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EXONERATIONS FROM LIABILITY FOR DAMAGE CAUSED BY SPACE ACTIVITIES

Stanley Mazaroff†

Even before the historic 1957 launching of Sputnik I, legal commentators in the then embryonic discipline of space law were engaged in a scholarly dialogue regarding what legal principles should govern man's future ventures into space. At a time when most knew of space exploration only through the fiction of Verne and Wells, the early space lawyers were categorizing space vehicles as dangerous instrumentalities,¹ speculating as to the destructive consequences of space activities,² and debating the merits of the principle of strict liability as applied to damages resulting from space activities.³ For instance, in 1955 it was maintained that:

Little imagination is required to visualize the consequences of a large missile, carrying many tons of propulsive fuel, landing in a

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¹ Meyer, *Legal Problems of Flight into the Outer Space*, Address before Third Internat. Astronautical Cong., Stuttgart (1952), in SENATE COMMITTEE ON AERONAUTICAL AND SPACE SCIENCES, *LEGAL PROBLEMS OF SPACE EXPLORATION—A SYMPOSIUM*, S. DOC. NO. 26, 87th Cong., 1st Sess. 8, 14 (1961) [hereinafter cited as SYMPOSIUM]. See generally L. LIPSON & N. KATZENBACH, *THE LAW OF OUTER SPACE* 82 (1961).

² E.g., Wright, *Remarks at Proceedings of the American Soc. of Int'l Law* (1956), in SYMPOSIUM, *supra* note 1, at 85. Professor Wright queried whether the United States is bound to pay damages if one of its space vehicles crashes into Westminster Abbey.

³ V. MANDL, *DAS WELTRAUMRECHT: EIN PROBLEM DER RAUMFAHRT* (1932), abstracted in L. LIPSON & N. KATZENBACH, *supra* note 1, at 81, abst. no. 411. Professor Mandl maintained that owners and drivers of space vehicles will be subject to absolute liability, without any ceiling as to the extent, toward all persons and things damaged by the spacecraft in the absence of any contractual relationship. Professor Jenks has written that activities in space should be made subject to "rules concerning liability for injury or damage to persons or property on the ground resulting from activities in space, analogous to the provisions of the Rome Convention of 1952 on Damage Caused by Foreign Aircraft to Third Parties on the Surface." Jenks, *International Law and Activities in Space*, 9 INT'L & COMP. L.Q. 99 (1956), in SYMPOSIUM, *supra* note 1, at 33, 38 (footnote omitted). The Rome Convention of 1952, reprinted in 19 J. AIR L. & COM. 447 (1952), applies the principle of strict liability. Contrary to the position taken by Professors Mandl and Jenks, Professor McDougal has said, "If the purposes here [of space activity] are so advantageous that everybody wants to secure them, then *Rylands v. Fletcher* will not be the answer. There will not be absolute liability. Reasonableness will be the key to decision." McDougal, *Remarks at Proceedings of the Amer. Soc. of Int'l Law* (1956), in SYMPOSIUM, *supra* note 1, at 86, 87.

large town, a seaport, or village, meeting an air-liner in flight or colliding with an ocean-going liner.⁴

The speculations voiced in the pre-space age with respect to the risks inherent in space vehicle excursions now appear quite credible. At last count there were close to 800 satellites ringing the globe.⁵ Moreover, to determine the total quantum of man-made objects in space, decayed objects and fragments once part of single launches must be included. For example, 268 objects have been identified as debris associated with the 1965 launching of Titan 82A.⁶ Furthermore, by 1975 there may be up to 50,000 additional satellites in space.⁷ Thus, it is no surprise that scientists have for some time been concerned with the possibility of a traffic jam in outer space.⁸ The growing number of man-made objects that will remain in space for periods ranging up to thousands of years threatens not only future spacecraft navigation,⁹ but also, and more probably, third persons and property in the air and on the ground.

The possibility of harm resulting from space activities was dramatized on September 5, 1962 when a twenty-pound object, later identified as a fragment of Sputnik IV, fell on a street in Manitowac, Wisconsin. A number of other fragments of the satellite fell into nearby Lake Michigan. Although no damage resulted, the possibility of harm to persons on the ground was evident.¹⁰ The incident at Manitowac, although theatrical, was neither unprecedented nor unrepeatable—space objects had crashed to earth before, and they continue to do so today.¹¹

⁴ Hester, *Some Political Implications of Space-Flight*, J. BRIT. INTERPLANETARY SOC. 314 (1955), in SYMPOSIUM, *supra* note 1, at 27, 29.

⁵ See NASA, 7 Satellite Situation Rep. No. 20 (Oct. 31, 1967).

⁶ *Id.* at 28.

⁷ Beresford, *A Program to Control Civil Liability for Spacecraft Accidents 2* (American Rocket Soc. Reprint No. 1522-60, 1960).

⁸ See, e.g., *A Traffic Jam in Outer Space? Something New to Worry About*, U.S. NEWS & WORLD REP., May 2, 1958, at 56.

⁹ Hall, *Comments on Salvage and Removal of Man-Made Objects from Outer Space*, 33 J. AIR L. & COM. 288, 295 (1967). Hall tells us that space congestion is possible because, "Although outer space is infinite, most space traffic about the earth is concentrated in a zone below or in the reaches of the radiation belts (from 100 to 400 miles), in a torus embracing all polar orbits, and in a torus encompassing all low-inclination orbits." *Id.* at 288 n.1.

¹⁰ See U.N. Doc. A/AC.105/PV. 15, 33-34 (1962), At a meeting of the United Nations Committee on the Peaceful Uses of Outer Space, the United States representative, Mr. Plimpton, placed the Manitowac fragment before the Soviet Union's representative and stated that although no damage had been done, the possibility of harm was evident, *Id.*

¹¹ In September, 1960, a section of what was presumably Pioneer VI, an unsuccessful United States moon probe, landed on a South African farm. See Beresford, *supra* note 7, at 1. An Agena-Atlas Rocket orbited by the United States from the West Coast returned at

Recent studies indicate that space activities might occasion disastrous consequences should a space vehicle malfunction and go astray at or within a short time after launch.¹² Such an errant space vehicle, with most of its highly volatile fuel unexpended, could crash into a city located within a fairly small radius of the launch site.¹³ The possibility of such a catastrophe was vividly described years ago:

The force of its impact could crush a building or any other object in its way. Its heat could cause burns and ignite inflammable materials over a wide area. The resulting damage might resemble the devastation left by a meteor. Certain kinds of spacecraft could produce even greater hazards—for example, by releasing radioactive material from a nuclear engine.¹⁴

This is not to indicate that the risk of occasional and serious damage caused by spacecraft is great or even probable.¹⁵ To date there has not been a single formal international claim based on injuries or damages resulting from activities in space. Nevertheless, the risk, however minimal, is there and we should be cognizant of it. As Professors Lay and Taubenfeld recently stated:

least 40 fragments to earth over a seven-day period. Chicago Tribune, March 11, 1966, at 24, col. 3. For a list of U.S. and Russian satellites, lunar, and space probes that irregularly returned to earth from 1957 to 1960, see SYMPOSIUM, *supra* note 1, at 1305-28. Fragments reportedly have fallen to earth in rural areas in Brazil, Cuba, Mexico, and Peru. On March 3, 1968, the reentry of Zond 4, a Soviet space vehicle, was witnessed by numerous persons in Indiana, Ohio, and Tennessee. Although no wreckage has been found, the Air Force believes that the surviving fragments fell near the Pennsylvania-New York border. N.Y. Times, July 2, 1968, at 1, col. 2. See also NEWSWEEK, July 15, 1968, at 48.

