CHAPTER 7

CONCLUSION AND SUGGESTIONS

Conclusion

A brief analysis of the evolution of law shows that right from Plato down to this day, philosophers and jurists have defined 'Law' in different ways. Considering all the definitions, we find that (i) Law is a form of social control, an instrument of good life, the way of discovery of reality of social structure (Plato);


   3 Available at: http://home.wlu.edu/~mahonj/PhilLawLecture1NatLaw.htm, (visited on July 5, 2015).


   5 Available at: https://faculty.history.wisc.edu/sommerville/367/367-092.htm, (visited on July 5, 2015).


   7 Available at: www.theimaginativeconservative.org/.../commonwealth-men-and-american.ac.ppt, (visited on July 5, 2015).


   9 Available at: http://home.wlu.edu/~mahonj/PhilLawLecture1NatLaw.htm, (visited on July 5, 2015).

it is agreement of reason and nature and distinction between the just and the unjust (Cicero);


2 certainty is the prime necessity of Law (Bacon);

   3 Available at: http://home.wlu.edu/~mahonj/PhilLawLecture1NatLaw.htm, (visited on July 5, 2015).

Law is the command of the sovereign (Hobbes);


Law is a plan of Life (Spinoza);

   5 Available at: https://faculty.history.wisc.edu/sommerville/367/367-092.htm, (visited on July 5, 2015).

6 It is a norm established by the commonwealth (Locke);

Law is a body of precepts (Hume);


7 Law is harmonizing of wills by means of universal rules in the interest of freedom; and Law is an unfolding or realizing of the idea of right (Hegel).
implicit part in these definitions is largely to encourage or make sure of certain standards in human behaviour.

In response to the space science development, various organisations were created relating to Air and Space Law for evolving common principles for regulation of civil aviation and space activities. These were mainly: (i) International Astronautical Federation (IAF) in 1950; (ii) International Academy of Astronautics (IAA) in 1960; (iii) International Institute of Space Law (IISL); (iv) the earliest to all, International Law Association in 1873 at Brussels.

The term ‘Air Law’ refers essentially to that part of International Law, which relates to civil aviation including International institutions concerned with Air Law. At present, Air Law does not include ‘aircraft used in military, customs and police services’. Considered on the basis of norms, International Air Law includes rules of general or customary International Law, as well as bilateral and multilateral treaties that deal with civil aviation, with their underlying premises and the standards and patterns resulting from their provisions.

It is important to trace the actions taken in order to regulate Air navigation and other connected issues. The Hague Declaration of 1899 is the first multilateral treaty, though in the field of military aviation, on the use of balloons and similar devices as weapons of war. The first ‘heavier than air’ aircraft flew in 1903. In 1913, first bilateral agreement on International Air services was concluded between France and Germany. The Paris Convention, 1919 on Regulation of Aerial Navigation was the real and major initiative in International Collaboration. It set up ‘International Commission on Aerial Navigation’ which in its present form is known as ‘International Civil Aviation Organisation (ICAO)’. The Warsaw Convention, 1929 is the most important Convention though a series of bilateral and
multilateral treaties were made during the period between the two World Wars. It contains unification of certain rules relating to International Carriage by Air. It is still in force.

This thesis picks up the threads to find how seriousness was needed to regulate air flights using different objects right from the simplest device, i.e. balloon. Balloon flights in Paris city in France caused disturbance to public order, near chaotic situation for the police to handle, but of course, thrill to users and onlookers. There were also incessant German balloon flights over French territory. These events together became the trigger points to start a serious and meaningful dialogue between France and Germany. These countries finally reached an agreement in 1784 to regulate the balloon flights between the two countries. Next event of significance with mixed response of surprise and future technical feasibility of flying in the air, a cherished desire of man since times immemorial, occurred when the Wright brothers succeeded in inventing the flying machine in 1903 and demonstrating its flying capability. First aerial bombardment took place on 1\textsuperscript{st} November, 1911 when Lt. Gavotti of the Italian Army dropped four bombs by hand on the enemy forces, from a biplane flying at an altitude of 600 feet.\textsuperscript{10} Thinkers, academicians and diplomats became aware of what further possibilities would surprise them in the matter of civil aviation – sky transport. After that, planes of different sizes and flying capabilities were produced; high altitude flying became a regular feature and with supersonic speed, any destination could be reached in hours with comfort, pleasure and speed. Not resting on their oars, the aero technicians, backed by constant scientific breakthrough, developed rockets and experimented for accuracy, safety and perfect remote control mechanism. Thrilled over such achievements, a few countries sent satellites and other objects into space. Trials are being done by the few countries to set up

\textsuperscript{10} Available at: https://en.wikipedia.org/wiki/Giulio_Gavotti, (visited on July 5, 2015).
factories in the space and to provide data about earth obtained through remote sensing and deep sensing, and other information like material elements of composition of the celestial bodies and on environment around those celestial bodies.

