Title for appearance along the spine of the bound copies:

ATC liability in Norway & from a unification viewpoint

ABSTRACT.

Air traffic control liability in Norway and from a viewpoint of international unification

by

Christen Sverdrup Dahl, Institute of Air and Space Law, Mc Gill University, Montreal.

A thesis presented to the Faculty of Graduate Studies and Research, in partial fulfillment of the requirements for the degree Master of Laws.

The thesis examines the liability of air traffic control agencies from two main viewpoints. The first part contains a study of this sphere of the law in Norway and encompasses the developement of governmental liability in the country, the basis of liability in cases where the agencies cause damages to persons or objects, the standard of care norm, grounds whereby the liability may be wholly or partly reduced and recourse actions. The second part of the thesis looks at air traffic control liability from the unification angle and discusses the desirability of establishing an international convention regulating the legal questions. The scope of a convention, the system and limitation of the liability are the main problems examined, but also a number of other aspects are covered.

Institute of Air and Space Law
Mc Gill University, Montreal.

Air traffic control liability in Norway and from a viewpoint of international unification

by

Cristen Sverdrup Dahl, cand. jur.
University of Oslo, Norway.

A thesis presented to the Faculty of Graduate Studies and Research, Mc Gill University, Montreal, in partial fulfillment of the requirement for the degree Master of Laws.

Preface.

The author's interest in air traffic control liability developed as a result of two influences. The Law of torts, from the earliest period of my law studies at the Faculty of Law, University of Oslo, appeals to my interest and still is one of the fields of the law which most attracts my attention.

Later - still being a law student - I took an interest in air law. After I had graduated as a jurist, this brought me a scholarship from the Institute of Air and Space Law at Mc Gill University, and took me to Montreal for the academic year 1970 - 1971.

As my interest was both in the law of torts and in air law, it became quite natural to select the present topic, which comprehends elements of both these fields, when I decided to write a thesis.

The research for the thesis was started just before Christmas 1970. I took benefit of the excellent air law library at Mc Gill University. The research and writing were completed after I had returned to Norway where I also made use of local legal sources.

The thesis looks at air traffic control liability from two viewpoints:

1. The state of this field of the law in Norway - a sphere which up to now has been only superficially discussed.
2. Unification of the norms relating to air traffic control liability which at present is being studied among the air law specialists of the world.

The Thesis has been written without assistance from other persons - except for the fact that I due to my nationality have got some assistance concerning the English language. The opinions expressed herein are consequently solely the author's.

Finally, I want to express my gratitude to the Institute of Air and Space Law at Mc Gill University and it's staff.

Abbreviation, periodicals, documents.

Arkiv for luftrett, Oslo (AfL).
Arkiv for sjörett, Oslo (AfS).
Aviation Cases, New York - Chicago - Washington (Avi).
Aviation Week and Space Technology, New York (AW & ST).
Forhandlinger i Odelstinget, Oslo.
ICAO Bulletin, Montreal.
Innstilling til lov om luftfart, Oslo (1957) (Luftfartsinnstilling).
Journal of Air Law and Commerce, Dallas (JALC).
Jussens Venner, Oslo.
Law of Aviation, Norway, December 12th 1960 (L.).
Lov og Rett, Oslo.
Lov om skadeserstatning i visse forhold, av 19/6-1969 (E.), (Law on certain aspects of torts, of June 19th 1969.)
Nordiske Dommer i Sjöfartsanliggende, Oslo.
Nordiske Forsikringstidsskrift, Stockholm.
Norsk Forsikringsjuridisk Forenings Publikasjoner, Oslo.
Norsk Retstidende, Oslo, (Rt.) (Supreme Court Decisions)
Odelstingsproposisjon no. 48 (1965/66), Oslo (Ot. 48.) (Proposition to the First Chamber of Parliament).
Revue francaise de droit aerien, Paris (RFDA).
Svensk Juristtidning, Stockholm.
Tidsskrift for rettsvitenskap, Oslo (TfR).
Zeitschrift für Luftrecht und Weltraumsfragen, Köln (ZfL).
Utkaster med motiver til lov om statens og kommunenes erstatningsansvar, (1958) Oslo (Utkast) (Proposal on governmental and municipal liability).
ICAO Doc. 8302 - Lc/150-2.
ICAO Doc. 8582 - LC/153-1.
ICAO Doc. 8582 - LC/153-2.
ICAO Doc. 8787 - LC/156-1.
ICAO Doc. 8787 - LC/156-2.

Articles.

Alten	Våre domstolers stilling til spörsmål om objektivt erstatningsansvar utenfor kontraktsforhold, (1950) TfR p. 328.
Beaubois	Liability of Public Bodies Providing

	Assistance to Air Navigation, Institute de Transport Aerien Studies 1968/7-E p, 10.
Beaubois	The Work of the ICAO Legal Committee from 1947 to 1965, Institute de Transport Aerien Studies, (1966) 4-E p. 24.
Bosseler	International Problems of ATC and Possible Solution, (1968) JALC p. 467.
Eastman	Liability of Ground Control Operators for Negligence, (1950) JALC p. 150.
Hellner	Kommentarer til utredning om offentligt erstatningsansvar, (1960) Svensk Juristtidning p, 644.
Knauth	The aircraft commander in International Law, (1947) JALC p. 161.
Lange-Nielsen	Statens og kommunenes ansvar for feil under utförelse av bistandshandlinger og kontrollvirksomhet, (1966) Lov og Rett, p. 49.
Ljöstad	Chicagokonvensjonens tekniske annekser, AfL Bind 1, p. 54.
Lödrup	En oversikt over og rettspolitiske vurderinger av adgangen til å nedsette erstaningsansvaret for skadeforvoldelser utenfor kontraktsforhold, (1966) Jussens Venner No. 9, p. 212.
Michelsen	Det offentliges ansvar for ferdselsuhell til lands og til vanns, (1952) Nordiske Forsikringstidsskrift p. 338.
Munther Rolfsen	Det offentliges ansvar for sine tjenestemenns handlinger, Norsk Forsikringsjuridiske Forenings Publikasjoner No. 33, p. 5.
Peters	Legal Responsibility of Government for Commercial Air Safety, (1968) JALC

	p. 479.
Schmidt-Rantsch	Die 15. Tagung des ICAO-Rechtsausschusses, (1965) ZfL p. 141.
Selmer	Assurandörens regresskrav i sjöforsikringen, AfS Bind 3, p. 521.
Simpson	Use of Aircraft Accident Investigation Information in Actions for Damages. (1950) JALC p. 283.
Sohn and Baxter	The Harvard Draft Convention on International Resopnsibility of States for Injury to the Economic Interest of Aliens. (1961) American Journal of International Law p. 548.
Sundby	Betydningen av skadelidtes forhold i erstatningsretten. (1969) Jussens Venner No. 8/9 p. 315 ff.
Trolle	Om objektiv "Egenrisiko" på skadelidtes side i Erstatningssager, (1965) TfR p. 245.
Vinding Kruse	På hvilke områder bör nordisk lovgivning gjennomföre objektivt erstatningsansvar?, Forhandlinger ved det 24 Nordiske Juristmöte (1963) bilag No. 4.
Winn and Douglass	Air Traffic Control : Hidden Danger in the blue Skies, (1968) JALC p. 255.
Hjalsted	Air Carriers Liability in Cases of Unknown Cause of Damage, (1960) JALC p. 1.
Rinck	Haftung für Versagen automatischer Anlagen in der Flugsicherung, (1965) ZfL p. 188, 193.

Books.

Andersen	Erstatningsrett, Oslo 1959.
Billyou	Air Law, 2nd ed., New York 1964.
Castberg	Norges Statsforfatning, Oslo 1964.
Drion	Limitation of Liabilities in International Air Law, The Hague 1954.
FAA	The National Aviation Systems Plan, Ten Years Plan 1971-1980, Washington 1970.
Friedman, Lissitzyn and Pugh	International Law, Cases and Materials, New York 1969.
Grönfors	Skadelidandes medverkan, Stockholm 1954.
Guerreri	Governmental liability in the Operation of Airport Control Towers in the United States, Montreal 1960.
Guerreri	The Status of the Aircraft Commander in Italian and International Law, Montreal 1961.
Guldimann	Internationales Lufttransportrecht, Zürich 1965.
Jasentuliyana	Regional Organizations for Air Traffic Control, Montreal 1964.
Jörgensen	Erstatningsret, Aarhus, Denmark, 1966.
Kamminga	The Aircraft Commander in Commercial Air Transport, The Hague 1953.
Larsen	Regulation of Air Traffic Control Liability by International Convention, Montreal 1965.
Lassen, Smith, Vislie	Erstaning og trygd, Oslo 1953.
Leclerq	Les Aides a la navigation Aerinne, Montreal 1959.
Lödrup	Luftfart og Ansvar, Oslo 1966.
Karlgren	Skadeståndsrett, 3rd ed., Stockholm 1965.
Mc Nair	The Law of the Air, 3rd ed., London 1964.

Morgenstierne	Lærebog i den norske Statsforfatningsret, Oslo 1900.
Morgenstierne	Om erstaningsansvar for andres handlinger, særlig om ansvar for embedshandlinger, Oslo 1877.
Prosser	Handbook of the Law of Torts, 2nd ed., St. Paul 1955.
Riese	Luftrecht, Stuttgart 1949.
Ruhwedel	Die Rechtstellung des Flugzeugkommandantur im zivil Luftverkehr, Zürich 1964.
Seabrooke	Air Law, London 1964.
Selvig	Om det såkalte husbondsansvar, Oslo 1968.
Shawcross and Beaumont	On Air Law, 3rd ed., London 1966.
Stang	Erstatningsansvar, Oslo 1919.
Trolle	Risiko og Skyld, Copenhagen 1960.
Wijesinka	Legal Status of the Annexes to the Chicago Convention, Montreal 1960.
Winfield	On Torts, 8th ed., London 1967.
Övergaard	Norsk erstatningsrett, 2 ed., Oslo 1951.

TABLE OF CONTENTS.

PART I

INTRODUCTION.

0. Introduction.

Perhaps the most important step in the history of civil aviation was taken in Chicago in 1944 when the "Convention on International Civil Aviation" was drawn up.

The Convention both reiterated air law principles which were already in existence and at the same time established new ones of importance for the future of international civil aviation. A central body - the "International Civil Organization" ICAO - was established, with an aim "to develop the principles and techniques of international air navigation and to foster the planning and development of international air transport" (Article 44).

It must , however, be added that it would be incorrect to create or strengthen the misconception that the Chicago Convention was the first real legal superstructure in international civil aviation. The Paris Convention of 1919 (1) and the subsequent Habana (2) and Madrid (3) Conventions had already done important groundwork. In regard to traffic rights for example, there is no major change from the Paris Convention's Articles 2 and 15 to the present regime under Articles 5 and 6 of the Chicago Convention.

The States which ratified the Chicago Convention obligated themselves to build a ground organization and to develop standard systems to assist and direct the flow of traffic through the airspace. This Apparatus supplements the aerodromes of the air traffic control services (ATC). It embraces things like meteorological data information, control towers at airports, navigational ships on the high seas, and radio transmitters along the air routes. The service has gradually reached a high degree of automation, and is an absolutely necessary and important factor in the control of air traffic.

The increase in transportation by air of

passengers, cargo and mail has, as is well known, been enormous. As late as a couple of years ago most people believed the escalation would continue at the same rate during the next decades. But mainly due to the economic recession of the last few years a slowdown has emerged. (4) Besides this, the emerging environmental era will most certainly have its impact on future development. The rejection of the Senate of the United States of America of the SST-program had, for example, ecological aspects as part of the rationale. (5)

The process of evolution shows that the air industry is an important segment of the individual State's and the world's economy - much more than a mere glimpse at GNP statistics might evidence. On this background, it becomes more apparant how significant it is that air traffic should be conducted in a safe manner. This is the main responsibility of air traffic control services.

As the airspace becomes more and more crowded by aircraft of all kinds (6), one might expect that the number of accidents would increase. This might also be the conclusion reached after having looked just at the accident statistics. But due to the still higher degree of automation and the organizational skills which have been employed, relative safety in civil aviation is largely unchanged. (7) Compared to automobile traffic, civil aviation is almost completely safe. (8) This is however no excuse - the highest possible level of safety must always be the objective. The practical aim should consequently be complete avoidance of all accidents. (9)

Air traffic control services play, as already stated, an important role in regard to the safety of civil aviation. The intention of the present thesis is to examine the liability question in cases where ATC has caused one or another kind of damage from two main viewpoints:

1. The law of the air traffic control services'

liability in Norway. This will be the first part of the thesis and will cover the historical development of governmental liability in Norway, the various arguments pro et contra liability for ATC services, the situation de lege lata, the employee's personal liability, the standard of care norm, the causation problem, the reasons whereby the liability may be reduced or even extinguished and questions relating to recourse actions.

2. Unification of air traffic control liability. This second part will contain an examination of the desirability and necessity of establishing an ATC Convention. This, at present, is under study within the framework of ICAO. The subject matter of the possible convention will also be examined. This will, however, mainly be confined to the scope of the eventual liability provisions and the system and limitation of liability. The subsidiary norms of the proposed Convention such as defence and parties liable, will only be relatively shortly discussed.

The organization and operation of air traffic control services will be described in the introduction section and as necessary in various other parts of the thesis.

0.1 The problem - governmental liability.

Aircraft accidents may have causes ranging from negligent pilotage, to defective instruments in aircraft, to engine failures, to bad weather conditions and to the scope of the present study - failure or negligence by air traffic control services, because of both human and technical faults. When these faults are committed or occur and result in damage, the question arises - who shall be liable?

The ATC services are, in Norway, performed by the

government. They are technically effected by the "Luftfartsdirektorat" (Directorate of Civil Aviation) which is an agency of the "Samferdselsdepartement" (Department of Transportation). The question therefore is whether the government (10) is liable for acts or omissions which occur during the performance of air traffic control services and, if so, on which basis? Included also is the question whether liability exists where the organization or the administration of the service is of too low a quality.

Whether the government ought to be and is liable for technical failures on the same basis as for the other instances of fault is another issue to be examined. The Norwegian law of torts has, to a rather wide extent, established strict liability in these cases, partly in strong contrast to the situation in other jurisdictions.

The ATC services are, in Norway, almost totally performed by the government. Only a few airports have private units. The liability questions concerning private units will be excluded from the following as they may, according to the national law, be sued for breaches of contract or in tort. There is no municipality performing such services, consequently similiar questions will also be excluded.

0.11 The types of liability in international air law.

Air law is, because of its international character, to a large extent built up by Conventions incorporated in individual countries' domestic law. Firstly, in regard to the liability for the transportation of passengers and cargo, the Warsaw Convention of 1929 (11), amended by the Hague Protocol of 1955 (12), the Guadalajara Convention of 1961 (13) and the Montreal Agreement (14) establish the rules.

Just recently a new Protocol - the Guatemala Protocol (15) - has been signed. It remains however to be seen whether States are willing to ratify it.

The Norwegian "Lov om luftfart" (Law of Aviation) - hereinafter often abbreviated as L. - incorporates the Warsaw Convention as amended by the Hague Protocol, which in regard to the carrier makes him liable up to specific limits for damage occured during the carriage. (16) If however the carrier proves that he and his servants had taken "all necessary measures....." he will escape the liability. (17) The liability is in other words of the presumption of fault type.

The Guadalajara Convention, which is also incorporated in the Norwegian L., contains no provisions as to the kind of liability while, in contrast, the Montreal Agreement and subsequent practice amending the Warsaw system establishes an absolute and limited liability.

Damages to third persons on the surface are generally regulated by the two Rome Conventions of 1933 and 1952. (18) Norway has not ratified any of these Conventions, but nevertheless the main principles are presented in the law of Norway. L. §153 creates a strict liability for this kind of damage.

Besides this the already mentioned Conventions, a draft Convention on Aerial Collisions exists. The draft has a mixed liability system - in some cases a presumption of fault and in others a proof of fault liability. (19)

The number of ratifications to these Conventions varies, a fact which makes the situation legally complex. The Warsaw Convention, as amended, has the highest degree of adherence, while the Rome Conventions are ratified only by a small number of countries.

0.12 A tortious liability.

The ATC liability in Norway is of a tortious nature. There is consequently no contract between the carriers/operators and the agencies in regard to the provision of the services. Liability is contractual only in a few countries of the world - cf. 10 below.

In this connection it must be mentioned that the obligation placed upon the carrier when he undertakes to perform carriage of a certain nature , will not in any respect include liability for negligence by the air traffic control service. The latter is , in other words, not considered as an agent of the carrier. (20)

0.2 The organization and operation of the service.

0.21 The organization.

The legal framework of the services is to be found in the Chicago Convention, it's Annexes and in implementing national legislation. Articles 28, 37 and 38 of that Convention establish a duty to provide air navigation facilities and standard systems. The obligation does, however, only extend as far as "each State may find practicable". If a State cannot afford certain measures, then ICAO may - if the State involved agrees upon it - provide those services. The expenditures may, in such instances, be borne partly by the State concerned,partly by ICAO, or even wholly by the latter. (21)

These provisions reflect the importance of uniformity around the world. But inter alia, because no central legislative power has been created in the world, there is a right of making reservations to the Conventions. This right, however, does only relate to areas within national boundaries. Over the High Seas the rules in force are those established under the Chicago Convention, which in fact mean the provisions of the Annexes. (22)

The Annexes provide for more detailed rules. (23) Of interest in this connection are:

Annex 2 - Rules of the Air,
Annex 3 - Meteorology,
Annex 11- Air Traffic Services, which contains more specific rules as to organization, operation etc.,
Annex 12- Search and Rescue, and
Annex 14- Aerodromes.

As already mentioned, the "Luftfartsdirektorat" performs the service in Norway. This follows from L.§76, which gives the King in Council the power to create an ATC service. This authority has been delegated to the "Luftfartsdirektorat", which administers and performs the service, issues provisions as to how it shall be exercised and how aircraft shall make use of it.

Air traffic control services are, in most cases, geographically limited to one state, but as will be seen later, exceptions occur. Norway is divided in 4 "control areas", (24) which each has its own control unit. Additionally within each "control area" airports have control towers performing approach and aerodrome control service. (25) A couple of Norwegian airports have no control towers but only flight information offices. Each of the three types of units has its specific "control zone".

Nationally, a set of "corridors" is established.(26) A "corridor" runs through the airspace, has a specific height and width and a lower delimitation. (27) The traffic within these areas is subject to various regulatory norms.

"Controlled airspace" is another concept in this connection. It is airspace of certain dimensions where ATC services for instrument flights (IFR flights) are performed. The concept is wider than that of the above mentioned "corridor".

The service is in some places only performed up to a certain altitude - for example 20000 feet, and in others as high as civil aircraft operate.

"Positive control airspace", APC, is still another concept. It relates to the altitude. In the United States of America for example APC is performed above a certain altitude (24000 feet) (28), where only IFR

(29) are permitted.

The provisions in the Annexes particularly Annexes 2 and 11 prescribe how the service shall be operated and the duties of aircraft pilots to communicate and obey instructions. The Annexes in general are incorporated in Norwegian air legislation.

Commen to all the hitherto mentioned provisions is that they only relate to the organization, establishment and operation of ATC agencies and contain no norms in regard to the liability of units except indirectly in that they may be, and often are, of great importance for assessing the standard of care required by agencies or their employees.

Although the services in general are limited to national territories some exceptions occur. Firstly, the littoral states do often extend their competence and services to parts of the adjacent High Seas. This is not to be confused with Air Defense Identification Zones. (30)

Secondly, bilateral arrangements are also in existance. Canada and the United States of America, for example, have entered into an agreement permitting each state to extend its ATC services 50 miles on the other side of the border, in order to reduce the problems resulting from the high speed of aircraft. (31)

The third group consists of regional organizations, three of which are in existance. (32) In Europe, Eurocontrol takes care of activity in the upper airspace (above 20000 feet). The Member States are, at present West-Germany, Belgium, France, the United Kingdom, Luxemburg, The Netherlands and Ireland. (33)

In Africa (ASECNA) and Central-America (COCESNA), similar organizations are established. (34)

Although no worldwide integrated organization is in existence at the present, it is likely that a global system will be one of the next cooperative achievements.

Discussions concerning the launching of satellites for ATC service coverage have already been started.

ICAO's Seventh Air Navigation Conference for example, recommended an aerosat program which however, due to disagreement as to financial and productional aspects, has not yet materialized. (35).

Finally, it must be added that Norway has only a civil ATC service which also takes care of military flights. Other states have both civil and military ATC agencies (for example Sweden).

0.22 The objectives of ATC services.

The objective is generally to provide services for the safest possible performance of the flow of air traffic. Annex 11,2.2.1 makes a more detailed specification:

1. Avoid collisions between aircraft,
2. Avoid collisions between aircraft in the areas and obstacles there,
3. Maintain the flow of traffic,
4. Give advice and information of relevance for a safe and effective performance of the flights,
5. Report search and rescue actions to the correct organs, and to assist these organs.

This provision of objectives is incorporated in the Norwegian Rules of the Air and L.§109 does additionally indicate the purpose of ATC services.

The Norwegian Rules of the Air of November 20th, 1972, which incorporate the international provisions, are the only rules in existence in the country regarding the performance of the service.

0.23 Description of services.

A survey of the services is necessary in this context. The ATC services may be divided into several groups. The first - air traffic control or ATC "proper" - is what most people think of when they meet the expression ATC services. This group is, as already mentioned, divided in area, approach and aerodrome control and has

according to Annex 11,3.3.1 a duty to receive information from aircraft about their movements, speed and direction, and on this background determine positions. Besides this, it has an obligation to give clearance and information in order to avoid collisions, and at the same time maintain an orderly flow of traffic while co-ordinating clearances with other ATC units. Instructions and information concerning obstacles on the runways do additionally fall within the responsibilities of this group.

Due to instructions to pilots to maintain specific altitudes and speed for example, this part of the service has an active character.

