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The New Jersey Radium Dial Workers and the Dynamics of Occupational Disease Litigation in the Early Twentieth Century

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I. INTRODUCTION

Between 1917 and 1923 over 800 women worked for the United States Radium Corporation ("USRC") in Orange, New Jersey handpainting wrist-watch faces with a substance made luminescent by radioactive materials. While these workers were exposed to injurious, even mortal, levels of radiation, less than a dozen received any compensation for their injuries. The injured workers' failure to receive compensation for their work-related injuries can be explained only in part by the shrewd legal maneuvers of their employer and its legal team. Just as importantly, a complex of medical, legal, and sociological factors hampered the clear identification of the victims' malady and undermined the use of the legal system as a remedy. The symptoms of radiation poisoning, then a relatively unknown and ill defined occupational disease, were indistinct, inconsistent, and characterized by long latency periods. These features compounded the workers' legal problems once they entered the formal legal system by dramatically complicating attempts to prove causation, by raising the specter of the statute of limitations defense, and by playing a major role in the settlement negotiation process. As a consequence, even when some women did resort to the formal legal system for relief, they faced hurdles endemic to the legal process and a dynamic of litigation that favored and rewarded repeat-player defendants.

The New Jersey radium dial-painter episode is one of the most well-known subjects in the history of occupational disease.¹ However, few of the writings

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1. Some excellent and important treatments include Daniel Lang, *A Most Valuable Accident*, NEW YORKER, MAY 2, 1959, at 49; F.G. Gosling, Argonne National Laboratory's Radium Dial Worker Project, Paper delivered at Organization of American Historians, Washington, D.C., March 22, 1990; Anthony Bale, *Compensation Crisis: The Value and Meaning of Work-Related Injuries and Illnesses in the United States, 1842-1932*, at 636-47 (1987) (unpublished Ph.D. dissertation, Brandeis University);

on the subject have analyzed the attorneys' files and the legal proceedings with the specific goal of unraveling how the process and strategy were influenced by the sociological and medical features of the incident.² As one of the earliest documented attempts to gain remuneration for an occupational illness, the radium dial-painter saga stands as an historical cameo, presaging central recurring themes in occupational health litigation through the twentieth century. Despite unceasing change in both law and culture over the last half century, many of the forces that shaped the dial-painter episode continue to surface in other occupational health contexts³ and underscore some of the reasons why the legal system remains challenged in its attempts to provide effective and fair compensation for occupational diseases.

This article examines the radium dial-painter episode in four main sections. The first section presents a basic, historical narrative of the dial-painter litigation. The second section identifies and explores the medical, legal, and sociological reasons why so few cases entered the legal system. In the third section, we will examine the legal doctrines that governed the workers' claims against USRC. In the final section, we will examine how the basic "architecture of the legal system" presented conditions that dramatically affected the chances of success and recovery of the few claimants who entered the legal system and allowed powerful defendants to fashion to their benefit the overall course and outcome of the litigation.⁴

Carcinogenesis, 52 BULL. HIST. MED. 560 (1978); Claudia Clark, *Physicians, Reformers, and Occupational Disease: The Discovery of Radium Poisoning*, 12 WOMEN & HEALTH 147 (1987); Claudia Clark, *Glowing in the Dark: The Radium Dialpainter, the Consumers' League, and Industrial Health Reform in the United States, 1910-1935* (1991) (unpublished Ph.D. dissertation, Rutgers University); and Angela Nugent, *The Power to Define a New Disease: Epidemiological Politics and Radium Poisoning*, in DYING FOR WORK: WORKERS' SAFETY AND HEALTH IN TWENTIETH-CENTURY AMERICA 177-91 (David Rosner & Gerald Markowitz eds. 1987).

2. The leading plaintiff's attorney's files on the case are collected in the Raymond Berry Papers, Papers on Radium Poisoning, National Consumer's League, Manuscripts Division, Library of Congress, reels 1-3 [hereinafter RBP]; and Papers on Radium Poisoning, National Consumers' League, Manuscripts Division, Library of Congress, reels 86-89 [hereinafter PNCL].

3. See, e.g., Tom Durkin & Robert Dingwall, *Deconstructing Defense: Variations in Asbestos Litigation*, ABF Working Paper #9118 (1992).

4. See Marc Galanter, *Why the "Haves" Come Out Ahead: Speculations on the Limits of Legal Change*, 9 L. & SOC'Y REV. 95 (1974).

II. THE DIAL PAINTERS AND RADIATION POISONING

The United States Radium Corporation's plant in Orange, New Jersey was only one of many such facilities in the country.⁵ The female workers, usually in their late teens or early twenties, were employed to paint luminescent figures on watch faces with radioactive paint. The procedure required the women to smooth their camel-hair paint brushes in their mouths, a process known as "pointing" or "tipping," dip the sharply pointed brush into the radioactive paint, and then paint delicate figures on the watch faces. When the process was immediately repeated, the women's mouths came into direct contact with the radioactive residue on the brushes.⁶ In addition, the women were exposed to considerable background radiation in factories with ventilation purposefully restricted to slow the drying process.⁷ The women, paid two to three cents per dial, painted an average of 200 watch faces daily, meaning they would "tip" their brush in their mouths thousands of times a day. Aggravating exposure, the paint contained gum acacia bind and proved easier to swallow than to spit.⁸

By the early 1920s many former dial painters began to suffer profound dental and orthopedic problems, anemia, cancerous tumors in various parts of their bodies, as well as a parade of other serious, but seemingly unconnected illnesses. Between 1922 and 1933 twenty-two dial painters are known to have died from radiation poisoning.⁹ In the early 1920s the National Consumer's League, a workers' protection organization, staffed at the executive level almost exclusively by women, attempted to help the women find a definitive diagnosis for their illness, eliminate the source of the workplace danger, and help secure financial compensation for injured and dying dial painters.¹⁰ By 1925 it was clear that the women's illnesses were in some way connected to their work with radioactive materials at the plant. Fredrick L. Hoffman had read a paper on the topic before the American Medical Association's section on Preventative and Industrial Medicine in May 1925, and articles on the incident were published in August and September in the *Journal of Industrial Hygiene* and the *Journal of the American Medical Association*, respectively.¹¹

5. Nugent, *supra* note 1, at 178.

6. For a description of the painting process, see *Effects of Use of Radioactive Substances on the Health of Workers*, 22 MONTHLY LAB. REV., May 1926, at 18, 19-20.