By 1930s, rocketry was developed arousing military interests among technologically advanced nations. Blanket secrecy was observed over such experiments. Germans used V-2, while other countries mastered ballistic and inter-continental missiles. Rocketry had made possible access to geostationary orbit, which could be the possible site for satellites. Technology was capable of peaceful uses too.

There has been such stupendous development in air and space technology that elevates human pride and ingenuity. Starting from balloon flights to aeroplane flights (civil aviation), and to supersonics, and now in rocketry, human development in science and technology has built a great saga of series of successes. With such developments upcoming, a need was obviously felt at each stage of these developments for laws and regulations. There is a long history of Declarations, Conferences, Conventions and Treaties which speak of the serious concerns of the Nation-States in connection with Civil Aviation and Space activities.

Moot question here is how the idea of International Law and Air/Space Law developed to the current level. Taking a glance at history, we see that Roman Empire and, afterwards, the Ottoman Empire, are the most significant truths of the pre-nineteenth centuries. These empires not only spread their reign beyond their original boundaries and merged for long years the territories of other countries rather ruled over some countries usurping their sovereignty. These empires installed their systems of administration and law and justice. The saying in regard to Roman Empire evolved: ‘When in Rome, do as
the Romans do’. So, the concepts of Roman law have provided solid base for legal systems in the world; air law owes much to those concepts and principles.

The next theme of this study relates to the various Conventions for regulating air/space use. Two earliest Conventions are very significant in the history of air law. These are (i) Paris Convention 1919; and (ii) Chicago Convention, 1944. These were drafted to make civil aviation smooth, safe and duly regulated. Both these Conventions recognize exclusive sovereignty of a state over the air space above its physical territories, including territorial waters. Outer space was not in reckoning at that time as there were no outer space activities.

It is worthy of note that within the framework of Chicago Convention, bilateral agreements were concluded; one by the United States and Great Britain, known as the Bermuda-I agreement of 1946 stating that the airlines of United States and Great Britain could operate to and from each other’s countries but only to the specified airports without any limit on frequency.

However, neither international conventions nor customarily accepted practices have established a commonly acceptable line of demarcation between air space and outer space. The debate continues about where airspace ends and outer space begins. But the issue of whether or not sovereignty may be asserted in outer space has been generally settled by only customary practice.

We find that the origin of Public International Air Law was found at the onset of the 20th century. Great development took place during that time; aero-scientists studied the feasibility, made prototype, experimented and succeeded in their effort, to make it possible to fly heavy objects, heavier-than-air aircraft that were in service by that time. Since ancient times, sovereigns entered into treaties to start, sustain and further develop relations among them. As
of now, we can vouchsafe this statement since we know fully well that International Treaties and Conventions formed the base of Public International Air Law. To date, we have numerous bilateral and multi-lateral treaties and declarations, and some conventions either strengthening or amending the Public International Air Law. There are bilateral and multi-lateral treaties and declarations, and some conventions on peaceful uses of outer Space. There is no clear demarcation from where outer space begins. On the subject of liability, internationally accepted definition with measurement of liability and also manner and organizational set up to claim compensation are not settled. Claims have to be settled by the states affected by damage and loss between themselves. However, liability is recognized ‘in principle’ as giving rise to claim in certain situations where damage is caused or there is loss of property or human lives.

Public International Air Law, in the aviation context, refers to agreements and treaties concluded among various nation-states related to issues relevant to air navigation. Private international aviation law is the National Law to facilitate in deciding and settling issues and liability claims and to take up matters related to citizens and entities in other country, state agencies, etc. National Law cannot be in opposition/contrast to the International Law but it does facilitate early conclusion of legal proceedings as per local precepts and concepts of law. Some aspects of it derive enabling postulates from Public International Law. In this regard, a few Conventions may be briefly mentioned. In other words, Private international aviation law is the body of law relating to agreements and treaties between different countries in which the liability of a party in one country to aviation injured party in another country can be established.