¹² Lay & Taubenfeld, *Liability and Space Activities: Causes, Objectives and Parties*, 6 VA. J. INT'L L. 252, 256 (1966). See generally A. ROSENTHAL, H. KORN & S. LUBMAN, *CATASTROPHIC ACCIDENTS IN GOVERNMENT PROGRAMS* (1963); Arthur D. Little, Inc., *Credible Catastrophic Eventualities in Selected Areas of Government Sponsored Activities*, and Hassialis, Bernstein & O'Neill, *Some Major Hazards in Government Sponsored Activities*, in REPORT TO LEGISLATIVE DRAFTING RESEARCH FUND, COLUMBIA UNIVERSITY (1964).

¹³ Goldie, *Liability for Damage and the Progressive Development of International Law*, 14 INT'L & COMP. L.Q. 1189, 1194 (1965).

¹⁴ Beresford, *Liability for Ground Damage Caused by Spacecraft*, 19 FED. B.J. 242 (1959), in SYMPOSIUM, *supra* note 1, at 540.

¹⁵ Professor Vazquez maintains that

The threat that space navigation poses to all countries in the world has been greatly exaggerated. Undoubtedly certain dangers exist, but we do not believe that they are any greater than those posed by aviation, and no one is frightened by these.

M. SEARA VAZQUEZ, *COSMIC INTERNATIONAL LAW* 114 (1965).

On the lighter side is the anecdote about the British citizen who, just prior to the launching of the first United States lunar probe, informed the President that he had claimed a certain section of one of the craters on the moon and intended to hold the United States responsible for any damage to his property. See P. JESSUP & H. TAUBENFELD, *CONTROLS FOR OUTER SPACE* 241 (1959).

As the number of objects put into outer space increases, the probability of damage from falling debris correspondingly increases even though . . . the incidence of damage is likely to continue to be quite low.¹⁶

Professor Goldie has struck a similar note:

Accidents on this [catastrophic] scale may not happen with any frequency, or great probability, but the possibility that they may happen is peril enough and should be provided against.¹⁷

Thus, there is a real possibility of personal injury and destruction resulting from space activities. Moreover, there are important international legal implications of such damage.¹⁸

The multifaceted and complex question of liability for injury or damage caused by space vehicle accidents has been discussed for the past eight years at international colloquies on the law of outer space. Over practically the same period, national representatives, operating through the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space, have discussed proposals for an international agreement concerning liability for damage caused by the launching of objects into outer space.¹⁹ Almost from the start, there has been general agreement that the principle of strict liability²⁰ should apply in cases where damage is caused on the surface of the

¹⁶ Lay & Taubenfeld, *supra* note 12, at 255 (footnote omitted).

¹⁷ Goldie, *supra* note 13, at 1194 (footnote omitted).

¹⁸ For example, even the fall of objects from space might have serious international repercussions. Latchford, *Bearing of International Air Navigation Conventions on the Use of Outer Space*, 53 AM. J. INT'L L. 405, 410 (1959). Vazquez argues that even if no physical damage is caused by a fallen space object, there has nevertheless been a technical violation of Art. 8 of the Chicago Convention of 1944 [Interim Agreement Respecting International Civil Aviation, *opened for signature* December 7, 1944, 59 Stat. 1516, E.A.S. No. 469 (1945)] and such a transgression could call for reparations. M. SEARA VAZQUEZ, *supra* note 15, at 119.

¹⁹ See Dembling & Arons, *Space Law and the United Nations: The Work of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space*, 32 J. AIR L. & COM. 329 (1966). See generally SENATE COMM. ON AERONAUTICAL AND SPACE SCIENCES, INTERNATIONAL COOPERATION AND ORGANIZATION FOR OUTER SPACE, S. DOC. NO. 56, 89th Cong., 1st Sess. (1965).

²⁰ The term strict liability will be used in this paper to mean liability attaching upon proof of only a causal connection between the object put in motion by the party against whom a claim is made and the injury suffered by the claimant. The term as used herein also implies the availability of certain exonerations from liability. When no exoneration from liability is contemplated, the term absolute liability will be used. Many consider the terms strict liability, absolute liability, and liability without fault interchangeable. Others strictly eschew this interchange. See, e.g., W. PROSSER, LAW OF TORTS §§ 56, 60 (2d ed. 1955). For a good discussion regarding the differences among the three terms, see Goldie, *supra* note 13, at 1196-1220.

Earth and in the air.²¹ And today there appears to be unanimous support for this doctrine.

Assuming that liability for space accidents will be founded upon the principle of strict liability, a host of ancillary legal problems in need of careful consideration arises. This article explores one of these problems: What, if any, exonerations from the principle of strict liability should be included in an international convention on liability for damage caused by space activities?

I

DOMESTIC LAW

A. *Anglo-American Development of Strict Liability*

The early law of torts in the Anglo-American legal system was not so much concerned with the fault of the actor as with the loss to the injured party.²² The jurisprudential underpinnings of liability changed course, however, and until the end of the nineteenth century the law of torts progressively moved away from causation liability and toward the recognition of fault or moral responsibility as the basis for restitution. Notable exceptions were made, of course, the most prominent of which was the oft-cited case of *Rylands v. Fletcher*²³ which imposed liability when one damaged another by an ac-

²¹ See, e.g., Cooper, *Memorandum of Suggestions for an International Convention on Third Party Damage by Space Vehicles*, in *THIRD COLLOQUIUM ON THE LAW OF OUTER SPACE* 141 (A. Haley & K. Gronfors eds. 1960); Haley, *Space Vehicle Torts*, 36 U. DET. L.J. 294, 296 (1959); Rode-Verschoor, *The Responsibility of States for the Damage Caused by Launched Space Bodies*, in *FIRST COLLOQUIUM ON THE LAW OF OUTER SPACE* 103 (A. Haley & W. Hanover eds. 1958); note 3 *supra*. The United Nations Legal Subcommittee appears to have adopted the position of strict liability *sub silentio* by its second session in April and May of 1963. See Dembling & Arons, *supra* note 19, at 336. But see Beresford, *supra* note 14, at 252, in *SYMPOSIUM*, *supra* note 1, at 550. Beresford argues that the prevailing view in 1959 among delegates to the United Nations Ad Hoc Committee on the Peaceful Uses of Outer Space was that liability for damage caused by spacecraft should be based on fault.

²² For a good, concise historical development of the law of liability, see W. PROSSER, *LAW OF TORTS* § 74 (3d ed. 1964).

²³ L.R. 1 Ex. 265 (1866), *aff'd*, L.R. 3 H.L. 330 (1868). *Rylands v. Fletcher* has been accepted by leading American authorities. See, e.g., W. PROSSER, *supra* note 22, at 527; 2 F. HARPER & F. JAMES, *TORTS* § 145, at 811, 812 (1956). Although it has been followed in about twenty American states, it has been explicitly rejected in eleven. In the words of Justice Blackburn, the rule is:

We think that the true rule of law is that the person who for his own purposes brings on his lands and collects and keeps there anything likely to do mischief if it escapes, must keep it in at his peril, and if he does not do so, is *prima facie* answerable for all the damage which is the natural consequence of its escape.

L.R. 1 Ex. 265 (1866).

tivity which was inappropriate or non-natural to the place where it was undertaken. Although *Rylands v. Fletcher* rejuvenated the principle of strict liability, certain exonerations and exceptions were provided. For instance, the defendant in that case, whose defective reservoir allowed water to enter the plaintiff's mine, would have been relieved of liability by showing that the event was caused by an act of God, which was understood to mean an unforeseeable, intervening force of nature. A deliberate intervening act of a stranger also would have constituted an exoneration.

