

No. 00-56141

United States Court of Appeals
for the Ninth Circuit

LAWRENCE O'CONNOR, *et al.*,
Plaintiffs,

and

MARY CHRISTINE CRILLEY, *et al.*,
Plaintiffs-Appellants,

v.

BOEING NORTH AMERICAN, INC. and
ROCKWELL INTERNATIONAL CORPORATION,
Defendants-Appellees.

Appeal from Judgment of the United States District Court
for the Central District of California
No. 97-1554 ABC (RCx)
The Honorable Audrey B. Collins

**BRIEF AMICUS CURIAE IN SUPPORT
OF PETITION FOR PANEL REHEARING
AND *EN BANC* REVIEW**

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Preliminary Statement

Robert K. Adair, D. Alan Bromley, Patricia A. Buffler, Bernard Cohen, Louis Anthony Cox, Jr., Sheldon Lee Glashow, Steven H. Lamm, Arthur M. Langer, A. Alan Moghissi, Robert P. Nolan, Francesco Pompei, Barry H. Smith, A. Frederick Spilhaus, Jr., and Richard Wilson respectfully submit this brief in support of defendants'-appellees' petition for panel rehearing or *en banc* review.

Interest of *Amici*

Amici are scientists, including physicians, chemists, epidemiologists, environmental scientists, experts in risk analysis and risk assessment and physicists, who have studied the issue of the role that scientific issues play in public affairs¹. *Amici* are concerned that the holding of the three-judge panel with respect to the quantum of “knowledge” required of a plaintiff to begin the running of the statute of limitations indicates that the panel was confused as to the concepts of “possibility,” “probability,” and established scientific fact, and that the panel’s wording also confuses the degree of knowledge or certainty needed to begin the running of the period of limitation with the degree of proof required to establish a claim on the merits.

¹ The credentials of the *amici* are set forth in the biographical addendum at the end of this brief.

Amici do not address any of the other issues on appeal: whether federal law preempts California law as to the commencement of the statute of limitations or whether there was sufficiently wide publication of facts concerning the operation of the Rocketdyne facilities to put plaintiffs and the public on notice of the possibility that those operations resulted in emissions of chemicals that likely caused their diagnosed illnesses.

Background

A group of individuals, or their decedents, living in Southern California were diagnosed with a variety of illnesses, including cancer, in the early 1990's. In 1997 an epidemiological study was published by scientists at the University of California at Los Angeles (UCLA) that found a statistical association between increases in cancer among employees and their employment at Rocketdyne's Santa Susana Field Laboratory.² The plaintiffs filed suit shortly thereafter.

In 1999 a draft report became available from the U.S. Department of Health and Human Service's Agency for Toxic Substances and Disease Registry

² The district found that public concern about Rocketdyne's operations being a source of environmental pollution became a matter of public concern, and was investigated and reported by the news media, as early as the 1970s. *O'Connor v. Boeing North American, Inc.*, 92 F. Supp.2d 1026, 1031 (C.D. Cal. 2000).

(“ATSDR”);^{3,4} that report reviewed five epidemiologic investigations previously completed in the SSFL area. The conclusion of the ATSDR report stated “ATSDR has not identified an apparent public health hazard to the surrounding communities because people have not been, and are currently not being exposed to chemicals and radionuclides from the site at levels that are likely to result in adverse health effects.”⁵

The district court granted summary judgement to the defendants on the ground that the illnesses of the plaintiffs were diagnosed with various diseases more than a year before the suit was filed, and that there was enough publicity about the Rocketdyne facilities to put them on notice that the Rocketdyne operations were a possible cause of their diseases. A three judge panel (the “panel”) of the Court of Appeals, by a two-to-one majority, reversed and remanded as to most of the plaintiffs.

³ ATSDR is charged, under CERCLA, to assess the presence and nature of health hazards at Superfund sites.

⁴ Draft Preliminary Site Evaluation, Santa Susana Field Laboratory (SSFL), Ventura County, California, CERCLIS NO. CAD074103771 (December 3, 1999), available at http://www.atsdr.cdc.gov/HAC/PHA/santa/san_p1.html#_1_20. The ATSDR study was performed in response to extensive publicity and public concern that began many years before, and considered and reviewed numerous studies and samplings at the Rocketdyne facility spanning the period from 1979 through 1999.