7. Tony Bale, *A Brush with Justice: The New Jersey Radium Dial Painters in the Courts*, HEALTH/PAC BULL., Nov. 1987, at 18.

8. Gosling, *supra* note 1, at 11.

9. Bale, *supra* note 1, at 636.

10. See Clark, *Glowing in the Dark*, *supra* note 1, *passim*.

11. See Harrison S. Martland, *Occupational Poisoning in Manufacture of Luminous Watch Dials*, 28 MONTHLY LAB. REV., June 1929, at 62, 67 n.13; see also William B. Castle, Katherine R. Drinker & Cecil K. Drinker, *Necrosis of the Jaw in*

Nevertheless, the women and their advocates found it difficult to secure attorneys to sue USRC.¹² In 1926 three suits against the corporation were settled for \$9,000, \$3,000, and \$1,000, but the attorney who brought these suits took no more cases. Later that year the National Consumer's League convinced Raymond Berry, a recent Harvard Law graduate, to represent five former employees of USRC: Grace Fryer, Katherine Schaub, Albina Larice, Edna Hussman, and Quinta McDonald. They would become known as the "Five Doomed Women" and their case would become the most visible and illustrative of the episode. Using Berry's legal files, which contain all correspondence and documents filed in the case, as well as depositions, medical records, and experts' reports, it is possible to analyze the course of the litigation.

Berry sued USRC on May 18, 1927.¹³ The women were unable to claim relief under the workers' compensation statute because the provision contained an exclusive listing of compensable occupational diseases such as anthrax, and lead, mercury, phosphorus, and wood alcohol poisoning. Radiation poisoning, a relatively new and rare malady, was not included on the list of compensable diseases.¹⁴ Their remedy, if any, had to be based on common law. Consequently, the plaintiffs claimed that the corporation had breached a common-law duty to provide a safe workplace for its employees. In addition, the original complaint contended that the radioactive paint constituted an ultra-hazardous material and should be subject to strict liability for any injuries associated with its use.¹⁵ Though the plaintiffs also filed a claim under a negligence theory, it had little chance of success because few people had knowledge of the dangers of low-level radiation in the early part of the century.¹⁶ While there were no studies examining the low-level exposures experienced by the dial painters, by the late 1910s and the early 1920s there was growing evidence that ingestion of radioactive materials constituted some manner of health risk.¹⁷

Workers Employed in Applying a Luminous Paint Containing Radium, 7 J. INDUS. HYGIENE 371 (1925); Fredrick L. Hoffman, *Radium Mesothorium Necrosis*, 85 JAMA 961 (March 26, 1925).

12. Bale, *supra* note 1, at 642.

13. Plaintiff's Original Complaint, New Jersey Supreme Court, Essex County, May 18, 1927, RBP, reel 1 [hereinafter Plaintiff's Original Complaint].

14. Martland, *supra* note 11, at 93-95; *see also* Sharpe, *supra* note 1, at 568.

15. Plaintiff's Original Complaint, *supra* note 13.

16. *See, e.g.*, DAWSON TURNER, RADIUM: ITS PHYSICS AND THERAPEUTICS (1911); BARTON HACKER, THE DRAGON'S TAIL: RADIATION SAFETY IN THE MANHATTAN PROJECT, 1942-1946, at 19-22 (1987).

17. Bale, *supra* note 7, at 18; LAWRENCE BADASH, RADIOACTIVITY IN AMERICA: GROWTH AND DECAY OF A SCIENCE (1979).

USRC's central defense rested on the statute of limitations.¹⁸ The women had not worked in the watch factory in over five years and the New Jersey statute of limitations demanded that suits be filed within two years of the relevant injury. The statute of limitations defense, if viable, was especially attractive to the corporation because most of the former employees had ceased employment more than two years previous. The "discovery rule," a later legal innovation, would have tolled the running of the statute, but in the 1920s the women's only recourse was to petition a court of equity to avoid the harsh consequence of the already expired limitations period.

The Five Doomed Women were dreadfully ill and many observers doubted that they would live to see their suits concluded. Berry transferred their case to the Court of Chancery in late 1927 to address the statute of limitations question, an equity issue. The case was delayed there for nearly a year and ultimately transferred back to the trial court. The women's pitiful condition (some weighed as little as seventy pounds) and the seemingly heartless maneuvering of USRC incited extensive media attention and public anger. In June 1928, four days before trial, USRC settled the case of the Five Doomed Women for \$50,000, a yearly stipend, and medical expenses.¹⁹

Berry represented only one more dial painter. He settled Mae Canfield's case in 1930, and like his predecessor, never filed another suit against USRC.²⁰ There were a handful of settlements before 1935 when a federal district court in *LaPorte v. United States Radium Corporation* stated definitively that the statute of limitations would bar any suits by dial workers against the company for their employment many years previous.²¹ After *LaPorte*, there are no known suits or settlements arising out work performed at the Orange, New Jersey watch plant.