The twentieth century has witnessed the development of entirely new fields of liability based upon the premise that he who creates a risk must be responsible for its consequences. Industrial enterprises involving unusual conditions or activities have been held liable for damage caused by reasonable conduct on the ground that society is best served if the enterprise is made to account for the loss that it inflicts. The philosophy underlying this trend has been couched in terms of social economics, social engineering, or social justice. It has been maintained that as a matter of social policy, damages resulting from industrial activities should be considered part of the general cost of the activity because the enterprise is able to assess, administer, and insure against the risk by passing on the loss to the public. In this way the prospective costs of the risk are allocated in a manner that entails the least hardship upon any single individual.²⁴ Similarly, when industrial activities result in an accident where neither party is to blame, the relevant inquiry should be: Who can best bear the loss in view of the exigencies of social justice? In response to this query, the loss should be shifted by creating liability where there has been no fault.²⁵

Another theory, applicable only to tortious conduct by the government, has found expression in a few American cases.²⁶ The "expropriation theory,"²⁷ is based upon the principle that the government may not force an individual to bear a public burden without just compensation when his private property has been taken, though accidentally, as a consequence of a public purpose.

The prevailing American view is that the traditional exonerations still obtain in cases applying the doctrine of strict liability, since

²⁴ See 2 F. HARPER & F. JAMES, *supra* note 23, at 787. See also H. DRION, LIMITATIONS OF LIABILITY IN INTERNATIONAL AIR LAW 11-12 (1954).

²⁵ W. PROSSER, *supra* note 20, § 56, at 317.

²⁶ See, e.g., *United States v. Causby*, 328 U.S. 256 (1946); *United States v. Lynah*, 188 U.S. 445 (1903).

²⁷ See Goldie, *supra* note 13, at 1212-14.

an unqualified principle of strict liability imposes too heavy a burden on the defendant. Prosser observes, "It is one thing to say that a dangerous enterprise must pay its way within reasonable limits, and quite another to say that it must bear responsibility for every extreme of harm that it may cause."²⁸ The most important exonerations from strict liability in the United States are: act of God; independent, unforeseeable act of a third party which could not be prevented; assumption of risk; and wanton, willful, or reckless misconduct which materially increases the probability of injury.²⁹

B. *European Development of Strict Liability*

The principle of strict liability was not unknown to the law of torts as it developed on the European mainland.³⁰ In the last quarter of the nineteenth century, German jurists maintained that since the activities of certain industries were inevitably dangerous to third persons, such enterprises should be held strictly liable.³¹ That compensation should be imposed on those who, according to social justice or economics, are most suitably positioned to divide the loss over the widest sector of society was one rationale for this approach.³² Strict liability was first applied to the railway industry by the Prussians. Under their law, contributory negligence and unavoidable accident were considered ineffective defenses. In 1871, Germany adopted the Prussian rule and many other nations followed suit.³³ The principle was also applied to other industries. The Swiss in 1902 imposed strict liability upon electrical enterprises and established vis major, fault or conduct of a third person, and gross negligence of the person harmed as grounds for exoneration.³⁴ The Prussians and Austrians later ap-

²⁸ W. PROSSER, *supra* note 20, § 60, at 338.

²⁹ *Id.* at 338-44.

³⁰ See generally Takayanagi, *Liability Without Fault in the Modern Civil and Common Law*, 16 ILL. L. REV. 163 (Part I), 268 (Part II) (1921), 17 ILL. L. REV. 416 (Part IV) (1922). Becker, however, states that the problem of liability for injury is compounded by the divergent systems of jurisprudence. Under the Napoleonic Code, which exerted a strong influence on Germanic and Latin American jurisprudence, liability without fault is not looked on favorably, while in the United States the contrary prevails. Becker, *The Lawyer and the New Dimension of Space*, INTER-AMERICAN BAR ASSOCIATION, ELEVENTH CONFERENCE (Miami, 1959); L. LIPSON & N. KATZENBACH, *supra* note 1, abst. 419. See also H. DRION, *supra* note 24, at 148 n.1. Drion says the principle of strict liability is known to the legal systems of France, Egypt, Italy, Lebanon, Venezuela, Hungary, Mexico, and Norway. The list does not by any means appear to be exhaustive.

³¹ Takayanagi, *supra* note 30, 16 ILL. L. REV. at 168.

³² *Id.*, 17 ILL. L. REV. at 421.

³³ Austria, Hungary, Switzerland, Holland, Russia, Sweden, and Belgium were among that group. *Id.*, 16 ILL. L. REV. at 270-71.

³⁴ *Id.* at 273.

plied the doctrine to mining.³⁵ Hungary applied it, with the exoneration of vis major, to explosives.³⁶ Also, European nations have long applied strict liability principles in cases involving automobile accidents.³⁷

C. *Strict Liability in the U.S.S.R.*

The Soviet Code establishes a principle of strict liability that is both broader and more rigid than the doctrine applied in Anglo-American courts.³⁸ Soviet law imposes liability for injury caused by organizations or citizens whose activities involve "increased danger" to those in the area of the activity.³⁹ Transport organizations, production enterprises, builders, and possessors of automobiles are subject to such liability.⁴⁰

The Soviets provide only three exonerations under their law of strict liability: irresistible force, the intent of the injured party, and gross negligence of the injured party.⁴¹ The defense of irresistible force has not been treated liberally by the Soviet courts, and consequently it is but rarely encountered in practice.⁴² Furthermore, the courts have held that the intervening wrongdoing by a third party is not an irresistible force and is therefore not a valid exoneration.⁴³

D. *Strict Liability and Aviation Law*

Unlike other Soviet industries creating an "increased danger," the aviation industry is not afforded the exoneration of irresistible force or force majeure.⁴⁴ The defenses of intent or gross negligence

³⁵ *Id.*

³⁶ *Id.* at 282.

³⁷ *Id.* at 277-79. See W. PROSSER, *supra* note 22, at 542.

³⁸ See Gray, *Soviet Tort Law: The New Principles Annotated*, 1964 U. ILL. L.F. 180, 183-99.

³⁹ Organizations and citizens whose activity involves increased danger to those in the vicinity (transport organizations, production enterprises, builders, possessors of automobiles, and the like) are required to compensate for injury caused by the source of increased danger, unless they show that the injury arose as a result of irresistible force or the intent of the injured party.

U.S.S.R. GRAHZ. KOD. (Civil Code) art. 90 (1962). The defense of gross negligence applies through another section. Article 90 is substantially the same as R.S.F.S.R. GRAZH. KOD. (Civil Code) art. 454 (1964).

⁴⁰ *Id.*

⁴¹ Gray, *supra* note 38, at 199.

⁴² *Id.* at 199 n.93.

⁴³ *Id.*

⁴⁴ See Crane, *Soviet Attitude Toward International Space Law*, 56 AM. J. INT'L L. 685, 706-10 (1962); Beresford, *supra* note 14, at 253, in SYMPOSIUM, *supra* note 1, at 551.

of the injured party, however, are available. Thus, the Air Code of the Soviet Union imposes liability on air carriers for damage to third persons and property in all cases where it is not proved that the damage has been the result of willful or gross negligence on the part of the victim.⁴⁵

The prevailing view in the United States, however, is that aircraft flight is not an extrahazardous activity and does not give rise to strict liability for damages. Although the principle of strict liability was widely applied to early aircraft accidents, liability in the United States is presently principally based upon fault. The principle of law set forth in the Uniform Aeronautics Act reflected in large measure the mode of legal thought in earlier times. Under section 5 of this Act, the owner of an aircraft was held strictly liable for damage resulting from an aviation accident unless the damage was caused in whole or in part by the negligence of the person injured or of the owner or bailee of the property injured.⁴⁶ Between 1920 and 1930, twenty-one states and territories adopted the Uniform Aeronautics Act, with many other states applying the Act judicially.⁴⁷

The American Law Institute, in 1938, adopted the view of the Uniform Aeronautics Act, citing aviation as a prominent example of an ultrahazardous activity and calling for the imposition of strict liability. In the Comments to the Restatement, the Institute said:

[A]viation in its present stage of development is ultrahazardous because even the best constructed and maintained aeroplane is so incapable of complete control that flying creates a risk that the plane even though carefully constructed, maintained and operated, may crash to the injury of persons, structures and chattels on the land over which the flight is made.⁴⁸

Under both the Restatement and Uniform Aeronautics Act the only exoneration available to aircraft was the negligence of the person injured.

