

VERÖFFENTLICHUNGEN
DES INSTITUTS FÜR INTERNATIONALES RECHT
AN DER UNIVERSITÄT KIEL

97

JAN WILLISCH

**State Responsibility
for Technological Damage in
International Law**



DUNCKER & HUMBLOT / BERLIN

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Herausgegeben von

Jost Delbrück · Wilhelm A. Kewenig · Rüdiger Wolfrum

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By

Jan Willisch



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To the memory of

Inge Willisch
(1919 — 1969)

Preface

It is a well-established custom that in the preface to a new book the author should make some excuse for adding to the literature on the subject. My excuse is that I have been fascinated by International Law ever since my law-school days. As to the subject of state responsibility, it probably offers the freest scope of investigation to the academic lawyer and it leads him of necessity into most other departments of public international law. It has few detailed rules; it repels any tendency to dogmatism; it is made up mainly by precedent and practice rather than by the paralysing hand of the draftsman and it requires imagination not only in applying, but in finding the law. Moreover, a study on state responsibility relies to no small extent on the persuasiveness and coherence of an argument and is not restricted to the technical application of rules. Above all, state responsibility may be seen as the touchstone whether the extension of the word "law" to public international law is justified.

The limitation of my topic to incidents of transnational technological damage could be mistaken as an inclination on my part towards trendiness. This impression, however, would only be correct insofar as my special interest for state responsibility for technological damage stems to some extent from a number of recent academic publications on this topic, which in my view were in need of emphatic contradiction. It is just as foolish to underestimate in this sphere the services international law is offering as it is arrogant to ignore its need for improvement.

It is impossible to acknowledge adequately the debt one owes to others. I have benefited greatly from the detailed comments of the late Professor *D. P. O'Connell* and of Professor *J. E. S. Fawcett*, both of *All Souls*, who successively supervised my studies at Oxford. I have gladly accepted the suggestions made. I am grateful to Professor *Ian Brownlie*, Q. C., of Oxford University and to Professor *E. D. Brown* of Cardiff University for reading my thesis and for offering their criticism during my oral examination. Of course, the text presented remains my responsibility alone. I am also indebted to the staff of the *Institut für Internationales Recht an der Universität Kiel* for reading the proofs and saving me from many mistakes. Furthermore, I am grateful to its directors for publishing this book.

I am deeply indebted to the University of Oxford for conferring upon me the degree of Doctor of Philosophy and I am also most grateful to New College and to the Rhodes Trust for what will probably remain the three most unreal years of my life.

It remains to acknowledge the debt which I owe to the staff of the *Bodleian Law Library* for their courtesy and help and to the *Auswärtige Amt, Bonn*, as well as to the *Stifterverband für die Deutsche Wissenschaft, Essen*, for their most generous contributions towards the publication of this book. Finally, I wish to express my deep gratitude to Professor *Wilhelm A. Kewenig*, Senator of Berlin (formerly of Kiel University) and to *Anne-Ruth Moltmann*, as she then was, without whose moral support and constant encouragement I would have never brought this book to an end.

I commenced research during Michaelmas term 1978 and I submitted the thesis on which most of this book is based during Trinity term 1982, but it has been possible to include the more important references and information up to 31 December 1985.

Jan Willisch

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1972	(London) Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 11 ILM (1972) 1293; BGBl. (1977 II) 180.	61, 77, 79, 85, 91, 96, 99, 100, 106, 125, 139, 142—146
1972	Convention on International Liability for Damage Caused by Space Objects, 66 AJIL (1972) 702.	27, 57, 75, 76, 78, 269, 273, 286
1972	Treaty of 29th Sept. 1972 between Argentina and Brazil on the Use of Natural Resources, (New York) (unpublished).	173
1972	(Oslo) Convention on the Control of Marine Pollution by Dumping from Ships and Aircraft, 11 ILM (1972) 262; BGBl. (1977 II) 169.	36, 79, 95—97, 99, 100, 106, 127
1973	Agreement between Mexico and the United States of America on the Permanent and Definitive Solution to the International Problem of the Salinity of the Colorado River of Aug. 30, 1973, 12 ILM (1973) 1105.	151
1973	Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances Other than Oil, 13 ILM (1974) 605.	95
1973	(London) International Convention for the Prevention of Pollution from Ships (IMCO), 12 ILM (1973) 1319.	84, 85, 90, 105, 106, 111—123, 125, 138, 147
1974	(Paris) Convention for the Prevention of Marine Pollution from Land-based Sources, 13 ILM (1974) 352.	100—104, 110, 126
1974	(Helsinki) Convention on the Protection of the Marine Environment of the Baltic Sea Area, 13 ILM (1974) 546; BGBl. (1980 II) 1449.	61, 95, 99, 104—107, 116, 126, 127
1974	Convention Relating to the Distribution of Programme-carrying Signals Transmitted by Satellite, BGBl. (1979 II) 113.	56
1974	(Nordic) Convention on the Protection of the Environment, 13 ILM (1974) 591.	18, 75, 201—202, 229—230
1974	Treaty between the USA and the USSR on the Limitation of Underground Nuclear Weapon Tests, 13 ILM (1974) 906.	88
1975	US-Canada Weather Modification Agreement, 14 ILM (1975) 589.	82
1976	Treaty on Underground Nuclear Explosions for Peaceful Purposes, 15 ILM (1976) 891.	88
1976	(Barcelona) Convention for the Protection of the Mediterranean Sea against Pollution, 15 ILM (1976) 285.	61, 98—100, 116, 126
1976	(Barcelona) Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft, 15 ILM (1976) 300.	98
1976	(Barcelona) Protocol Concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency, 15 ILM (1976) 306.	98, 100
1976	Convention on Limitation of Liability for Maritime Claims, IMCO Doc. LEG/CONF. 5/10 of 19. 11. 1976.	94
1976	Convention on the Protection of the Rhine against Chemical Pollution, of Dec. 3, 1976, 16 ILM (1977) 242.	151