The role of ATC "proper" may be divided into the aspects of compulsory or non-compulsory information and instructions. This distinction is of importance, inter alia in regard to discussion as to whether there should be governmental liability for ATC services.

The Flight Information Service's function is, according to Annex 11,2.6.1, to provide flight information service and alerting service. The provisions relating to the FIS are to be found in the same Annex, Chapter 4. Chapter 4.2, is divided into two parts i.e. Instrument Flight Rules (IFR) and Visual Flight Rules (VFR). Its purpose is to provide inter alia the following:

1. Significant meteorological information,
2. Information on changes in the serviceability of navigational aids, and
3. Information on the condition of aerodromes and evantual changes there.

This information is rendered both to IFR and VFR flights. In regard to IFR flights, the following additional information is given:

1. Weather forecasts and conditions at the actual airports,
2. Collision hazards to aircraft outside control areas, and
3. Some particular information to flights over ocean areas.

This group is somewhat more distant from the direct management (guidance) of traffic. The difference is however rather small, mainly due to the fact that information rendered by the FIS may be of equal importance for the safety of flight as that provided by ATC "proper".

The Air Traffic Advisory Service is a temporary service, pending the establishment of ATC "proper". It is meant to provide more accurate information concerning collision dangers than is given by FIS. (36) The position of this service is some place between the ATC "proper" and the FIS.

The Alerting Service is performed by the FIS. (37) In regard to the alerting service, it obviously almost never causes the initial damage or emergency. It enters the arena first after the emergency situation has arisen, and will consequently only be liable for possible increase in the emergency or escalation of the damages due to its fault.

The Meteorological Services (38) are sometimes performed wholly by a weather bureau, at the aerodrome, or in the locality, and sometimes jointly by a weather bureau and the agency. The weather bureau may be a section of the agency or it can be an independent private or governmental body.

Meteorological information may be rendered directly from the weather bureau (for example by a constantly transmitting FM radio which pilots listen to), transmitted via the ATC unit, or even collected by the traffic controllers and communicated to the pilot (for example the reading of a barometer). The variety is consequently great.

As flights are dependent to a high degree on weather conditions, meteorological information plays a major role in aviation.

The Search and Rescue Service for aviation became established in 1949 in Norway. The co-ordination of this service is partly performed by the ATC which, because of its communication equipment is well fitted

the task. This function is, to a large extent quite different from the other functions exercised by the agencies. (39)

The Airport Facility Service such as maintenance of runways, snow removal and provision of fire-fighting equipment are in principle an airport function albeit for example the snow removing procedure is necessarily supervised by the ATC agency (usually the aerodrome control tower).

The Navigational Facilities on the ground such as radio transmitters, lighting systems, instrument landing systems, and radars - all essential factors in aviation - are still another group falling within the concept of ATC services. Mostly, this equipment is automatic or semi-automatic in rendering accurate information to aircraft/pilots.

Highly advanced technical devices are being employed in civil (and for that matter military) aviation. This equipment has taken over much of the manual work earlier done by pilots and ATC controllers. Most scheduled aircraft are, for example, equipped with transponders which respond automatically to control tower radar. The signal beamed out by the transponder is so technically advanced that it identifies the aircraft, and informs of its actual and changing altitudes and positions. (40)

Expected future innovations in this field will be developments such as collision avoidance systems (41) and satellite systems with the purpose of effecting and serving the traffic. (42) A global system should in this regard be the objective. (43)

Finally the various flight rules ought to be referred to - the IFR and VFR - cf. above. As their names indicate, and as was described above, the ATC's duty to inform is more extensive concerning IFR flights. VFR flights are, to a large extent, self regulated by, for instance " see and avoid " procedures. (44)

0.3 The kind of damages.

The kind of damage which may arise as a result of negligence, other wrongful acts or equipment failures on the part of ATC services may, in general, be divided into two groups: 1. to persons, 2. to objects (moveables/immoveables).

Firstly, in regard to persons, they may be inside or outside the aircraft. Those inside an aircraft will normally be either among the crew or the passengers, while persons outside the aircraft may be everyone on the earth's surface (-the third persons on the surface group).

Injuries to persons may vary from physical and psychic (including noise) to delays caused by the agencies.

As regards damages to objects, the variety is greater - every object in the airspace or on the surface of the earth may be subject to impairment. The object can be an aircraft, commodities in an aircraft, buildings or animals etc., and the damage may consist of complete or relative destruction or even just delays.

The damages may be suffered by owners of the objects, persons with one or another kind of security rights in them (a manufacturer who has for example sold an aircraft according to a conditional sale agreement), persons with a contract for later use of the object (provided that such an agreement gives rise to an action for compensation under the applicable domestic laws) and persons left unemployed afterwards and so on.

Finally, insurance companies which have insured the persons or objects will often be interested in recovering what they, in accordance with insurance policies, had to pay to the victims. As many of the persons who might be involved and an even higher percentage of the objects are insured, insurance companies are, in fact, the group with the strongest interest in the subject matter

of ATC liability.

0.4 Delimitation.

0.41 The pilot's responsibility.

The relation between the pilot and ATC agencies poses difficult and ambiguous problems. The pilot's responsibility is a subject matter lying outside the scope of this study. It is, however, appropriate to say a few words about the delimitation, mainly because the juridprudence - especially in the United States of America - has demonstrated the complexity involved in drawing the line between ATC units and pilots liability. It must, in this connection, be added that it is in most cases not the pilot but the owner/operator of the aircraft, who due to the master - servant rule, will be liable. In the present context we will consider the position of the pilot as including the owner/operator of an aircraft.

According to Annex 2,2.2.4 the "pilot in command" has "final authority as to the disposition of the aircraft while he is in command". The Norwegian Rules of the air are a direct translation of the provisions in Annex 2. (45)

The provision vesting the "authority as to the disposition of the aircraft" in the aircraft commander tends to create the conception that the ATC services only are intended as advisory for air traffic and that, in fact, it is the pilot who is sovereign in regard to the performance of a flight.

Annex 2,3.5.2 does, however, contain a provision expressing that deviation from a "flight plan" may only be made when "request for change has been made and clearance obtained from the appropriate" ATC unit. The Norwegian Rules of the Air (46) are almost identically worded, except that aircraft commanders, according to the provision, "are obliged to comply with all clearances from ATC" (47), provided the

aircraft is within "controlled airspace".

This provision places a direct obligation upon pilots. There is consequently a collision between the norms in Chapters 2 and 3 when the traffic is within "controlled airspace". The major part of air traffic in Norway is in fact performed within these areas.

The competence to issue Rules of the Air is, as mentioned in O.21, delegated to the "luftfarts-direktorat". (48)

Which norm is to be given priority is doubtful. Arguments for both solutions can be made. Firstly, pro a duty to obey: 1. "Luftfartsinnstilling" p.275 provides: The air traffic control services have the competence to issue instructions which the pilots are obliged to follow when they are within "controlled airspace, while their instructions generally have the character of advice". The existence of the duty is repeated once again a little later. 2. To further emphasize the compulsory aspect, L §188 makes it an offense not to comply with "compulsory instructions".

Against this solution is the fact that the Norwegian Rules of the Air represent a deviation from the provisions of the Annexes which indicate that primary responsibility is vested in the pilot. If this is true, however, Norway had, according to Article 38 of the Chicago Convention a duty to make a reservation to the Annexes, and if the reservation is not made, Norway is legally bound to comply with the complete Annex. (49) But in opposition to the just mentioned reasoning, it may be argued that it is uncertain and disputed whether the provisions in the technical Annexes are only recommendations or directly binding on the High Contracting Parties. (50)

These are only a few arguments. The solution is presumably that a duty to obey exists within "controlled airspace". Due to the fact that the ATC is in possession of most of the flight data, and consequently is more competent than the pilot

to decide which are the safest steps to take in each case, the author is of the opinion that such a solution would also be the most favourable de lege ferenda. It ought to be obvious for example that pilots holding over big airports are obliged to comply in order to avoid collisions and confusion. Other solutions would be unrealistic.

The provision concerning "primary responsibility" was originally borrowed from Maritime law, and is today outdated. In a couple of geographical areas this has been realized. The convention establishing Eurocontrol does, for example, in Article 18 clearly express the compulsory character. Similar FAA provisions are also operative. (51)

0.42 "Operational Control".

This is something different from ATC services. It is not performed by governmental bodies but by the airlines themselves. No complete universality exists with regard to how "Operational Control" and ATC services are to be separated.

"Operational Control" is regulated by Annex 6 which makes it compulsory for an aircraft operator to create an organization to supervise and render assistance to flight operations. (52) The method of supervision is subject to approval of the State where the aircraft is registered.

The kind of services rendered by the "Flight Operation Office" (i.e. "Operational Control"), varies both in regard to time and subject matter. Concerning the time aspect - the information is given both before and during a flight, in the latter case through radio contact. (53)

The subject matter of the information may be navigational and meteorological data, notices as to the flight plan, or information as to alternative aerodromes etc.

The link between the ATC service and "Operational Control" is close and, in some instances,

they overlap. Although ICAO regulations are relatively precise and leave it to the state of registry to determine the delimitation, there is a tendency in practice to give the airline body more extensive powers, such as to command a pilot to alter his route during flight - a power which according to Annex 2 (54) is vested in the ATC. (55)

As has been described, the ATC and the "Flight Operation Office" are two separate but closely interrelated and even overlapping bodies. The question of the liability of the operational control provided by airlines themselves lies outside this study.

0.43 Instructions from the Airport Manager.

Originally air traffic on and above an aerodrome was controlled by the airport manager. Nowadays, however, it is rather seldom that the airport manager performs any of the functions usually known as ATC services. The legal questions arising if he, in certain instances, performs parts of the service will consequently be left outside this examination.

0.44 Jurisdiction.

A suit against the Norwegian government alleging that the Norwegian ATC service has caused damage must eventually be brought before a court in Norway unless the government consents to a foreign jurisdiction in the specific case. These forum problems will not be further mentioned, except in the section on unification.

0.45 Independent agents.

In regard to Norway, it is of no practical value to discuss these liability questions. This is due to the fact that the government, in no case, has entered

into contracts for performance of the service with agents.

Q.46 Manufacturer's liability.

As the amount of automation in ATC services has increased vastly during recent decades, problems as to manufacturer's liability have become more practical. Computers and radars may, for example, fail from time to time and deficient construction may be the actual cause of the damage resulting. The liability questions which may arise in this context will not be dealt with in the present study.

PART II

LIABILITY OF AIR TRAFFIC CONTROL SERVICES IN NORWAY.

1. The development of governmental liability.

1.1 The Immunity doctrine and jurisprudential evolution.

The principle of general and absolute non-liability of the State owing to its supreme authority prevailed for a long time in Norwegian law. According to the doctrine, the government was not liable for damage caused by itself or its servants. During the latter part of the last century, however, some jurists began to argue that exceptions from the doctrine had to be made. (56) Opposition to the doctrine from this new school of thought meant that some people began to sue the government to see whether the immunity doctrine was still valid.

The first important court decision in this context came in 1913 - in the so-called "Fyrlyktdom" (the Light-house decision) (57), where the government was exonerated from liability. The rationale was that the operation of lighthouses was considered as merely a "service-contribution" to the shipping industry in that no fees were paid for the use of them. Besides the government had warned against blind reliance upon these services. (cf. 2.21 below.)

The question of governmental liability was once again brought before the Supreme Court in 1925, with identical result as in 1913. (58) The rationale was, however, different this time. The court said that neither did any law positively state liability nor was the claim founded in general principles of law. The latter are under Norwegian law sometimes recognized as a source of legal norms, especially when the result would otherwise be considered unreasonable. Normally, however, it is required that a legal norm be written and that it be established through the legislative procedures laid down by the Constitution of 1814 as amended.

The government was aquitted in a case in 1932. (59) The rationale however was that no negligence had been proved. The Supreme Court did, in this case, start on

a new line, in that, in principle, it did not exclude governmental liability in cases of negligence.

Then in another case of the same year, the government was held liable.(60) The case related to an omission by the Department of Agriculture in collecting a watercourse fee. The rationale was that the government had not issued as detailed provisions as desirable to ensure that the employees did what was necessary - in other words a so-called "organizational fault". (cf. 3.2 below.)

Three years later the government was once again exonerated from liability in the "Jan-Mayen decision" (61) - this time because the person who suffered the damage did nothing to prevent the economic loss which he was in a position to do. One may however be careful in drawing the conclusion from this case that the Supreme Court at this stage had, in principle, recognized governmental liability.

Quite a few years elapsed until the next important decision in 1952. (62) The rationale was however somewhat special - bailment considerations, with analogy from an old law of 1687. (63) Albeit the reasons were concretely stated, the premises give the impression that a general governmental liability had, at this stage, emerged. The Supreme Court did still make a reservation against letting the decision get a general meaning. The Court also stated that the similar case of 1925 was not a precedent.

Later on the principle of governmental liability was fully recognized. Many decisions - for example, concerning the condition of roads - have made this clear.

It was, however, doubtful until few years ago whether the government would be liable for damage caused by governmental agencies in the so-called "service-group", which inter alia comprises the operation of lighthouses, the coastal pilots, ATC services and similar service functions.

Firstly in regard to coastal pilots, who in Norway are all employed by the governmental coastal pilots

service, the "Prince Charles decision" (64) stated that although an obligation to use pilots is imposed on ships, no governmental liability exists where the pilots act negligently during the performance of their functions. The rationale lies in that the pilots - in relation to the government - function independently on board the ship.

Concerning the lighthouse service, the committee which made the recommendation as to a new law in regard to governmental liability, presumed that the earlier mentioned "Fyrlyktdom" (lighthouse-decision) (65) was not, any more, legally valid and subsequently that state liability exists in these cases. (66) A case regarding the question has recently been decided by the Supreme Court, with the result that the government was not found liable. The rationale was, partly, that the ship was at fault, and partly that the faults which make the the government liable must manifest themselves as important deviations from the degree of safety which the service purports to provide. The degree of deviation which was present was not considered grave enough to constitute governmental liability. (67)

The ATC services are also considered as belonging to this group of state activities. The Norwegian jurisprudence as to ATC is limited to one case - the "Hommelvik decision". (68) As no negligence on the part of the air traffic controller was found, the court did consequently not discuss the subject matter of governmental liability and thus no conclusion may be drawn from the case.

The concept of immunity has also in other states in Europe been gradually outdated. The United Kingdom enacted a law to abolish it in 1947. (69) In France they began to make exceptions from the sovereign immunity by the commencment of the 20th century. (70) Some limits do, however, still exist. (71)

1.2 The law of June 19th 1969.

A Norwegian committee with the mandate to examine whether the liability of the government and the muni-

cipalities ought to be regulated by formal legislation was established in 1951. The committe presented its recommendation in 1958. (72) One year afterwards a new committee was appointed, this time with the mandate to examine the question of employer's liability and additionally the technical desirability of making a joint law for governmental, municipal and employer's liability.

The result was a new law of June 19th 1969, and its second chapter contains common rules for the three just mentioned areas. (73) §2-1:

1. The employer is liable for damages caused with intent or negligently by an employee during the scope of his employment, having regard to whether the reasonable demand to the service of the person who suffered the damage has been neglected. The liability does not include damage caused when the employee acted beyond what is reasonably regarded as being within the scope of his employment, having regard to the kind of the activity or the field, and the character of the work or the assignment.
2. Employer is to be understood as the government, municipalities and anyone else who, within or outside any commercial activity, employs other persons.

The law in principle applies to all public activities - including the ATC service and other service functions. This was also presuppqsed by the committee. The Department of Justice did, by not proposing any provision as to exoneration from liability in case of ATC negligence, partly agreed. The Department did however state that there ought to be a relatively wide opportunity to reduce the amount of compensation in this special field, and based its arguments on the opportunity to take out insurance, insurance practice and the rather incidental advantage for the victim or the insurer if there should be a right of compensation against the government.(74)

The question was not at all discussed in the

"Storting"(Parliament) when the law was passed. (75)

What happened when the new law was passed was therefore that the Parliament accepted that the government be generally liable for damage caused negligently or intentionally. As a quid pro quo, however, provisions making it possible to reduce the compensation within the service group or when the economic burden would be too heavy, were included in the new law.

The liability established by the law of 1969 is confined to damage caused by negligent or intentional acts or omissions. (76) Concerning the "technical failures" not covered by the law of 1969 the basis will eventually be strict liability. That is when no human negligence is held to have caused the technical fault. As described in 0.1, the Norwegian law of torts has to a wide extent established absolute liability in cases of technical failures. Whether the same applies to ATC services, will be discussed in 3.3 below. As no written legislation states strict liablilty in this area, the courts must eventually found such liability on general principles of law.

That however would not be a new phenomenon in the Norwegian law of torts, the greater part of which has never been in the form of written legislation. Only in recent years (cf. E.) formal laws have emerged in this field. At present, the task of codifying this segment of the law is being undertaken.

2. Liability for negligence.

Three foundations for liability are practically possible in Norway in regard to ATC services:

1. For negligent acts or omissions by employees,
2. for "organizational faults" - i.e. cases where the service has been organized inadequately, and
3. for technical failures.

Liability in regard to "organizational faults" is akin to a general negligence liability. The difference is, however, that no single individual may be blamed for having caused the damage. Instead, it is the

governmental bodies which have the function of organizing the service which may be held liable.

Failures by technical equipment will be dealt with in 3.3 et seq. The problem to be discussed with regard to this group is whether an absolute liability is in existence in Norway. Only the problems arising in regard to 1 will be dealt with in this chapter. But many of the arguments and viewpoints mentioned in this chapter will apply mutatis mutandis to the two other questions.

2.1 How the question will emerge in practice.

It is suitable to begin with a description of the context in which questions may emerge:

1. The person who suffered the damage may be under a contractual relationship with the carrier (passenger and cargo), and takes action against the ATC because his claim against the carrier has failed because of the technical provisions of the Warsaw Convention.

2. The victim may sue the government initially because the damage he has suffered is higher than the limits in L. §138. (Warsaw art. 22)

3. The victim may take action against the state directly. This is rather impractical because of L. §136 (Warsaw art. 20).

4. The carrier's or aircraft operator's insurer takes action against the government after having paid compensation. The reason might be, for example, that the ATC contributed to the damage.

5. A third person on the surface may sue the ATC.

6. The insurers who have compensated the victims according to individual insurance contracts, file a suit against the state.

7. Persons with security rights in the aircraft may take action.

This list, while it could have been made more detailed, gives a general appreciation of the range

of circumstances in which questions may arise.

2.2 The arguments.

Traditionally the reparation and prevention arguments have been considered as the main reasons for having a tort system whereunder the tortfeasor is obliged to compensate the person who suffered the damage. According to the reparation argument, a transfer of the loss is regarded as being more favourable than if the incurred damage remained uncovered for the victim who innocently has been placed in the situation. (77) This argument has its obvious deficiencies. For example the victim may be in a much more advantageous economic position to pay for the loss than the tortfeasor. The argument is still employed as one of the basic reasons for preserving the present system.

In regard to the prevention aspect, this argument has been strongly criticised because, inter alia, of the complexity of quantifying it. (78) The author is of the opinion that its importance is relatively minor. Firstly, it is doubtful whether employees have thoughts of an eventual liability in their minds. They are, more presumably, mostly motivated by the fear of causing injuries, deaths etc., and by the consequent "social reactions" (fear of loosing human and professional respect). And secondly, when the ATC service is established and organized, the State is Presumably more motivated by creating a service with high standards and in that way pursuing safety objectives, than merely by prospects of liability.

A major argument against governmental liability for ATC negligence, negligence during operation of lighthouses (79), negligence by coastal pilots etc. has been that the functions are purely a service provided by the government to the users, and consequently that liability would be unreasonable. A part of the argument is that no charge is collected for the use of the service.

The operation of the air traffic control service is in principle a state function. This follows primarily from the duties laid upon the State by Article 28 in the Chicago Convention. When the ATC service is performed by a non-state agency, this is done through delegation of the functions of the government. (80)

A Royal Decree of 1961 makes provision as to aviation charges. (81) The "Luftfartsdirektorat" is there given powers to impose ATC fees, including charges for the use of navigational aids outside aerodromes. The powers have not been used up to this date, but will be within a couple of years. Other fees are, however, collected - landing fees, parking fees and passenger fees for example.

Although no ATC fees are formally imposed, it is clear that these other fees are intended to cover also parts of total ATC expenses. In essence, the other fees indirectly cover the expenses in question. To say that the service is gratuitous would consequently be incorrect. The greater part of the service-argument's foundation has been proven non-valid by these considerations.

No statement or provision as to the financial objectives of the government in regard to these services has been issued. That it is not for profit is obvious. A break-even policy should therefore be the most presumable objective.

The fact that no profit motive exists does not in principle indicate any exceptional position in the law of torts. (82) The economic position of the tort-feasor will, however, clearly be of importance - both in regard to the principle and amount of compensation. There are stronger reasons for governmnetal liability in cases where the activity is of a business-like nature than where little or no revenue is the result.

The Norwegian civil aviation budget (there is no specific ATC budget in Norway) including the expenses for the ATC services, seen as a whole, shows that there

is relatively small deficit (108 million kroner - 99 million kroner). (83) The figures however only relate to operational expenses/revenues. The picture might be much more unfavourable if a large accident, with consequent great damages, occured. (84)

A much older argument is the so-called "guarantee argument" discussed in the "Fyrlyktdom" mentioned above in 1.1. The quintessence of this argument is that the government, by charging fees for the use of a service, guarantees that the operation is performed without any faults and that it undertakes to pay for any damages if a fault should occur.

Although an indirect fee is charged (cf. above), the argument is obviously outdated. It was also rejected in the "Fyrlyktdom". (85)

An argument which has been raised in connection with liability for the operation of lighthouses is that, because the advantages to the shipping industry fully offset the disadvantages caused by negligence, there ought to be no governmental liability. (86) The argument is in other words that users have to bear the costs of damage as an operating cost. This reasoning may be transferred to the field of aviation. Its value does, of course, depend upon what is found reasonable.