As technological progress made air accidents less a result of dangerous instrumentality than a product of human error, there was a drift away from strict liability.⁴⁹ Of the twenty-one states that origi-

⁴⁵ U.S.S.R. AIR CODE art. 101 (1962).

⁴⁶ UNIFORM AERONAUTICS ACT § 5. The Act was promulgated by the Commissioners on Uniform Laws in 1922 and withdrawn in 1943.

⁴⁷ See A. HALEY, SPACE LAW AND GOVERNMENT 239 (1963).

⁴⁸ RESTATEMENT OF TORTS § 520, comment *b* (1938).

⁴⁹ A. HALEY, *supra* note 47, at 239. *But see* W. PROSSER, *supra* note 22, § 77, at 532. Prosser states: "One possible suggestion as to the ultimate outcome is that strict liability might be retained as to what may be called 'abnormal' aviation"

nally adopted the strict liability section of the Uniform Aeronautics Act, all but six have abandoned this position.⁵⁰

Although few American courts now apply a strict liability standard to damage caused by aircraft, it was quite recently applied in cases involving the test firing of rockets.⁵¹ In these cases the courts have found that such activities fit the Restatement's test for an ultrahazardous activity. Although the law of the United States (or for that matter the law of any other nation) has not imposed strict liability for space activities, the rocket cases represent a giant step in that direction.⁵² And, if courts should apply the Restatement's standards, space activities that produce damage to others will be afforded little in the way of exoneration.⁵³

II

THE PUBLICISTS

Haley,⁵⁴ Cooper,⁵⁵ Beresford,⁵⁶ Taubenfeld,⁵⁷ McDougal,⁵⁸ and Jenks⁵⁹ consider present space activities ultrahazardous and maintain that a policy of strict liability should or will be applied by the international community in a multilateral agreement. These commentators often cite the Rome Convention of 1952, which applied the principle of strict liability to aircraft causing damage to persons or property on the ground, as the international agreement most relevant to space age problems.⁶⁰ Moreover, some would extend the application of the Rome principle to cover in-flight damage to persons and property.⁶¹

⁵⁰ See Haley, *supra* note 21, at 298.

⁵¹ Smith v. Lockheed Propulsion Co., 247 Cal. App. 2d 774, 56 Cal. Rptr. 128 (1967); Berg v. Reaction Motors Div., 37 N.J. 396, 181 A.2d 487 (1962).

⁵² See Lay & Poole, *Exclusive Governmental Liability for Space Law*, 53 A.B.A.J. 831 (1967). Lay and Poole argue that the government should compensate for loss arising out of space activities subject only to the exoneration of contributory negligence.

⁵³ See RESTATEMENT OF TORTS §§ 519-22 (1938).

⁵⁴ A. HALEY, *supra* note 47, at 263.

⁵⁵ Cooper, *supra* note 21, at 141-44.

⁵⁶ Beresford, *supra* note 14, at 245, in SYMPOSIUM, *supra* note 1, at 543.

⁵⁷ P. JESSUP & H. TAUBENFELD, *supra* note 15, at 243.

⁵⁸ M. MCDUGAL, H. LASSWELL & I. VLASIO, *LAW AND PUBLIC ORDER IN SPACE* 615, 616 (1963).

⁵⁹ C. JENKS, *SPACE LAW* 172 (1965).

⁶⁰ See pp. 83-84 & note 72 *infra*. See also, e.g., M. MCDUGAL, H. LASSWELL & I. VLASIO, *supra* note 58, at 608; Cooper, *supra* note 21, at 143; Rode-Verschoor, *supra* note 21, at 103; Schrader, *Space Activities and Resulting Tort Liability*, 17 OKLA. L. REV. 139, 141 (1964); Scifoni, *Responsibility for Damage to Space Activities*, in NINTH COLLOQUIUM ON THE LAW OF OUTER SPACE 104 (M. Schwartz ed. 1966).

⁶¹ See, e.g., Cooper, *Discussion*, THIRD COLLOQUIUM ON THE LAW OF OUTER SPACE 134

According to Professor McDougal, the underlying concept of the Rome Convention is that:

[S]ince the injured party on the ground has neither relationship with, nor control over, the aircraft activities, the burden of loss should be imposed upon the operator of the aircraft for whose immediate benefit the flight giving rise to damage has been undertaken.⁶²

This rationale appears just as conceptually basic to an agreement on space liability. More fundamental theories, such as the social justice and social economic theories discussed above, have also been set forth by prominent space lawyers in support of the imposition of strict liability.⁶³

Aside from the theoretical arguments, the commentators point to some very practical considerations which necessitate the application of strict liability. Simply stated, without the doctrine of strict liability, persons suffering damage on the surface or in the air will find it extremely difficult to prove the source of the damage. This is so because of the complexity of the mechanism of the space vehicle and the unlikely existence of any evidence after its fiery descent and collision. As Beresford puts it:

In spacecraft cases especially, proof of negligence is apt to be very difficult. Not only is the necessary evidence likely to be complex and technical, but it may be known only to the Government, and protected by rules of military security.⁶⁴

In the same vein, McDougal states that without strict liability, "virtually insurmountable obstacles to recovery might be placed upon those suffering deprivation"⁶⁵

There is widespread recognition that negligence on the part of the claimant is an acceptable exoneration.⁶⁶ As an extreme example of this, Jenks pictures an aircraft flying near a launching site with-

(A. Haley & K. Gronfors eds. 1961). *But cf.* Beresford, *id.* at 135-36. Beresford argues that equal liability should be applied for damage in space, on the surface, or in the air.

⁶² M. McDougal, H. Lasswell & I. Vlasio, *supra* note 58, at 607.

⁶³ See, e.g., C. Jenks, *supra* note 59, at 172-73.

⁶⁴ Beresford, *supra* note 14, at 250, in SYMPOSIUM, *supra* note 1, at 548. See also Haley, *supra* note 21, at 299-300; Mankiewicz, *The Regulation of Aeronautical Space and Some Related Problems*, 8 MCGILL, L.J. 193, 209 (1962).

⁶⁵ M. McDougal, H. Lasswell & I. Vlasio, *supra* note 58, at 615.

⁶⁶ See, e.g., D. Goedhuis, *CONFLICTS OF LAW AND DIVERGENCIES IN THE LEGAL REGIME OF AIR AND OUTER SPACE* (1963). Those who would apply the exoneration formula of the Rome Convention of 1952 implicitly maintain that contributory negligence should be an exoneration under a space liability treaty.

out warning or at a time when launching has been announced or may be reasonably expected.⁶⁷

McDougal feels that the trend in international agreements on liability is to narrow the scope of available exonerations. He notes that although act of God has been traditionally recognized as a legitimate exoneration, it has found no place in the recent treaties. He says that the permitted defenses now ordinarily include only major catastrophe (not to be confused with force majeure or act of God), war and civil disturbance. McDougal also notes that substantial difficulty will exist in obtaining evidence pertinent to the issue of act of God or contributory negligence as a result of surface impact.⁶⁸

A further sampling of opinion discloses that others agree that force majeure should not be included as an exoneration in a space liability treaty.⁶⁹ It is particularly important that support for this view can be found within the ranks of communist publicists.⁷⁰ Finally, there has been recent and well-articulated argument that no exonerations whatsoever should obtain for ground damage.⁷¹

The trends detected from this sampling of legal opinion in regard to exonerations from liability in a space treaty might be summarized as follows:

1. As a very practical reason for invoking strict liability, the space lawyers point to the insurmountable task that would befall a claimant should he be required to marshal facts either destroyed by impact or of a highly technical and perhaps secretive nature. This reasoning militates equally in favor of avoiding certain exonerations—for example, force majeure, which would entail equally difficult problems of proof.