⁵ http://www.atsdr.cdc.gov/HAC/PHA/santa/san_p3.html.

ARGUMENT

I. THE PANEL’S STANDARD FOR THE STATE OF KNOWLEDGE REQUIRED TO START THE RUNNING OF THE STATUTE OF LIMITATION IS AMBIGUOUS AND CONFUSING

The panel held that under CERCLA (which it deemed controlling) the limitations period does not begin to run until “A plaintiff knows or reasonably should know of a claim” which is when he or she knows “both the existence and the cause of his injury.” *O’Connor v. Boeing North America, Inc.*, 311 F.3d 1139, 1147 (9th Cir. 2002) (citing *United States v. Kubrick*, 444 U.S. 111, 113, 122 (1979)).⁶ The majority enunciated a rule that a toxic tort plaintiff is under no obligation to investigate a possible claim, or to file suit, until he or she knows that the defendant’s activity is the “likely cause” of injury. 311 F.3d 1139, 1155, 1156.

Thus, the record supports conflicting inferences about whether Plaintiffs were on inquiry notice that the contamination caused their diseases. It does not establish that Plaintiffs were aware that releases from the Rocketdyne facilities were the *likely cause*, among other causes, of their injuries.

311 F.3d 1139, 1155 (emphasis supplied, citations omitted).

⁶ The panel majority then concluded that summary judgment was improper as to the 18 plaintiffs who filed suit after the UCLA worker health study was published in September 1997. The majority wrote that a two-part analysis will determine whether a plaintiff had constructive notice of his or her claim: (1) “whether a reasonable person in Plaintiffs’ situation would have been expected to inquire about the cause of his or her injury,” and (2) if a plaintiff was on inquiry notice, “whether [an inquiry] would have disclosed the nature and cause of plaintiff’s injury so as to put him on notice of his claim.” 311 F.3d 1139, 1150.

Amici believe that the panel's various formulations conflate the trigger for the running of the statute of limitations with the burden of proof of a claim on the merits.

Most toxic tort actions involves latent disease, the etiology of which is disputed, and, at least the defendant contends, unknown. The panel's criterion for triggering the accrual of a claim so as to start the running of the statute of limitations -- that "Plaintiffs knew or should have known . . . that the Rocketdyne contamination was the cause of their diseases" (311 F.3d 1139, 1150) -- will almost never occur before the suit is filed and discovery is taken.

Amici advance no opinion whether exposures to pollutants from the Rocketdyne facilities were in fact the causes of plaintiffs' illnesses, nor do they assign a firm probability to that claim. But the panel's wording suggests to *amici* that the panel is not clear as to the distinctions between possibility, probability, and established scientific fact, they believe that if the panel's holding is allowed to stand very undesirable legal precedent may be established.

Disagreements between parties on whether or not a fact is established are the reason why the parties resort to courts at all. *Amici* and other scientists argue that a fact is never established with certainty, but only to a certain degree of probability. For simple situations, such where a dead body lies under a dented car, the probability

is sufficiently high that the car caused the death that most would call it a certainty.⁷

But for cancer causation, and for causes of many other torts, particularly those involving medical causation, certainty is much less closely approached. This has been recognized by the courts, which have established a criterion that the assign blame, and recover damages in most disagreements, it be “more likely than not” that the postulated cause is the correct one. *See Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 43 F.3d 1311, 1320 (9th Cir. 1995).⁸ The standard that it be “more likely than not” should only be used to assign blame and award compensation.

⁷ If there are witnesses to the accident, and their recollection of the occurrence is consistent, the probability increases substantially, and our judicial system would deem that a “certainty.” But given the fallibility of human perception and memory, it is not actually “certain.”