The fear of the economic consequences has been one of the main arguments against a governmental ATC liability. It is easy to visualise an example of a collision between two Jumbo-jets with several hundred passengers on board. The compensational amounts might be of an immense magnitude in such a case. (87) Experience has however shown that damages rarely tend to be of such dimensions.

The government's policy in Norway is not to take out insurance for its different activities - the government is self-insured. The compensation would consequently have to be met from taxes and other sources of income. What then is the most favourable solution:

1. governmental liability met from taxes etc. or

2. to let the users (airlines, passengers, third persons on the surface etc.) pay for it through their insurance or otherwise?

The author would prefer the former, mostly because this solution, seen as a whole, means a less burdensome system, besides that it secures that the victims be compensated, which they often otherwise will not - due to the fact that most people have insufficient assets and do not secure themselves by insurances.

Existing or potential insurance is another factor to be considered. The airlines which count for the greater part of aviation are obliged to take out insurance against a specific range of risks, while the contrary is the case in regard to another group of risks. In the latter case however, practice is nevertheless to have insurance. If these policies were also to cover ATC negligence, that would presumably result in higher premiums, and besides that, airlines' damage statistics (which are the basis for calculating the premiums) would increase even though they were not necessarily at fault.

Another consideration in this context is that liability should attach to the person, or body actually negligent, and not to others, although they are a part of the situation. The airlines should for instance not be required to pay for damage caused by the ATC services because they have taken out insurance covering such damage.

It should also be noted that insurance premiums for general aviation aircraft are very high, and that an increase in premiums may well result in even more owners than today not being able to pay the high amounts.

Although the passengers and shippers are covered by the Warsaw, Rome(not ratified by Norway), Guatemala Conventions(Protocol) and related instruments, these Conventions contain limits(for example Warsaw article 22), above which existing insurances would not cover the damage. The policies would therefore eventually have to be changed if airline insurers should provide

the damages instead of the government. To change the policies would however be an easy task.

Arguments that the operation of ATC services is a "hazardous activity", which should result in liability, are of no relevance. The case is, of course, that ATC is a service which reduces the danger. It might be argued that because of this decrease, no governmental liability should be imposed. The fact is however that almost all governmental activities by definition are for the benefit of citizens. The argument should be considered to be of no value. (88)

From the maritime analogy we get still another viewpoint. Traffic on the surface of the earth represents the normal condition while people travelling on the sea should bear any resulting damages themselves. It is in other words an assumption of risk argument. (89)

This argument may have been of value in the early days of aviation as Lord Mc Nair's statement indicates: "Danger is a relative conception, and what might seem dangerous to one generation might not be so regarded by a later one". (90) Assumption of risk considerations would not, however, have relevance to third persons on the surface who are generally outsiders (except persons working on runways etc.).

A relatively new concept in Norwegian and Scandinavian doctrine and jurisprudence is the "objective self-risk" argument. The concept relates to certain situations where the damaged interest is of a distinctive nature, either because the object or the person were especially exposed to damage (vulnerable) or because the interest was particularly vulnerable. (91) If one or several of these factors occur compensation may be rejected or reduced. The approach is based on considerations of justice (reasonableness) - it is considered better that people who own especially valuable objects(for example) secure themselves by insurances than that the tortfeasors have to pay higher amounts in compensation.

"Objective self-risk" considerations may be of some

value in regard to ATC liability, especially with regard to aircraft, other expensive objects or even to persons of particular importance and value.

A human aspect may be employed as weighing against government liability in that a relatively small fault from, for example, an air traffic controller might cause a catastrophic accident with subsequent mental detriment to him(guilt complexes).

The discretionary character of some of the ATC functions indicate an identical solution (92) only as far as discretion is used. The greater part of the service is of a routine nature and without any discretionary aspect. Only a relatively small percentage of the activity involves a discretionary decision.

As discussed in 0.41 above, aircraft in "controlled airspace" are obliged to obey instructions given by the ATC. And in other instances, they are practically dependent upon the air traffic controller's advice/ instructions. This duty further stresses that the government should be subject to liability.

Shawcross and Beaumont build their approach on the existence of this duty. According to them, the employer of air traffic controllers will, under English law, be liable for any damage caused by breach of the duty imposed upon the controllers to take reasonable care.(93)

Closely related to the "duty-argument" is the so-called "reliance-theory". The users of the service are in practice dependent upon the information/instructions they receive. Only in a few cases they are able to verify accuracy. The ATC has, in other words, an authoritative position in relation to the users who get a feeling of security which, when false, may be detrimental to them. Several authors stress this pro argument.(94)

The final argument to be mentioned is uniformity. This rationale is, in Norway, in general not given much emphasis. As aviation is an international field, it should be taken into account. Because the majority of States are liable for ATC negligence(95), the argument is pro liability.

2.3 The situation de lege lata.

As stated several times already, there is little doubt that the government is liable in principle for ATC negligence. This follows from §2-1.1 of the law of June 19th 1969, which in general establishes a culpa (negligence) liability.

No jurisprudence of direct relevance can be found in Norway. An ATC case has only once been before the courts, however, with the result that no culpa was proved. The court did consequently not discuss the principles in question - cf. 1.1.

As the liability is clear, the battles before the courts are presumed to be dealing with the amount of compensation to be paid to the victims.

3. Other foundations for liability.

3.1 Survey.

Besides liability for negligent acts, the government may be liable in two other instances. They are:

1. Liability for organization of the ATC services. The question will, in this respect, be whether liability is conditioned upon that an employee having been negligent or if it will suffice that the organization of the services is of too low a quality.
2. Liability for so-called"technical faults". This problem relates to whether a strict liability for technical faults exists or if evidence of negligence or eventually inadequate organization has to be proved also in these cases.

3.2 Liability in regard to the organization.

The following examination surveys the law de lege lata. The source of liability of this nature will eventually have to be found in §2-1,1 and 2 in the Law on certain aspects of torts of June 19th 1969 (E.) - cf. 1.2 above.

3.21 Organizational quality.

The expression "reasonable demand to the service" (de krav som med rimlighet kan stilles til tjenesten) in E. §2-1 intends to establish governmental liability also in cases where the cause of damage is an organizational administrative system of too low a quality, i.e. when no human negligence directly causes the damage (96), but when for example the Directorate of Civil Aviation has issued inadequate provisions as to the maintenance of technical equipment employed by the ATC. It is, in this connection, not referred to the personal liability which is imposed upon the Director of the Directorate of Civil Aviation, c -

or other persons in managerial positions. The basis for liability is simply that the organization of a part of the service or administration (in a wide sense) is considered so inadequate that the government should be and eventually is liable.

The committee which made the recommendation (97) did however presuppose that the courts should only establish liability in cases of an evident neglect of the requirements. Whether the courts will follow this intention is another question. Opinions in preliminary works are, in Norway, just one of the many legal sources the courts may employ in their function of trying legal disputes.

From the foregoing discussion it may be assumed that liability may arise also when no negligent act by a person has been committed. A liability of this nature might be visualised where the ATC service has been unsatisfactorily built up, where the administration's control routines are poor - in general in every instance where the service is insufficiently organized.

The analogous "Tirrana-case" is, in this connection, illustrative. (98) The plaintiff claimed that the supervision performed by the lighthouse service of the Coast Guard was badly organized, that the control was deficient, and that the system of alerting about extinguished buoy lamps was of too low a quality. The second court held that the organization was somewhat insufficient, but not enough to create liability. As the employee however was proved to have acted negligently the government lost the case. The Supreme Court did, as mentioned in 1.1, reach the opposite decision. Although it was not explicitely stated either by the Second Instance Court nor by the Supreme Court, one may draw the conclusion from the premises that the government in principle is liable for "organizational faults".

The example may be transferred to the field of aviation. The "Luftfartsdirektorat" may for example

not have organized a safe supervision of the technical facilities or a warning system for defective navigational aids..

The organizational pattern is, to a large extent, dependent upon the appropriations made by the "Storting" (Parliament) (99) which has the budgetary powers. Whether the "Storting" has employed reasonable considerations during their appropriations to the ATC services cannot be tried by Norwegian courts. (100) Governmental liability is consequently not possible in this respect. (101)

In contrast is the question of how the funds appropriated by the "Storting" have been administered by the "Luftfartsdirektorat" or similar governmental bodies. The problem of a reasonable and adequate organizational structure emerges in this field. The courts do, in this area, not intervene in the "Storting's"powers (prerogative). As mentioned above liability is, in principle, possible. It is, however, presumed that the courts only will hold the government liable in more extraordinary cases.

The deficiency might be that the instruction or supervision has been neglected. The courts may for example hold that the "Luftfartsdirektorat" should have enjoined a factual routine by formal instructions.

Another example could be the omission of making safety precautions - for example non-installation of an emergency aggregate to be employed in cases when equipment, due to power failure, ceases to function.

The considerations to be made by the courts must begin with the demand as to what may reasonably be required. The problem is to determine what is professionally reasonable, taking the available funds and competence of the body into account.

The courts should, however, show a certain reticence in presenting opposition to the views of the "Luftfartsdirektorat" which, after all, possesses the expert knowledge.

The Committee expressed the view that the courts

only should state liability in cases of obvious disregard of the professional standards. (102)

3.22 The selection and training of employees.

The law imposing liability will eventually be the same as in 3.21. The problem, in this context, is similarly how the funds are actually administered.

Firstly, in regard to selection of people, the method of choosing the servants might be unsatisfactory. An air traffic controller is, for example, not adequately examined for his physical and mental qualities. These factors are of great importance for a person working in the control tower at an aerodrome.

The case might also be that the general standards purporting to ensure that only persons with a certain skill be employed in the ATC services, were inadequate in that they did not take into account all the abilities of relevance.

It should be added that the system whereby the employees are educated for their jobs may be insufficient.

The actual decision as to liability must be based on the same factors as in 3.21 ("professionally reasonable" etc.) The government will presumably only be liable in cases of obvious disregard of its obligations, or when substantial incompetence is proved.

3.23 Continuing education.

Due to the continuing developement of aviation including new and better technical equipment in aircraft and on the ground, there is a special demand for continuing education in the field of ATC services as there is in other fields where new developments are emerging through new technology. Employees have to be professionally alert at every moment.

The "Luftfartsdirektorat" has a duty to organize

and take care of the continuing education of its servants. Whether it is done during regular work or by special courses is, as long as it is done, irrelevant in this context.

Failures of the Directorate in performing this function adequately may, in principle, result in governmental liability. Similar considerations as in 3.21 and 3.22 will have to be applied by the courts and it must be remembered that exceptional circumstances presumably are necessary.

3.3 Liability for damage caused by failure of technical equipment.

As the normal line goes from liability for negligent acts to a presumption of fault liability and finally to a strict liability (irrespective of any fault), one should believe that the middle solution (presumption of fault) would have to be examined before the latter one (absolute liability). The Norwegian law has, however, been reluctant to employ the presumption of fault liability. A liability of this nature exists only in a few instances (in cases where international conventions with presumption of fault liability have been ratified by Norway), and it is not likely to emerge in relation to ATC liability. The discussion as to liability for technical faults will consequently be confined to strict liability, albeit a presumption of fault liability may be advantageous in many areas including this because of its more elastic character.

The problem to be examined is whether the government is absolutely liable for damage caused by technical failures, or whether the liability is dependent upon negligence or organizational inadequacy. In other words, is the existence of a technical fault alone sufficient to make the government liable?

Such a liability cannot, as the case has been so far in the present study, be based on the Law of June

19th 1969 (E.), which concisely expresses that it only comprehends negligence liability. Liability must eventually be founded on unwritten norms on technical liability already in existence in Norway, or on the general principles of law which again are the foundation for present technical liability in Norwegian Law. Application of the general principles of law does, in fact, mean a consideration and evaluation of the various pro's and con's.

The general unwritten liability for hazardous (dangerous) activities cannot, because the ATC services reduce the danger, be applied directly to ATC services even though this liability subsequent to the "Cornice-decision" in 1939 (103) (a cornice fell down - killed a man - no one could be blamed for negligence - the Supreme Court held the owner of the building liable) is not necessarily conditional upon the existence of a dangerous activity. At least in the way these words are used in everyday language. While referring to the "Cornice-decision" it must be added that, because of its rigidity, it has been strongly critized.

Traditionally the existence of a hazardous activity or a dangerous element has been required before the courts would state strict liability.

3.31 The situation in Norwegian law.

Technical faults as a liabilty criterion (104) emerged in a Supreme Court decision in 1916. (105) The case involved an automobile with a fault in the steering mechanism. The rationale was that the use of an automobile created an extraordinary risk (remember the year was 1916) which was held hazardous. It was deemed reasonable that a person who causes danger or damage by employing such instruments should be liable to the victims.

The criterion has since, through the jurisprudence, continually got a wider area of application.

Failure of technical equipment has been established

as a libility criterion in the maritime field. (106) Similarly in regard to elevators. (107) The Supreme Court has, on several occasions, held that technical faults on railways and streetcar lines are sufficient to make them liable. (108)

The existence of a special risk has, in the greater proportion of these cases, been the rationale. Technical faults without the existence of any special risk may, however, possibly be sufficient for a strict liability. The relation between these two liability foundations in the Norwegian law of torts is uncertain. (109) The following will contain some of the arguments pro et contra liability.

3.32 The increase in automation.

The ATC service (as mentioned in 0.23) employs a great deal of different technical equipment such as radios, lighting systems, instrumental landing systems, radars and computers, just to mention some. The increase in the use of technical equipment means that more and more of the ATC functions are taken away from the controllers. This trend away from manual work and towards automation, may result in an automatic directioning of the aircraft by computers in the foreseeable future.

Persons who suffer the damage will, due to the fact that governmental liability as a main rule is dependent upon one of the two described foundations (negligence - organizational faults) be in a worse position when automation increases. This is a result of the fact that technical faults may occur where neither negligence nor organizational faults are present.

The victim's position in the law of torts should not be deteriorated by introduction of new technical devices. Consequently the increase in automation does support absolute liability where technical ATC failures cause aviation accidents. (110)

3.33 The plaintiff's problem in proving the cause.

The plaintiff will presumably have difficulties in proving the cause. He is an outsider, normally without ability to understand much of the highly advanced equipment and the interaction between the ATC and an aircraft.

A reference to the rationale behind articles 17 - 20 (§§ 133 - 136 of the Norwegian law of aviation) of the Warsaw Convention which created a presumption of fault liability is of interest in this connection. The rationale behind these provisions is identical to the one in question here: The carrier is in a much better position concerning the evidence. In most cases he is the only one who is in possession of it. (It should be added that this argument is not the only one behind articles 17 - 20).

The passenger/shipper - carrier relation is partly analogous to the victim - ATC services relation. The argument does, however, only indicate a presumption of fault liability for the ATC.

Statistics tell us that many aviation accidents remain unexplained and as most accidents occur during or in connection with take-off or landing procedures where ATC perhaps plays its most important role, the ATC might hace caused, or contributed in causing them.

Some technical devices record the aircraft movements etc. (flight recorders) and others the communication between the ATC and the pilots. These devices may be of some help in establishing the causation.

It is of great importance to the victim that these devices, together with the other material, are studied by the accident investigators and be admissible as evidence in court as is the case according to Norwegian law. (111)

3.34 Technical legal advantages.

An absolute liability will have, legally, technical advantages. The problem of proving negligence or

organizational deficiencies is avoided. Because the most controversial issue in a tortious case generally is the negligence (at fault or not), a strict liability will be favourable. Especially because aviation accidents may cause big and lenghty cases before the courts.

Parties to a case in Norway are, in many cases, not obliged to pay court costs. An absolute liability would consequently produce some economies to the government although it presumably may have to pay more in compensation. But as ATC cases are extremely seldom, and also the court costs very small, the argument does not weigh much.

3.35 Insurance.

The arguments concerning strict liability does normally tend to contain the point that an absolute liability will necessitate an increase in insurance premiums. The Norwegian government has as mentioned already, chosen to be self-insured and consequently insurance premiums are not involved.

The government is, however, obviously compelled to cover the compensational amounts from the general budget - unless it determines to impose a fee to cover such expenses, or even changes it's policy as to self-insurance. Whatever happens the users (passengers, shippers) will have to pay for it by increased ticket prices or cargo expenses.

Until the government makes a change in this respect, introduction of a strict liability will have almost the same effect for the government as if it had taken out insurance for ATC services.

3.36 Conclusion.

It is rather uncertain what the state of the law is in regard to technical faults as an independent condition for liability. Liability of this nature is (as described in 3.3) in existence in some areas like elevators, streetcars, railways and in the maritime

field - which all have a special risk aspect in common,or at least, a certain dangerous character.

Andersen advocates care in giving undue weight to the Supreme Court references to technical faults and deficiencies. He states:

> "These references must be understood as an expression for the fact that the Supreme Court considered that the specific fault, failure or insufficiency made it undoubtful that a tortiuosly relevant risk aspect was in existence". (112)

According to him, it is not the technical failure but the special risk which the liability is based upon.

Other decisions impose liability without any technical fault or deficiency existing. (113) These cases, however, are considered as belonging to the field of the law of general unwritten strict liability. This is due to the fact that a special risk was present also in these instances.(crane claw, high voltage line, sparks etc.)

Whether an isolated technical failure is an independent foundation for liability is, on this background unclear. Lödrup appears to stress the essential when he states:

> "There is need for a casuistic consideration of the various types of cases in order to be able to answer the role the technical faults play in the Norwegian law of torts". (114)

Because the circumstances differ relatively greatly, there seems to have been a tendency to generalize.

The ATC services cannot be considered as a "hazardous activity". The objective is to prevent emergence of and accidents. The only "danger" is the situation of dependency the aircraft are placed in.

As no special risk is present(many people seem to believe that the presence of the element of air creates a special risk - but as the frequency of accidents is much smaller than in most other parts of life, this is incorrect.), the problem has to be solved by a general risk consideration - i.e. should the government, in addition to negligence liability, be strictly liable

for technical faults ?

Certain arguments have been mentioned above in 3.32 - 3.35 and, in addition, the reparation and prevention arguments must be taken into account. This tends to indicate the desirability of absolute liability. Important is also the reasonableness of a strict liabilty.

The author is of the opinion that it is reasonable that the government be absolutely liable(or that this solution is found more reasonable than the opposite whereunder the victim - an innocent third person - has to bear the loss by himself.). It might be argued that employing a reasonableness argument is a bad justification. Balancing of interests according to equity is, though, not unknown in torts and as one of the main objectives of law is justice, the method may very well be used.

As will be seen later, Norway has internationally advocated that an ATC Convention should establish strict liability in case of technical faults. (cf. 10.2 below.)

Finally it must once again be repeated that the state of the law is uncertain but the government is presumably liable for damages caused by technical faults in the ATC services on an absolute basis.

4. The employee's personal liability.

The Norwegian law of torts makes an individual person generally liable for his negligent acts/omissions. This rule is not expressed in written law but has developed through the jurisprudence. The norm is, however, presupposed in a law of 1902. (115) Certain exceptions of little interest in this context are made (for example with regard to insane persons).

The general rule applies of course also to the employees in ATC services. The law of June 19th 1969 § 2-3 and § 159 of the law of aviation presuppose this. An air traffic controller or a person working with navigational aids is consequently in principle liable for negligent acts committed during the scope of his employment and may be sued by the person who suffered the damage caused by the ATC.

This is certain de lege lata. It has, however, been questioned during the last few years whether the claimant should have a direct claim against the employee or if the latter only should be liable towards the employer in an eventual recourse action. Andersen, as Chairman of the Committee to examine governmental and municipal liability, proposed to abolish the existing rule whereunder the servant employed by the government or the municipality is directly liable. (116) His was the minority view.

His reasoning is primarily based on the fact that the victim in real life never claims against the servant partly because the latter seldom possesses sufficient assets and partly because a claim against the government has a better possibility of being satisfied. Another factor is that employees normally are not so well-off as to be able to take out costly insurance to cover their negligent acts, as is the case normally with regard to employers.

It has also been argued that a direct liability has little preventive effect. This is presumably true although a certain core of prevention is in

effect. Another argument against direct personal liability is that the opportunity might be used for slandering civil servants or other public employees in vulnerable positions. (117) This might happen with regard to more political and/or controversial positions but is not likely to occur in regard to ATC employees.

That an employee will always be officially responsible and subject to a reprimand is still another argument which may be of some, but of little, value. The fact that an employee is subject to a reprimand for carelessness may therefore have some effect.

It is more pertinent to argue that indirect liability through a recourse claim represents a generally more favourable solution to the problem. The prevention aspect will be taken care of also in such a case. There is, de lege lata, an opportunity for the government to claim against the employee after it has paid compensation - cf. the law of 1969 §2-2. The potentiality for the government to recover something will nevertheless be similar to that of the victims. Lack of assets in other words makes indirect liability as worthless as direct liability.

Neither the majority of the committee, the Department of Justice nor the "Storting" (Parliament) supported the proposal to abolish direct liability. (118) Their rationale was essentially that introduction of a rule of non-direct liability would result in different treatment of governmental employees and other employees. It must be added that the Committee at this stage only studied governmental liability and related questions.

The theoretical possibility that an employee might have more assets than the employer (this relates primarily to the liability of private employers - remember that governmental and other employers' liability later became regulated by the same law), was another argument stressing the undesirability of

making an exemption for this group of employees. It was felt that especially strong grounds were necessary for establishing a different system for public and private employees. The fact that the government will always have assets was not considered adequate enough to establish different systems. It was additionally considered essential to retain the citizens notion of personal liability for employees.

The argument pro an exception from direct liability are not confined only to governmental servants but apply substantially to employees in the private sector. The author does therefore support the majority of the Committee in the argument that perpetual assets are not sufficient to create two systems of liability in regard to employees.

There is, de lege lata, no doubt as to the existence of a personal and direct liability for the ATC employee. The compensation he is obliged to pay must be adjusted according to his financial position, i,e. income and assets. As long as E. §2-3 provides for such adjustment, ruinous liability is impossible.

In regard to the recourse problems - cf. 7 below.