III. NAMING, BLAMING, AND CLAIMING

Few of the victims of radium poisoning even tried to assert their claims through the legal system. This is understandable from the viewpoint of the sociology of disputes. For a victim of an occupational disease to seek a legal remedy, she must discover that she has suffered an injury, assign responsibility for that injury to another party, and be culturally and legally prepared to demand compensation. Unperceived, unnameable injuries will never be litigated. Likewise, injuries without identifiable culprits will not be compensated and victims without the motivation or means to pursue a remedy will never sue.

18. Defendant's Original Answer, New Jersey Supreme Court, Essex County, RBP, reel 1 [hereinafter Defendant's Original Answer].

19. Bale, *supra* note 1, at 642-45.

20. Letter from Raymond Berry to Alice Hamilton (April 2, 1930) RBP, reel 1.

21. *LaPorte v. United States Radium Corp.*, 13 F. Supp. 263 (D.N.J. 1935).

Legal sociologists William Felstiner, Richard Abel, and Austin Sarat have described this process as three stages through which perceptions of injuries pass before they are transformed into disputes ripe for litigation: "Naming," "Blaming," and "Claiming."²² Naming refers to the process by which "unperceived injurious experience" is transformed into a "perceived injurious experience." Blaming describes the transformation of a perceived injurious experience into a grievance—"when a person attributes an injury to a fault of another individual or social entity." Claiming "occurs when someone with a grievance voices it to the person or entity believed to be responsible and asks for some remedy." If that remedy is denied, then the claimant may resort to the formal legal system for redress.²³

The dial painters, and by extension, victims of other previously unknown occupational diseases, faced severe obstacles at each stage of the naming, blaming, and claiming process. Their experiences only slowly were perceived as injuries, their injuries slowly characterized as articulable grievances against their employer, and their grievances belatedly transformed into disputes. Moreover, the slow evolution through the naming, blaming, and claiming process shaped the form and the content of the lawsuits brought by the handful of women who were able to reconceptualize their initial experiences into concrete legal action and provided the United States Radium Corporation with additional tactical advantages.

The first obstacle that potential dial-painter litigants faced was obtaining a diagnosis for their symptoms and a name for their malady. With previously unknown occupational diseases, this stage of the litigation process is the most problematic and distorts the entire attempt to secure compensation for the victims.²⁴ Indeed, Amelia Maggia, the first known victim of dial painting, died in 1922 without having suspected that she had suffered from radiation poisoning.²⁵ As Katherine Wiley of the Consumer's League noted in January

22. William Felstiner et al., *The Emergence and Transformation of Disputes: Naming, Blaming, Claiming* . . . , 15 L. & SOC'Y REV. 631 (1980-1981); see also Herbert Kritzer et al., *The Aftermath of Injury: Cultural Factors in Compensation Seeking in Canada and the United States*, 25 L. & SOC'Y REV. 501 (1991). Richard Abel has applied the "naming, blaming, and claiming" framework to workers' exposure to toxic chemicals. See Richard L. Abel, *Risk as an Arena of Struggle*, 83 MICH. L. REV. 772, 801-11 (1985).

23. Felstiner et al., *supra* note 22, at 633, 635, 636.

24. PETER S. BARTH & H.A. HUNT, WORKERS' COMPENSATION AND WORK-RELATED ILLNESSES AND DISEASES 273-74 (1980).

25. *Survey of Industrial Poisoning from Radioactive Substances*, 28 MONTHLY LAB. REV., June 1929, at 20, 41-42 (case no. 2).

1929, "it is all so new and insidious[,] one is dead or crippled before it is discovered to be coming."²⁶

Because the disease was not diagnosed until years after the last exposure, it is impossible to determine how many other women suffered from the disease. Those who left the community and were not aware of the publicity surrounding the Five Doomed Women may have never connected their illnesses and their prior employment with USRC. Two workers, for example, worked for USRC between 1917-1919 and were first told of the nature of their illness in 1925.²⁷

The multiplicity of symptoms produced by the illness complicated the identification of the women's complaints as a specific disease. Although most well-known victims of the Orange, New Jersey plant suffered profound dental problems, other symptoms varied widely and could have suggested any number of maladies. Physicians initially mistook the symptoms for syphilis and phosphorus poisoning. Women also suffered from pernicious anemia, blood poisoning, necrosis of the jaw, cancerous tumors in diverse parts of the body, kidney failure, meningitis, blood poisoning, pneumonia, and acute myocarditis.²⁸ Some women showed erratic blood counts; others did not. As one physician-advocate for the dial painters noted, "Many [dial painters] may have gone to other towns and died without physicians' being aware of what caused death . . . A physician not acquainted with radium poisoning might treat such patients for rheumatism or God knows what."²⁹

This vast array of symptoms complicated both the lay and professional task of affixing a single label on the illness. The issue was confused further by the fact that many former workers apparently had suffered no ill effects, or had suffered in varying degrees of severity. Surely, if all the symptoms were the result of the same occupational disease, women working at the same plant, doing the same job, would show the same symptoms.

However, all women did not necessarily suffer the same exposure. Some workers' tenure may have occurred during a period when brush-pointing was not common. Some women "pointed" more frequently than others. In addition, it is unclear whether brush-pointing was the sole source of contamination. Poor ventilation and other incidental exposure may have contributed to different symptoms for different women.³⁰ Moreover, work habits, individual susceptibility and resistance, preexisting conditions, and varying lengths of

26. Letter from Katherine Wiley to Florence Kelly (Jan. 9, 1929), Papers on Radium Poisoning, National Consumers League ("PNCL"), Manuscripts Division, Library of Congress, reel 86.