⁸ *Amici* believe that the reading of these words could equally be “more probable than not” and have argued that this corresponds to the technical calculation of the “Probability of Causation” being greater than 50%, and in epidemiological terms that the “Risk Ratio” for a group be greater than two. The probability of causation can be related to the risk of an individual getting the disease from a given dose of a disease causing agent by the formula:

$$\text{Probability of Causation} = \frac{\text{(Risk calculated from exposure to the particular agent)}}{\text{(Risk calculated from all causes including those without the particular agent present)}}$$

F.A. Mettler and A.C. Upton (eds.), *Medical Effects of Ionizing Radiation* 350-372 (2nd ed., 1995). *See also* National Council on Radiation Protection and Measurements (NCRP), Statement No. 7, “The Probability That a Particular Malignancy May Have Been Caused by a Specific Irradiation” (9/30/92) and references therein; W.B. Saunders, “Report of the National Institutes of Health Working Group to Develop Radioepidemiological Tables,” NIH Publication No. 85-274, (Washington, D.C., U.S. Gov’t Printing Office). This follows from “Bayes’ rule” which is found in Chapter 1 of several statistics texts, *e.g.*, Theorem 1.17, in R. E. Walpole and R. H. Meyers. *PROBABILITY AND STATISTICS FOR ENGINEERS AND SCIENTISTS* (Macmillan Publ. Co., 5th ed., 1993). In epidemiological terminology, if the relative risk, or “Risk Ratio,” is very large, there is a greater likelihood that a particular exposure causes a particular disease. *See* M. D. Green, D. M. Freedman, L. Gordis, *Reference Guide On Epidemiology*, in Federal Judicial Center, *REFERENCE MANUAL ON SCIENTIFIC EVIDENCE* at 394-395 (2nd ed. 2000).

The “likely cause” test therefore cannot logically be the correct standard for the commencement of the statute of limitations period or of “inquiry notice,” for if one already knows the “likely cause” of an injury, there is need for further inquiry. The plaintiff already has sufficient facts to recover at trial.

The law establishes a statute of limitations to ensure that time is not wasted on stale claims. The issue is when the clock starts ticking on the statute. The courts have agreed that it will not start ticking until after the injury has been discovered (cancer diagnosed) and its possible cause suspected.

Amici believe it is important to be as precise as possible about the distinction between “possible,” “probable” and their synonyms, and to adhere as closely as possible to common sense interpretations. While the panel makes a distinction between what they describe as California law, that when a plaintiff “suspects or should suspect that her injury was caused by wrongdoing.” 311 F.3d 1139, 1148 (citing *Jolly v. Eli Lilly & Co.*, 44 Cal.3d 1103, 245 Cal.Rptr. 658, 751 P.2d 923, 927 (1988) and *Norgart v. Upjohn Co.*, 21 Cal.4th 383, 87 Cal.Rptr.2d 453, 981 P.2d 79, 88 (1999)) and what they understand to be federal law under CERCLA, that it is when a plaintiff “has knowledge of the critical facts of his injury, which are that he has been hurt and who has inflicted the injury.” (citing *Bibeau v. Pac. N.W. Research Found. Inc.*, 188 F.3d 1105, 1108 (9th Cir.1999), *amended by* 208 F.3d 831 (9th Cir. 2000)), they do not clearly state what knowledge is, in the view of the panel,

sufficient.

If all that is needed to start the clock is knowledge of injury and the person responsible, that is what necessary to start a lawsuit, and would probably not be objectionable. But only two pages later, the panel writes that the clock starts when “Plaintiffs knew or should have known . . . that the Rocketdyne contamination *was the cause* of their diseases” (311 F.3d 1139, 1150, emphasis supplied). That is a significantly higher level of knowledge. Indeed other language in the decision, that the clock would start ticking only if “plaintiffs were aware that releases from the Rocketdyne facilities were the *likely* cause, among other causes, of their injuries” (311 F.3d 1139, 1155, emphasis supplied) would lead *amici* and others to conclude that still more precision and specificity might be needed to start the limitations period.⁹