5. The standard of care.

5.11 The basis is a negligence criterion.

Arguments and elements of importance as to whether conduct is negligent or not will be discussed in this Chapter. The law of June 19th 1969 §2-1 states that liability is based upon negligence or intent ("the employer is liable for damage caused by intent or negligence......"). This is exactly what is comprised in the concept of culpa - intent and negligence. As the problems relating to intent are unimportant in this context, emphasis will be laid on an examination of the negligence criterion.

The Committee originally proposed: "damage caused recklessly". It would, in other words, let a reckless criterion be the foundation. Some groups did,

however, critize the recommendation - inter alia the Lawyers Association - which stressed that Norwegian law, in most cases, employs negligence as a criterion and that there was no reason for changing this situation. It was also argued that "recklessly" would literally mean a stronger criterion than that necessary to characterize behaviour as negligent.

The Department of Justice took account of the criticism, and changed the paragraph to its present form. The supposition was, however, that the reckless criterion should still be the basis. Any change in reality was in other words not intended. (119)

5.12 Different norms for the government and the employee?

The question is whether the standard of care requirements are identical for the government and its servants? In practice, the question might occur when the servant is sued directly or in regard to recourse litigation. It could for that matter, be real grounds for different norms especially in cases where minor negligence committed by the employee causes great economic damage.

The occurrence of minor faults from time to time is, presumably, almost avoidable. If such a fault should result in say an aircraft crash, there are reasons for a lenient consideration of the conduct, inter alia the discretionary and human aspects of the functions. The government should, however, in principle be fully liable - irrespective of the degree of negligence.

Any jurisprudence to enlighten the problem does not exist in Norway. It is, however, presumed that the courts will tend to regard the servant's negligence less strictly.

5.13 The unlawfullness criterion.

Norwegian tortious doctrine was, until twenty

however, critize the recommendation - inter alia the Lawyers Association - which stressed that Norwegian law, in most cases, employs negligence as a criterion and that there was no reason for changing this situation. It was also argued that "recklessly" would literally mean a stronger criterion than that necessary to characterize behaviour as negligent.

The Department of Justice took account of the criticism, and changed the paragraph to its present form. The supposition was, however, that the reckless criterion should still be the basis. Any change in reality was in other words not intended. (119)

5.12 Different norms for the government and the employee?

The question is whether the standard of care requirements are identical for the government and its servants? In practice, the question might occur when the servant is sued directly or in regard to recourse litigation. It could for that matter, be real grounds for different norms especially in cases where minor negligence committed by the employee causes great economic damage.

The occurrence of minor faults from time to time is, presumably, almost avoidable. If such a fault should result in say an aircraft crash, there are reasons for a lenient consideration of the conduct, inter alia the discretionary and human aspects of the functions. The government should, however, in principle be fully liable - irrespective of the degree of negligence.

Any jurisprudence to enlighten the problem does not exist in Norway. It is, however, presumed that the courts will tend to regard the servant's negligence less strictly.

5.13 The unlawfullness criterion.

Norwegian tortious doctrine was, until twenty

to thirty years ago, almost unanimous as to the necessity of employing an unlawfulness criterion.. besides the negligence requirement - in the way that negligence and unlawfulness are cumulative conditions. The unlawfulness criterion was set up as an independent requirement in order to disculpate a person who for example acted in self-defense. The concept has, during the last few decades, become rather vague and diffused. Andersen, among others, opposed the value of using this as an independent criterion and proposed that a reckless criterion should be applied essentially because it, in itself, expresses the requirements and therby better characterizes the condition. (120)

His opposition has resulted in an increasing tendency not to use the criterion. The law on torts of 1969, for example, does not pose the condition. (§2-1)

The Department of Justice did, nevertheless, state that unlawfullness still is an independent condition but that it was deleted from E. because of its vagueness. (121)

The unlawfullness must exist <u>in relation to the plaintiff.</u> The law of 1969 does in §2-1.1 expresses this - although not clearly. The meaning of "in relation to the plaintiff" is, of course, that the liability may be exempted when one or another excluding condition occurs - such as consent.

5.2 The negligence criterion.

The general elements in negligence will apply in the consideration of governmental ATC liability. It is consequently certain that both acts and omissions are in principle included. Both the doctrine and the jurisprudence do, however, indicate a reluctance in finding an omission rather than an act negligent. (122) In other words more is required for criticising a person for not having acted than for having

acted in an unwanted way.

The starting point must always be to try to imagine the situation as it was when the act or omission occured. This has to be done having regard to the distortions of hindsight. (123)

The main approach must be to examine whether the course of action "essentially satisfies what is considered professionally, socially and humanly reasonably". (124) This is, however, no more than a starting point because the expression is rather vague. It does, though, express that it must be considered whether the bonus-pater-familias norm in the field were followed, i.e. whether the employee acted as a normal reasonable person would have in the corresponding situation.

The consideration should not be of an ethical nature. Ethical vulnerability is without importance. The evaluation is, on the contrary, an analysis and appraisal of the relations in the field where the act took place.

Due to lack of relevant Norwegian jurisprudence, cases from the United States of America will be used as references in the footnotes.

5.3 The relation between national and international provisions and standards and the standard of care norm.

A number of international provisions and national rules implementing them are in existence in the Annexes and elsewhere - see 0.21, 22, 23 and 0.41 above. The question to be discussed here is the influence of these on negligence assessments. The question mey be divided in this way:

1. Is liability conditional upon a violation of the provisions?

2. Is the existence of a violation sufficient to make the government liable or is something additional required?

Question 1 is identical with the more general whether, in fields where laws, provisions etc. exist liability is conditional upon a violation?

It is relatively certain that the question must be answered in the negative under Norwegian law. Lödrup, for example, is of this opinion. (125) An indicator is the case Flaa v. Wideröe, where the court, in its premises, stated that the damage "may be compensated whether or not some of the provisions relating to flights were violated". (126)

Similarly, in Norway, in the famous "Film-decision", the court stated: "We lay a certain stress on the provisions relating to film, because they show how dangerous film is considered to be". (127)

The rationale behind this attitude of the law is that the norms in question are adopted without necessarily taking into account the law of torts which consequently needs to be contemplated independently. (128)

Question 2 - does violation automatically make the government liable - relates naturally to question 1 and the answer is identical. A violation does not automatically result in government liability. The rationale is also identical to the one employed above - that the provisions are adopted without regard to the law of torts.

It is, however, obvious that violation of a provision will be of essential importance during negligence considerations because provisons in most cases express what are careful, reasonable and necessary standards in the field in question.

5.4 - 5.50 The elements.

5.41 The particular situation.

The situation in regard to air traffic controllers will probably be along the following lines. They have, due to the values involved and the high density of aircraft, a great responsibility. A small fault may well cause catastrophic losses and this should suggest a mild appraisal of the acts. As the dimensions are so unpredictable, account should also be taken of the degree of negligence.

On the other hand - safety requires rigourous demands on the controllers who cannot think as most others, that a little mistake is of minor importance. Their guideline should always be avoidance of mistakes - large and small. The continuous risk of accidents suggests a stringent consideration more than, for example, in regard to roads where the risk is of a much smaller nature.

The demand on the air traffic controller must be more rigorous than on other employees who are more distantly removed from pure ATC activities. There should, in other words, be a difference according to a servant's importance in the safe performance of flights.

This applies also in another context to the air traffic controllers who, as mentioned, perform many functions. A controller who acts negligently during the exercise of a search and rescue function will, for example, be more liberally treated than if he is engaged in a tower-control function.

5.42 The discretionary aspect.

The work of air traffic controllers is, to some extent, of a discretionary character. (129) The existing provisions and rules are in some cases indefinite and do not fully prescribe actual practices. In these instances, the controllers therefore have to employ their discretion as to what is necessary and favourable.

It might be argued that the discretionary aspect indicates that they should have a relatively wide margin before negligence emerges and that a reasonable discretionary decision should not result in governmental liability if it was later proved that it had caused damage.

The argument is certainly of some value - exactly how much is debateable. It must at least be required that they should have tried to make an intelligent decision and that they have not been influenced by casual factors.

5.43 The time and the place elements.

Decisions made by controllers must normally be taken on the spot without any special possibility for getting advice from other persons or manuals etc. Consultation may, however, be feasible through the presence of other controllers.

The time aspect is another important element in the consideration. (130) Controllers may often have to answer or act immediately without having any time to consider what they should do. They have, for example, little time for hesitancy when they detect two aircraft on the radar flying towards each other. (131)

The time pressure often does require a quick reaction - a factor which should be taken into account in regard to standard of care considerations. And it ought to be remembered that the situation may look different when the court afterwards leisurely sits and listens to the evidence. (132)

The time pressure naturally occurs paricularly during peak periods. The controllers must, in these periods, constantly and rapidly give new instructions as to changes in altitude, speed and so on.

5.44 The character of the instructions and the information.

The character of information and instructions is of essential importance. (133) The more important it is, the more attention should be paid to it by employees. An increase in temperature from 70 to 75°F. is per se irrelevant while a decrease from 35 to 28°F., producing a thin layer of ice on the runways, is of crucial importance. It is obvious that it is more necessary for pilots to be informed about the second fact.

Whether the information/instruction is simple or complex also matters. The requirement for the controller that the pilot should understand the information he has received is stronger in regard to complicated material than to more routine and simple information.

Information rendered to the pilots may be certain or uncertain. (134) The controller should, in the latter

case, stress its special nature.

5.45 Forwarding of information.

Information rendered by tower control is in many cases just an onforwarding of what has been received from other sources - for example Flight Information Office. It is presumed that negligence in these instances only will be found when the information is clearly incorrect and the controller should have appreciated it. No liability will arise when the controller was unable to verify the information, or where he had no reason whatsoever to be suspicious.

The government is, however, in principle liable for negligent acts by the Flight Information Office. The question is consequently hypothetical.

Liability may also arise when the controller omits to forward important information. The "Hommelvik-case" is illustrative in this respect. (135) The controller was informed by the airport manager that there were rollers in the landing areas, and that aircraft should land closer to the inner part of the bay where the seaplane airport was located. Although the landing procedures obliged the controller to inform the pilot, that was omitted. The court found that a fault had been committed which, because of other factors, was without any influence upon the accident. The government was consequently not held liable.

5.46 Vertical and horizontal separation.

Accidents from time to time are caused because pilots do not keep the prescribed vertical and horizontal distances from other aircraft. The cause of violation may be lack of information or misinformation from the ATC. It is additionally of particular relevance for the ATC to instruct aircraft to fly in the correct aerial corridors. (136) Failures in providing information of this nature may constitute liability.

5.47 Wake turbulence accidents.

The wake turbulence accidents represent an important category of accidents. They occur when for example two aircraft follow too closely after each other and the last one enters a segment of the airspace where the air is disturbed. The result is that the second aircraft begins to follow the disturbed air with consequent loss of the pilot's control. The ultimate result is often that the airplane crashes.

A usual cause of these accidents is that air traffic controllers have not provided sufficient separation between aircraft by for example letting a light aircraft get clearance for landing shortly after a Boeing 747.

Many cases of this nature have been before the courts in the United States of America. The controllers have often been held liable when they have failed to keep the prescribed separation between aircraft. (137)

5.48 Meteorological information.

Meteorological information is essential for the safety of aviation. It is in Norway initially provided by the governmental weather bureau and transmitted to the pilot by either traffic controllers or a special radio sender (FM). Sometimes it is also given to the pilot by the Flight Information Office before his flight begins. The ATC might, however, provide some meteorological information itself, for example by reading a thermometer and later transmitting the information to users.

The government is, in principle, also liable for negligence in regard to meteorological information. It is presumed that the standard of care norm will be more liberal so far as "pure" meteorology is concerned (the meteorologist's segment).

The rationale for a more liberal norm in this regard is the fact that the meteorological service

has an informative character, and that the service does not pretend to be accurate. The methods which today are employed by meteorologists do result in a forecast accuracy of approximately 80-85 percent (in Norway). It is generally agreed upon that the services of this nature must be placed in a somewhat more favourable tortious position. (138)

The air traffic controllers will often be forwarding meteorological information. What was covered in 5.45 equally applies in such cases.

The "Hommelvik-case" (139) did relate to meteorological information. The controller was informed that the force of the wind was 30-35 knots at the seaplane airport. He was, however, located a certain distance away and his wind measuring instrument showed 10 knots. On this basis he presumed that the content of the information was exaggerated but as a precaution, told the pilot that the speed of the blowing air was 15 knots.

The court critizised his behaviour and stated that: "he should have checked the information by phoning the airport manager. Even if there is reason to believe that the information was exaggerated, he should have checked it instead of relying upon his own observation".

But as mentioned earlier, the court found that his conduct was without any relevant influence upon the accident. (140)

5.49 "Anonymous" and "accumulated" faults.

It may, in particular situations, be impossible to prove who, among the servants, was negligent. It may be certain that one of them acted without the required standard of care. The question then arises whether liability is conditional upon the individual tortfeasor being identified?

The employer's liability which before the law of 1969 was adopted, was governed by an old law of 1687 (141) and the jurisprudence which had developed around

it contained no such requirement. Even though the law of 1687 was not directly applicable to governmental liability , (142) the rule was presumed to apply equally. The new law did not intend to make any change in this respect. (143) The governmental liability consequently also comprises "anonymus faults". (144)

"Accumulated faults" are defined as several failures or omissions which, independently, are insufficient to make someone liable but which, jointly, are regarded as satisfying the negligence requirements. An example could be that a meteorologist, a Flight Information Office employee and a traffic controller each have committeed a fault, which independently however cannot be construed as negligence. It is considered unreasonable that the victim remains without any compensation in these cases. Norwegian tortious law has, on this background, chosen to regard the three faults as one single act of negligence, which makes the government liable.

The law on torts of 1969 did not make any change in regard to such failures. The Department of Justice did by the expression "the person who suffered the damages reasonable demand to the service....." in §2-1 intend to include also "accumulated faults". (145)

5.50 The extent of the duty to inform.

The question to be discussed is whether the ATC is under a duty only to render information to aircraft in "controlled airspace", or additionally to airplanes outside this area ? (146)

The ATC services are in general limited to "controlled airspace". Consequently there are no provisions which establish a duty to assist aircraft outside this segment of airspace. But as the ATC, particularly through the use of radar, is in possession of knowledge as to what is going on in the outer areas too, it might be reasonable to place upon them a certain duty to inform aircraft in those other areas or other airplanes about phenomena in those other areas.

It is difficult, for example, to say that a controller is under no obligation when he discovers a potentially hazardous situation in another area. Such reasoning would be too formal.

The author is of the opinion that a liability in principle may arise in this context. It is, however, somewhat certain that the ATC will be leniently treated in these cases.

The same applies to information not provided for by the standards etc. in the Annexes, which although no provision establishes an obligation upon the ATC personnell to render such information, are of importance for the safe performance of the flights. It would be equally formal in principle to reject compensation here.

5.6 Various problems.

The government may, in principle, be liable for actual damage caused by a breach of the sound barrier due to incorrect information rendered by ATC units to aircraft. This may happen, for example when, the ATC instructs supersonic aircraft to reduce its speed to subsonic level at a later moment than the national provisions prescribe. This problem is, however, due to the fact that the Parliament recently passed a new law prohibiting flights at supersonic speed in Norwegian airspace not likely to arise - except for in regard to aircraft flying from international to Norwegian airspace, or from the airspace of a state where supersonic flights are permitted into Norwegian airspace.

As mentioned in 0.23 ATC units co-ordinate Search and Rescue Services. The government is, in principle, liable also for negligence during the performance of these functions. The language of §2-1 in the law of 1969 does, however, create a special problem in regard to such services. The paragraph makes liability conditional upon the damage being "caused" by the ATC. The ATC does, however, in general not cause these damages. It enters the arena subsequent to the damage and then assists in limiting further increase of the damage.

It is, however, obvious that the government is not liable for the initial damages in these cases. What it may be held liable for is damage caused or worsened by ATC negligence.- for example when a rescue operation is badly organized with the result that passengers die, who would not have been dead if the operations had been more professionally organized. (147)

A lenient appraisal must be applied here too.

The standard of care norm with regard to the Airport Facility services (for example snowremoval) should not be different from the general negligence norms. Nothing favours a special treatment of these services.

5.7 Within the scope of the employment.

The law of 1969 §2-1 applies only to negligence by servants committed during the scope of their employment. The provision did not intend to make any change in the system under the law of 1687 (148) which indirectly applied equally to governmental liability.

The main rule is that the government is liable when the act was committed in connection with the employee's professional function, cf. §2-1. According to the provision, there is an absolute limitation - the act must have occured during the working period.

The provision does, however, contain another limitation:

> "The liability does not include damage caused when the employee acted beyond what is reasonably regarded as being within the scope of his employment, having regard to the kind of the activity or the field and the character of the work or assignment."

What is meant by this reservation?

Firstly, that not all acts committed during working hours make the government liable. That is clear

but what does "reasonably" mean in this connection?

Norwegian law is ambiguous at this point. The presumed rule is that an employee is acting within the scope of his employment when he is acting within what is empirically done in the specific field. (149) It is also assumed that a violation of an instruction does not constitute a defence.for the goverment. (150) This is in line with what has been said earlier in the present study.

One should, by first thoughts, believe that at least acts which are intentionally outside the professional functions would represent a defence for the government. Whether this is correct is uncertain. So-called "go-slow actions", employed by air air traffic controllers as pressure for achieving higher wages, illustrate this. The controllers do, in this case, intentionally delay traffic. Their action may, according to the labour laws, be legal in which case liability will not emerge. If, however, the action is illegal, the question of governmental liability arises. (151)

The controllers may, as stated, act intentionally and violate instructions concerning their work deliberately. These are two factors contra liability. Oppositely it is their jobs which enable them to cause the eventual damage and it may therefore be considered reasonable that the government be liable. The problem is however purely academic.

5.8 Causation.

Causality is a conditio sine qua non for liability. This requirement does not create particular problems in regard to ATC liability, apart from the fact that practical evidential difficulties might occur in these cases due to the complexity of the tort.

There must be a causal relationship between the factor which releases the damage (i.e. the negligence, the organizational deficiency or the technical failure)

and the damage. It is not enough that the factor made the damage possible; it must have produced the detriment.

Mere causality is, according to Norwegian law, not sufficient. The causal relationship must be of a more qualified character or "adequate" as it is often expressed. The posing of this condition excludes cases where the relationship is of the general connection type. An "expectation" criterion is often employed in explaining the requirements: the tort-feasor must have foreseen the damage, whether consciously or not, or more precisely whether the bonus pater familias would have considered it more than 50% certain that the damage would occur? The necessary causation is also present when the tort-feasor should have foreseen that damage could occur. A small possibility is however inadequate. Also in these cases the degree of potentiality mentioned above is required.

The adequacy condition does, however, include the degree of guilt, the dimensions of the damages and other elements. The requirement is vague and elastic. When negligence is of a grave type, the courts tend to demand a lesser degree of adequacy before they establish liability. Although the criterion might be criticized for its discretionary character, it has its obvious benefits too - by making the law less rigid and adaptable to the great variety of situations which one can imagine. The concept's elasticity was demonstrated in a recent Supreme Court decision. (152)

Air traffic controllers keep in their minds the possibility of accidents during most of their working period. However, it is not this general situation which is relevant, but whether the individual acts performed by the employees would probably cause damage.

The condition has recently been employed as a foundation for reducing (modifying) compensation. (153) This method should, however, not be applied in regard to governmental ATC liability as long as the law of

1969 contains a particular provision which makes reduction possible. (§2-2 - cf. below)

Cases where both the ATC and the aircraft commander have been negligent, but where it has been impossible to establish the causality, may occur. The government and the pilot/carrier will be held jointly and severally liable under such circumstance according to the Norwegian causation law.

6. Grounds whereby the liability may be partly or wholly reduced.

6.1 Survey.

There are several defences or grounds whereby governmental liability may be exempted or partly reduced:

1. "Objective self-risk"
2. Contributory negligence
3. Assumption of risk
4. Reductional provisions in the law of 1969.

The situation concerning fault of a third party will not be examined. The general principle in Norway is that the tortfeasor is liable for the damage he has caused - i.e. he would be liable for his part only.

This principle also applies to force majeure. A victim will not get compensation for that part of the damage caused by force majeure. In this respect he may be rather unlucky.

Finally - no waiver of liability is in existence in regard to ATC liability in Norway. In Norwegian law of torts, however, a waiver of liability is accepted except for in cases of gross negligence.

6.2 Comparative negligence.

Norwegian law applies the "comparative negligence"

principle and not, as many other countries, the contributory negligence principle. The general provision as to contribution is §25 of a law of 1902. (154) In practice, this will often occur where the aircraft commander, in one or another way, has been negligent and thus contributed to causing the damage. Contribution by others such as passengers and third persons on the surface is rather hypothetical but might occur in relation to persons on the runways or parking areas of an aerodrome. The question of assumption of risk may also emerge in regard to such persons - cf. 6.3 below.

The degree of contribution determines how much of the damage the pilot (carrier, owners etc.) will have to bear. A calculation of the influence of the action will determine the particular percentage.

Under Norwegian law in regard to ATC services, comparative negligence does not create any difficult legal (in a strict sense) problems. Difficulties might, however, occur with regard to evidence and the determination of the impact of respective faults on the damage.

6.3 Assumption of risk.

A person who is held to have assumed the risk will, under Norwegian law, get no compensation at all. There is a marked difference from the concept of comparative negligence. There are no general explicit legislative provisions concerning assumption of risk in Norway. The rules have been developed through doctrine and the jurisprudence.

Participation in aviation does not indicate that any risk has been assumed (- cf. 2.22 above), except possibly in regard to persons on the runways and parking areas etc. of aerodromes. It is doubtful whether a victim who is employed to perform functions within these areas has legally assumed any risk.

Norwegain jurisprudence in analogous cases has been rather restrictive (155) and may be generally expressed

to the effect that a person who has undertaken a risky profession must assume the possibility of damage which he has to pay for himself. This situation is highly unsatisfactory.

It would be more reasonable that an employer who runs a business where a special risk aspect is present, or other persons involved in such fields, be liable than that the employee have to bear the loss himself. At least only because of the different economic positions and the possibility of distribution of the economic damage.