1978	Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 17 ILM (1978) 546.	112—113
1978	(Kuwait) Convention for Co-operation on the Protection of the Marine Environment from Pollution, 17 ILM (1978) 511.	116, 141
1978	(Vienna) Convention on Succession of States in Respect of Treaties, UN Doc. A/Conf. 80/31 (1978)	293
1979	Convention on Long-range Transboundary Air Pollution, 18 ILM (1979) 1442.	148
1980	(Barcelona) Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources (adopted at Athens), 19 ILM (1980) 870.	98, 101
1981	Memorandum between Canada and the United States Concerning Transboundary Air Pollution, 20 ILM (1981) 690.	148
1982	United Nations Convention on the Law of the Sea, 21 ILM (1982) 1261.	82, 83, 99, 123—148

Abbreviations

ABGB	=	Das Allgemeine Bürgerliche Gesetzbuch
AcP	=	Archiv für die civilistische Praxis
AdV	=	Archiv des Völkerrechts
AFDI	=	Annuaire Français de Droit International
A. J.	=	Acta Juridica (South Africa)
AJCL	=	American Journal of Comparative Law
AJIL	=	American Journal of International Law
All E. R.	=	All England Law Reports
ALS	=	Annotated Legislation Service
AöR	=	Archiv des öffentlichen Rechts
ASCL	=	Annual Survey of Commonwealth Law
AUS	=	Annales Universitatis Saraviensis
BCL	=	Bulletin of Czechoslovak Law Bulletin de Droit Tschechoslovaque
BDGV	=	Berichte der Deutschen Gesellschaft für Völkerrecht
Berner Kommentar	=	Kommentar zum Schweizerischen Zivilrecht (3rd ed. 1962 et seq.)
BGB	=	Bürgerliches Gesetzbuch (Federal Republic of Germany)
BGBI	=	Bundesgesetzblatt (Federal Republic of Germany)
BGE	=	Entscheidungen des Schweizerischen Bundesgerichts (1875 et seq.)
BGH	=	Bundesgerichtshof (Federal Republic of Germany)
BGHZ	=	Bundesgerichtshof, Entscheidungen in Zivilsachen
BT-Drucks.	=	Bundestagsdrucksache
BVerfGE	=	Entscheidungen des Bundesverfassungsgerichts (1952 et seq.) (Federal Republic of Germany)
BYIL	=	The British Year Book of International Law
CaliforniaLR	=	California Law Review
C. C.	=	Code Civil, Código Civil, Codice Civile, etc. (meaning depends on the context)
CJTL	=	Columbia Journal of Transnational Law
CLJ	=	Cambridge Law Journal
CLP	=	Current Legal Problems
C.L.R.	=	Commonwealth Law Reports
CLYb.	=	Comparative Law Yearbook
Cmd.	=	Papers Presented to Parliament by Command of Her Majesty, 1956 et seq.