⁹ A plaintiff is under a duty to inquire as to the cause of his injury. The purpose of the “discovery rule” is to balance the interests of avoiding the need to adjudicate stale claims against the unfairness of barring “someone who has no idea he has been harmed from seeking redress.” A plaintiff who did not actually know that his rights were violated will be barred from bringing his claim after the running of the statute of limitations if he should have known in the exercise of due diligence. *Bibeau v. Pac. N.W. Research Found., Inc.*, 188 F.3d 1105, 1108 (9th Cir. 1999). Here the panel held that toxic tort plaintiffs are not even put on “inquiry notice” – and thus did not even have a duty to investigate – until they knew that the defendants’ releases “were the *likely* cause, among other causes, of their injuries.” 311 F.3d 1139, 1155 (emphasis supplied). On the same day as the panel rendered its decision in this case, the Tenth Circuit held that “suspicion” is sufficient to trigger “inquiry notice” under the federal discovery rule. In *Plaza Speedway, Inc. v. United States*, 311 F.3d 1262, 1271 (10th Cir. 2002), the Tenth Circuit addressed whether Federal Tort Claims Act plaintiffs were on inquiry notice that the government had contaminated their property when they learned there were contaminants in their well, because “they had *reason to suspect* the source *might have been* the neighboring property” and “two years thereafter was adequate time for them to initiate *inquiry* into any possible harm.”

The panel uses several verbal formulae to describe the state of knowledge of a plaintiff sufficient to start the statute of limitations clock; these verbal expressions are not identical or even consistent, creating ambiguity and uncertainty. This ambiguity is confusing and dangerous, and leaves plaintiffs and defendants in a quandary; it certainly defeats a major purpose of the legal system, which is to provide stable expectations for conduct and its legal consequences. *Amici* do not believe that was the intention of the legislators who drafted the CERCLA legislation and the scientists and others who advised them. The panel's opinion does not point to any legislative history that shows that intent.

In many cases of claims involving causation in medical matters, the plaintiffs have been unable to prove, even after extensive discovery, that it is "more likely than not" that their postulated cause is the correct one. It is difficult to imagine many situations where, under the language of the panel, the clock would ever start ticking in many toxic tort or product liability cases. The vast majority of toxic tort cases are brought when the plaintiff has only a suspicion of the cause of the disease or injury, yet the majority of the panel would not even start the limitation period until a plaintiff has "knowledge" of the cause of injury. By a parity of reasoning, would the panel have trial courts dismiss such cases unless the plaintiff at the motion to dismiss stage has clear and convincing proof that the defendant more likely than not caused the injury?

CONCLUSION

For the foregoing reasons, this Court should grant Defendants-Appellees' petition for Panel rehearing or, alternatively, for rehearing *en banc*.

Dated: January 20, 2003

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BIOGRAPHICAL ADDENDUM

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D. ALLAN BROMLEY is the Sterling Professor of the Sciences and Dean of Engineering at Yale University; during 1989-1993 he was The Assistant to the President for Science and Technology and Director of the Office of Science and Technology Policy (OSTP) in the Executive Office of the President of the United States. Professor Bromley was founder and director of the A.W. Wright Nuclear Structure Laboratory at Yale from 1963 to 1989 and served as chairman of the physics department from 1970 to 1977. He has carried out pioneering studies on both the structure and dynamics of nuclei and is considered the father of modern heavy ion science, one of the major areas of nuclear science. He has published more than 450 papers on science and technology, edited or authored 19 books. Dr. Bromley has received numerous honors and awards, including the National Medal of Science, the highest U.S. scientific award. Prior to his appointment to the Bush Administration, Dr. Bromley served as member of the White House Science Council throughout the Reagan Administration and as a member of the National Science Board in 1988-1989. Dr. Bromley has been a leader in the national and international science and science policy communities. As chairman of the National Academy's Physics Survey in the early 1970's, he contributed in a central way to charting the future of that science in the subsequent decade and as president of the American Association for the Advancement of Science, the world's largest scientific society, and of the International Union of Pure and Applied Physics, the world coordinating body for that science, Dr. Bromley has been one of the leading spokesmen for U.S. science and for international scientific cooperation. He is a member of the U.S. National Academy of Sciences, the American Academy of Arts and Sciences, the Brazilian

Academy of Sciences and the Royal South African Academy of Sciences. He is also Academician of the International Higher Education Academy of Sciences, Moscow, a Benjamin Franklin Fellow of the Royal Society of Arts in England, and was awarded the Commander's Cross of the Order of Merit by the President of the Federal Republic of Germany.