27. Stipulation for Chancery, (no date), RBP, reel 1.

28. *Survey of Industrial Poisoning from Radioactive Substances*, *supra* note 25, at 40-60.

29. Lang, *supra* note 1, at 60 (quoting Harrison S. Martland).

30. Castle, Drinker & Drinker, *supra* note 11, at 378-79.

exposure help explain why it was difficult to identify a single illness, and discover its source.³¹

USRC exploited the difficulty that investigators and workers experienced in “naming” the injury they had received and in “blaming” the proper culprit. The potential defendants recognized almost immediately the special problems faced by the dial workers and employed a variety of tactical devices to assure that the vast majority of claimants would never enter a courtroom. These tactics also served a greater strategic purpose of delay that would aid the defendants in those cases that actually entered the formal legal system.

In June 1925, after at least two suits had been filed and with other potential litigants waiting in the wings, Arthur Roeder, president of USRC, issued a press release on the suspected occupational disease. Roeder denied any possible connection between the women’s work and their physical suffering. He explained that the women voiced a wide range of physical complaints that almost certainly could not describe a single disease or cause. In addition, he declared, “There are fifty other manufactories of this kind where similar operations are conducted and never before has anything come up.” Roeder attributed the high incidence of illness at the Orange, New Jersey plant to other factors. Roeder claimed that many of the women who had worked at the plant in the previous decade “were unfit for more strenuous labor” and “when some of those already in poor health declined normally it was said their handling of the paint was responsible.”³² Roeder made these statements after the company’s own experts, Katherine Drinker and Cecil Drinker from Harvard Medical School, had informed him that conditions in the plant almost certainly had caused the women’s illness.³³

Roeder’s denials and explanations confounded and retarded the naming, blaming, and claiming process in several ways. The assertions confused the issue of whether the women were suffering from an ailment called radiation poisoning, and undermined claims that women had contracted the illness at work. The resulting uncertainty could discourage potential victims (and their physicians) from recognizing that their set of symptoms constituted a specific illness. The fact that scores of other, apparently similar, factories were producing watches with no victims suggested that the workplace might not be to blame.³⁴

31. Martland, *supra* note 11, at 63-65.

32. N.Y. TIMES, June 20, 1925, at 1.

33. See Clark, *Physicians, Reformers and Occupational Disease*, *supra* note 1, at 152-55.

34. Alternatively, the absence of any apparent illness at other plants seemed to support the corporation’s claims that the danger was limited to the New Jersey factory. Fredrick Hoffman, an early investigator of the episode, believed that the problem was localized to the Orange plant and to the brush-pointing practice. Letter from Fredrick

The doubts concerning the nature of the new illness, its causation and its source, help explain why many victims never made it to a courtroom—they did not know that they had been injured, or they did not know who, if anyone, to blame. These same factors had a similar and perhaps equally important effect on the legal profession. Lawyers play a central role in ushering their clients through the blaming and claiming process. They help potential litigants understand if blame can be assigned to an injury and the range of available legal remedies.³⁵

In the dial-painter episode, the uncertainty surrounding both diagnosis and causation of the women's symptoms affected the legal community's view of the viability of legal action. Typically, personal-injury attorneys took cases on a contingency basis, *i.e.* for a percentage of the final award with no charge if the plaintiff recovered nothing. However, in the dial-painting cases, attorneys, if they were willing to accept the cases, demanded a fee in advance. The value of their time, cost of investigation and expert witnesses, and the low probability of success combined to make attorneys hesitant to offer their services. The women, however, were not in a position to pay legal fees. Before Raymond Berry agreed to take Schaub's case, "each of the other attorneys" whom Schaub had approached "felt it was hopeless to try and collect damages from the radium company."³⁶ Fryer, too, first approached a lawyer who demanded a retainer, presumably because he expected no recovery. Various attorneys told Fryer, Schaub, Larice, and McDonald that the statute of limitations barred their suit and refused to accept the case.³⁷ Kuser and Carlough likewise could not find attorneys without payment in advance. Without attorneys, the women were left to work out the subtle causation and culpability problems on their own. Consequently, many women probably never discovered whom to blame or if they deserved compensation.

USRC's contention that its plant was not culpable because other similar plants produced no victims was compelling. Even Berry admitted, as late as 1927, that the fact there were no known cases at other locations suggested that the Orange, New Jersey plant was not connected with the illness.³⁸ In retrospect, this reasoning was severely flawed. Many women did not realize they were suffering from radiation poisoning and, therefore, could not report their disease. USRC also settled claims of women from other plants out of court at an early stage, escaping the damaging publicity that surrounded the New Jersey cases.

Hoffman to Florence Kelly (June 10, 1926), PNCL, reel 86.

35. Felstiner et al., *supra* note 22, at 645-47.

36. Katherine Schaub, *Radium*, 68 SURVEY 138, 139 (May 1, 1932).

37. Legal Memorandum, RBP, reel 1; Letter from Katherine Wiley to Alice Hamilton (April 4, 1925), RBP, reel 3.

38. Letter from Raymond Berry to Alice Hamilton (Dec. 15, 1927), RBP, reel 3.

Perhaps most significantly, the New Jersey plant apparently differed from other ostensibly similar establishments and generated injuries sooner than plants in other parts of the country. The radioactive material used in the New Jersey plant contained predominantly mesothorium with smaller amounts of radium.³⁹ Mesothorium, an isotope of radium, has a faster rate of atomic decay, and therefore, emits greater amounts of radiation in the first few years following its ingestion.⁴⁰ It has a half-life of approximately seven years as opposed to nearly 1700 years for radium. Radium is potentially more potent and would ultimately injure workers, but mesothorium could be more dangerous in the short-term and yield symptoms at an earlier stage of the process.