XXIV

Abbreviations

ColumbiaLR	=	Columbia Law Review
CWILJ	=	California Western International Law Journal
CWRJIL	=	Case Western Reserve Journal of International Law
CYIL	=	Canadian Yearbook of International Law
D.	=	Digesta Iustiniani Augusti 2 Vols. (1870, Th. Mommsen, ed.) English Translation in: Scott, The Civil Law in Seven Volumes (1932)
Dalloz	=	Encyclopédie Dalloz, Répertoire de Droit Civil (2nd ed. 1981)
DI	=	Diritto Internazionale
Digest	=	Digest of United States Practice in International Law (1973 et seq.) (Department of State Publication)
diss. op.	=	dissenting opinion
DJILP	=	Denver Journal of International Law and Policy
D.L.R.	=	Dominion Law Reports, 1912 (Canada)
D. S.	=	(followed by a reference to a year) Recueil Dalloz Sirey, Jurisprudence Générale (1845 et seq.)
D.S.B.	=	Department of State Bulletin (U.S.A.)
DVBl.	=	Deutsches Verwaltungsblatt
EA	=	Europa Archiv
EC	=	European Community
ECHR	=	Publications of the European Court of Human Rights
ECR	=	European Court Reports
ELQ	=	Ecology Law Quarterly
ELR	=	European Law Review
EPL	=	Environment Policy and Law
E.R.G.	=	Entscheidungen des Reichsgerichts (Austria)
ETS	=	European Treaty Series, Council of Europe
EuR	=	Europa Recht
Fundstellennachweis B	=	Völkerrechtliche Vereinbarungen und Verträge mit der DDR Bundesminister der Justiz (ed.)
GaJICL	=	Georgia Journal of International and Comparative Law
GAOR	=	General Assembly Official Records
GA Res.	=	General Assembly Resolution
GYIL	=	German Yearbook of International Law
Hague Colloquium	=	Hague Academy of International Law 1971 et seq., since 1978: "Workshop"
Hague Recueil	=	Académie de droit international, Recueil des Cours, 1923 et seq.
HILJ	=	Harvard International Law Journal
HLR	=	Harvard Law Review
H. R.	=	Hoge Raad (The Netherlands Court of Appeal)
HuLR	=	Hungarian Law Review

ICAO	=	International Civil Aviation Organization
ICJ	=	International Court of Justice
ICJ Rep.	=	International Court of Justice, Reports of Judgments, Advisory Opinions and Orders
ICLQ	=	International and Comparative Law Quarterly
<i>id.</i>	=	<i>idem</i> (the same); <i>ibidem</i> (in the same place)
IECL	=	International Encyclopedia of Comparative Law (Tübingen) (1971 et seq.)
IIL	=	Institute of International Law (Institut de Droit International)
I. J.	=	International Journal (Canada)
ILA	=	International Law Association
ILC	=	International Law Commission
ILM	=	International Legal Materials
ILO	=	International Labour Organization
ILR	=	International Law Reports
IMCO	=	Intergovernmental Maritime Consultative Organization, now International Maritime Organization (IMO)
ind. op.	=	individual opinion
IO	=	International Organizations
IowaLR	=	Iowa Law Review
IsLR	=	Israel Law Review
IYIL	=	Italian Yearbook of International Law
JIR	=	Jahrbuch für Internationales Recht
JMLC	=	Journal of Maritime Law and Commerce
JÖR	=	Jahrbuch des Öffentlichen Rechts
JSL	=	Journal of Space Law
JWTL	=	Journal of World Trade Law
JZ	=	Juristenzeitung
Ka.LR	=	Kansas Law Review
LA	=	Lawyer of the Americas
LaLR	=	Louisiana Law Review
Law in E.E.	=	Law in Eastern Europe 1958 et seq., Szirmai, ed. until 1974, Vol. 18 II; Feldbrugge, ed. since 1975, Vol. 18 III
Law of the Sea	=	New Directions in the Law of the Sea, Documents Compiled by Lay, Churchill, Nordquist and Simmonds, 10 vols. 1973—1980 (to be continued)
Laws of Cyprus	=	The Statute Laws of Cyprus 1910 et seq.
LNTS	=	League of Nations Treaty Series
LQR	=	Law Quarterly Review
L.R.	=	Law Reports
M.L.R.	=	Modern Law Review
MPM	=	Maritime Policy and Management
Münchener Kommentar	=	Münchener Kommentar zum Bürgerlichen Gesetzbuch (5 Vols. and Ergänzungsband, 1978—1981)
N.	=	Number