⁶⁷ C. JENKS, *supra* note 59, at 286-87.

⁶⁸ M. MCDOUGAL, H. LASSWELL & I. VLASIO, *supra* note 58, at 617.

⁶⁹ See Arango, *Discussion, NINTH COLLOQUIUM ON THE LAW OF OUTER SPACE* 107 (M. Schwartz ed. 1966). Those who hold that the principles of the Rome Convention of 1952 should apply to a convention on space liability impliedly assert that force majeure should not obtain since this exoneration is not found in the Rome agreement. *But cf.* Rode-Verschoor, *supra* note 21, at 103. Rode-Verschoor states that a nation might be allowed to exclude responsibility in a case of force majeure, as when a meteor collides with a spaceship.

⁷⁰ See Csabafi, *Selected Chapters from Space Law in the Making[IV]: Space Legal Liability*, in *EIGHTH COLLOQUIUM ON THE LAW OF OUTER SPACE* 103, 110-11 (A. Haley & M. Schwartz eds. 1965); Herczeg, *Some Legal Problems of Liability in Connection with Outer-Space Activities*, *id.* at 229.

⁷¹ See generally Goldie, *supra* note 13. Professor Goldie argues that the degree of responsibility for damage by spacecraft should vary with the situation, which includes not only the location of the accident but also the value of the space operation and the activities of the parties involved. In this regard, he proposes four separate regimes of liability, one of which is absolute liability (unqualified by exonerations) for damage on the earth's surface. *Id.* at 1220-24.

This is particularly relevant if the state, as the claimant, or representing the true claimant or claimants, is technologically undeveloped.

2. Most space lawyers disfavor the application of the traditional exonerations, such as force majeure, from liability in a space liability agreement. On the other hand, most accept the exoneration of negligence on the part of the claimant.

III

ANALOGUES

A seriatim examination of the exoneration provisions of the Rome Convention of 1952, the Paris Nuclear Liability Convention, the Brussels Convention on Nuclear Ships, and the Vienna Nuclear Liability Convention are helpful in determining the prospective liability provisions of an agreement on liability for damage caused by space activities.

A. *The Rome Convention of 1952*

The purpose of this agreement, as stated in its preamble, is "to ensure adequate compensation for persons who suffer damage caused on the surface by foreign aircraft,"⁷² and, at the same time, to protect international air transportation by reasonably limiting the extent of liability. According to Professor Verplaetse, the Convention was, in part, designed to provide "a rigorous protection for unforeseen risks with regard to the victim."⁷³ The Convention has been mentioned more than any other agreement as a prime source of precedent for a space liability agreement.⁷⁴ In fact, some have suggested that the Rome Convention should be modified to directly cover damage caused by spacecraft.⁷⁵ Also deserving of note is the fact that in its report of June 12, 1959, the United Nations Ad Hoc Committee on the Peaceful Uses of Outer Space specifically suggested that the future framers of a space liability convention take into account this Convention.⁷⁶

Article I of the Convention calls for the application of the principle of strict liability. To establish liability under this article, the

⁷² Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface, Rome, Oct. 7, 1952. The text of the Convention is reprinted in 19 J. AIR L. & COM. 447 (1952).

⁷³ J. VERPLAETSE, INTERNATIONAL LAW IN VERTICAL SPACE 363 (1960).

⁷⁴ See pp. 80-83 *supra*.

⁷⁵ See Verplaetse, *Conflicts of Air and Outer Space Law*, in THIRD COLLOQUIUM ON THE LAW OF OUTER SPACE 145, 148 (A. Haley & K. Gronfors eds. 1960).

⁷⁶ U.N. Doc. A/AC/98/2 at 4 (1959). See also U.N. Doc. A/AC/98/SR 4 at 9(1959).

claimant need only prove that his damage was caused by an aircraft in flight or by any person or thing falling therefrom.⁷⁷ Article IX qualifies article I by providing that article I applies only to a non-deliberate act or omission.⁷⁸

Articles V and VI set forth the exonerations. Article V provides that there shall be no liability if the damage was the "direct consequence of armed conflict or civil disturbance, or if such person has been deprived of the use of the aircraft by act of public authority."⁷⁹ Article VI provides that there shall be no liability if the damage was caused "solely through the negligence or other wrongful act or omission of the person who suffers the damage or of the latter's servants or agents [not] . . . acting outside the scope of his authority." In this regard, the compensation is to be reduced to the extent to which such negligence contributed to the damage.⁸⁰

In regard to the exonerations, every effort by delegates to the Convention to enlarge the number of exonerations was defeated by a substantial margin.⁸¹ In addition, it has been reported that:

The Conference would not accept even a provision to relieve an operator of liability where the damage was the direct consequence of the deliberate act of a third person done with intent to cause damage which the operator could not reasonably have foreseen or prevented. This is illustrative of the single-mindedness with which the Conference adhered to the principle of absolute liability . . .⁸²

The exoneration of force majeure was not made available.⁸³

B. *The Paris Nuclear Liability Convention of 1960*⁸⁴

Based upon the principle that he who creates a source of danger by employing a certain instrument assumes the obligation to the community that nobody shall suffer damage from it,⁸⁵ this regional mul-

⁷⁷ 19 J. AIR L. & COM. at 447.

⁷⁸ *Id.* at 449.

⁷⁹ *Id.* at 448.

⁸⁰ *Id.*

⁸¹ *Summary Analysis of Convention on Damage Caused by Foreign Aircraft to Third Persons on the Surface—Annex to Delegation Report*, 20 J. AIR L. & COM. 92, 94-95 (1953).

⁸² *Id.* at 94.

⁸³ See Calkins, *Principles and Extent of Liability Under the Revision of the Rome Convention—Proposed by the ICAO Legal Committee*, 17 J. AIR L. & COM. 151, 164-66 (1950).

⁸⁴ Convention on Third Party Liability in the Field of Nuclear Energy, Paris, July 29, 1960, reprinted in 55 AM. J. INT'L L. 1082 (1961).

⁸⁵ See Rode-Verschoor, *Observations on Comparing the Responsibility for Damage Caused by Spacecraft and that Caused by Nuclear Installation and Nuclear Powered Ships*, in *FOURTH COLLOQUIUM ON THE LAW OF OUTER SPACE* 329 (A. Haley & M. Schwartz eds. 1961).

tilateral agreement, signed in July, 1960, was the first on liability in the field of nuclear energy. The Convention is aimed at damage that might be caused by the release of radioactive materials from nuclear facilities.⁸⁶ Similar to the Rome Convention of 1952, its basic objectives are: (1) to assure adequate and equitable compensation to persons who suffer damage as a consequence of nuclear incident; and (2) to enable suppliers and operators to predict the extent of their potential liability and thereby take appropriate steps to protect themselves financially.⁸⁷

Article III of the Convention provides for liability solely upon proof of causation⁸⁸ and article IX sets forth the available exonerations from strict liability. Article IX states:

Except insofar as national legislation may provide to the contrary, the operator shall not be liable for damage caused by a nuclear incident due to an act of armed conflict, invasion, civil war, insurrection, or a grave natural disaster of an exceptional character.⁸⁹

The issue of exonerations under the treaty is elucidated by paragraph 48 of the Exposé des motifs. Because it so well explains the views of the Convention delegates, it is set forth in full:

The absolute liability of the operator is not subject to the classic exonerations such as force majeure, Acts of God or intervening acts of third persons, whether or not such acts were reasonably foreseeable and avoidable. In so far as any precaution can be taken, those in charge of a nuclear installation are in a position to take them, whereas potential victims have no way of protecting themselves.

The only exonerations lie in the case of damage caused by a nuclear incident directly due to certain disturbances of an international character such as acts of armed conflict and hostilities, of a political nature such as civil war and insurrection, or grave natural disasters of an exceptional character, which are catastrophic and completely unforeseeable, on the grounds that all such matters are the responsibility of the nation as a whole. No other exonerations are permitted. The national legislation of the operator liable may, however, provide that he is to be liable even in the case of a grave natural disaster of an exceptional character [Article 9].