In the context of the New Jersey cases, this distinction meant that the Orange plant dial painters would exhibit symptoms sooner than workers in plants where radium was the predominant radioactive material. By the late 1920s and early 1930s, workers in other plants, such as that located in Ottawa, Illinois, were also showing symptoms of radiation poisoning.⁴¹ Indeed, in the earliest diagnosed cases, mesothorium predominated. In the later cases, radium was the most commonly detected radioactive material.⁴²

Finally, the New Jersey plant specialized in the painting of inexpensive, paper-watch faces as opposed to the metal, porcelain, or enamel dials painted at other plants. Paper-watch faces required a water-based, gum-arabic adhesive and a camel-hair brush. Painters frequently resorted to the pointing process to straighten the brush hairs. In contrast, painters used an oil-varnish paint on metal, porcelain, and enamel dials. Stylus and metal pins, rather than brushes, were used to apply oil-varnish paint. Therefore, "pointing" was unnecessary. When brushes were used, the oil-varnish paint helped the brush retain its shape better and made pointing less necessary. Finally, the bitter taste of the oil-varnish paint discouraged pointing and ingestion.⁴³

These variations in work experience complicated the ability to determine the causation of the dial workers' illness and consequently the ability of workers

39. *Effects of use of Radioactive Substances on the Health of Workers*, *supra* note 6, at 19-20.

40. *Effects of Use of Radioactive Substances on the Health of Workers*, *supra* note 6, at 28; *Industrial Accidents and Hygiene*, 22 MONTHLY LAB. REV., Jan. 1926, at 171, 172.

41. John Conroy, *Radium City: On Cancer, Clock Dials, and Ottawa, Illinois, a Town that Failed to See the Light*, READER: CHICAGO'S FREE WEEKLY, June 22, 1984, at 28.

42. Letter from Ethelbert Stewart to Florence Kelly (Dec. 16, 1927), RBP, reel 3; Letter from Fredrick Hoffman to Raymond Berry (Dec. 19, 1927), RBP, reel 3; *see also Malignant Growths Resulting from Exposure to Radioactive Substances*, 34 MONTHLY LAB. REV., April, 1932, at 809, 811.

43. *Effects of Use of Radioactive Substances on the Health of Workers*, *supra* note 6, at 18-20.

to blame with confidence the appropriate parties. When the president of USRC claimed that the lack of consistent symptoms and industry-wide incidence undermined the dial painters' allegations, he merely was exploiting existing ambiguities in the case.

Other USRC tactics were more contrived, focusing primarily on delaying tactics to undermine the plaintiffs' factual and legal cases. The Drinkers' report concluded that the dial painters' working conditions somehow were responsible for the workers' symptoms.⁴⁴ Despite repeated requests by the Consumer's League and the Drinkers themselves, USRC refused to release the report to the public until mid-1925. Roeder told the Drinkers, alternatively, that the report must have been mistaken because there were no problems at other plants, that all the evidence was circumstantial, and, finally, that pending litigation must delay publication of the report.⁴⁵ When the Drinkers decided to release their report without USRC's permission, the company's attorney informed them that he was "astonished" that they would consider publication. The report, he argued, was commissioned in anticipation of lawsuits and while the corporation did not expect the Drinkers to falsify their findings, it did expect the researchers to withhold the report if it uncovered damaging evidence.⁴⁶ The Drinkers ultimately published their report but during the one-year delay, USRC officials told injured dial workers, consumer groups, government investigators, and lawyers that the Drinker report exonerated, not condemned, conditions in the plant.⁴⁷ This deception made it more difficult for potential plaintiffs to assign appropriate blame for their conditions and demand remuneration.

USRC's other medical experts served the important function of undermining the dial painters' attempts to receive a conclusive diagnosis and helped muddle the causation issues.⁴⁸ Fredrick Flinn, who served as a consultant for the corporation through the entire episode, played a central role. He entered the picture soon after it became clear that the Drinkers' report did not absolve

44. Castle, Drinker & Drinker, *supra* note 11, at 377-78.

45. Letter from Arthur Roeder to Cecil Drinker (June 6, 1924); Letter from Arthur Roeder to Cecil Drinker (June 13, 1924); Letter from Arthur Roeder to Cecil Drinker (June 18, 1924); Letter from Arthur Roeder to Cecil Drinker (June 24, 1924); Letter from Arthur Roeder to Cecil Drinker (April 9, 1925). These letters were reproduced as part of a deposition of Cecil Drinker conducted on November 14, 1927. RBP, reel 1.

46. Letter from Cecil Drinker to Arthur Roeder (April 29, 1925); Letter from Josiah Stryker to Cecil Drinker (n.d.), reproduced as part of a deposition of Cecil Drinker conducted on November 14, 1927, RBP, reel 1.

47. *See, e.g.*, Letter from Alice Hamilton to Cecil and Katherine Drinker (April 4, 1925), RBP, reel 3; Letter from Arthur Roeder to Katherine Wiley (Jan. 9, 1925), RBP, reel 3; Letter from Arthur Roeder to Katherine Wiley (Jan. 19, 1925), RBP, reel 3; Stipulation for Chancery, RBP, reel 1.

48. For a fuller discussion of the role of medical experts in the radium dial episode, see Clark, *Physicians, Reformers and Occupational Diseases*, *supra* note 1, *passim*.