Analysing the initial concepts and general principles of law, and moving ahead to formulation of general laws it is found that aviation law has drawn upon the principles and concepts of the general law,
including those of International Law. It has long history of its development – beginning with the Balloon flights in 1784 which swung the Paris Police into action of banning Balloon flights - to the civil aviation era into the early 20th century (1910), and then extending those concepts and principles to rocketry innovation that has stunned the world.

Further, national laws relating to air and space law were enacted and modified to bring them in tune with related international instruments. It was thought appropriate to set up appropriate and effective organisational mechanism for dealing with complaints and grievances as well as overseeing and supervising different situational aspects of Air Law. Accordingly, as frequency of air navigation had tremendously increased (both domestic and International) and the fact that many legal norms in regard to technical aspects of air navigation had been developed internationally, and National Laws made in the more advanced countries to implement various aspects of Air navigation, the International Civil Aviation Organization (ICAO) was established. Montréal in Canada was made its headquarters. This International organization was created in pursuance to the Convention on International Civil Aviation (Chicago, III, 1944). States have got its membership as of necessity, and its membership has, therefore, gone up to 184. There are many bilateral and multilateral agreements between/among states covering commercial rights and obligations aimed at regulation in international air transport. Along side, there is comprehensive multilateral International Air Services Transit Agreement of 1944. Certain provisions of the Chicago Convention are also kept in view by operators, service providers and law enforcing agencies. Complaints of violations of the Air Laws go to ICAO.

It is relevant to study examples of Canada and the USA in the above context. Canada passed appropriate National Laws aimed at regulating air navigation through its Parliamentary process. It has
enacted various National laws, most notable among them being (i) the Carriage by Air Act, 1972, (ii) the National Transportation Act, 1974 (iii) the Aeronautics Act, 1985. Some other states followed suit.

Similarly, in the USA, there are three significant Acts passed by its legislature, the Congress. These are: (i) International Telecommunications Satellite Act of 1978; (ii) The Land Remote Sensing Commercialisation Act of 1984; and (iii) The Commercial Space Launch Act, 1984 for regulating activities and aviation in the air space. USA is intensely wedded to democracy. It has established maximum transparency in its systems, policies and practices.

Various international instruments relating to anti-hijacking are adopted form time to time such as the Hague Convention, 1971 and the Montreal convention, 1971 ect. However these instruments were updated by the Beijing Convention and Protocol, 2011. The significant feature of anti-hijacking law is that principle of universal jurisdiction is made applicable to the offence of hijacking further it is also made an extraditable offence provided there is an extradition treaty in the State. However, there is no duty of the State to extradite a hijacker. But in such a situation where he is not extradited the hijacker must be tried and punished by that State as if this offence has been committed against that State.11

Due to the development of ‘rocketry, a significant incident that took place was successful flight of Sputnik-1 into the space; it was launched by the Soviet Union on October 4, 1957. It warned that new concepts of space related activities and definition of space – one for air space and the other for outer space was immediate requirement as other technologically capable powers would join the trail rather

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generate rivalry for supremacy with all possible consequences, including disturbances to peace on the Earth.

It may be recalled that the Paris and Chicago Conventions of 1919 and 1944, respectively, had already recognized the exclusive sovereignty of states to the airspace above their territory. Therefore, efforts at International level were directed to further consensus in four major areas: (i) review of concepts of space law which were developed before Sputnik-1 flight; (ii) to bring about clarification of basic applicable laws and adoption thereof; (iii) the increasing uses of space for the benefit of humanity through regulatory mechanism of national and international laws and regulations, and particularly to effectively manage all issues relating to space activities, taking the process starting since the late 1950s to logical conclusion; (iv) intensification of efforts towards framing law and regulations for human activities beyond the atmosphere, including managing settlements and societies that would exist beyond the Earth. It is noticed that the subject of regulation of such activities in space is currently being seriously addressed; some understanding has been achieved among the most active and capable states.

These efforts have not so far culminated beyond each space-capable power declaring its programme for benefit of humanity and expressing commitment to maintain peace on account of their activities in the outer space. Air space and outer space have not been demarcated for universal acceptance. Even the Space Treaty of 1967 has left this position unsettled.

It is important to mention here that five treaties, principles adopted by the United Nations and UNISPACE-I, II and III constitute space Law. Out of five treaties, the Outer Space Treaty, 1967 is a landmark and remaining four treaties have elaborated the provisions of the Outer Space Treaty, 1967. Considering the United Nations
Conferences on exploration and peaceful use of outer space, UNISPACE-I examined the practical benefits deriving from space research and exploration. UNISPACE-II mainly discussed applications of space technology for development, and discussed international space cooperation. Lastly, main objective of UNISPACE-III was to strengthen the capabilities of developing countries, to use the applications of space research for economic, social and cultural development.