Damages of this nature are, however, covered by the "Yrkesskadetrygdlov" (Workmens Compensation Act) (156); the need for making the ATC liable is therefore not so great. The government should, however, be liable in spite of this. As the compensation from the Workmens Compensation Act is limited, there might well be cases where a certain percentage of the injury remains uncovered. The servant is additionally employed to serve the master's purposes (in this context often the government) from which it should follow naturally that the employer is obliged to pay compansation as an operating cost. The author is consequently of the opinion that the government should be liable and also presumes that the Parliament or the courts will soon take a new attitude towards the state of law established by the jurisprudence.

Persons employed by an airline should be in an identical position. The situation is different in regard to an outsider who incidentally enters the airport area closed to the public. He should realize the danger he is exposing himself to. The government would not be liable in such cases.

6.4 "Objective self-risk".

This consept was discussed as an argument against governmental liability in 2.22 above. It may however be employed in the present context too, but not as a

defence which fully exonerates the government (although this is not excluded in principle).

Aircraft represent highly advanced and expensive equipment and this might result in a reduction of compensation according to "objective self-risk" considerations. Whether a court will agree with this opinion remains unanswered.

The aircraft owners have, though, in most cases insured their airplanes. The loss for them will eventually result in a subsequent increase in premiums. Insurance companies may however present claims to the government.

6.5 Reduction of the governmental liability.

E. §2-2 provides for a modification of governmental liability under certain circumstances. Two alternatives specify the requirements:

1. If the liability would have an unreasonable burdensome effect,
2. if the dimensions of the damages and existing insurances etc. in particular cases make it reasonable that the claimant cover a part of the damage himself.

The provision does however not apply to strict liability which is not covered by the law of 1969. (157) Reduction of an absolute liability may eventually be based on general tortious principles - for example adequacy (cf. 5.8. above).

The law does not make reduction obligatory - there is only a right for the courts to do it - not a duty. The courts' discretion determines when it is proper. Similarly in regard to the extent of reduction, which even may go as far down as zero.

The "unreasonable burdensome" criterion is the basic rule. Governmental ATC liability is intended to be covered by the second criterion ("reasonable that the claimant....."). (158)

The law employs the expression "in certain cases" which purports to confine the possibility for reduction

to catastrophic and other great damages where the economic losses are of a qualified nature.

Several arguments are relevant in the consideration of whether liability should be reduced - some of these are to be found in § 2-2 of the law. The arguments pro and contra liability referred to in 2.22 above are additionally of interest in this connection.

One factor is the possibility the government has to pay compensation, which, as described earlier, always exists. Damages of numerous millions do on the contrary indicate a modification, as does the service aspect. So also the operating cost argument applies. It may be considered reasonable that the airlines, which benefit from the services, cover part of the damages themselves.

Existing insurance and the possibility of taking out insurance are other elements. The government is, as mentioned self-insured, and may eventually distribute the burden of compensation payments among the taxpayers and to other sources of revenue.

Insurance is relevant also on the part of claimants. It must be taken into account where it exist, especially in cases of a catastrophic nature.

The argument that the person who suffered the damage ought to have taken out insurance, is also applicable. But only as far as a particular incentive to do it subsisted. The owners of the aircraft will always be in this position as will the persons to whom the especially valuable objects involved belonged.

Only a few arguments have been cited. The law additionally prescribes that "other circumstances" may be taken into account. There is, in other words, no specific limitation as to what may be taken into consideration in so far as is legally relevant. Limitation to traditionally recognized legal arguments consequently exist. This does not, of course, prevent further evolution of the law which always will be dynamic.

In cases where several claimants occur the appraisal in principle must be made in relation to each of them. In order to prevent that the economic burden will be ruinous to the tortfeasor, there must exist a

certain possibility of employing a total consideration.(159)

Finally a particular problem must be mentioned. It has been considered whether the provisions in §2-2 relating to reduction of compensation are possibly contrary to international conventions and implementing national legislation (160) namely in regard to § 138 of the law of aviation (Warsaw article 22).

In fact §2-2 never contradicts § 138. The latter paragraph covers the carrier's liability toward passengers, shippers etc., while §2-2 applies to governmental liability. Nor would a conflict arise when the government acts as a carrier besides performing the ATC service. The law of aviation § 138 will also apply to the carrier's function in this case due to the lex specialis rule.

6.6 Reduction of the employees liabilty.

The law of 1969 §2-3,2 contains a provision which makes reduction possible also in regard to a servant. His personal liability may be modified when the circumstances mentioned in §2-3,1 make it reasonable and it is deemed just on account of the claimant. The provision §2-3,1 contains four alternatives of which the "behaviour" or the degree of negligence is the first. The courts should consequently be careful in reducing the compensation when only a minor fault has been committeed.

The employee's financial status, income and assets are the second alternative. This argument will normally indicate a reduction due to the fact that servants seldom possess substantial assets.

Whether the employee has a subordinate or a more responsible position within the governmental structure is an other element. However it is without particular adequacy in this context.

The fourth alternative permits emphasis to be laid also on "other circumstances" - cf. the situation in regard to governmental reduction.

The latter condition - "it is deemed reasonable on

account of the claimant" - purports to cover non-governmental/municipal relations where the employer is without sufficient assets to cover the damages while the servant is in such a position.

The provision § 159 of the law of aviation contains another reductional provision, applicable to most of ATC employees ("persons working on the ground in positions of importance for the safety of aviation"). It is unnecessary to discuss this paragraph because the factors and arguments which may be employed in relation to §2-3,2 presumably are equally applicable to § 159.

7. Recourse actions.

Complex problems arise in this connection - particularly in regard to the relation between the conventions.(161) The following survey will be confined to Norwegian law.

7.1 Recourse from the government to the employee.

A right of recourse is provided by §2-3,1. It is doubtful whether the Norwegian government ever has claimed recourse from a servant. This issue is consequently highly theoretical.

The State has, in principle, an unlimited right of recourse which, according to §2-3,1, may be reduced. Whether modification is justified in the individual case depends upon the arguments pro et contra reduction of the employee's direct liability (cf. 6.5 above). Care should be shown by the government if the question should emerge. Only a modest recourse should be imposed.

7.2 From the employee to the government.

The fact that claimants tend to sue the government before the servants indicate the theoretical nature of this situation. Provision §2-3,2 of the law of 1969 does, however, establish a right for the employee to claim recourse from the government. It is of vital importance that the provision by referring to §2-3,1 makes it irrelevant whether the government or the servant was claimed against in the first instance. The reference consequently makes it possible to reduce the employee's liability when he has been sued initially. Such a system, which avoids a situation whereby the plaintiff, by choosing who to sue first, influences the compensation, is the only rational one.

7.3 From the insurance companies to the tortfeasor. (i.e. the government)

The high frequency of insured interests(passengers,

aircraft owners etc.) in the field of aviation is a function of the high values involved. What are the rights of insurance companies to claim recourse when they have paid out insurance to the claimants?

The "Forsikringsavtalelov" (Law on insurance contracts) - abbreviated FAL, (162) in the first sentence of § 25 gives insurance companies a right to direct recourse claims against tortfeasors. They are given an opportunity to enter into the right the insured person had against the tortfeasor - with the limitation that they cannot claim more than the amount they have paid to the victim. This is not an independent right - it is only a right to enter the insured person's claims.

Additionally, the company is not entitled to get more during the recourse phase than the victim would have got from the person liable. If the claimant, because of the provisions concerning reduction of liability, was not fully compensated, the same applies to the insurer. The claimant and the insurance company are subject to an identical reduction. As insurers often compensate victims shortly after an incident, the courts will, in some cases, have to try the reduction issue prejudicially.

The second sentence of § 25 of the law on insurance contracts contains a particular provision, which in addition to the general reduction (cf. above) may cause further reduction of the compensation the tortfeasor has to pay. The first and second sentences of the paragraph are consequently independent provisions. (163)

The requirement for application of the second sentence is not present in regard to ATC services. This follows from the condition that the damage must not have been caused "during the performance of business or commercial activity". As the governmental operation of ATC services cannot be considered equivalent to running a commercial activity, a literal interpretation would exclude governmental liability. The expression must, however, not be understood as being confined to cases where commerciality is present. (164) The essential in this context is the presence of one or another kind of organized operations and not only several single incidental acts.

The damages caused by the ATC will additionally be the result of a typical activity risk. (165) Reduction is, accordingly, only possible by means of the first sentence of § 25.

PART III

UNIFICATION OF AIR TRAFFIC CONTROL LIABILITY.

8. Introduction.

8.1 Legal development within ICAO - a survey.

The law relating to governmental liability - and especially for a service function as is the case of air traffic control - varies from State to State. In some countries, a general State liability exists, in others the government is liable only for damage resulting from specific functions, and in still others the old "Immunity doctrine" prevails. A fourth group is made up of the States where it is disputed whether the government is liable. Riese, for example, says, with regard to Switzerland, that the issue has no clear answer and therefore needs detailed study. (166) A fifth group might also be mentioned consisting of States which can only be sued if they consent. This applies for example to the Philippines, where a suit against the State is conditional upon consent by the Congress and, afterwards, approval by the President. Seen on this background, it appears to be difficult to create a set of norms which, to a greater or lesser extent, unify the liability of ATC agencies.

The first time the problem was discussed within the framework of ICAO was in 1949 when the Council decided that international regulation of ATC liability was unnecessary for the then time being. (167)

The next time the question arose was during discussions concerning liability in cases of aerial collisions in 1960. The Legal Committee decided at that stage that the proposed Convention on Aerial Collisions would not deal with ATC liability but that the latter question should become a separate subject for study. (168)

Subsequently, at the 14th Session in 1962, the Legal Committee established a Sub-Committee to study the subject of "Liability of Air Traffic Control Agencies". The Sub-Committee held its first meeting in 1964 and produced a report discussing various aspects of the problem (169) - inter alia whether it

was felt necessary to create a Convention dealing specifically with ATC liability.

The Sub-Committee report was discussed during the 15th Session of the Legal Committee. The debate was mostly concerned with the necessity and desirability of continuing the study of ATC liability and establishing a special Convention. (170) The subject matter was only superficially discussed and concerned mostly the kinds of services and the system of liability to be contained in the potential Convention. (171)

Because national laws were supposed to be varying to a large extent, it was deemed desirable to send questionnaires to each Member-State - in order to get more knowledge of the situation and possibly also to find a level for a compromise. The first questionnaire purported to seek information on the law of the States, while the second asked States to express their views in regard to establishing a Convention. (172) The answers showed a large variety of different viewpoints. These will be returned to later. (173)

The Sub-Committee met again in Montreal in April 1965 and at this time provided with the answers to the Questionnaire, was able to discuss the problem more adequately. (174)

The report from this Session was discussed in more detail during the Legal Committee's Session in 1967. (175) It was decided that the subject matter should be kept in Part A (subjects on the current program) of the Legal Committee's working program. (176) But since that time, nothing has happened in the Legal Committee. As is well known, other subjects, such as hijacking and the revision of the Warsaw Convention, have been given priority.

8.2 The need for an international solution.

The question is whether it is necessary or desirable to regulate air traffic control liability inter-

nationally. The first argument pro a Convention is that uncertainty in regard to recovery exists if questions are to be left within the domain of various national laws. As the situation, at present, is that the law of the place of the incident causing the damage will determine if the claimant will be given compensation. That law will also regulate the extent of any compensation. If for example the aircraft crashed in a State where the Immunity doctrine still is the law, the persons who suffered the damage will not recover. The Immunity doctrine only prevails today in a few countries of the world. If, however, an accident occured in a country which has monetary limitations in cases of governmental ATC liability, the outcome will be slightly different. As already mentioned, some States are only liable under specific circumstances and still others have no liability limitation. The place of the incident becomes consequently of vital importance - whether for example it is in the United States of America or in Chad. Because liability in some States is not tortious but contractual, the situation becomes even more complex. Another factor is that in some States, as for example West-Germany, the State is only liable on a basis of reciprocity being whether German citizens also would get compensation under the law of the country of the claimant foreigner. (177)

The existence of different regimes is obviously to be found in the overwhelming proportion of the legal field and therefore may not be a bad thing in itself. But as aviation today is internationalized - tourists and businessmen travel all around the world - the demand for a non-national solution is great. The present unsatisfactory situation would consequently be improved by establishment of a Convention which avoids the danger of inequitable and contradictory court decisions. Strangely enough, the recorded cases show few foreign claimants. But as travel in general, and especially air traffic, continues to escalate, the

future will presumably show another picture. Larsen (178) argues that an international solution can encourage greater safety in air transportation. The author has difficulty in seeing this inter-relation and is of the opinion that his argument has little value. The argument is that liability for negligent ATC acts or omissions, "forces the agency to keep its services up to standard". (179) The author agrees with him in that the fear of liability, to a certain extent, influences the safety level. But by far most important factor in creating a high safety level must be the moral and humanitarian obligations felt by governments towards safety standards. It is hard to believe that States would neglect safety if they knew no liability existed. On the contrary, States look upon the values of human life and the necessity of avoiding damage as one of the most important tasks they have to take care of. This argument was also discussed by the Sub-Committee (180) There are, additionally, other pressures for safe ATC as for example a good reputation.

Another argument is that under the present legal regime ATC is unjustly favoured, because the Warsaw Convention, the Guadalajara Convention, the Guatemala Convention and the Rome Convention regulate the passengers, the shippers and the third person on the surface's claims against the carrier or the operator, while in regard to ATC a legal vacuum exists. This argument is however only valid as far as a State is protected by the Immunity doctrine. If not - although the claimants, due to the liability systems in the Warsaw (as amended) and the Rome Conventions, are likely to sue the carrier or the operator in the first instance, there can be little doubt that insurance companies will sue the agencies in recourse actions. However, it is not so certain that the carriers or operators will be sued first. This is due to the simple fact that, because of monetary limitations in the Conventions, suing the ATC or the government which are not protected by a limited liability, may show a better prospect.

From a claimant's point of view, the situation should

therefore be generally satisfactory, contrary to that of the carrier, operator or insurance company. They have a good argument if they say that it is unfair that they should compensate damages caused by an air traffic control unit. There is, of course, also the general guideline, that the person or body causing the damage, shall be directly liable. The objective should consequently be to establish a system whereby States cannot gain advantage from the existence of other liability provisions which, in this case, are based on considerations other than those relating to ATC liability.

Creation of unification per se may also be employed as a pro argument. The evaluation of this factor depends upon the more general attitude of the person weighing the pro and contra. It is desirable to diminish differences - and this often is best done by cooperation, for example in agreeing upon a unified set of legal norms. The increase in air traffic and speed makes it desirable to establish control regions such as EUROCONTROL without regard to national boundaries. The expected evolution of new technical ATC devices will most presumably further tend to centralize the operation of air traffic control functions. International cooperation in the performance of services may accordingly be used as an argument for a Convention.

The fact that ground services including ATC have more and more a determining influence on the movement of an aircraft and the growing economic importance of the problem are also important factors in this discussion.

Another argument pro establishment of a Convention is that the question as to which forum to sue in presumably would have to be solved.

Finally, the damage caused by an ATC agency may occur in a State other than that in which the fault was committed. This international aspect does consequently favour an international solution.

In regard to arguments contra a Convention, the Sub-

Committee posed the question whether a convention could be presumed to achieve sufficient acceptance necessary to justify preparatory work. (181) Their reasoning was that the different solutions in national laws were so great that an eventual outcome would be of minor value because the number of ratifications would be small. This was obviously not meant as an argument against a Convention in itself, but it was raised because other problems were felt to be more pressing.

One author, Larsen, adds another argument: Whether it is wise in general to make organizations which perform socially desirable services liable for their services. (182) This argument goes to the core of the whole subject matter, discussed intensely in many countries, of whether the government should be liable in torts for the performance of the service functions towards the public. In Norway for example, the question has been discussed in relation to such services as the operation of coastal light-houses and various medical vaccination programmes offered to the population.

The de lege ferenda discussion proposed by Larsen is, however, of little relevance in this context. The essential issue must be whether States already have ATC liability as part of their law or if they favour international rules making governments liable. If these questions are answered in the affirmative, a basis for a Convention exists.

Looking at the answers to the Questionnaire (183), 26 States replied expressing their agreement in the establishment of a Convention, while only 6 States were opposed. The States in favour were: Algeria, Australia, Austria, Belgium, Brazil, Chile, Colombia, Czechoslovakia, Germany (Federal Republic), India, Japan, Kenya, Laos, Luxembourg, Mexico, Nigeria, Poland, South Africa, Spain, Switzerland, Tanzania, Tunisia, Trinidad and Tobago, Uganda, United Arab Republic and United States of America. The States opposing establishment of international rules were: Burma, Canada,

Democratic Republic of the Congo, Jordan, Korea and the Netherlands. The majority is therefore clear enough, although it must be said that 26 States perhaps is so small a number that the situation is yet not ripe for a Convention. But then we have the fact that laziness or lack of administrative resources causes many States not to answer, and consequently their position may be unknown.

Turning to another aspect - establishment of a Convention may eventually create, in some respect, a worse position for the victims because they would presumably have to sue under a set of rules of limited liability. This follows from the answer to the Questionnaire which indicate that almost no State has limited liability in case of ATC negligence and at the same time show that the majority of States would prefer a Convention with limited liability - cf. 11.1 below. (184)

The Sub-Committee stated in its first report, after having considered the various pro's and con's, that it would be useful to have international rules for the regulation of the liability of air traffic control agencies, and that "such usefulness may be anticipated to increase in the future". (185)

The need was also discussed by the Legal Committee in 1964. (186) No new arguments arose, and the view of the delegates varied from approval of further study of the subject to disapproval. But as was shown by the vote (18-1), almost every representative found it desirable to, at least, continue the examination of the various problems involved.

During the second Sub-Committee meeting, it was found appropriate to draw up rules on liability, or more specific to formulate principles to be included in a Convention. It was felt to be too early to draw up a Convention. (187) The desirability was also considered at the 16th Session of the Legal Committee. (188) Some States continued their stand against a Convention, while others continued on the opposite line.

The author also refers to the statement by Mr. Swart from the Netherlands to the effect that the main justification for a special convention is that States would thereby benefit from a limitation of liability.(189) The argument may have played a role in the position of states. (190) From what can be seen by expressions of States, the majority appears to favour establishment of a convention. (191)

8.3 In which way should air traffic control liability be internationally regulated ?

The Sub-Committee suggested four possible ways of solving the air traffic control liability problem(192):

1. Amendments to the existing air law Conventions and to the Draft Convention on Aerial Collisions,
2. A particular ATC Convention,
3. A joint ATC and aerial collisions Convention and
4. A consolidated Convention, including the ATC liability, aerial collisions liability and liability for damage caused by foreign aircraft to third parties on the surface.

Which approach was the most suitable was discussed during both the Legal Committee's 15th and 16th Sessions. (193) Alternative 3 had already been rejected by the Legal Committee. (194) The Committee, however, obviously had the power to alter its decision but this was not felt desirable by the majority. The United States of America had proposed that the possible advantages of alternative 4 ought to be studied by the Legal Committee. (195) The proposal was based on the argument that greater uniformity is favourable, especially after the two proposed Conventions have entered into force. And further, that splitting into separate conventions the rights and liabilities which most commonly arise from a single fact situation, is not desirable. This situation makes it possible for States to sign one and not another Convention and the degree of uniformity will not be high inter alia because contradictions seem difficult to avoid and obviously also because the same

States will not be parties to the same Conventions.

However, the obstacle to a "package solution" is the fact that States seem to be less attracted by a unified project than by a separate approach. A consolidated Convention would consequently tend to get fewer ratifications than would be possible if a piecemal approach was followed. This real life factor appears to be decisive, although in principle the United States of America suggestion has the best rationale. The author supports the Swiss who, while having much sympathy for the proposal, thought the danger of non-adherence was so large that they could not support it. (196)

The complexity of the situation was well illustrated by a (simplified) note of the Swiss representative:

"Note of the Swiss representative.

1. (This is to illustrate) the liability relations which could arise out of a case of collision between two aircraft in which the air traffic control was involved. It is somewhat simplified in that only direct claims are considered.

1.1 ....Defendants described in (A) and (B) below could be exposed to the following kinds of claims:

(A) The Air Traffic Control agency would be exposed to claims from:
   1. the owner or operator of both aircraft,
   2. claimants with respect to passengers or goods carried on either or both aircraft,
   3. persons who suffered damage or injuries on the surface,
   4. claimants for loss of use of either aircraft.

(B) The carrier, owner or operator of one of the two aircraft would be exposed to claims from:
   1. the owner or operator of the other aircraft,
   2. claimants with respect to passengers or goods carried on either of the aircraft,
   3. persons who have suffered damage or injuries on the surface,

4. claimants for loss of use of the aircraft.

2. In addition, the carrier, owner, or operator of the other aircraft would be exposed to claims corresponding to those listed as (1), (2), (3) and (4) under (B) above."

An accompanying diagram can be found in the documents of the Legal Committee, 15th Session. (197)

A fifth solution would be to codify the existing air law Conventions regarding tortious or contractual liability and to include ATC and aerial collisions liability. This is more radical than the American proposal - a fact which indicates its purely theoretical value.

The need for codification may seem less apparent for the time being. If however, we consider how international transportation by air has increased in the past and only a few factors indicate that there will be a slowdown in the future escalation, it strikes the author that sooner or later codification will become a necessity. Because of these factors, it is hoped that a State will propose to the Legal Committee that action be taken by appointing a committee to study a future codification. Having said this, it must be added that the author obviously realizes the complexity of the problem. However, it is not so enormous as to be not worth trying.