USRC.⁴⁹ When the Consumer's League or other advocates for the dial painters contacted USRC to ask for assistance or information, the corporation suggested that they contact Flinn for advice.⁵⁰ Flinn also struck out on his own. Although he did not hold a medical degree, he sought out affected workers and asked to examine them.⁵¹ He invariably informed them that they had not been affected by working at the New Jersey plant.⁵² Flinn told Florence Kelly of the Consumer's League that the women's health problems had been caused by nerves.⁵³ He also conducted a public campaign. His 1926 report in the Journal of the American Medical Association concluded that there was no industrial hazard connected with dial painting. Instead, he attributed the women's symptoms to congenital problems, syphilis, bacterial infections, and other causes.⁵⁴ Flinn published his "findings" even though earlier in the year he had admitted to the Drinkers that radioactive material was involved in the dial painters' illness.⁵⁵

Once litigation began, Flinn examined the women as an official representative of the defendant company and reported that the former dial painters showed no signs of radioactivity. He conducted tests with an electrometer, an instrument designed to detect radiation emanating from a victim's body. Flinn reportedly either held the instrument two to three feet from the subject allowing the radiation to dissipate before reaching the device, or held the instrument in such a way that a table blocked the path of the rays to the device.⁵⁶

Flinn served two important functions for USRC. First, he provided the corporation with grounds for plausible deniability. He held a Ph.D. and was an assistant professor of industrial hygiene at Columbia University. Although his opinions were widely suspect, his credentials gave him the appearance of credibility. The company could claim a good-faith belief in its refusal to admit responsibility and offer compensation because it was supported by scientific

49. Letter from Raymond Berry to Alice Hamilton (June 20, 1927), RBP, reel 3.

50. Sworn affidavit of Katherine Wiley, dated July 16, 1927, PNCL, reel 86.

51. See, e.g., Transcript of Katherine Schaub's direct examination in Court of Chancery, RBP, reel 2.

52. Letter from Fredrick Flinn to Katherine Schaub (Dec. 7, 1925), RBP, reel 3; Letter from Katherine Wiley to Edward Katzenbach (Feb. 23, 1928), RBP, Reel 3, Letter from Raymond Berry to Walter Lippman (June 16, 1927), RBP, reel 3; Stipulation for Chancery, RBP, reel 1; Clark, *Physicians, Reformers and Occupational Disease*, *supra* note 1, at 160.

53. Letter from Florence Kelly to Alice Hamilton (July 11, 1928), PNCL, reel 86.

54. Fredrick Flinn, *Radioactive Material: An Industrial Hazard?*, 87 JAMA 2078, 2078-81 (Dec. 18, 1926).

55. Clark, *Physicians, Reformers and Occupational Disease*, *supra* note 1, at 161.

56. *Survey of Industrial Poisoning*, *supra* note 25, at 77; Letter from Raymond Berry to K.B. Krumbhaar (Nov. 21, 1928), RBP, reel 3.

evidence. Second, and perhaps more important, Flinn was able to keep some victims out of the litigation process entirely. Flinn discouraged the workers from pursuing legal action by telling them that they were healthier than he was, or by arguing that dial painting had nothing to do with their illness. Flinn effectively could dampen publicity by keeping victims out of court, and, without publicity, many women and their physicians would not connect their illness and their work experience.

Berry was aware of these tactics and, after Flinn gave Katherine Schaub a clean bill of health, Berry demanded that Flinn cease contact with any of his clients while there was litigation pending.⁵⁷ Flinn's efforts hampered potential litigants in their quest to name their illness and in their search for culprits to blame. Although Berry eventually warned Flinn away, there is no way to determine how many former dial painters he contacted and persuaded to forego legal action.

When Flinn could not convince a dial painter that she was healthy, or that her illness was unrelated to USRC, he kept her out of court by quietly settling her case. A physician treating some of the women at an orthopedic hospital recounted that Flinn had volunteered his services in 1927 and 1928 to help treat radiation victims. Flinn told the physician that he had settled radiation poisoning cases out of court in Connecticut "and could have done so in N.J. if the matter had not been badly handled."⁵⁸ Flinn also admitted to a representative of the Consumer's League that he was involved in settling cases.⁵⁹ Flinn's role is instructive because it illustrates how ingenious defendants can slow the entry of cases into the formal legal process. If Flinn could not deter the women from naming their illness, or blaming his employers, he could at least stop them from filing lawsuits by offering a quiet settlement. In these negotiations, Flinn held the upper hand. He knew what he wanted and the women he dealt with were invariably young, unsophisticated, vulnerable, and without the benefit of legal counsel.

Berry, on the other hand, had a difficult time securing expert testimony for the women. Late into the litigation, Berry was desperately struggling to find a qualified and willing expert. Many of the scientists, physicians, and investigators who helped uncover the disease refused to testify in court.⁶⁰

57. Letter from Fredrick Flinn to Katherine Schaub (Dec. 7, 1925), RBP, reel 3 (asking to examine her); Letter from Katherine Wiley to Edward Katzenbach (Feb. 23, 1928), RBP, reel 3 (Flinn told Schaub that nothing is wrong); Letter from Raymond Berry to Fredrick Flinn (Feb. 1, 1928), RBP, reel 3 (Berry tells Flinn to stay away from his clients).

58. Letter from Raymond Berry to Fredrick Flinn (Jan. 2, 1928), RBP, reel 3.

59. Letter from Alice Hamilton to Raymond Berry (Jan. 5, 1928), RBP, reel 3.

60. For examples of Berry's problems in securing expert witnesses, see Letter from Cecil Drinker to Raymond Berry (June 7, 1927), RBP, reel 3; Letter from Harrison

Berry's predicament underscores another advantage defendant corporations usually possess in occupational disease cases. The plaintiff's attorney rarely has contact with the highly specialized world of science and may not know which, or what kind of, expert to approach for help. In addition, the funds needed to pay such an expert are often in short supply. Defendant corporations, however, usually maintain an intimate connection with the scientific circles that affect their particular industry. Therefore, they can easily identify and employ the appropriate expert who is most likely to help them with their defense.

