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Space Security Law

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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 like¹ ... 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.

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

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.

⁴Charter 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.

⁵Charter 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.

⁶On 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.

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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.

Contents

1 The Shifting Focus	1
International Politics	7
Air Space and Outer Space	10
References	14
2 Space Security	15
The Global Navigation Satellite System	20
References	27
3 Is There Life in Outer Space?	29
What Should We Do If We Find Life in Outer Space?	36
Reference	40
4 Space Tourism	41
Who Is a Space Tourist?	43
Conduct of the Space Tourist	45
References	49
5 Legal and Regulatory Regime	51
Comparison Between Space Law and Maritime Law	59
References	64
6 Issues of Aerospace Insurance	65
The Space Insurance Industry	66
References	71
7 The Air Transport Insurance Industry	73
References	82
8 The Application of Intellectual Property Rights to Outer Space	
Activities	83
Territoriality	83
Space Law Principles	85
Trade Related Activities of Intellectual Property	92

Sharing Information and Technology	93
Intellectual Property Rights Regarding Outer Space Activities	94
The Use of Satellite Imagery at Pre Trial and Trial Hearings	97
Satellite Imagery	98
Space Law Applications	99
Case Law	101
References	105
9 Conclusion	107
Governance and the United Nations	111
The Role of the Secretary General	115
Space Transportation and Human Rights	117
Compensation for Damage Caused by Space Transportation	118
References	122
Appendix	123
Space Law Treaties	123
Index	161

Table of Cases

- 1927 Case of *Lotus* P.C.I.J. Ser. A, No. 9, p. 18, 1, 61, 113
1933 Case of *Eastern Greenland* PCIJ Series A/B, No. 53, at pp. 53ff, 11
1942 Case of *Liversidge v. Anderson* AC 206, 5
1947 Case of *Corfu Channel*, 62
1949 Case of *Corfu Channel* ICJ Reports 4 at p. 23, 70, 91, 100
1977 Case of *Rv Secretary of State ex parte Hosenball*, 5
1984 Case of *People v. McHugh* 124 Misc. 2d. 559, at 560 also 476 N.Y.S. 2d. 721, at 722, 101
1985 Case of *Sutherland Shire Council v. Heyman* 157 CLR 424, 481, 121
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1990 Case of *Caparo Industries Plc v. Dickman* 2 AC 605, 121
1993 Case of *Daubert v. Merrell Dow Pharm., Inc.* 509 U.S. 579 at 590, 102
1999 Case of *Dolan v. Florida* 1999 WL 512093 (Fla. App. 4th dist.), 103
Appalachian Insurance Co. v. McDonnell Douglas Corp., 214 Cal. App. 3d 1, 262 Cal Rptr. 716 (Cal.App. 4th Dist. 1989), 68
Barcelona Traction, Light and Power Company Limited, I.C.J. Reports, 1974, p. 253 at pp. 269–270, 87–88
Beloit Canada Ltée/Ltd. v. Valmet Oy (1984), 78 C.P.R. (2d) 1 at pp. 28–29 (Fed. T.D), 96
Benson v. Dean 232 NY 52, 121
Datskow v. Teledyne Continental Motors 826 F.Supp 677 (W.D.N.Y. 1993), 103
Fisheries case, 60
Gasser v. United States 14 CLCf.476 (1988), 101
Hilton-Davis Chemical Co. v. Warner-Jenkinson Co. Inc. 62F 3d. 1512 at 1531–1532 (Fed. Cir. 1995), 96
In Re. Chorzow Factory (Jurisdiction) Case (1927) PCIJ, Ser. A, no. 9 at p. 21, 70, 91, 100
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- Robinson v. Missouri Pacific R.R.Co.* 16 F. 3d. 1083 (10th Circ. 1994), 102
- Rylands v. Fletcher*, (1868), L.R. 3 H.L. 330, 119
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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

¹Jennings (1990), p. 513.

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