PATRICIA A. BUFFLER is Professor of Epidemiology at the School of Public Health of the University of California at Berkeley, and is a former Dean of the School of Public Health of the University of California at Berkeley. Among many honors and activities in the field of epidemiology, Dr. Buffler is a Fellow of the American College of Epidemiology, and was President of that organization in 1991-1992. She is a member of the Institute of Medicine of the National Academy of Sciences and a Fellow of the American Association for the Advancement of Science.

BERNARD COHEN is Professor Emeritus of Physics and the Environment and Occupational Health at the University of Pittsburgh. He is the author of six books and approximately 275 papers in scientific journals in his field. He was chair of the American Physical Society Division of Nuclear Physics and the American Nuclear Society Division of Environmental Sciences. He is the winner of the following awards: the American Physical Society Bonner Prize (for research in nuclear physics), the Health Physics Society Distinguished Scientific Achievement Award, the American Nuclear Society Public Information Award, the American Nuclear Society Walter Zinn Award, and the American Nuclear Society Special Award.

LOUIS ANTHONY COX, JR. is President of Cox Associates, LLC, an independent applied research, training, and consulting company specializing in health, safety, and environmental risk analysis and modeling. Cox Associates' scientists develop and apply computer simulations, statistical and epidemiological risk analyses, and operations research models for decision and risk analyses to improve assessment, communication, and management of risks by public and private sector clients. Dr. Cox is on the Faculty of the Center for Computational Mathematics at the University of Colorado at Denver, where he is Honorary Full Professor of Mathematics and

lectures on topics in biomathematics and quantitative risk assessment. He also is Clinical Professor of Preventive Medicine and Biometrics at the University of Colorado Health Sciences Center, where he pursues research on biomathematical models of disease causation and exposure-response relations. Dr. Cox holds a Ph.D. in Risk Analysis from M.I.T.

SHELDON LEE GLASHOW is a Nobel Laureate in Physics, formerly Mellon Professor of Physics at Harvard University, and currently Arthur G.B. Metcalf Professor of Physics at Boston University. He is a fellow of the American Physical Society and the American Association for the Advancement of Science; member of the American Academy of Arts and Sciences, the National Academy of Sciences, and the American Philosophical Society; foreign member of the Russian and Korean Academies of Science; founding editor of Quantum Magazine. He is the recipient of many awards, including the Oppenheimer Medal, the Richtmyer Lecture Award, and the Erice Science for Peace Prize.

STEVEN H. LAMM, M.D., D.T.P.H. is a medical doctor; he also holds a diploma in tropical public health. He is board certified in pediatrics, in occupational medicine and preventive medicine. He is a charter fellow of the American College of Epidemiology, and a winner of the Annual Prize of the Society for Epidemiologic Research. Dr. Lamm also holds a Master of Science degree in biophysics. He is President of Consultants in Epidemiology & Occupational Health, Inc., Associate Professor in the Department of Health Policy and Management at the School of Hygiene and Public Health of The Johns Hopkins University, Adjunct Associate Professor, Preventive Medicine and Biometrics, Uniformed Services University of the Health Sciences, Clinical Assistant Professor of Pediatrics at the Georgetown University Medical School, Washington, DC. He was Senior Epidemiologist in the Epidemiology Branch of the National Institute of Child Health and Human Development of the National Institutes of Health; Epidemic Intelligence Service Officer at the Centers for Disease Control. He has served as a consultant to the Food Advisory Committee of the U.S. Food and Drug Administration, a consultant on Vaccine Complications to the Health Resources and Services Administration,

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ARTHUR M. LANGER is the Director of the Environmental Sciences Laboratory of the Institute of Applied Sciences and Professor of Geology at Brooklyn College of the City University of New York. He was Associate Professor in the Center for Polypeptide and Membrane Research at the Mt. Sinai School of Medicine in New York and Associate Professor of Mineralogy at Mt. Sinai.