It is heartening to note that the main outcome of five treaties and three UNISPACE Conferences, is that there is international cooperation in space research and dissemination of information. “Spaceflight has stimulated many responses since its inception over 50 years ago. We have seen bilateral, regional and global cooperation at levels never before realized in such a short span of years. Space law has been an enabling part of the mix of events that has led to this unprecedented spirit of cooperation and information sharing. Some of the shared benefits of nations agreeing to work together using resources located in or at least partly in outer space are:

(i) enhanced understanding of the Earth/Sun relationship, its nature, and importance;
(ii) beyond enhanced understanding of the solar system, the planets, moons and the space
(iii) global real-time communications (Internet);
(iv) global real-time television;
(v) global real-time meteorological information”.¹²

Significantly, the resources of space are endless. Some jurists believe that if commercial space transportation becomes widely available, with substantially lower launch costs, then all countries will be able to directly get the benefits of space resources. However, High costs are not the only factor preventing the economic exploitation of space: another factor is, protection and conservation of the legal regime for space should further protect it from being used as a resource for Earth’s needs.13

From the above analysis, in brief, the following position has emerged:

(i) Jurists, academics, philosophers and social activists as well as scientists since the time of great philosopher, Plato, down to the twentieth century, have defined ‘Law’ and in their definitions, we find that a law is to regulate human relations in a society, for peaceful uses of resources and for maintaining peace and harmony, and establishing regulatory mechanism to decide issues where conflicting situations are created by differing human behaviour.

(ii) International Law does not provide immediate and effective measures to protect territorial air space and to cease the violation of aerial sovereignty. The five freedoms of the air come under the ambit of basic rules of international law, but they cannot be considered to be absolute, unrestricted and inviolable.

(iii) The Paris Convention established a rule of law related to sovereignty. It has accepted that sovereignty of a country extends over airspace above its territory which is accepted till date by all countries. It prescribed rules governing registration of aircraft, standards for pilots, and movement of military aircraft. The Paris Convention also created the first formal organization for the oversight of international aviation activities, and handling complaints of violations of Air Law, named the International Commission for Air Navigation (ICAN).

(iv) Paris Convention 1919 is a significant step in civil aviation regulation. It also provided the base for the Havana Convention 1928. Both these Conventions are drivers of a movement forward in evolving Air Law. The Havana Convention of 1928 on Commercial Aviation applied exclusively to private aircraft and laid down basic principles and rules for aerial traffic. However, it made no attempt to develop uniform technical standards. It did not also set up an agency or a permanent organization like a Secretariat for periodic discussion on common problems. The Convention did not make provisions for establishing continuing administrative machinery.

(v) From the working of the United Nations Security Council, it is evident that both Russia and USA are using veto power to their own advantage and to the disadvantage of other countries. Veto power can be used by any of the five permanent members of the Security Council to nullify any measure being debated for the welfare of humanity and the establishment of world peace. During the past six decades, many such measures have been debated in regard to space law.
(vi) Aircraft hijacking has been defined under various international conventions. However, Montreal Convention, 1991 is significant in this regard which has asked the states to provide stringent measures to check and prohibit aircraft hijacking.

(vii) Beijing Convention and Protocol, 2011 is very important which has prohibited use of hijacked aircraft as a weapon as happened in September 2001. However, hijacking has not been covered under the jurisdiction of international criminal court.

(viii) Due to the development of ‘rocketry, the significant incident that took place was successful launch of Soviet Union’s Sputnik-1 into the space on October 4, 1957. This launch underlined urgent need for new concepts of space related activities and definitions of space – one for air space and the other for outer space. It was predicted that the other technologically capable powers were ready to launch objects into space which would generate rivalry for supremacy with all possible consequences, including disturbance to peace on the Earth if regulatory regime was not put in place in time.

