government who were perceived as harboring persons who were likely to continue to attack the United States and her people. International lawyers and politicians are compelled to view such instances with caution and interpret them according to applicable law. For example, if the United States went

[14]Kennedy (1988), p. 8.

[15]Purvis (1991), p. 115.

[16]Arend (1999), p. 27.

on the basis that a sovereign State was harboring terrorists who continued to be a threat and would possibly attack the United States, its action in Afghanistan may arguably be calculated to be an act of self defense under the United Nations Charter. The invasion of Iraq in the spring of 2003 is another instance where international lawyers may argue whether the use of force was necessary, leading some to respond that such a measure was aimed at preventing Iraq from using weapons of mass destruction. This by no means implies that both actions of the United States in Afghanistan were justified under the principles of self defense as practiced at international law. However, there is conversely no cogent reason to believe that a nation under siege from terrorist attacks should wait inordinately until the diplomatic machinery took its course, particularly if the State concerned had intelligence to indicate that such a delay would be detrimental to its interests and that of its citizens.

The subjectivity of the common law in jurisdictions of both sides of the Atlantic lends itself to further flexibility and shift in focus in the context of hostility. In the United Kingdom, the 1942 case of *Liversidge* v. *Anderson*,[17] where the House of Lords interpreted Defence Regulation 18B which allowed the Home Secretary to order a person detained if he has reasonable course to believe that such a person was of hostile origin or association. The majority decision in this case was to the effect that if the Home Secretary thinks he has good cause that was good enough. The dissenting judgment of Lord Atkin, who was of the view that judges should not be more executive minded than the executive was later upheld in the appellate stage of the Sri Lankan case *Nakkuda Ali* v. *Jayaratne*[18] where the court held that such a power, to detain persons, must be exercised on objectively reasonable grounds. In the United States, of corresponding analogy is the wartime experience where 120,000 Japanese persons were placed in detention camps during the second world war. In 1988, the United States Congress passed legislation to the effect that the prisoners had largely been detained under racial and other subjective motivation which were determinants of a weak political leadership.

The *raison de etre* of international law and the determining factor in its composition is anchored on the international political system. The domestic flavour of the *Liversidge* and *Nakkuda Ali* decisions, although admitting of the validity of internal action by a State in order to protect its internal integrity, does not lend itself to assisting the international conduct of a State, where Article 2(4) of the United Nations Charter prohibits the use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the purposes of

[17][1942] AC 206.

[18][1951] AC 66. However, it must be noted that the Hands off the Executive approach was rekindled in the 1977 case of *Rv Secretary of State ex parte Hosenball*, a deportee case where Lord Denning said that when there was a conflict of interest between the interests of national security on the one hand and the freedom of the individual on the other, the balance between the two should be determined by the Home Secretary who is entrusted this power by Parliament. See [1977] IWLR 766 at 783.