Where the incident or damage is caused wholly or partly by the person suffering damage, it will be for the competent court, in

⁸⁶ Bermand & Hydeman, *A Convention on Third Party Liability for Damage from Nuclear Incidents*, 55 AM. J. INT'L L. 966 (1961).

⁸⁷ *Id.*

⁸⁸ 55 AM. J. INT'L L. at 1084.

⁸⁹ *Id.* at 1089.

accordance with national law, to decide the effect of such negligence upon the claim for compensation.⁹⁰

C. *The Brussels Convention of 1962 on Nuclear Ships*⁹¹

The main objective of this Convention, like that of the Paris Nuclear Liability Convention, is to give potential claimants adequate financial protection against nuclear risks without exposing operators to an unreasonable level of liability.⁹² Professor McDougal believes that this agreement is even more relevant than the Paris Nuclear Liability Convention to the problems raised by spacecraft. He states: "[N]o decision-maker attempting to regulate the problem of surface damage by spacecraft will be able to ignore the principles it enunciates."⁹³

Article II(1) of the Convention states that a nuclear ship shall be absolutely liable for any nuclear damage upon proof of causation.⁹⁴ Article II(5) and article VII establish the exonerations. Article II(5) provides that the operator may be exonerated wholly or partially from his liability upon proof that "the nuclear damage resulted wholly or partially from an act or omission done with intent to cause damage by the individual who suffered the damage."⁹⁵ Article VIII exonerates damage caused by a "nuclear incident directly due to an act of war, hostilities, civil war or insurrection."⁹⁶

As is true of both the Rome Convention of 1952 and the Paris Nuclear Liability Convention, this Convention excludes such traditional exonerations as unforeseeable act of a third party and force majeure or act of God.

D. *The Vienna Nuclear Liability Convention of 1963*⁹⁷

This agreement also espouses the principle of strict liability (Article IV(1)).⁹⁸ The Official Records of the agreement disclose that such a principle was employed because the activities covered by the Convention were inherently of a hazardous nature, a contrary principle

⁹⁰ ORGANIZATION FOR EUROPEAN ECONOMIC COOPERATION, CONVENTION ON THIRD PARTY LIABILITY IN THE FIELD OF NUCLEAR ENERGY 57 (1960).

⁹¹ Convention on the Liability of Operators of Nuclear Ships, Brussels, May 25, 1962, reprinted in 57 AM. J. INT'L L. 268 (1963).

⁹² Konz, *The 1962 Brussels Convention on the Liability of Operators of Nuclear Ships*, 57 AM. J. INT'L L. 100 (1963).

⁹³ M. McDOUGAL, H. LASSWELL & I. VLASKO, *supra* note 58, at 613.

⁹⁴ 57 AM. J. INT'L L. at 269.

⁹⁵ *Id.*

⁹⁶ *Id.* at 272.

⁹⁷ Vienna Convention on Civil Liability for Nuclear Damage, Vienna, May 21, 1963, reprinted in 2 INT'L LEGAL MATERIALS 727 (1963).

⁹⁸ *Id.* at 733.

would impose too heavy a burden on the claimant, and the factual issues concerning fault would present questions of so technical and intricate a nature that courts might find them insoluble.⁹⁹ Furthermore, the rule was adopted in the interests of establishing legal certainty by the use of a simple and uniform rule.¹⁰⁰

This same principle of legal simplicity called for the avoidance of some of the orthodox exonerations. Also, according to the Official Records, few exonerations were allowed because precautions could be taken by the operators, whereas potential victims would have no way of protecting themselves.¹⁰¹ Accordingly, the principle of strict liability was not subjected to the classic exonerations for tortious acts, force majeure, acts of God or intervening acts of third persons, whether or not such acts were reasonable, foreseeable and avoidable.¹⁰²

Article IV(3)(a) provides that no liability shall apply if the damage was "directly due to an act of armed conflict, hostilities, civil war or insurrection."¹⁰³ Moreover, article IV(3)(b) establishes as an exoneration "a grave natural disaster of an exceptional character."¹⁰⁴

In addition, article IV(2) exonerates damage resulting from "the gross negligence of the person suffering the damage or from an act or omission of such person done with intent to cause damage,"¹⁰⁵ if the law of the forum so provides. The Official Records indicate, however, that the framers did not think of this as an exoneration established directly under the agreement, but rather as one which might be allowed by local law.¹⁰⁶ Referring to the issue of contributory negligence, the framers stated that,

In view of the great differences existing as to the concept and scope of these special defences it was not considered advisable or desirable to establish uniform international rules in this field but to permit the application of national legal concepts.¹⁰⁷

The exoneration for "a grave natural disaster of an exceptional character" was earlier employed, as noted above, in the Paris Nuclear Liability Convention. The understanding of the United States representative to the Vienna Convention was that "'grave natural disaster'

99 INTERNATIONAL ATOMIC ENERGY AGENCY, CIVIL LIABILITY FOR NUCLEAR DAMAGE 76 (IAEA Legal Series No. 2 1964).

100 *Id.*

101 *Id.* at 77.

102 *Id.*

103 2 INT'L LEGAL MATERIALS at 734.

104 *Id.*

105 *Id.* at 733.

106 IAEA, *supra* note 99, at 76, 77.

107 *Id.* at 77.

had the meaning of some catastrophic and unforeseeable event as given to it in paragraph 48 of the *Exposé des motifs* in the Paris Convention."¹⁰⁸ One illustration of a grave natural disaster is an earthquake of exceptional magnitude.¹⁰⁹

The trends underlying the exoneration provisions of the Rome Convention and the nuclear liability conventions might be outlined as follows:

1. A common objective of all the agreements is to provide adequate financial protection to innocent persons who might suffer personal or property damage as a result of an extrahazardous activity.

2. As articulated in the records of the Vienna Convention, the interests of the party suffering the damage are best served by the implementation of a legally simple liability rule and the avoidance of factually complex exonerations.

3. To this end, all four conventions have eschewed such traditional exonerations as act of God, force majeure, and intervening acts of third persons. In this regard, one might fairly conclude that the single-mindedness with which Rome Convention delegates rejected many of the orthodox exonerations was a characteristic common to the framers of all four conventions.

4. The exoneration for a grave natural disaster of an exceptional character, which is found in both the Paris and Vienna Nuclear Liability Treaties, is not the same as the traditional exoneration of force majeure or act of God. This exoneration requires a catastrophic disaster which is totally unforeseeable.

5. One must bear in mind that all four conventions impose liability upon the private sector as well as upon nations. To protect private enterprise, the conventions exonerated damage resulting from armed conflict, hostilities, or insurrection because it was felt that the nations as a whole should be responsible for the cost of such harm. It follows that if nation-states were the sole subjects of these conventions, this exoneration might not have been obtained. Thus, in regard to agreements which subject nation-states to liability, such as the prospective space agreement, this particular exoneration might be inapposite.

6. Three of the four conventions recognized that negligence, or wrongful act or omission or an act or omission done with intent to cause damage on the part of the claimant should wholly or partially serve as an exoneration from strict liability.

¹⁰⁸ *Id.* at 146.

¹⁰⁹ *Id.*

IV

CURRENT PROPOSALS BEFORE THE LEGAL SUBCOMMITTEE OF THE
UNITED NATIONS COMMITTEE ON THE PEACEFUL USES OF
OUTER SPACE

In May, 1962 the United States placed before the delegates of the Legal Subcommittee a draft convention on liability for damage caused by space vehicle accidents.¹¹⁰ Subsequently, the Belgian¹¹¹ and Hungarian¹¹² delegations also introduced draft agreements. Although the drafts have been discussed and subjected to revision for nearly six years, no agreement has been reached. Fortunately, recent events have dispelled pessimistic auguries and there is good reason for optimism.