N.C.L.R.	=	North Carolina Law Review
NEJ	=	Nueva Enciclopedia Jurídica
NiemeyersZ.f.I.R.	=	Niemeyers Zeitschrift für Internationales Recht
NILR	=	Netherlands International Law Review
NJ	=	Neue Justiz
NJW	=	Neue Juristische Wochenschrift
NordTIR	=	Nordisk Tidskrift for International Ret
NRJ	=	Natural Resources Journal
NRL	=	National Resources Lawyer
NTIR	=	Nederlands Tijdschrift voor International Recht
NU	=	Nordisk Utredningsserie
NYIL	=	Netherlands Yearbook of International Law
NYLF	=	New York Law Forum
OECD	=	Organization for Economic Cooperation and Development, Paris
OJEC	=	Official Journal of the European Communities L: Legislation C: Information and Notices
ÖJZ	=	Osterreichische Juristen-Zeitung
OregonLR	=	Oregon Law Review
OZORV	=	Osterreichische Zeitschrift für öffentliches Recht und Völkerrecht
PCIJ	=	Permanent Court of International Justice Reports
P.G.	=	Palestine Gazette
Quentin-Baxter, Preliminary Report	=	Preliminary Report on International Liability for Injurious Consequences Arising out of Acts not Prohibited by International Law. UN Doc. A/CN.4/334 (24. 06. 1980) 1-17; Add. 1 (27. 06. 1980); Add. 2 (04. 07. 1980)
RabelsZ	=	Rabels Zeitschrift für ausländisches und internationales Privatrecht
RBDI	=	Revue belge de droit international
RDI	=	Rivista di diritto internazionale
RDS	=	Revue de droit suisse
Rechtsvergl. Handwörterbuch	=	Rechtsvergleichendes Handwörterbuch für das Zivil- und Handelsrecht (7 Vols., 1929—1939)
Restatement of the Law (second)	=	Torts 2nd, American Law Institute (Vol. 4, 1979)
RevueDI	=	Revue de droit international
Revue du Barreau	=	La revue du barreau du Québec
RGDIP	=	Revue Générale de Droit International Public
RGZ	=	Entscheidungen des Reichsgerichts in Zivilsachen
RIDC	=	Revue internationale de droit comparé
RIE	=	Rivista de Instituciones Europeas
Rivista	=	Rivista di diritto internazionale
RJE	=	Revue juridique de l'environnement
RutgersLR	=	Rutgers Law Review
SALJ	=	South African Law Journal
S.C.	=	Scottish Session Cases

SchweizBG	=	Schweizerisches Bundesgericht
S.F.	=	Svensk författningssamling
SJIR	=	Schweizerisches Jahrbuch für internationales Recht = Annuaire suisse de droit international
SSL	=	Scandinavian Studies in Law
StanfordLR	=	Stanford Law Review
Sy.LR	=	Syracuse Law Review
SZ	=	Entscheidungen des österreichischen Obersten Gerichtshofes in Zivil- und Justizverwaltungs- sachen
T. f. R.	=	Tidsskrift for Rettsvitenskap
TGS	=	Transaction of the Grotius Society (Vol. 1—44, 1915—1959)
TIAS	=	Treaties and Other International Acts Series (United States)
TILJ	=	Texas International Law Journal
TulaneLR	=	Tulane Law Review
UBCLR	=	University of British Columbia Law Review
U.Colo.L.R.	=	University of Colorado Law Review
U.f.R.	=	Ugeskrift for Retsvaesen (The Danish Law Weekly)
UKTS	=	United Kingdom Treaty Series
UNCIO	=	Documents of the United Nations Conference on International Organizations (1945)
UNCLOS OR	=	Third United Nations Conference on the Law of the Sea, Official Records (Vol. 1 et seq., 1975 et seq.)
UNEP	=	United Nations Environmental Programme
UN GA Res.	=	United Nations General Assembly Resolution
UNLS	=	United Nations Legislative Series (United Nations Publications)
UNRIAA	=	Reports of International Arbitral Awards (United Nations Publications)
UNTS	=	United Nations Treaty Series
US Foreign Relations	=	Papers Relating to the Foreign Relations of the United States
USTS	=	United States Treaty Series
VJIL	=	Virginia Journal of International Law
VJTL	=	Vanderbilt Journal of Transnational Law
VN	=	Vereinte Nationen
WGO	=	WGO — Monatshefte für osteuropäisches Recht
WMO	=	World Meteorological Organization
Wörterbuch	=	Wörterbuch des Völkerrechts (Strupp-Schlochauer, eds., 3 Vols., 1960—1962)
WOLR	=	Western Ontario Law Review
Words and Phrases	=	Words and Phrases, Permanent Edition (46 vols., 1658 to date)
YBECHR	=	Yearbook of the European Convention on Human Rights (1958 et seq.)
YBILC	=	Yearbook of the International Law Commission (United Nations Publication)