The fact that many dial painters were never able to name their disease, or blame the appropriate culprit helped keep all but a few women out of the courtroom. However, more subtle and less visible factors may have also discouraged litigation. A lawsuit is not an automatic response to a wrong.⁶¹ Cultural attitudes and customs define socially acceptable ways to respond to grievances and disputes. As legal anthropologist Carol Greenhouse has observed, "[b]efore a person can sue, he must have not only a legally justiciable issue and a legal forum, but also a personal conceptualization of conflict that is adversarial in structure and remedial in orientation."⁶² Individual action, therefore, is shaped by community beliefs and personal moral codes about the type of wrongs that merit legal action. For example, some studies have suggested that cohesive, tightly-knit communities discourage personal injury lawsuits.⁶³

Prevailing sentiment in Orange, New Jersey, a relatively small community, may have discouraged the dial painters from claiming damages from USRC even after they suspected its liability. Dial-painter claimants, in fact, did not enjoy the full support of public opinion. Ethel Metz, who filed a suit against USRC in 1929, found that many members of the community distrusted her attempts to claim damages from USRC. She reported that, after news of her suit surfaced, she had "been severely criticized by her neighbors. No one seems to sympathize with her . . ." ⁶⁴ Dial painters were especially subject to community suspicion

Martland to Alice Hamilton, (July 11, 1927), RBP, reel 3; Letter from Raymond Berry to Fredrick Hoffman (July 22, 1927), RBP, reel 3; Letter from Herman L. Blumgart to Raymond Berry, (Aug. 15, 1927), RBP, reel 3.

61. Richard L. Abel, *The Real Tort Crisis—Too Few Claims*, 48 OHIO ST. L.J. 443, 448-52 (1987).

62. Carol J. Greenhouse, *Nature is to Culture as Praying is to Suing: Legal Pluralism in an American Suburb*, 20 J. LEG. PLURALISM 17, 17 (1982).

63. See, e.g., David Engel, *The Oven Bird's Song: Insiders, Outsiders, and Personal Injuries in an American Community*, 18 L. & SOC'Y REV. 551 (1984); CAROL J. GREENHOUSE, *PRAYING FOR JUSTICE: FAITH, ORDER, AND COMMUNITY IN AN AMERICAN TOWN* (1986); see also Abel, *supra* note 61, at 450-51.

64. Detective Report of Elizabeth C. Lewis (March 22, 1930), at 12, "Metz Case File," Argonne Radium Dial Project, Argonne National Laboratory, Lemont, Illinois.

because their illness did not always provide visible symptoms to the casual observer. Metz felt that she received little community support “because she is so active and looks so well and they [neighbors] tell her that they cannot see anything wrong with her.”⁶⁵ Ultimately, newspaper publicity appeared to turn public sentiment in favor of the dial-painter victims. However, during the early and important stages of the naming, blaming, and claiming process, many victims may have been discouraged from seeking legal redress. Some victims may not have approached lawyers, and others may have delayed long enough to allow the statute of limitations to extinguish their right to bring a lawsuit.

The power of community opinion may, in many instances, play a role in the dynamic of contemporary occupational disease claims. Even today, many communities remain hostile to personal injury.⁶⁶ The stigma attached to legal action could be heightened when the corporate defendant is an important and popular employer in the community. Where these attributes exist, individual litigants may be less likely to sue for their injuries or may alter the way they pursue compensation.

The defense team for USRC was aware of the importance and power of public attitudes in the case and searched for ways to discredit the victims. During the Metz lawsuit, USRC attorneys employed detectives to interview the family and friends of dial painters. Investigators’ reports focused on aspects of Metz’s personal life that were unrelated to any factual or legal defense. One account from a New York detective reported “that neither Mrs. Metz or her family bears a good reputation” and “that Mrs. Metz has several boy friends and they very frequently, . . . go out on wild parties.”⁶⁷ Another investigator revealed that Ms. Metz’s son had been conceived before marriage. The report suggested that the investigator would be able to secure additional information about a recent “illicit relation” between Metz and “a man not her husband.”⁶⁸

It is unclear how the defense team planned to use this inflammatory information. The details of dial painters’ private lives did not illuminate the cause or extent of the women’s illnesses but the information could have provided defense attorneys with leverage in settlement negotiations and encouraged some claimants to forego litigation to avoid exposure of embarrassing, personal habits to the rest of the community.

The activities of the defense detectives underscore another intrinsic advantage held by corporate defendants. USRC was able to employ

65. *Id.*

66. Engel, *supra* note 63, *passim*.

67. Detective Report of William J. McCarthy (March 24, 1930), at 2, “Metz Case File,” Argonne Radium Dial Project, Argonne National Laboratory, Lemont, Illinois.

68. Detective Report of E.A. Markley to Collins & Corbin (attorneys for USRC) (April 21, 1930), at 1-2, “Metz Case File,” Argonne Radium Dial Project, Argonne National Laboratory, Lemont, Illinois.

investigators to watch claimants around the clock for weeks.⁶⁹ One detective suggested that the defense secretly film one of the dial painters to demonstrate to the jury how effortlessly she walked.⁷⁰ Because USRC faced dozens if not hundreds of potential lawsuits, the corporation could justify spending large sums of money on early cases. If the first claimants were unsuccessful, the likelihood of future suits would diminish drastically. While USRC could draw on corporate coffers to conduct their investigation, the individual dial painters had to rely on their own funds, advanced money from attorneys, or help from groups such as the Consumer's League.