The sixth solution, proposed by Larsen, is that ATC liability should best be regulated within a Convention on international responsibility of States for injuries to aliens under the auspices of the United Nations. (198) In regard to this proposal, one must bear in mind that few areas of international law have generated greater controversy during the last decades than the law of State responsibility. The International Law Commission decided in 1955 to undertake the codification of the principles of international law governing State responsibility and, at the same time, appointed a Special Rapporteur, who in his first report stressed the almost unlimited number and variety of circumstances which can create international responsibility. (199) Because of the

complexity of the subject matter, he suggested that the Commision should first study the specific topic of responsibility for injury to aliens - the part which, in his opinion, was most ripe for codification. The Sixth Committee of the General Assembly of the United Nations debated the question in 1960-1961 - a discussion which made it clear that it would be very difficult to prepare a draft Convention on the responsibility of States for injury to aliens. On this background, the International Law Commission appointed a sub-committee to suggest the scope and the approach of any future study of the subject matter. (200)

A new Special Rapporteur was appointed in 1963. (201) Besides the foregoing, a Harvard Draft Convention exists. (202)

The subject matter is, as indicated, extremely complex and we will most certainly not get any Convention for many years. As ATC liability of States needs international regulation, there is little doubt that the best approach is to do it witin the framework of ICAO. With regard to general State responsibility, even this may represent a piecemal approach. An air traffic control liability Convention could then - at sometime in the future - be adjusted to a more general Convention.

Alternative 1 was also discussed but did not get special support. (203) What we have left therefore is alternative 2 - a particular Convention. The Legal Committee decided by a clear majority (13-2), that this was the best approach. (204) The Chairman did, however emphasize that the decision did not preclude the Sub-Committee from exploring the possibilities which could arise in relation to various aspects of ATC liability.

Finally, as a seventh solution, which would only slightly improve the present situation (and therefore has not been mentioned before), it has been proposed that a Convention which would determine, at least, unambigously which national law is applicable in these cases, should be established. (205)

9. Scope of the Convention.

The following problems will be discussed in this chapter: 9.1 Kinds of services, 9.2 Kinds of damage, 9.3 Geographical scope, 9.4 Kinds of aircraft, 9.5 Posture of aircraft -- during flight or while also on the ground.

9.1 Kinds of services.

The problem to be examined is what kind of services should be covered by a Convention - in other words, what should be understood by "air traffic control agencies" ? (206)

The basic question is whether the Convention should cover only "ATC proper" - i.e. area, approach and aerodrome - or also such auxiliary services as the Flight Information Service, Alerting Service, Meteorological Service, Military ATC Service and associated airport facilities ("ATC expanded").

Whether these services, by local laws, attracts liability is, of course, of great importance for the future of the Convention. The answers to the Questionnaire showed that there is a large degree of disagreement in regard to the question. 14 States answered in the affirmative (only "ATC proper"), while 19 States did the opposite, and three States gave other answers. (207) Consequently it may be difficult to achieve a consensus.

One State proposed that, instead of defining the scope by specification of services, a general description should be employed. The description would include all of the ground services which are established for the purposes of aircraft separation and assistance in air navigation. The rationale was that "these would have the same possibility of being involved in an air disaster as the strict air traffic control services themselves". (208) This solution would on one side be dynamig, but on the other hand vague and a possible source for many legal disputes.

If the aforementioned approaches are not possible,

two compromise possibilities are at hand:

1. "ATC proper" with a possibility for States to expand the scope by declaration.
2. "ATC expanded" with a possibility for States to restrict the scope by reservation.

Because so many States (19) preferred the "ATC proper" approach, it is presumed that one of the two compromise solutions may have to be applied. A wide scope will probably make many States reluctant to adhere to the Convention. (209)

The scope of the Convention is to a large extent related to the system of liability. If the basis becomes proof of fault (cf. later) the scope is likely to be wider than if presumption of fault or even a strict liability is chosen.

Additionally, the scope is dependent on whether the liability is limited or not, and eventually at which level. If the liability is unlimited, States will tend to favour a narrow scope.

Determining which kinds of services should be included in the Convention does, to some extent, depend on whether the services are made available without cost to those likely to use them. The fact that costs are recovered is, however, no absolute hindrance to instituting liability.

Turning to the more detailed examination of the different services (functions), it is superfluous to say much about the "ATC proper" which, obviously, will be included.

At the 15th Session of the Legal Committee, the Italian delegate suggested that only the services contemplated in Annex 11, Chapter 3 should be covered by the Convention, namely, the "ATC proper".

The Flight Information Service's functions and scope were described in 0.23 above. The FIS is of great importance to the safe performance of flights which, in the author's opinion, is of itself a strong argument for inclusion in a Convention. Information as to collision hazards outside control areas might

be exempted. The reason being that it will sometimes be based on information of doubtful accuracy. Any inaccuracy should be stressed by the agency when the information is rendered.

The reliance aspect mentioned in 2.22 above is also of importance in this context. The fact that pilots normally have no opportunity whatsoever to verify the correctness of the received information favours inclusion of the FIS. As stressed, the service is more of a guidance than informative nature.

The FIS is often provided by the "ATC proper" unit (210), a fact which makes exclusion less probable. To exclude some functions performed by the body, while others are to be included, would create delimitational problems and thus be undesirable.

The Air Traffic Advisory Service is, as mentioned above in 0.23, a temporary "ATC proper" service. The nature of the service indicates identical treatment as the "ATC proper" in regard to a Convention.

The Alerting Service represents a more doubtful sphere, but should in principle be covered by a Convention on ATC liability. This liability will, however, only relate to the increases in damage or additional new damage caused by the ATC during the performance of its alerting functions and not to initial damage.

Larsen also favours this solution. (211)

The Search and Rescue Service can, as is also the case with the Alerting Service, be argued to have no direct relation to the performance of flight. But as emergencies and accidents inevitably occur this service performs important functions in aviation. Although it is quite a different function with other characteristics, it is not certain that it ought to be excluded.

The Sub-Committee stressed the humanitarian aspect of this service, because of which it felt no liability should be incurred. (212) This is however no proper legal excuse. (213) A more adequate argument is the

relationship between the Alerting Service and the Search and Rescue service. If the first becomes included, then both should be. The Sub-Committee was in doubt as to inclusion. (214)

The Meteorological Services should, in principle, be included in the Convention. Some clarification is, however, necessary on this point.

Firstly, in regard to the accuracy of weather information, the Sub-Committee stated in its first report that it is "difficult to guarantee accuracy - for example, visibility could differ from one side of the airport to another". (215) But it is obviously not a question of imposing liability merely if the forecast turns out to be inaccurate or wrong. The meteorologist is certainly no God and he operates, as is well known, with a varying percentage of failure in his forecasting function. The issue is, of course, whether the normal procedures and techniques in making the forecast have been used, in other words, if he has been negligent. If he has performed the discretionary decision in a reasonable manner, there can (provided the regime is proof of fault liability) be no liability. What has just been said does not apply if the information is of a non-discretionary nature - as for example the reading of the barometer.

Concerning the transmission of information - if it is done by the ATC agency - no liability for the correctness will exist when the unit only relays the information. The agency can only be liable when it has not transmitted the same information as it received from the weather bureau, for example in the case of an incorrect reading.

The Airport Facility Service make a distinction necessary in regard to a Convention. Namely between cases where the ATC organizes and supervises movements on runways and elsewhere on the ground where aircraft operate (snow removal, laying of new layers of asphalt on the tarmac). If the ATC for example fails to get a truck away before the landing of an aircraft and the two

vehicles collide, liability should arise. The other group - the mere airport functions - such as providing ineffective equipment, must obviously be excluded from the Convention.

Whether Military Air Traffic Control Agencies should be included is another issue, which, because of the nature of these services, may create obstacles for the establishment of a Convention. Because ATC in some States is performed solely by military units (for example in Italy, where the service lies under the Ministry of Defence) inclusion is necessary to get a Convention of any practical value.

In some States, agencies take care of both civil and military aircraft, while still other countries have both military and civil agencies serving the respective traffic.

Although military units do not control or supervise civil aviation in most States, they can, of course, harm civil aviation in their control of military aircraft. So far as civil aviation becomes involved, these agencies ought to be included in a Convention. The need for inclusion is, however, not present if only military aircraft are involved. (216)

Another issue is whether the Convention should be limited to "controlled airspace", such as flight information regions and approach control zones. Because it happens in practice that information is given to aircraft outside these zones, and the pilot may have to rely upon this information, the Convention should not be restricted. An argument can, however, be made in opposition to this - especially because of the voluntary aspect and the lesser degree of accuracy.

Navigational facilities on the ground must be included. The issue will, in most cases, be whether operation and maintenance of these have been carried out with the appropriate degree of care, but the agency may also, in specific countries, be held liable if the equipment just fails to work.

Finally, both the Sub-Committee and the Legal Committee agreed that the description should be a

broad one (217) assuming that a proof of fault system was adopted. The Sub-Committee stated that the description "could best be expressed as including all air navigation services and facilities provided for a pilot for the safe operation of the aircraft" - a description which the author will support as a practical one being as far as it is possible to go at the moment. Differences in interpretation will, however, be greater when the technique of using a general description is employed with the presumable result that more court cases will emerge.

9.2 Kinds of damage.

In regard to kinds of damage to be covered by the Convention, three points are of special interest:

1. Delay
2. Noise or sonic boom
3. Damage to the surface covered by the Rome Convention.

Concerning damage to persons and property on board an aircraft and to the aircraft itself, a consensus exists. However, the Sub-Committee wanted the Convention restricted to damage on the surface contemplated by the Rome Convention. (218) But as there are different views as to what is in fact covered by the Rome Convention, a clarification is necessary. Beaubois (219) states in regard to No. 3, that damage caused by shock waves from jet aircraft to property on the surface is not covered by the Rome Convention, while Lödrup is of the opposite opinion and he presents a good argument. (220)

The ATC may cause delays from time to time, but the question is legally almost of pure academic interest. Anyhow, some remarks on the Sub-Committee's opinion are merited. (221)

The Sub-Committee agreed on excluding delay with the rationale that the ATC "might have good technical reasons for delaying an aircraft", and it is "necessary to avoid the danger that hasty actions may be performed with the view to avoiding delay". (222) To this, one

can remark that there obviously will be no liability if technical or other reasons make a delaying order necessary. It is not a question of any absolute liability for delays. The issue is whether ATC negligence caused the delay.

Larsen makes the same mistake and mentions the estimated annual loss caused by delays (223). This, however, is almost solely due to congestion. Delay should, in principle, be included.

The majority of the Sub-Committee favoured exclusion of noise and sonic boom. The ATC would eventually only be liable if they rendered incorrect information as to noise regulation or ordred the aircraft to break the sound barrier at a location where a prohibition existed. The issue is purely academic at the moment, but a Convention should in principle also cover this kind of damage.

One absolute restriction of the Convention has to be made - that an aircraft is involved.

9.3 Geographical scope.

The Sub-Committee considered the international elements which would attract the application of the Convention, rejected some of them and agreed upon employing the following three elements:

1. The registration of the aircraft
2. The place where the agency was located
3. The place of the damage. (224)

The principle should be according to them that the ATC "agency shall be liable on proof of fault for damage caused (a) to an aircraft or person or property on board if the aircraft is registered in another Contracting State, irrespective of where the damage occured; (b) to a person on the surface in another Contracting State irrespective of the place of registration of the aircraft involved."

This proposed provision would mean that persons from the State where the agency is located are covered when they are on board an aircraft registered in another

Contracting State, but not if their loss consists of surface damage.

The provision uses the registry in section (a), meaning that cases where the aircraft is registered in the State where the agency is located and leased to an operator from a foreign State, flying foreign nationals, would not be covered. More remarks could be made on the proposed provision. Cases of international registration (cf. Article 77 of the Chicago Convention and the Council decision) must for example be incorporated.

A final point relates to a proposal by the Scandinavian States to make the Convention applicable also on recourse actions brought by the user or owner of an aircraft registered in one Contracting State against an agency in another State in respect of damage caused by the aircraft to a person or to property on the surface in a non-Contracting State. (225)

The author's conclusion, however, is that the best course would be to establish a Convention which applies to all civil aircraft irrespective of nationality. The practical feasibility of this suggestion is however doubtful.

9.4 Kinds of aircraft.

A definition of "aircraft" is not desirable because it may well become obsolete over a period of years.

The inter-relation between the different air law Conventions poses a problem in determining the issue. The Rome Convention does not apply to state aircraft. (226), while the Draft Convention on Aerial Collisions (227) permits reservations concerning different classes of State aircraft. Unification (or simplification) should, in this context, be an objective.

Another point is the relation to spacecraft. Those existing are not controlled by ATC agencies. But space shuttles might be in this position in the future. What is of practical importance today is the role some

particular ATC units play in informing air traffic about space launchings and landings from space - cf. 9.5.below. These situations would have to be covered by the Convention.

The Sub-Committee's majority wanted to adopt a compromise solution employing a general provision including all kinds of aircraft, while at the same time allowing States to make reservations in regard to damages caused by or to (a) all or specified classes of its own State aircraft, or (b) all or specified classes of the State aircraft of other Contracting States. (228)

The scope of this reservation is relatively wide and might, if many States use the possibility, limit the value of the Convention. A better approach would be to follow the French proposal and make a distinction between "general" military air traffic and "operational" military air traffic. Reservations only should be allowed for the latter group. (229)

It must, however, be admitted that adoption of the Sub-Committee's proposal apparantly is the only practical approach.

9.5 Posture of aircraft.

The Rome Convention is limited to cases where aircraft are "in flight" (Article 1) even though an aircraft might (and often does) cause damage while on the runway or at parking areas. This principle could be adopted in regard to ATC agencies also but, as ATC functions are not limited to aircraft in flight, another solution is desirable.

As the Convention will apply to acts or omissions by agencies, the functional scope of the units shall determine the issue of the posture of aircraft. The principle should be that the Convention applies whatever position of the aircraft - in flight, on the runway, on the taxiing strip or on the parking area - as long as the aircraft is under "control". What should

be meant by under "control", depends on the scope of the services to be covered by the Convention - cf. 9.1 above. But, in general, it is when the pilot follows directions or information from the ATC unit - a period which, in practice, runs from the "take-over" by the agency of the aircraft (from another unit or before take-off), until transfer to another unit or a terminal stop.

Annex 11 of the Chicago Convention provides an argument in this direction - prevention of collisions between aircraft on the maneuvering area and obstructions on that area is one of the ATC's functions. (230)

Whether the aircraft was or was not in movement will consequently be immaterial.

One view in the Sub-Committee was that the Convention should be restricted to "in flight" situations because only in this case there exists "a proper international element necessary for regulation by Convention". (231) The author has difficulty in seeing why the difference between a situation where an international commercial flight is at the taxiing-strip and a situation right after take-off should justify a different legal position. The international element is not greater in the first than in the second situation.

It was additionally proposed that national law should apply to a collision of an aircraft with a ground vehicle even where both were under the control of the control tower. This proposal should be rejected. (232)

The earlier mentioned question of space vehicle launchings should be covered by the general principle indicated above. If a launching takes place at Cape Kennedy(Cape Canaveral) for example, the proper agency which will be informed has a duty to inform air traffic in the area of the potential obstacle. (233)

10. System of liability.

10.1 Generally.

Which system of liability should be chosen is of the utmost importance to the future of unification of the rules relating to air traffic control liability. The system of liability elsewhere in the field of international air law varies from presumption of fault(the Warsaw Convention) and absolute liability(the Montreal Agreement, the Rome Convention of 1952) to a mixed system(the Draft Convention on Aerial Collisions, the Guatemala Protocol). An ATC Convention should therefore, if possible, be adjusted to existing or proposed Conventions.

As mentioned earlier, the system of liability is closely related to the scope of the Convention and the limitation of liability. The intention is, however, to try to deal specifically with only the basis of the liability in this section.

The first thing which has to be established is whether the liability should be of a contractual or tortious nature. The majority view among States is that liability should be based on tort. According to ICAO information, only 3 States have a system of contractual liability for ATC agencies. (234) In the United Kingdom a contract exists between the operator/carrier and the agency including a waiver of liability.

Although a Convention may be of a tortious type, it should be mentioned that an implied contract will exist in some cases when user charges are collected. It is necessary, in this context, to emphasize that as the level of recovery of the cost of the ATC services rises, the ATC service should accept the normal incidents of providing a service for reward which include liability for fault (or perhaps even on other grounds).

The Sub-Committee discussed whether a mixed system of liability should be adopted. According to this, the Warsaw system for passengers etc., the Rome system for damage to third parties on the surface, and proof of

fault in other instances, could be combined in the new Convention. (235)

The ICAO Questionnaire is of basic importance in regard to the selection of a system. Some 35 States replied that they would prefer a proof of fault liability (236), while a few other States wanted a specification in certain cases - presumption of fault or strict liability. The States favouring a proof of fault liability were: Algeria, Argentina (exceptions for certain cases), Australia, Austria, Belgium, Brazil, Canada, China, Colombia, Czechoslovakia, Democratic Republic of Congo, Germany (Federal Republic), Greece, India, Iraq, Ireland, Japan, Kenya, Korea, Luxembourg, Mexico, Netherlands, Nigeria, Phillippines, Poland, South Africa (in certain cases only), Sweden, Switzerland, Tanzania, Trinidad and Tobago, Tunisia, Uganda, United Arab Republic, United Kingdom and United States of America.

Most of these countries have a liability system identical to the one they propose in the international context. The only practical solution appears therefore to be to adopt a general proof of fault system. The author will however prefer inclusion of a strict liability norm in case of failure of technical equipment - cf. later.

Liability based on negligence will give maximum protection to governments. Claimants will, in this instance, tend to sue the operator or the carrier - because of the more favourable liability system which apply to them. Fewer claims (at least direct) will occur.

Larsen suggests that "fault" be defined in the Convention. (237) This would however, in the author's opinion, be fruitless. A definition would have to be rather general and perhaps would create more difficulties than can be foreseen. Remember the experience from the Warsaw Convention in respect of the "wilful misconduct" concept.

Hjalsted also argues on this protection line. His view is that most of aviation cases fall in the "grey

area" where it is difficult to prove negligence. Consequently, a proof of fault system throws the burden on the claimant who, in fact, is in the worst position concerning the evidence and thus leaves him with a reduced possibility of recovery. (238) The argument is, however, only valid so far as the "grey area" exists in real life, which is difficult to quantify.

Another aspect to be mentioned in this connection is that difficulties with regard to recourse actions might arise. (239)

10.2 Technical equipment.

The most interesting aspect in regard to the system of liability is concerned with cases of failure of technical equipment used by agencies. It is a well-known fact that new technical devices are constantly being employed by ATC agencies; recent years have seen a distinct escalation in this respect. Computers are used and radars are being installed at more and more places. This increase in technical equipment means that more and more ATC functions are taken away from air traffic controllers. It does not mean, as the Sub-Committee argued, that "automation was only viewed as a tool of ATC and does consequently not replace the controller".

This led to a suggestion by a Norwegian delegate that it should be considered whether agencies should be held absolutely liable in case of technical fault. He further stated: "If a person operated complicated machinery, as did the electronic operator in the ATC agency, he should be liable for any hidden defect in the machinery or for an error of the machinery during its work". (240)

Because of increases in automation, a proof of fault system would limit the possibility of the claimant to recover; firstly due to the evidence aspect (difficult to prove in this "grey area") and secondly due to the automation increase per se (more and more difficult, the more automation increases).

Others support this view. Rinck for example is

of the opinion that the government must be responsible in cases of failure of computers, radars or other technical devices. (241)

Within ICAO, there appears to have taken place a gradual shift in the view as to this point (242), so that not just a small group of States favour adoption of absolute liability for technical "faults". These States might however renounce their position if a presumption of fault system is included with regard to damages from this type of cause.

The assumption of risk argument was argued in the Sub-Committee with the intention of excluding carriers or operators from the group of beneficiaries of a strict liability regime. (243)

If a special norm concerning computers and such is agreed upon, a definition of "technical fault" must be made. It should be restricted to purely technical failures and not include such faults as lack of inspection of navigational aids. (244)

Inclusion of an "organizational liability" like the one in existence in Norway is presumably impractical at the international level. The claimants will consequently have to prove negligence during the organizing process. Although such an inclusion tends not to be feasible in principle, it is an open question whether this formal exclusion makes any difference as to the subject matter of the legal situation. The reason is that lack of a specific organizational liability may result in a situation where the courts find that the omission in not organizing in itself constitutes negligence.

11. Limitation of liability.

The three questions to be discussed are: (a) should the liability be limited, (b) determination of limits, and (c) cases of unlimited liability.

11.1 Limitation or not.

This is of course the basic question. As the other private air law Conventions contain limitations, it can be argued that uniformity favours limitation. This is, however, only valid if the limits in the ATC Convention were to be equivalent to the Warsaw and the Rome limitations for the respective kind of damages. But as Warsaw, Hague and Guatemala contain different monetary limitations, revision of these have to be made before any uniformity will occur. If on the contrary, a new system of monetary limitation becomes adopted, there will be no conformity, but more complexity.

States might be unwilling to ratify a Convention not limiting liability, especially developing or other countries, on which liability could have a severe economic impact, but also other States. In order to get substantial adherence limitation should be included.

Limitation might also be looked upon as a "favour" to States which still have the immunity concept as part of their national law in order to get them to ratify. Larsen (245) argues that it is doubtful if limitation will get them to adhere, "because the reasons by which those States justify their immunity are seldom economic. They are instead that the King is infallible or that it is illogical to make the source of law liable".

Another argument - contra limitation (246) - is that when governments desire the benefits from air transportation, they must be willing to pay for the damages of their ensuing negligence. It is a fact that air transportation greatly contributes to the economics

of industry and trade and consequently to the Gross National Product. The benefits are much greater than the figures suggest, due to the inadequate method of measurement of air transportaion's contribution to the Gross National Product.

It might also be argued that because liability will probably be based on proof of fault, no limitation is desirable. This represents a quid pro quo argument to the one regarding the Rome Convention and its strict limited liability. (247)

Proof of fault will represent an economic protection for the government simply because of the problems in proving negligence. Due to this, it can be argued that they do not need the protection of limitation. The clear-cut cases will be few and people will tend to sue according to the Warsaw or Rome Conventions, cf. the earlier mentioned "grey area". Recent years have, however, seen an expansion in the concept of negligence both in the United States of America and other common law countries and this has tended to be somewhat parallell to the evolution in for example Europe. It is therefore doubtful whether this system would result in any protection of the States.