(ix) Regarding outer space, there are five main treaties. However, out of five treaties, the Outer Space Treaty, 1967 is a landmark and remaining four treaties have elaborated the provisions of the Outer Space Treaty, 1967. Important outcome of these treaties are: no one can claim sovereignty over outer space including by moon and other celestial bodies; the State that launches a space object retains jurisdiction and control over that object; launching state is also liable for damages caused by its
space object; the Moon and other celestial bodies must be used for peaceful purposes and not for testing weapons of any kind, or establishing military bases, installations, and fortifications or nuclear weapons or any other weapons of mass destruction. In addition, the 1963 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space, and Under Water (“Partial Test Ban Treaty”) banned the testing of nuclear weapons in outer space.\footnote{Jyoti Rattan & Vijay Rattan, \textit{Public International Law, United Nations Human Rights \& IHL}, 767-68, (2\textsuperscript{nd} Edition, 2014).}

(x) Outer space has not been defined under the Outer Space Treaty, 1967. The important question as to where the air space ends and the outer space begins was also left unanswered by this treaty.

(xi) Regarding liability under air and space law there is a tortuous liability under aerial navigation law and space law. But there is criminal liability for aircraft hijacking where general principles of international criminal law are followed.

(xii) Number of used space objects, which are of no use know, are cluttering the outer space and hence endangering the future navigation in outer space. Significantly, five space treaties do not lay much emphasis on this issue and there is an urgent need to have strict international law in this regard.

(xiii) Considering national scenario of air and space law, very few developed countries possess the technology to explore outer space and most of the developing countries do not have such technology. Therefore, developed
countries have enacted stringent national air and space law much to their advantage.

(xiv) A few years ago, the Government of USA sold plots of land on the Moon.\textsuperscript{15} This act deserves criticism as it is well settled that the Moon and all other celestial objects are common heritage of mankind. No country has any right to auction plots of land on the Moon or any other planet.

(xv) In India’s context, we do not find serious efforts to make appropriate space laws for regulation and to handle issues arising from activities in the space. Liability Law has not been framed to take care of liability arising as consequence of accidents in space, space objects failing to continue journey and failing mid-way or at initial stage, debris, abandonment, and damage, etc.

(xvi) With the advancement in science and technology, it has become possible for technologically advanced countries to use outer space for the purpose of spying,\textsuperscript{16} which may ultimately lead to invention in other countries. Whereas, the Outer Space Treaty, 1967 provides that the outer space can be used only for peaceful purposes.

Suggestions

From the above areas as in the present study the following suggestions/ recommendations are put forward:

\textsuperscript{15} Available at: https://www.lunarland.com/, (visited on July 5, 2015).

\textsuperscript{16} Available at: http://qz.com/.../americas-outer-space-spy-program-has-a-new-mascot-a-world, (visited on July 5, 2015).
First and foremost, effective measures should be initiated by the United Nations to clearly demarcate air space and outer space.

Conflicts arising out of the interpretation of international and municipal air and space law should be settled by arbitration or by the International Court of Justice.

International conventions relating to hijacking especially Montreal Convention, 1999 and Beijing Convention and Protocol, 2011 must be strictly implemented.

Hijacking should be brought within the jurisdiction of international criminal court.

While concluding an agreement for joint launching of space objects, liability for any failure, loss of control or any technical error, causing loss to another country should be clearly specified under law. The procedure to compensate such country for its loss should not be cumbersome and such country should be adequately compensated.

As recommended by the United National Committee on Peaceful Use of Outer Space, the technologically advanced countries should share their technology to explore outer space with developing countries. If this recommendation is put into action, the outer space will truly become the common heritage of mankind, as the developing countries would also be able to reach out to the sky.
(vii) Efforts should be made for cleaning up of unused space objects causing pollution especially by the launching state and a strict international law should be enacted by the United Nations in this regard.

(viii) India should conclude more comprehensive treaties and agreements with as many countries as possible for extradition of hijackers and those indulging in other crimes at international/national airports.

(ix) In the modern era, India has proved to be a front runner in sending objects to outer space and celestial bodies. Therefore, national policies dealing with outer space must be examined and amended from time to time, to deal with the emerging issues and problems arising due to the advancement in science and technology and increased space exploration activities. Apart from it, a comprehensive law dealing with the problems arising out of the exploration of outer space must be framed without delay.

(x) Under Indian Space policy, the liability for damage caused by space objects to other countries is mentioned, but neither any limit is prescribed nor any formula has been suggested to decide the quantum of liability. The states concerned have to discuss the matter bilaterally and arrive at an amicable settlement. It is, therefore, suggested that India should enact a Law to specify the measure of liability and the procedure to deal with such cases.
(xi) The Outer Space Treaty 1967, and other remaining space treaties should be amended to restrict acts of sale of plots on Moon as was done by the United States.

(xii) The Outer Space Treaty, 1967 should be amended to prohibit the use of outer space for the purpose of spying.

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