XXVIII**Abbreviations**

YBWA	=	Yearbook of World Affairs
YbIL	=	Yearbook, Institute of International Law
ZaöRV	=	Zeitschrift für ausländisches öffentliches Recht und Völkerrecht
ZfRV	=	Zeitschrift für Rechtsvergleichung
Z.f.V.	=	Zeitschrift für Völkerrecht
ZGB	=	(Schweizerisches) Zivilgesetzbuch
ZLR/ZLW	=	Zeitschrift für Luftrecht since 1960: Zeitschrift für Luftrecht und Weltraumrechtsfragen since 1975: Zeitschrift für Luft- und Weltraumrecht
ZOR	=	Zeitschrift für Öffentliches Recht
ZverglR	=	Zeitschrift für vergleichende Rechtswissenschaft
ZVR	=	Zeitschrift für Völkerrecht und Bundesstaatenrecht

Introduction

Negative by-products and undesired side-effects of modern technology and industrialization have not stopped short at national frontiers. To the extent to which they affect other states they remain no longer the sole concern of domestic law but attract the attention of international law. The problem has not been ignored by international lawyers, who on occasions have been quick to point to the underdeveloped state of public international law in this field. This, in turn has led some to argue in favour of novel conceptions of state liability based on the notions of 'risk' and 'extra-hazardous activities'. Owing to a use of terminology which is both confusing and confused, it is not always easy to make out what type of liability exactly is intended to be introduced in public international law. However, so much is clear: State liability in cases of technological damage is said to be no longer based exclusively on an internationally wrongful act, but may be engaged by causation of damage alone.

Others have voiced their doubts as to the prospects of such a concept of liability in public international law and have sought the solution of this problem in private law, including private international law. The numerous problems with this private law approach are outlined in Chapter 3: Dismissing public international law in this field and focusing entirely on private law solutions might mean to go from bad to worse.

But any suggestions *de lege ferenda* can be persuasive only, once the *lex lata* has been ascertained and found wanting. Accordingly, this book has two main objectives. The first is to state the law of state responsibility for technological damage as it stands today. It will emerge that the present law on this subject is not quite as underdeveloped and not quite as inadequate as frequently suggested.

Since orthodox state responsibility is based on an internationally wrongful act of a state, roughly half of this book is concerned with international obligations, both custom and treaty, regarding physical interference with or on foreign territory by means of technological activities. There exists a considerable body of international customary law which determines the rights and obligations of states with respect to activities which are carried out on a state's territory or under its

jurisdiction, but which produce physical effects elsewhere. Broadly speaking, any trespass on foreign territory, including foreign airspace, is internationally illegal unless prior consent has been obtained or certain exceptional circumstances are present. International law is not quite as straightforward where transboundary interference by emissions is concerned. On the one hand, there is strong evidence that not all interference by emissions is illegal, even if it leads to some damage or injury on or to foreign territory. On the other hand, there is irrefutable evidence that above and beyond a certain degree of physical interference by emissions the victim state which suffered damage as a result is entitled both to compensation and to have the interfering emissions enjoined. Thus, the illegality of interference by emissions is a problem of the relevant threshold. With regard to the question, where exactly this demarcation line of illegality is to be drawn, both treaty law and international custom are, indeed, not very well developed. Even the law concerning the protection of the oceans, which at present is the most developed field of international environmental law, provides but few ecological standards the violation of which could serve as a basis for state responsibility. This situation will not even rapidly improve with the advent of the United Nation Convention on the Law of the Sea. The second main objective of this book is, therefore, to show that certain legal principles and rules can be extrapolated from municipal law of neighbourhood and private nuisance for purposes of establishing the threshold of illegal interference in international law. Accordingly, much of the second half of this book is occupied with a comparative study of municipal law of neighbourhood and private nuisance. The pains of unearthing the municipal neighbourhood law of a considerable number of states were rewarded by the discovery of surprisingly similar rules and principles in most of them. By virtue of Art. 38 I c ICJ Statute, these rules and principles can be carried over into international law in order to lend more precision to the threshold of illegal interference by transboundary emissions. Moreover, Chapter 6 includes an investigation into regional General Principles of Law. This is virgin soil in the law of transnational emissions.

The objective of the last chapter is to identify some of the sources of the uncertainties and confusions which continue to surround questions of attribution, fault and the so-called liability for lawful activities in international law.

Specific problems concerning causation, damage and the calculation of damages or compensation have been excluded partly because they are problems of a more general nature, common to other fields of law as well, and partly because their treatment would have transgressed

the scope of this book. No apology is made for not dealing with the local remedies rule. Where damage or injury is caused *outside* the territory and jurisdiction of the state of origin, it instantly incurs responsibility and may not require exhaustion of remedies before its own courts.¹

¹ Cf. *O'Connell*, at 950—955.