A well-known argument contra liability at all, or limitation of the liability, is that the economic burden might be too heavy. This can be employed in this context too, in regard to catastrophic risks. States are usually self-insured, and consequently they must distribute eventual liabilities on the taxpayers or other sources of income. The possibility of distribution nullifies the "burden" argument, but as far as the State can distribute; this might be impossible for example in some developing countries. These countries can nevertheless secure themselves by taking out insurance. This occurs in practice in some States.

The possible difficulty in agreeing upon limits might be used as an argument contra limitation. If a system containing low limits is adopted some of the major States in civil aviation might be reluctant to ratify and this would take much of the effectiveness

from an ATC Convention.

It should also be added that the strength of the rationale for having limited liability varies with the kind of services. It is, for example easy to agree with the argument that if the Search and Rescue services and the Alerting services become included in the Convention, limitation has to be instituted, while on the contrary the grounds for limitation are weaker with regard to "ATC proper".

The answer to the Questionnaire showed that 30 States favoured limitation. Strangely, one must say, because very few States have limited liability in their national legislation. But limitation might be necessary to achieve wide adherence. Only 6 States were opposed; but some were major States in this context. (248) A part of the latter's objections can be reduced by adoption of a system of minimum limits in the Convention, permitting the individual State to establish higher limits in its own jurisdiction - as is the case with Article 35A of the Guatemala protocol.

Assumption of risk considerations might be argued in relation to limitation, for example in regard to carriers or operators. Such considerations, however, should not have any decisive value in respect of limitation or not.

An ATC Convention will presumably contain a limitation of liability provision. This was also the recommendation made by the Sub-Committee. (249)

11.2 The determination of limits.

Various possibilities exist:

a. limitation in accordance with the other private air law Conventions,
b. new limits to be established,
c. a compromise solution where States would be able to establish higher than the minimum limits provided by the Convention in regard to their own jurisdiction,

d. limitation according to the size of the agency,

e. a fixed limitation, based on the average value of human life and property among the High Contracting Parties.

France proposed that the limitation should be made according to the limits each Member State had adopted "for each category of victims, through its adherence to the other Conventions (Warsaw, Hague, Rome, Collisions....) dependent on the circumstances". (250) This solution would have the advantage of uniformity and would also make the issue of recourse actions simpler than if still another system of limitation were to become introduced in the domain of international air law. The uniformity argument should be strongly emphasized because the future situation of air law otherwise will become too complex.

The French proposal has however its weaknesses, mainly due to the fact that the rationale for limiting the carriers' and operators' liability is of a different nature than that in regard to ATC agencies. The limitation in the Warsaw, Rome and the other Conventions is, to a large extent, based on the economic position of the persons liable - such as the airlines' financial position. With regard to ATC liability however, there is no question of protection of a more or less weak industry but of the economic situation for governments. Another point is that the monetary amounts in existing Conventions already are too low to some extent, cf. for example the Montreal Agreement, subsequent practice by the major airlines and the recent Guatemala Protocol. They would therefore have to be increased. A system containing a fixed limitation will, for that matter, always be inadequate with present continuing inflationary process. On this background, the Guatemala Conference adopted a new elastic system whereby the amounts are increased, by certain intervals, either automatically or at Conferences. (Article 42)

If the limits should be different from the existing ones, what height would be realistic? Determination of limits has, in the history of air law, been a controversial issue. The value of property varies from State to State, and so also the value of human life. A solution whereby the avarage value of life and property becomes the basis is impractical. Mainly because the level would be so low that the major aviation States (especially the United States of America) presumably would not adhere.

Higher limits in an ATC Convention would additionally create the earlier mentioned danger of conflicts concerning recourse actions. For example, take a case where both the ATC and the carrier caused the damage and the claimant sued and recovered from the agency. If fault of a third party did not exist, as a defence, then the ATC would be fully liable. But what about the recourse action against the carrier - would his liability be limited to the Warsaw limits?

Determination of the limits according to the size of the agency was one of the possibilities discussed by the Sub-Committee. However, it received technical advice to the effect that there were no criteria that could adequately be employed. (251) This solution would have been an analogy from maritime law.

The most likely and advantageous approach appears to be adoption of a system containing a minimum limit with, at the same time, a possibility for States to establish higher limits in their national law.as is the case with the Guatemala Protocol. This, in fact, could extend to unlimited liability. If the minimum limit at the same time could be uniform with the limits set by other Conventions much would have been gained.

The Sub-Committee's majority agreed upon this system except that they did not stress the uniformity aspect.(252) Finally, a limitation should apply not only to direct actions against the agency, but additionally to recourse actions.

11.3 Unlimited liability.

The Sub-Committee proposed adoption of Article 25 of the Warsaw Convention as amended at the Hague. (253) Article 25 has proved to be a controversial provision. A look at the decided cases concerning the norm, shows how the courts interprete it differntly. But as it is deemed desirable to have a system whereby "wilful misconduct" deprives the person liable of the advantage of limitation, no other solution appears to exist.

In the author's opinion, however, the principle should not be included because of its evidenced insufficiency. But if the majority of States prefer a system of unlimited liability in some instances, they should at least construct a provision less controversial than Article 25 of the Warsaw Convention as amended.

12. Defences.

The first point is that the term "defences" means defences which become actual after a fault on the part of the ATC agency has been established. The argument that there was no causal relationship or that no fault was committed, will consequently be excluded in the following discussion.

The Sub-Committee and the Legal Committee have discussed several defences:

1. Waiver of liability.
2. Fault of the third party.
3. Force majeure.
4. Contributory negligence (245)

In regard to the first - waiver of liability - it can obviously not be recognized. Otherwise it could reduce the whole Convention to nothing. There was no dissent in the Sub-Committee on this point, even though at least one State has contracted out of the liability towards the claimant (the United Kingdom). The United Kingdom position is partly limited by the fact that the waiver only binds the parties to the contract.

Fault of a third party should, in the Sub-Committee's opinion, not constitute a defence. (255) The rationale was that the agency would be able to recover in a recourse action against such a party. If liability is based on proof of fault, it appears to be rather strange to let the agency, which has committed no fault, be liable. In fact, this would mean strict liability. If however the damage is caused jointly by the ATC and a third party, the best solution would be to hold the ATC liable for "its part of the damage", and not totally as argued by the Sub-Committee.

In case of damage caused partly by the ATC and partly by force majeure, the Committee agreed upon not allowing the latter cause as a defence for the agency. This solution in the author's opinion is favourable. The result in itself - that the government should compensate victims of ATC negligence or other faults, is commendable; but because of many States' attitude towards

governmental liability, the author is in some doubt as to States' willingness to ratify a provision of this nature.

Concerning contributory negligence, there has been disagreement in regard to whether a provision similar to Article 6 of the Rome Convention or similar to Article 21 of the Warsaw Convention (Article 6 in the Draft Convention on Aerial Collisions) should be adopted. The Sub-Committee agreed upon the first alternative (256), while inter alia the Scandinavian countries support the second alternative. (257)

In regard to this issue - the Convention should employ the "comparative negligence" principle and not the "contributory negligence" principle to be found for example in most jurisdictions in the United States of America. The principle of "comparative negligence" does in the author's opinion represent a more advanced solution to the problem than the other principle, largely because the tortfeasor then has to compensate only the part of the damage he actually caused. It seems to be unjust and unreasonable that the tortfeasor who for example only made a minor fault, will have to pay huge amounts of compensation. He should only have to compensate according to the impact of his fault. The problem is however substantially more complex and cannot be dealt with more in detail in this study.

13. Parties liable and security.

The parties liable might be:

1. The State itself.
2. A State agency.
3. A private corporation.
4. A mixed private and government corporation.
5. A local government (for example municipal) authority.
6. A private person.
7. An international organization.

Several questions arise in this connection. Firstly - who should the liability be attached to - the State where the agency is located or the agency itself? The majority's view appears to be that the liability should be attached to the agency itself. (258)

As stressed by France, the "agencies themselves should be liable whether public or not with no distinction in this regard being made between the case where the service is furnished by a body in the name of the State and the case where the body is merely authorized by the State". (259)

But because the service, in many instances, will be furnished by a private or mixed corporation, or even by a private person who might be short of assets to satisfy the claim, it has been discussed whether a security in the form of insurance, governmental guarantee or subsidiary governmental liability, should be required.

The author prefers that the state be subsidiarily liable, and this would equally make it possible for States to avoid liability in practice by ensuring that the agency pessesses resources or takes out sufficient insurance. The technical responsibility imposed upon States by Article 28 of the Chicago Convention is an argument for this solution.

The Sub-Committee goes too short stating that "liability should attach to the agency itself leaving it to

States parties to the Convention to ensure, as far as practicable, by their domestic regulatory functions, that those permitted to provide ATC facilities have sufficient resources to meet claims for damage caused by their fault". (260)

The well-known controversial issue of the position of servants and agents arises also in regard to air traffic control liability. The Sub-Committee agreed that the Convention apply to the servants or agents the formula being Article 25-A of the Warsaw Convention as amended. Concerning the Warsaw Convention however, it does not in principle regulate the position of servants or agents who subsequently have their legal position regulated by the national laws. In a couple of instances only - for example by Article 25-A as amended - are they regulated.

Inclusion of the principle in Article 25-A in the ATC Convention, would consequently only mean that they will have the benefit of that provision and not that they generally would be covered by the Convention. According to the proposal of attaching liability to the agency itself, the Convention expresses nothing as to whether an individual servant can be sued. But by adopting Article 25-A, it might be argued that the situation speaks for itself.

Whether it is desirable to have a system where the employee or agent can be sued directly is arguable. France for example suggested that a suit against one or both of them should be deemed to be brought against the agency itself. (261)

The general requirement "acting within the scope of their employment" will obviously have to be included.

A specific problem relates to so-called "independent contractors". The fact is that agencies, in some cases, contract with specialized persons or corporations to take care of a particular part of the functions performed by ATC. The Convention must not be drawn up so that the agencies, by contracting out, escape liability; the unit should be liable in such a case. A

recourse action against the contractor could be brought afterwards.

Finally, the author will just mention that international organizations (for example EUROCONTROL) pose new problems. Should only the organization be sued or also its Member States? (262) The best solution would perhaps be to attach subsidiary liability as in the case of an individual State. But as several jurisdictions then become possible, it might be wiser to make specific arrangements whereby only the agancy and one of the States can be sued.

14. Direct and recourse actions.

Problems related to direct and recourse actions and apportionment of liability are the ones which most clearly stress the necessity of harmonizing or codifying all the liability aspects. Both the discussion in the Sub-Committee (263) and in the Legal Committee show the complexity of the subject matter. (264) As the question and the difficulties have been enlightened in these fora, the following will be confined to a few pertinent remarks. These problems are dependent upon how liability becomes limited.

The Sub-Committee considered three basic alternatives for solving the problems:

1. Whether direct actions against ATC may be maintained independently of direct actions against any other person liable;
2. Whether, in total, a claimant may recover more than the carrier's or operator's applicable limit, and
3. Whether there should be priority of direct actions over recourse actions against ATC. (265)

Three solutions were advanced to the Legal Committee. (266)

In regard to the first question, it would be preferable if the claimant could sue the ATC in the first instance and not only have this right as a secondary remedy. The claimant should be free to sue any person responsible whether he is insurer or tortfeasor.

Concerning the second question, the answer depends, of course, upon what actually the various monetary limits are. If the ATC Convention limits liability in a way similar to the Rome and Warsaw Conventions, for the respective kind of damage, the claimant would not be able to recover more. But if the contrary becomes the solution, he could recover more. As can be seen by this, the whole problem depends upon how

the liability is limited: whether a cumulative system is adopted or not. The same point applies to the third question.

The conclusion is therefore that it is premature to decide these questions.

15. Parties entitled to bring actions.

The Sub-Committee made an enumeration of potential claimants (267), but later agreed that a Convention should contain no such enumeration and that the general principle should be that "any person who suffered damage" should be enlitled to compensation.

Because of the differences in national laws, this appears to be the most practical solution, cf. the position of concubines, mistresses and a contractual relationship with the operator concerning later use of the aircraft.

This result would also follow in the footsteps of the Warsaw and Rome Conventions and it is, additionally, the best technical solution. And as commercial, social and economic conditions are dynamic, an exhaustive list of claimants would sooner or later be outdated. That would make it necessary to convene a new Conference for reviewing the provision in question.

16. Jurisdiction and periods within which notice or claim has to be made; limitation of actions.

Three problems have to be discussed:

1. Jurisdiction.
2. Periods of notification of claims.
3. Limitation of actions.

The question as to which jurisdiction the suit has to be filed in, brings us straight to the problem that States show little or no willingness to consent to be subject to the jurisdiction of a foreign court. The consequences of this appears to be that only a single forum solution, namely where the agency is located, is practical. This was agreed upon by the Sub-Committee. (268)

Although hard facts of life seem to be restrictive in this respect, it must be stressed that a single forum solution is highly undesirable. Especially, it should be possible to also sue the ATC in the same court in which proceedings against the carrier and/or operator have been instituted. The benefits would be apparent. (269)

In regard to international organizations providing ATC service, several forum outcomes are possible. The Sub-Committee suggested two jurisdictions:

1. That of the headquarters.
2. That of each Member State where the fault occured. (270)

To recognize the jurisdiction of each Member State without the occurence restriction, would bring us into the general problem concerning recognition of foreign courts/judgements, which, as mentioned above, appears to be unattainable.

Provisions regarding periods for notification of claims can be found both in the Warsaw and Rome Conventions - respectively Article 26 and Article 19. The Sub-Committee suggested adoption of the latter provision in the ATC Convention. The author recognizes the desirability of having a provision like this, but questions

whether the time - 6 months - perhaps should be longer. Firstly, because 6 months in itself is a short time and secondly, due to the fact that especially bodily injury may not be ascertained before later than 6 months subsequent to an accident.

Finally, a provision limiting actions should first of all clearly indicate whether it is of prescriptive nature or just an ordinary statute of limitation. The Warsaw Convention fails to express this explicitely. (271) The length of the period depends on the periods in the other air law Conventions and the time it takes to finish the accident investigation reports.

The principle in Art. 15(3) of the Draft Convention on Aerial Collisions which provides a prolonged period for recourse actions, should be adopted. The rationale is that not before the first case is completed, is it possible to decide whether an additional recourse suit will be filed. The prolongation of 6 months after the court decision or the settlement of the claim, is in the author's opinion more satisfactory.

17. Conclusion.

It yet remains to be seen what will eventually happen in regard to the unification of air traffic control liability. The majority of States appear to favour establishment of a Convention, but when this will be achieved depends on which subjects within the field of air law the Member States of ICAO feel are most pressingly ripe for revision or regulation.

A Convention should, as the author has described above, have a wide scope and liability should be based on proof of fault, except for so-called "technical failures" where liability should either be presumed or strict. Liability would eventually be limited; it is, in this respect, of importance that the limits, as far as possible, are uniform with the limitations in the other private air law Conventions.

When the major proportion of countries are able to agree on the difficult main questions (the scope of a Convention, the type of liability and the limitation of the liability) most of the obstacles in establishing an ATC Convention should have disappeared.

The author stresses the desirability of undertaking the task of codification of air law Conventions. The need does not appear to be great at the moment, but if we take the expected increase in air transportation and accidents into account, it would, in the author's opinion, be beneficial if this work began as soon as possible. The note by the Swiss representative quoted above in 8.3, basically illustrates the complexity of direct actions which might follow a crash or collision. In addition, recourse actions will arise.

If the codification approach is regarded as being unrealistic, then the Conventions should be generally revised in order to avoid possible conflicts between them. Presumably this will occur if we continue the present piecemeal approach to air law. Perhaps an ATC liability Convention could be a precursor of this new approach.

Footnotes.

1. La Convention portant reglementation de la navigation aerienne, Paris 1919.
2. The Pan American Convention on Commercial Aviation, Habana 1928.
3. The Madrid Convention, Madrid 1936.
4. The volume of cargo in international transport handled by US carriers in 1970 increased only 2.4% compared with 36% in 1969, AW & ST, May 17, 1971.
5. Continuation of the program was voted down March 24th, 1971.
6. The FAA operated control towers in the US had 56 mill. aircraft operations in the Fiscal year 1970, while the predicted number for 1980 is 155 mill., see FAA Air Traffic Activity, Fiscal Year 1970, 1970 p. 1 and 79. As the operations increase by number, the operational costs escalate. In regard to the US the expenditures are presumed to increase from $ 923,9 mill. in 1971, to $ 12.581 mill. in 1980. See FAA, The National Aviation Systems Plan, Ten Years Plan 1971-1980, 1970 p. 39.
7. ICAO Bulletin, May 1969, 1970, 1971 and 1972.
8. In regard to traffic on the roads 591 persons were killed in accidents during the 1969 4th of July week-end in the US. This figure is approximately identical to one half of the number of persons killed per year in civil aviation, note 7 op cit.
9. The importance is underlined by the prediction that 10 000 persons will be killed on scheduled flights in the year 2000 if the trend which appeared in 1958 had continued, see Lundbergh, Notes on the level of safety etc., 11th IATA Technical Conference 1958, p. 6. The picture today is however somewhat more encouraging than that which Lundbergh predicted.
10. The ATC function has not always been performed by the governmental aviation agencies. In Germany and France the police effected the service in the earlier days of aviation, and in Italy it is still the Ministry

of Defence which performs the service. See Larsen, Regulation of Air Traffic Control Liability by International Convention, LL.M. thesis, Institute of Air and Space Law, Mc Gill University, 1965, p.41.

11. Convention for the Unification of Certain Rules Relating to International Carriage by Air, Warsaw 1929.
12. Protocol to Amend the Convention for the Unification of Certain Rules Relating to International Carriage by Air, The Hague 1955.
13. 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, Guadalajara 1961.
14. The Montreal Agreement, Montreal 1966.
15. The Guatemala Protocol, 1971.
16. Warsaw Convention Art. 17, L. §133.
17. Note 16 op. cit. Art. 20 and L. §136.
18. Convention pour l'Unification de certaines règles relatives aux Dommages câuses par les Aeronefs aux Tiers a la surface, Rome 1933; Convention on damage caused by Aircraft to the third parties on the surface, Rome 1952.
19. Draft Convention on Aerial Collisions, ICAO Doc. 8444 151 Sept. 19th, 1964 p. 19 ff.
20. Drion, Limitation of Liabilities in International Air Law, The Hague 1954, p. 243.
21. Chicago Convention Articles 69,70 and 71.
22. Article 12.
23. About these Annexes and the others see S. Wijesinka, Legal Status of the Annexes to the Chicago Convention, LL.M. thesis, Institute of Air and Space Law, Mc Gill University, 1960, p. 131 - 167.
24. Annex 2, Definitions, and "Luftfartsinnstilling" p. 276.
25. Annex 2 ibid.
26. Law of aviation § 75. In Norwegian "luftled". The word is not to be found in the Annexes, but is introduced through practice.
27. "Luftfartsinnstilling" p. 275.

28. At the present the FAA is working on lowering the boundary.
29. Cf. O.24. The aircraft do in these cases need additional equipment, such as VHF, VOR and TACAN.
30. For example the United States ADIZ and the Canadian CADIZ systems, demand, for security reasons, identification and location information, and control over areas outside the territorial waters (at some places as far as 200 miles offshore). See Friedman, Lissitzyn and Pugh on International Law, Cases and Materials, 1969 p. 615-616, 636 and further references given there.
31. Canada - United States of America Air Agreement of December 27th, 1963.
32. A survey of these organizations may be found in C. Bosseler, International Problems of ATC and Possible Solutions, (1968) JALC p. 467.
33. International Convention Relating to Co-operation for the Safety of Air Navigation, December 13th 1960, Articles 1 and 38. Eurocontrol comprises two organs: the Air Traffic Services Agency and the Permanent Commission for the Safety of Air Navigation. Co-operation agreements exist between Eurocontrol and Denmark, Norway, Sweden, Switzerland, Italy, Portugal, Austria and the United States Federal Aviation Administration. Further closer collaboration is presumed.
34. Agence pour la Securite de la Navigation Aerienne en Afrique et a Madagascar (ASECNA), Convention signed December 12th 1959 in Senegal; and Convention Portant Creation d'une Societe des Services de Navigation Aerienne Pour l'Amerique Centrale (COCESNA), Convention signed February 26th 1960.
35. AW & ST May 15th and 29th 1972.
36. ICAO Doc. 4444 - RAC/501/1, part. VII, para. 1.2.1.
37. Annex 2, 2.6.1.
38. Annex 3.
39. Note 27 op. cit. p. 352.
40. Note 10 op. cit. p. 9.
41. A system is under development, see Hearings before the Committee on Interstate and Foreign Commerce, 91st Congress 1st Session, Serial No. 91-22 p.334.

42. FAA, The National Aviation System Plan, Ten Year Plan 1971-1980, 1970 p. 13; AW&ST January 11th 1971 p. 19.
43. In the United States of America they hope to have established an elctronic regional automatic system by the late 1970's, see J.T. Winn & M.E. Douglass Jr., Air Traffic Control: Hidden Danger in the Blue Skies, (1968) JALC p. 255.
44. Ibid. p. 257; Luftfartsinnstilling p. 328; Guerreri, Governmental Liability in the Operation of Airport Control Towers in the United States, Term-paper, Institute of Air and Space Law, Mc Gill University, 1960 p. 6.
45. Chapter 2.4.
46. Chapter 3.5.2 of the Norwegian Rules of the Air.
47. Translated by the author. Originally: "skal sörge for at alle mottatte klareringer fra luft-trafikkontrollen blir etterkommet".
48. Law of aviation §§ 75, 76 and 109.
49. T. Ljöstad, Chicagokonvensjonens tekniske annekser, Afl Bind 1 p. 54.
50. Ibid. p. 52 - 54.
51. Federal Aviation Act of 1958, Sec. 901. For further discussion of these problems see: Knauth, The Aircraft Commander in International Law, (1947) JALC p. 161; Ruhwedel, Die Rechtsstellung des Flugzeugkommandantur im zivil Luftverkehr, 1964; Kamminga, The Aircraft Commander in Commercial Air Transport, 1953 p. 54 - 56; Larsen, note 10 op. cit. p. 11 - 13; Guerreri, The Status of the Aircraft Commander in Italian and International Law, LL.M. thesis, Institute of Air and Space Law, Mc Gill University, 1961; Leclerq, Les Aides a la Navigation Aerienne, LL.M. thesis, Institute of Air and Space Law, Mc Gill University, 1959, p. 187 - 198.