A. ALAN MOGHISSI is President of the Institute for Regulatory Science, a non-profit organization dedicated to the idea that societal decisions must be based on the best available scientific information. The activities of the Institute include research, scientific assessment, and science education at all levels. Dr. Moghissi held positions at the U.S. Public Health Service and the U.S. Environmental Protection Agency (EPA), where he served in a number of capacities, including Director of the Bioenvironmental/Radiological Research Division; Principal Science Advisor for Radiation and Hazardous Materials; and Manager of the Health and Environmental Risk Analysis Program. After his retirement from the EPA, Dr. Moghissi joined the University of Maryland at Baltimore as Assistant Vice President for Environmental Health and Safety; subsequently he was Associate Vice President for Environmental Health and Safety at Temple University in Philadelphia, Pennsylvania. Dr. Moghissi's research has ranged from measurement of pollutants to the biological effects of environmental agents. He is the editor-in-chief of *Environment International* and of *Technology: Journal of The Franklin Institute*, which is one of

America's oldest continuously published journals of science and technology. Dr. Moghissi is chairman of the Environmental Division of the American Society of Mechanical Engineers.

ROBERT P. NOLAN is Associate Director of the Environmental Sciences Laboratory of the Applied Sciences Institute of Brooklyn College of the City University of New York and a member of the Doctoral Faculties in Chemistry and in Earth and Environmental Sciences at the Graduate School and University Center of the City University of New York. He has been a Visiting Scientist at the American Museum of Natural History. He has been an advisor to the World Health Organization International Program on Chemical Safety.

FRANCESCO POMPEI is President of Exergen Corporation, an engineering firm that designs, develops and manufactures infrared scanners, instrumentation and control devices for industrial and medical use. He holds undergraduate and graduate degrees in mechanical engineering from M.I.T. He is the holder of over 30 United States patents for radiation detection, temperature measurement, fuel injection systems and heating technology. He is the author or co-author of over 20 articles published in peer reviewed journals, including the *New England Journal of Medicine*, *Medical Electronics*, and *Transactions* of ASHRAE.

BARRY H. SMITH, M.D., Ph.D. is Director of The Dreyfus Health Foundation; a member of the board of directors and Senior Vice President, The Rogosin Institute at The New York Presbyterian Hospital - Weill Medical College (Cornell) Medical Center, New York, New York and President of the Rogosin Research Foundation. He is also Professor in the Department of Surgery, Cornell University Medical College/New York Hospital. He is a member of the American Association for the Advancement of Science, the Society for Neuroscience, the International Brain Research Organization, the New York Academy of Science, the American Public Health Association, the Global Health Council and the International Organization of Psychophysiology. He is Co-Editor, *Encyclopedia of Neuroscience*, Associate Editor, *Journal of Neuro-Oncology*, Reviewer, *Journal of Critical Care Medicine*. He is the

author of over 100 publications in the fields of neuroscience, organ transplantation and public health. He is a medical doctor, licensed in New York, Maryland and Massachusetts, specializing in neurosurgery, and holds a Ph.D. in Biology from the Massachusetts Institute of Technology.

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**CERTIFICATE OF COMPLIANCE
WITH NINTH CIRCUIT RULE 40-1**

The undersigned, an attorney admitted to practice before the courts of the State of New York and the United States Supreme Court, and not a party to this action, states as follows:

My business address is Atlantic Legal Foundation, 150 East 42nd Street, 2nd Floor, New York, NY 10017.

I certify that the foregoing brief *amicus curiae* conforms to Rule 40-1 of the Rules of the United States Court of Appeals for the Ninth Circuit.

The brief was produced using WordPerfect 10 for Windows and Times New Roman 14 point font.

The brief contains 2548 words, excluding the caption, the table of contents, the table of authorities, the signature block and the Biographical Addendum.

I prepared this certificate using a word count generated by WordPerfect 10 for Windows.

Dated: New York, New York
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MARTIN S. KAUFMAN

CERTIFICATE OF SERVICE

I, Martin S. Kaufman, an attorney, hereby certify that I served two true and correct copies of each of the foregoing brief amicus curiae upon:

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