On the 14th and 15th of December, 1967, the Legal Subcommittee convened in special session and promulgated a final agreement on assistance to and return of personnel and space vehicles.¹¹³ This is important because such an agreement has always been closely tied to an agreement on space liability. In the same report to the Committee on the Peaceful Uses of Outer Space, the Legal Subcommittee recognized the necessity of quickly reaching an agreement on liability. The report stated that the Subcommittee

should expedite its work on the equally important and urgent matter of the preparation of a draft agreement on liability . . . so as to conclude its preparation not later than the beginning of the twenty-third session of the General Assembly [to convene in September, 1968] and to submit it to that session.¹¹⁴

In addition to this pledge of action it is also heartening to note that the Legal Subcommittee has already agreed on the applicability of the principle of strict liability to damage caused by space objects. The Legal Subcommittee has stated that "[t]he Launching . . . State should be absolutely liable to pay compensation for damage caused on the surface of the Earth and to aircraft in flight."¹¹⁵ Although there has never been any serious disagreement with the application of this principle, its articulation is noteworthy because it lays a cornerstone for and marks progress toward a final, overall agreement.¹¹⁶

¹¹⁰ U.N. Doc. A/AC.105/C.2/L.4 (1962).

¹¹¹ U.N. Doc. A/AC.105/C.2/L.7/Rev. 1, found in A/AC.105/21 Annex II at 18 (1964).

¹¹² U.N. Doc. A/AC.105/C.2/L.10 (1964).

¹¹³ U.N. Doc. A/AC.105/43 (1967).

¹¹⁴ *Id.* at 2. See U.N. Doc. A/L.544 (1967).

¹¹⁵ U.N. Doc. A/AC.105/37 at 6 (1967).

¹¹⁶ It is also noteworthy that Article VII of the recently ratified Outer Space Treaty, done January 27, 1967, art. XII, — U.S.T. —, T.I.A.S. No. 6347, addresses itself to the

It is helpful to sketch briefly the evolution of the exoneration provisions of each of the three drafts. The original Belgian draft provided that the *culpa lata* of the damaged party should be taken into account in determining liability. Specifically, article V of the draft read:

The extent of the liability for compensation shall be determined in accordance with the provisions of the national law of the person injured, taking into account his *culpa lata* if any.

Culpa lata shall be understood to mean any act or omission perpetrated either with intent to cause damage or rashly and in full knowledge that damage will probably result.¹¹⁷

Subsequently, this provision was amended to state that "[l]iability for compensation shall cease to exist in the event of *culpa lata* on the part of the applicant state."¹¹⁸ The term *culpa lata* was later deleted entirely from the Belgian draft in favor of the term "wilful misconduct."¹¹⁹ Thus, the exoneration provision came to read:

Liability for compensation shall cease to exist in the event of wilful misconduct on the part of the applicant State.

"Wilful misconduct" shall be understood to mean any act or omission perpetrated either with intent to cause damage or rashly and in full knowledge that damage will probably result.¹²⁰

Additional revision has resulted in the present Belgian proposal:

If the damage suffered results either wholly or partially from an act or omission on the part of the Applicant State or of natural or juridical persons that it represents and such act or omission has been committed, either with intent to cause damage or rashly and in full knowledge that damage will probably result, the liability of the Launching State to pay compensation under this Convention shall, to that extent, be wholly or partially extinguished.¹²¹

An early United States proposal exonerated launching states from liability when the damage was caused by the "gross negligence" of the injured party. Article III of the United States draft provided that "gross negligence on the part of the presenting State or persons whom it represents shall, as appropriate, diminish or expunge any obligation to pay compensation."¹²² The term "gross negligence" was not defined.

general principle of international liability. However, it is debatable whether this provision does anything more than acknowledge that diplomatic channels should remain open to space liability claims.

¹¹⁷ U.N. Doc. A/AC.105/C.2/L.7 (1964).

¹¹⁸ U.N. Doc. A/AC.105/C.2/L.7/Rev. 1, found in A/AC.105/21 Annex II at 23 (1964).

¹¹⁹ U.N. Doc. A/AC.105/C.2/L.7/Rev. 2/Corr. 2, found in A/AC.105/21 Annex II at 27 (1964).

¹²⁰ U.N. Doc. A/AC.105/C.2/L.7/Rev. 2 and Corr. 1, 2 and 3 (1964).

¹²¹ U.N. Doc. A/AC.105/C.2/L.7/Rev. 3, found in A/AC.105/37 Annex II at 1 (1967).

¹²² U.N. Doc. A/AC.105/C.2/L.8 (1964).

Dissatisfaction with the term gross negligence, on the ground that it was ambiguous and subject to no internationally singular interpretation, was voiced in the Legal Subcommittee.¹²³ In response to this criticism, the United States substantially revised the exoneration provision to state:

If the damage suffered results either wholly or partially from a wilful or reckless act of omission on the part of the Presenting State, or of natural or juridical persons that it represents, the liability of the Launching State to pay compensation . . . shall, to that extent, be wholly or partially extinguished.¹²⁴

The Hungarian delegation has steadfastly adhered to its initial proposal on exonerations. The Hungarian draft bars all exonerations where the damage resulted from an unlawful space activity. On the other hand, if the space activity is not unlawful, certain exonerations are available. Article III of the Hungarian draft provides that:

. . . [E]xemption from liability may be granted only insofar as the State liable produces evidence that the damage has resulted from natural disaster or from a wilful act or from gross negligence of the [State] suffering the damage.¹²⁵

Conceptually, there is considerable common ground among the exoneration proposals. Leaving aside for the moment the Hungarian proposal barring all exonerations when damage results from an unlawful space activity, only two types of exonerations have been proposed: (1) natural disaster; and (2) wilful or gross misconduct.

The exoneration for natural disaster finds expression only in the Hungarian draft. The Hungarian representative has advised the Legal Subcommittee that natural disaster has the same connotation as *vis major* or *force majeure*.¹²⁶ Even among its sponsors, this exoneration has received rather unenthusiastic support. The Soviet Union, in supporting the Hungarian draft, has somewhat weakly maintained that it was worthy of adoption simply because it has in part been employed in domestic and international law.¹²⁷ In this connection, it has been erroneously maintained that the exoneration finds precedent in the Vienna Nuclear Liability Convention.¹²⁸

¹²³ Dembling & Arons, *supra* note 19, at 352.

¹²⁴ U.N. Doc. A/AC.105/C.2/L.19, found in A/AC.105/37 Annex II at 7 (1967).

¹²⁵ U.N. Doc. A/AC.105/C.2/L.10/Rev. 1, found in A/AC.105/37 Annex II at 14 (1964).

¹²⁶ See U.N. Doc. A/AC.105/37 Annex II at 3 (1967). U.N. Doc. A/AC.105/C.2/SR.48 at 12 (1965) [hereinafter summary reports will be cited as SR.]

¹²⁷ SR.50 at 5. On the other hand, the Hungarian representative said that he could see the cogency of the argument that "it was natural for the risk of *force majeure* to be borne by the entrepreneur." *Id.* at 7.

¹²⁸ U.N. Doc. A/AC.105/21/Add.2 at 57 (1964).