    The question has been before courts in United States of America many times, for example in Smerdon v. U.S., 4 Avi. 17.840; U.S. v. Schulteus, 6 Avi. 18.260; U.S. v. Miller, 7 Avi. 18.244; Wenninger v. U.S., 9 Avi 17.188; Tiller v. U.S., 10 Avi 17.199; DeVore v. True Filter Inc., 10 Avi 17.239; Hartz v. U.S., 10 Avi 17.606.
52. Annex 6.4.2.

53. A certain time before a commercial flight arrives at the airport of destination, it may for example receive information concerning weather and runways from the "Operational Control".
54. Annex 2.3.5.2.
55. Kamminga, note 51 op. cit. p. 58.
56. For example Morgenstierne, Om erstatningsansvar for andres handlinger, særlig om ansvar for embedshandlinger, Rt. 1887, and Lærebog i den norske Statsforfatningsret, p. 695.
57. Rt. 1913 p. 656.
58. The so-called "First Consular decision", Rt. 1925 p. 526.
59. The "Reinflytningsdom", Rt. 1932 p. 726.
60. Rt. 1932 p. 1146.
61. Rt. 1935 p. 424.
62. The so-called "Second Consular decision", Rt. 1952 p. 536.
63. Norske Lov av 1687, 5-18-17. Concerning Common Law see Coggs v. Barnard, (1703) 92. E.R. 107.
64. Rt. 1963 p. 622.
65. Note 57 op. cit.
66. Utkast p. 9.
67. The "Tirrana-case", Rt. 1971 p. 1154.
68. AfL, Bind 2 p. 166 ff.
69. Shawcross & Beaumont, On Air Law, 3rd ed., 1966 p. 630.
70. H. Beaubois, Liability of Public Bodies Providing Assistance to Air Navigation, ITA Study, 1968/7-E. p. 10.
71. Ibid.
72. Note 66. op. cit.
73. Lov om skadeerstatning i visse forhold, June 13th 1969 No. 26.
74. Ot. 48 p. 56-57.
75. Forhandlinger i Odelstinget 1969 No. 62 p. 492-93.
76. E. §2-1.1 and 2.
77. S. Jörgensen, Erstatningsret, 1966, p. 30-31; W. Munther Rolfsen, Det offentliges ansvar for sine tjenestemenns handlinger, Norsk Forsikrings Juridiske Forenings publikasjoner, No. 33, p. 5.
78. Jörgensen ibid. p. 32.
79. In the United States of America the question of lia-

bility for the operation of lighthouses and similar devices has been before the courts several times. The situation today is that the government is liable in these cases. See for example Indian Towing v. U.S., 178 F. Suppl. 647 (1959); Sommerset Seafood Co. v. U.S., 193 F. 2 d 631 (1951) and Otness v. U.S. 178 F. Suppl. 647 (1959)

80. ICAO Doc. 8787-LC/156-1 p. 146.
81. Royal Decree of December 8th, 1961. cf. L. §97.
82. A humanitarian foundation is in principle subject to tortious liability to the same extent as a private person. The foundation's liability is however more likely to be reduced - cf. 6.4; J. Hellner, Kommentar til utredning om offentligt erstaningsansvar, (1960) Svensk Juristtidning p. 644.
83. The figures refer to the budget for the fiscal year 1971.
84. Cf. 2.
85. In the opposite direction goes a Swedish decision of 1936: The government had, by providing safety devices, undertaken to maintain them and to keep them in a functional state, Nordiske Domme i Sjöfartsanliggende, (1936) p. 76.
86. H. Michelsen, Det offentliges ansvar for ferdselsuhell til lands og til vanns, (1952) Nordiske Forsikringstidsskrift p. 338.
87. A practical example is the New york accident where the claims amounted to $ 153 mill., (1964) JALC p. 286. Another question is how much was paid to the claimants.
88. K. Andersen, Erstatningsrett, 1959 p. 142-143.
89. The argument was inter alia employed by the government in the Norwegian "Hommelvik-case", AfL Bd. 2 p. 106 ff. See also K. Selmer, Assurandörens regresskrav i sjöforsikringen, AfS Bd. 3 p. 521. The viewpoint considers traffic on the sea as being some kind of irregular activity, which it may have been at the stage in history when the first boat was constructed.
90. Lord Mc Nair, The Law of the Air, 3rd ed., 1964 p. 81, "It is improbable that aircraft are to be regarded

as things dangerous in themselves", Winfield, On Tort, 1967 p. 339.

91. N. Sundby, Betydningen av skadelidtes forhold i erstatningsretten, (1969) Jussens venner, Bd. III. No. 8/9 p. 315 ff; P. Lödrup, En oversikt over og rettspolitisk vurdering av adgangen til å nedsette erstatningsansvaret for skadeforvoldelser utenfor kontraktsforhold, (1966) Jussens venner No. 9 p. 212-213; J. Trolle, Om objektiv "Egenrisiko" på Skadelidtes Side i Erstatningssager, (1965) TfR p. 245 ff. See also P. Lödrup, Luftfart og Ansvar, 1966 p. 187.
92. A parallell in the United States of America is of interest in this connection. The Federal Tort Claims Act Sec. 2674 makes the government as liable as private individuals. Sec. 2680 does however provide an exception for claims "arising from the performance of a discretionary function or duty". The ATC is not considered to be of a "discretionary" nature. The controllers do oppositely handle operational details. Eastern Airlines v. Union Trust Co., (221 F. 2d. 62 DC. Cir. 1955), 350 U.S. 911 (1957). established this interpretation.
93. Note 69 op. cit. p. 644 ff.
94. Note 89 op. cit. ; note 88 op. cit. p. 119. Both these references do, however, directly relate to the state of the roads. Eastman, Liability of the Ground Control Operators for Negligence, (1950) JALC p. 150 advances a theory - "the Volunteer-theory" which has the reliance aspect as its core. The theory is in the author's opinion of little relevance, mainly because of its evaluation nature (a person who renders services is liable to the extent that he does not put the person who is in the dependent position in a worse unfavourable position). Lange Nielsen, Statens og kommunenes ansvar for feil under utförelse av bistandshandlinger og kontrollvirksomhet, (1966) Lov og rett p. 49, opposes the argument's value.
95. ICAO Doc. 8444 LC 151 19/9/1964 and Schmidt-Rantsch, Die 15. Tagung des ICAO - Rechtsausschusses, ZfL p. 141 ff.

96. Odelstingsproposisjon No. 48 (1965/66), p. 35 (Proposition to the Parliaments First Chamber).
97. Utkast med motiver til lov om kommunenes og statens erstatningsansvar, 1958, p. 69. (Draft, including grounds on governmental and municipal liability).
98. Note 67 op. cit., (1968) Nordiske Domme i Sjöfartsanliggende p. 120 ff.
99. According to § 75 of the Constitution.
100. The "Storting" is by Norway's ratification of the Chicago Convention under a duty to grant funds to the ATC services. An international law responsibility may in principle arise when the duty is not respected. But as Article 28 of the Convention is vaguely formed, the question must be considered highly theoretical.
101. Andersen, note 88 op. cit. p. 138, is of the opinion that an exception must be made in exceptional cases.
102. Note 96 op. cit.
103. Rt.(1939)p. 776.
104. P. Lödrup, Luftfart og ansvar, 1966, p. 204.
105. Rt.(1916)p. 9.
106. Rt.(1921)p. 519; Rt.(1952)p. 1170.
107. Rt.(1957)p. 1097.
108. Rt.(1948)p. 1111; Rt.(1955)p. 290.
109. The Danish situation is described by Jörgensen, note 77 op. cit, p. 91 and 130.
110. See Vinding Kruse, På hvilke områder bör nordisk lovgivning gjennomföre objektivt erstatningsansvar?, Forhandlingene ved det 24 Nordiske Juristmöte, bilag No. 4.
111. Bakken v. Hesstvedt, Afl Bind 1 p. 289. Internationally the picture is more complex. Continental European and Scandinavian courts have no hesitation in admitting this evidence. The United States Federal Aviation Act Sec. 701(e) prevents the reports from being used in the courts, while the United Kingdom situation is unclear.

See in general J. Simpson, Use of Aircraft Accident Investigation Information in Actions for Damages, (1950) JALC p. 283 - 291; P. Sand, Legislation relating to Air Accident Investigation, International and Comparative Legal Problems, p. 6; Lecture of Dr. G. FitzGerald's

handout no. 14 at Institute of Air and Space Law, Mc Gill University, the academic year 1970-71.

112. Note 88 op. cit. p. 261.
113. Rt.(1936)p. 345; Rt.(1940)p. 16 and Rt.(1955)p. 46.
114. Note 104 op. cit. p. 205.
115. Lov om straffelovens Ikrafttræden, May 22nd 1902, Kapitel 3(Law on the coming into effect of the Criminal Code).
116. Note 97 op. cit. p. 41.
117. Note 96 op. cit. p. 51.
118. Ibid. p. 52.
119. Note 96 op. cit. p. 77 - 78.
120. Note 88 op. cit. p. 81 ff.
121. Note 96 op. cit. p. 42 - 43.
122. Note 88 op. cit. p. 80.
123. The argument was mentioned by the plaintiff in the "Hommelvik-case", note 89 op. cit.
124. Note 96 op. cit. p. 33.
125. Note 104 op. cit. p. 594.
126. AfL Bind 1 p. 95.
127. Rt.(1958)p. 984.
128. The first question has also, in the United States, been answered in the negative. See particularly Neff v. U.S., 282 F. Supp. 910 (D.D.C. 1968) and Hartz v. U.S., 387 F. 2d 870 (5th. Cir. 1968), 10 Avi 17.606, 11 Avi 17.168, (1967) JALC p. 718. C. Peters, Legal responsibility of Government for Commercial Air Safety, (1968) JALC p. 479 at p. 486 - 487 discusses the case.
129. Guerreri, note 44 op.cit. p. 10.
130. Note 88 op. cit. p. 171.
131. Cf. Aero Entreprises v. American Flyers and U.S., 5 Avi 18.238, (1958) USAvR p. 645.
132. Note 86 op. cit. and note 88 op.cit. p. 60.
133. Maryland v. U.S., 257 F. Supp. 768 (D.D.C. 1966), (1967) JALC p. 364 (duty to warn to prevent aerial collisions); Wenzel v. U.S., 10 Avi 18.201 (misstatement of the lenght of the runway); Lee, et.al. v. U.S., 10 Avi 17.165 (inadequate terrain clearance information).
134. Note 88 op. cit. p. 171.
135. Note 123 op.cit.

136. White v. TWA and U.S. v. Eastern Airlines, 11 Avi 17.888 (ATC not negligent in vertical separation).
137. See for example U.S. v. Furumizo, 381 F. 2d 965(9th Cir. 1965, (1967) JALC p. 497 and U.S. and Baker Aircraft Sales v. Furumizo, 10 Avi 17.426 (duty to warn of wake turbulence); Hartz v. U.S.,note 128 op. cit. (duty to warn of vortext turbulence and to delay the take-off clearance for a reasonable period to permit the turbulence to dissipate); Wasiliko v. U.S., 11 Avi 17.137, 17.250 (failure to warn pilot of wing-tip vortices); Lightenburger v. U.S., 10 Avi 18.316 (negligence in not warning of wing-tip vortices, which also were defined in the case); Franklin v. U.S., 342 F. 2d 581 (7th Cir. 1965); ICAO Doc. 8444 151 19/9/64 refers to some older cases.
138. Note 96 op. cit. p. 59ff.
139. Note 89 op. cit. and 5.45.
140. United States of America cases in regard to weather information: Smerdon v. U.S., 4 Avi 17.840 (pilot - not ATC determines whether weather conditions are safe for landing); Ingham v. U.S., 335 F. 2d 379 (9th Cir. 1964) 379 U.S. 951 (1964); Gill v. U.S., (1969) JALC p. 300 (negligence in weather reporting); Ingham v. Eastern Airlines, (1967) JALC p. 185, 10 Avi 17.122 (negligence in not informing an approaching aircraft); Kullberg (Heller) v. U.S., 10 Avi 17.541 (duty to inform); Neff v. U.S., 10 avi 17.869 (did not warn of thunderstorm); Somlo, et. al. v. U.S., 10 Avi 17.616; Gill and Barlow v. U.S., 10 Avi 18.133, 11 Avi 17.585 (inaccurate and incomplete reporting); DeVere v. True-Flite Inc. and U.S., 10 Avi 17.239 (no negligence); Stork, Adams, Ledbetter, Fakey and Tollner v. U.S., 10 Avi 17.741, 11 Avi 17.663 (ATC negligent in assisting a pilot to take off in violation of minimum visibility standards); Michelmore and Spaulding v. U.S. and United Pacific Insurance, 11 Avi 17.288 (pilot determines safety of taking off).
141. Norske Lov av 1687, 3-21-2(the Norwegian Law of 1687)
142. Stated in the "Lighthouse-decision", note 57 op. cit.
143. Note 96 op. cit. p. 78.
144. Cf. the Anglo-American "res ipsa loquietur", Seabrooke, Air Law, 1964 p. 89.

145. Note 96 op. cit. p. 78.
146. State of Maryland v. U.S., 9 Avi 18.329; Cattaro v. North West Airlines Inc. and U.S., 9 Avi 17.470.
147. Cf. DeVere v. True-Flite Inc. and U.S., note 140 op. cit. Illustrative in this context is the organization of the search and rescue operations after an aircraft crash December 23rd, 1972, in a forest area 15 miles from Fornebu airport, Oslo, Norway, with 40 casualties. It took seven hours before the ruins of the aircraft were found - in spite of the fact that an ATC controller had seen the aircraft on his radar seconds before the crash, and the 15 miles distance. The liability question has so far not been raised.
148. Note 96 op. cit. p. 79.
149. Note 88 op. cit. p. 209.
150. Lassen, Smith, Vislie, Erstatning og trygd, 1953, p. 218.
151. Note 88 op. cit. p. 175.
152. Rt.(1967)p. 697.
153. Ibid.
154. Note 115 op. cit.
155. Rt.(1954)p. 710 ("Wenche Hoff case"); Rt.(1957)p. 25; Rt.(1949)p. 688; Rt.(1950)p. 488; Rt.(1964)p. 474.
156. Law of December 12th 1958.
157. E. Selvig, Om det såkalte husbondsansvar, 1968, p. 31.
158. Note 96 op. cit. p. 80.
159. Ibid.
160. Ibid p. 46 - 47.
161. For example in relation to Warsaw Articles 24 and 25, and Rome Article 9; see ICAO Doc. 151 19/9/64.
162. Lov om forsikringsavtaler, June 6th 1930.
163. Note 96 op. cit. p. 80.
164. Note 150 op. cit. p. 312.
165. Ibid.
166. Riese, Luftrecht, 1949, p. 246.
167. LC Working Draft No. 657, May 9th, 1962, p. 1.
168. LC/SC/LATC No. 19 p. 1.
169. Ibid.
170. ICAO Doc. 8582 - LC/153-1, p. 131 - 142.
171. Ibid.
172. The Questionnaire can be found in LC/SC/LATC No. 1,

November 25th, 1963 and LC/SC/LATC No. 32, April 14th 1965, p. 19 in the redrafted form.

173. An analysis of the answers is to be found in LC/SC/LATC No. 32, April 14th 1965, p. 19.

174. Ibid.

175. Note 79 op. cit. p. 133 - 148 and 174 - 176.

176. ICAO Doc. 8787-LC/156-2 p. 408.

177. ICAO Doc. 8582-LC/153-2 p. 70.

178. Note 10 op. cit. p. 35.

179. Ibid.

180. Note 168 op. cit. p. 16.

181. Ibid p. 5.

182. Note 10 op. cit. p. 37.

183. Note 173 op. cit.

184. Statement by the representative of the Netherlands, note 79 op. cit. p. 133.

185. Note 168 op. cit. p. 5.

186. Note 170 op. cit. p. 131 - 134 and 139.

187. Note 173 op. cit. p. 3.

188. Note 79 op. cit. p. 133 - 136.

189. Ibid p. 138.

190. As will be seen later in 11, a Convention will most certainly limit the liability.

191. See for example note 170 op. cit.

192. Note 168 op. cit. p. 4.

193. Note 170 op. cit. p. 2 - 3, 5 - 11, 13 - 18, 42 - 55, 131 - 142, 158 - 168, 214 and 217 - 233; note 79 op. cit. p. 133 - 136.

194. Note 168 op. cit.

195. Note 170 op. cit. p. 3, 4 and 49; note 177 op. cit. p. 89 and 227.

196. Note 177 op. cit. p. 233.

197. Ibid p. 86.

198. Note 10 op. cit. p. 38 and 136 ff.

199. 2 Yearbook of the International Law Commission (1956) p. 173.

200. 2 Yearbook of the International Law Commission (1962) p. 188

201. Friedmann, Lizzitzyn and Pugh, note 30 op. cit. p. 729.

202. The Harvard Draft Convention on International Responsibility of States for Injury to the Economic Interests of Aliens, Sohn and Baxter, American Journal of International Law (1961) p. 548.
203. A survey of some of the aspects is given in note 168 op. cit. p. 5 - 8.
204. Note 170 op. cit. p. 142.
205. Note 177 op. cit. p. 43.
206. See ICAO Doc. 8302-LC/150-2 p. 161 ff. and Larsen note 10 op. cit. p. 49 - 60 for the meaning of the expression.
207. Note 173 op. cit. p. 20.
208. Note 170 op. cit. p. 134, statement by the representative of the United States of America.
209. Ibid. p. 135.
210. Annex 11, Chapter 2.6.1.
211. Note 10 op. cit. p. 53.
212. Note 168 op. cit. p. 12.
213. Note 10 op. cit. p. 56.
214. Note 168 op. cit. p. 12.
215. Ibid.
216. Note 173 op. cit. p. 5 and note 163 op. cit. p. 12.
217. Note 173 op. cit. p. 4 and note 79 op. cit. p. 136 - 137.
218. Article 1(1).
219. H. Beaubois, The work of the ICAO Legal Committee from 1947 to 1965, ITA Studies, 66/4-E p. 24.
220. Note 104 op. cit. p. 313 - 316.
221. Note 173 op. cit. p. 5.
222. Ibid.
223. Note 10 op. cit. p. 68.
224. Note 168 op. cit. p. 13 and note 173 op. cit. p. 6.
225. Note 177 op. cit. p. 334, 337 and 340.
226. Article 26.
227. Article 16.
228. Note 173 op. cit. p. 6.
229. Note 177 op. cit. p. 352.
230. Annex 11, Chapter 2.2.2.
231. Note 173 op. cit. p. 7.
232. Note 168 op. cit. p. 15.
233. In practice some of these launching areas' superjacent

airspace will be closed by governmental regulations during the periods when a potential danger caused by some launching emerges. Similarly in respect of landings.

234. The United Kingdom, New Zealand and Trinidad and Tobago; LC/SC/LATC No. 4 p. 1; LC Working Draft No. 701.
235. Note 168 op. cit. p. 16.
236. Note 173 op. cit. p. 23.
237. Note 10 op. cit. p. 100.
238. F. Hjalsted, Air Carriers Liability in Cases of Unknown Cause of Damage, (1960) JALC p. 1 at 14.
239. Note 168 op. cit. p. 16.
240. Note 170 op. cit. p. 137.
241. Rinck, Haftung für Versagen automatischen Anlagen in der Flugsicherung, (1965) ZfL p. 188 and 193.
242. Note 79 op. cit. p. 138 - 139; note 176 op. cit. p. 334.
243. Note 173 op. cit. p. 7.
244. Note 170 op. cit. p. 139.
245. Note 10 op. cit. p. 110.
246. See H. Drion, note 20 op. cit. p. 12 - 144, for a general discussion on the various rationales for limitation.
247. The United States for example would have no limit if fault liability, Chapter 8 note 79 op. cit. p. 140.
248. Note 173 op. cit. p. 25.
249. Ibid p. 8.
250. Note 176 op. cit. p. 354.
251. Note 168 op. cit. p. 17 and note 173 op. cit. p. 9.
252. Ibid p. 10.
253. Ibid.
254. Note 168 op. cit. p. 19 - 20; note 173 op. cit. p. 15. and note 79 op. cit. p. 148.
255. Note 173 op. cit. p. 17.
256. Preferred also by for example France, note 176 op. cit. p. 356, and Japan, ibid p. 344.
257. Ibid p. 336, 339 and 341.
258. Note 173 op. cit. p. 14, note 79 op. cit. p. 146 - 147.
259. Note 176 op. cit. p. 355.
260. Note 173 op. cit. p. 14.

261. Ibid. and note 176 op. cit. p. 356.
262. Note 168 op. cit. p. 19.
263. Ibid p. 17 - 18 and note 173 op. cit. p. 11 - 13.
264. Note 177 op. cit. p. 38 ff. and note 79 op. cit. p. 141 - 146.
265. Note 173 op. cit. p. 11.
266. Ibid. p. 12.
267. Note 168 op. cit. p. 19.
268. Note 173 op. cit. p. 16.
269. Note 168 op. cit. p. 21.
270. Note 173 op. cit. p. 16.
271. Article 29 of the Convention has in this respect created some uncertainty. See for example Egan & Seiter v. Kollsman Instrument Corporation, (1965) USAvR p. 14 and oppositely Sackos v. Air France, (1965) USAvR p. 378; Boulat c. Air France, (1961) Recue Francaise de droit aerien p. 198; Froidvaux g. Sabena, (1959) ZfL p. 55.