The Hungarian delegation has also argued that a natural disaster, such as a spacecraft being struck by lightning, would break the chain of causation, releasing the launching state from liability. In such a case, the Hungarian representative has maintained, it would be normal to place the consequences on the shoulders of the victim.¹²⁹ On the other hand, the Hungarian delegation has conceded that this exoneration would present difficult evidentiary problems.¹³⁰

The prevailing view among the delegates is that there should be no exoneration for natural disaster.¹³¹ It has been argued by the United States representative that "[s]uch an exoneration would make a serious inroad into the concept of absolute liability" and produce inequitable results.¹³² In the same vein, the Belgian, United Kingdom, and Austrian representatives have contended that the risk of a natural disaster should be borne by the launching state rather than by innocent persons on the ground.¹³³ In this connection, the Committee has been reminded that the Rome Convention of 1952, a most relevant analogue, made no allowance for natural disaster.¹³⁴

An exoneration for wilful misconduct on the part of the injured party is found in all three proposals. There is also agreement that gross or reckless misconduct should bar recovery, although in this connection linguistic nuances must be ironed out. The Belgian term "rashly and in full knowledge that damage will probably result" is equivalent to "reckless act" in the United States draft.¹³⁵ And, although there normally is a shade of difference between reckless misconduct and gross misconduct,¹³⁶ the United States use of the term "reckless act" is intended to mean the same as "gross misconduct" in the Hungarian draft.

As noted earlier, the United States had also used the term gross negligence in an earlier draft, but changed it in response to widespread criticism. To clarify the United States position, the Subcommittee was advised that the United States did not intend to depart from the concept of gross negligence. According to the United States representative, "the expression 'wilful or reckless act or omission' . . . did not mean mere negligence, but was rather tantamount to 'gross negligence.'"¹³⁷

¹²⁹ SR.50 at 7.

¹³⁰ *Id.*

¹³¹ See Dembling & Arons, *supra* note 19, at 361.

¹³² SR.50 at 6.

¹³³ *Id.* at 5, 6, 8.

¹³⁴ *Id.* at 5.

¹³⁵ U.N. Doc. A/AC.105/21/Add.2 at 58 (1964).

¹³⁶ See W. PROSSER, *supra* note 22, § 34.

¹³⁷ SR.50 at 6.

In response to the claim that the term gross negligence is internationally ambiguous,¹³⁸ it has been argued that the term has often been used in international agreements. Furthermore, it has been maintained that the term "reckless conduct" is at least equally ambiguous.¹³⁹ To erase any ambiguity, it has been suggested that the term "reckless act," as found in the United States proposal, be replaced by the Belgian phrase "rashly and in full knowledge that damage will probably result."¹⁴⁰ This appears to be a reasonable compromise. In short, the slight semantic differences which remain do not appear irreconcilable.

A more concrete distinction between the United States, Belgian, and Hungarian drafts is that although the former two provide for partial exoneration in the case of wilful or reckless misconduct, the latter does not. The United States representative to the Legal Subcommittee said that this provision would apply to a case where the negligence of the injured party was not the sole cause of the damage. In this regard, he said that it would not be difficult to decide the degree of liability which should be extinguished.¹⁴¹ Although the idea does not appear in the Hungarian draft, it has not been met with any strenuous objections.¹⁴²

A more serious difference of opinion exists with respect to the Hungarian proposal that no exonerations obtain if the damage resulted from an unlawful space activity. The term unlawful activity refers to any activity that would violate a treaty or any principle of customary international law.¹⁴³ It was also understood that the phrase meant "an activity contrary to the peace."¹⁴⁴

The communist nations of Eastern Europe appear to feel strongly about the matter. According to the Soviet delegate, the provision is of "fundamental importance."¹⁴⁵ In the same vein, the Rumanian representative said, "It was surely unthinkable that [in cases of an unlawful space activity giving rise to an accident] . . . an innocent State suffering damage should bear any part of the burden."¹⁴⁶ It was

¹³⁸ See H. DRION, *supra* note 24, at 197-207. Drion states that the term gross negligence is interpreted differently by many nations and that the term fails to draw a line between the various forms of negligence.

¹³⁹ U.N. Doc. A/AC.105/21/Add.2 at 58-59 (1964).

¹⁴⁰ *Id.* at 58.

¹⁴¹ SR.50 at 6.

¹⁴² Dembling & Arons, *supra* note 19, at 361.

¹⁴³ SR.50 at 11.

¹⁴⁴ *Id.* at 10.

¹⁴⁵ *Id.* at 11.

¹⁴⁶ *Id.* at 9.

generally understood that such a provision has been deemed essential for political reasons.¹⁴⁷

Those opposed to the provision have criticized it because of its ambiguity.¹⁴⁸ The United States representative has stated that the United States draft "deliberately . . . avoided such sweeping generalities as 'unlawful activity in outer space . . . ' in order to keep the principle of absolute liability as comprehensive and simple as possible."¹⁴⁹ The Canadian and Mexican representatives opposed the measure on the ground that the Convention was concerned with absolute liability in the context of the peaceful uses of outer space, and the Hungarian proposal fell outside that ambit.¹⁵⁰ In this regard the United States representative concurred.¹⁵¹

Despite the differences of opinion on the Hungarian proposal, highly qualified commentators believe that this should not prevent agreement on an article on exonerations from liability.¹⁵²

In summary, the three exoneration proposals show marked similarities. All state that if the damage has resulted from wilful misconduct or gross or reckless misconduct on the part of the claimant, the launching state will be exonerated from liability. All three drafts appear to contemplate exoneration for the same type of misconduct on the part of the claimant; the suggestion that the semantics problem be resolved by combining the phraseology of the United States and Belgian drafts is worthy of further study. In addition, both Belgium and the United States agree (and no state strongly disagrees) that exoneration in such cases may be partial.

The Hungarian proposal urging an exoneration for natural disaster has not been forcefully supported. The consensus among the delegates is that such a provision would inequitably place the risk of natural disaster on the innocent victim rather than on the launching state where it properly belongs. As a practical matter, even the Hungarian delegation has conceded that such an exoneration might give rise to insoluble evidentiary problems. In short, it is widely believed that an exoneration for natural disaster is not desirable. The Hungarian proposal barring all exonerations for unlawful space activity appears to have strong support among the Communist delegates. Because of the polit-

¹⁴⁷ U.N. Doc. A/AC.105/21/Add.2 at 60 (1964).

¹⁴⁸ See, e.g., SR.50 at 13.

¹⁴⁹ SR.50 at 4, 5.

¹⁵⁰ *Id.* at 10, 11.

¹⁵¹ *Id.* at 13.

¹⁵² Dembling & Arons, *supra* note 19, at 362.

ical overtones, division on this matter presents a most serious, but not insurmountable, obstacle to agreement.

In brief, the similarities in the three proposals outweigh any serious differences, and agreement on an exoneration article appears to be near.

CONCLUSION

Any study of the subject of exonerations from liability under an international agreement on liability for damage caused by space vehicles must not lose sight of the basic objectives that such an agreement is designed to achieve. One paramount objective of the proposed agreement relates to the principle of humanitarianism. This objective is, of course, to minimize the destruction of human values by providing adequate financial protection to innocent third persons who by chance fall victim to a space vehicle accident.

A second objective is to establish a simple, expeditious, and equitable method of settling international claims based on damage caused by man-made space objects. This goal not only enforces the paramount objective of humanitarianism but also serves the interests of both the space powers and the international community by reducing the possibility of international disputes.

Any exoneration that shifts the risk of damage from the nation that launched the object and whose economic resources can better withstand the loss caused by the object to the hapless victim should be based on very strong reasons. Likewise, any provision pertaining to exonerations that encumbers or obfuscates the agreement with matters that may be difficult to prove or to understand should be avoided.

It is submitted that the only exoneration from liability should be for wilful or reckless misconduct on the part of the claimant. Such an exoneration might read:

If the damage suffered results either wholly or partially from an act or omission on the part of the Presenting State, or of natural or juridical persons that it represents, and such an act or omission has been committed either (1) wilfully or (2) recklessly with knowledge that damage will probably result, the liability of the Launching State to pay compensation under this Convention shall, to that extent, be wholly or partially extinguished.

When the United States and the Soviet Union find it in their long-range interests to consummate an agreement on space vehicle liability,

legal technicalities and current differences of opinion with respect to exoneration will not stand in their way. When agreement is reached, the exoneration article should be in accord with the simple, expeditious and equitable scheme of the overall agreement.