If social stigma and public opinion discouraged some victims from seeking a legal remedy, others may have been affected by gender-based attitudes toward legal action. Historian Barbara Welke has observed that "the fact of personal injury and the legal response to injury were social events first," involving "gender-differentiated bodies of women and men, acting out gender-differentiated lives, on a gender-differentiated terrain, and suffering gender-differentiated injuries."⁷¹ Remnants of the dominant nineteenth-century feminine ethos of self-sacrifice and responsibility to others may have influenced the dial workers' response to misfortune. As Carol Gilligan has observed, "the ethic of self sacrifice is directly in conflict with the concept of rights that has, in this part of the century, supported women's claims to a fair share of social justice."⁷² As a result, in the words of Robin West, women's concept of value has traditionally "revolve[d] not around the axis of autonomy, individuality, justice, and rights, as does men's, but instead around the axis of intimacy, nurturance, community, responsibility and care."⁷³

Given this perspective, women may have felt unfamiliar and uneasy asserting their individual rights instead of accepting misfortune without protest. By the 1920s the ethos of pure self-sacrifice had become attenuated and women in a variety of contexts felt free to demand their rights. However, the surviving remnants of the sentiment, and an impulse toward other-directness, may have influenced some women and made them less likely to ask for relief for themselves. Anthony Bale, who studied work-related diseases in a variety of industries, found that when women became ill, their "symptoms would often be attributed to hysteria, to a combination of mental and physical weakness rather

69. Detective Report of William J. McCarthy (March 24, 1930), at 2, "Metz Case File," Argonne Radium Dial Project, Argonne National Laboratory, Lemont, Illinois.

70. Report of E.A. Markley, *supra* note 68, at 1-2.

71. Barbara Y. Welke, *Unreasonable Women: Gender and the Law of Accidental Injury, 1870-1920*, 19 L. & SOC. INQUIRY 369, 371 (1994).

72. CAROL GILLIGAN, IN A DIFFERENT VOICE: PSYCHOLOGICAL THEORY AND WOMEN'S DEVELOPMENT 128-136 (1986); *see also* Joan M. Shaughnessy, *Gilligan's Travels*, 7 LAW & INEQ. J. 1 (1988).

73. Robin West, *Jurisprudence and Gender*, 55 U. CHI. L. REV. 1, 28 (1988).

than to working conditions” and that they typically were “less likely to file a claim than their male counterparts . . .”⁷⁴

Certainly not all women avoided legal action.⁷⁵ Two factors may have overcome some of the dial painters’ reluctance. The National Consumer’s League, run virtually exclusively by women, played a vital role in providing emotional, technical, and legal encouragement to the injured dial painters. The League served as a support community of women that not only provided tangible aid, but could have also helped overcome the reluctance the dial painters may have had in asserting their claims.⁷⁶

More importantly, the dial painters’ concern for their families played a central role in their decision to sue their former employer. The feminine mentality continued to be colored by a care-based ethos that elevated community and family values.⁷⁷ Industrial disease affects a range of individuals far beyond the presently known victims. The families of the victims also suffer, both financially and emotionally. Other workers, present and future, in similar occupations, may also be in danger from the industrial hazard that injured the known victims. Therefore, the type of action early victims decide to pursue can have a dramatic impact on a wide range of individuals and groups by exposing occupational dangers and publicizing available remedies. This function is especially important in occupational disease where diagnosis of the injury is difficult and causation insidious.

Although evidence is scant and qualitative, the dial painters do not appear to represent individuals demanding remuneration for solely selfish reasons. Instead, the women seemed equally concerned with the burden on their husbands and families. Katherine Schaub said she sued USRC in the hope that she “could claim enough compensation to relieve the family of their heavy financial burden.”⁷⁸ Schaub told a newspaper reporter after her case was settled, “First, I am going to repay my father and sister as much as I can, for the sacrifices they have made me these last three years.” Similarly, Larice exclaimed “I am glad to have the money because now my husband won’t have to work so hard to get me the little luxuries and necessities I need.”⁷⁹ The women, in part, also shared the motivation of their supporters in the Consumer’s League: helping and

74. Anthony Bale, “*Hope in Another Direction*”: *Compensation for Work-Related Illness Among Women 1900-1960, Part I*, WOMEN & HEALTH, Spring 1989, at 81, 83.

75. *Id.*

76. For the vital role played by the National Consumer’s League, and its local arm, the New Jersey Consumer’s League, *see id.* at 85.

77. Ann C. Scales, *The Emergence of Feminist Jurisprudence: An Essay*, 95 YALE L.J. 1373, 1380 *et seq.* (1986); Suzanna Sherry, *Civic Virtue and the Feminine Voice in Constitutional Adjudication*, 72 VA. L. REV. 543, 580-82 (1986).

78. Schaub, *supra* note 36, *passim*.

79. Quoted in news clipping from Ledger (June 6, 1928), RBP, reel 2.

protecting other workers throughout the industry, and the larger community, by uncovering the truth and exposing the dangers on a national scale.⁸⁰ This motivation, too, is consistent with the notion that women maintain a connection, and a sense of responsibility, to the rest of the world that men may not.⁸¹ Studies of plaintiff motivation in personal injury suits have contended that plaintiffs want more than mere financial compensation. In addition, plaintiffs want a full explanation of what happened to them, they want their story told, and, they want to help and protect other victims and potential victims.⁸² These goals, also held by the Consumer's League, may have helped the Five Doomed Women overcome whatever social and cultural hesitancy they had in facing the defendants in court. It is unclear how much impact cultural forces had on individual decisions to sue for injuries, but cultural forces are the type of intangible influences all plaintiffs face before bringing their grievances to court.

IV. THE OCCUPATIONAL HAZARDS OF FORMAL LAW

For those dial painters who pursued legal claims for their injuries, the next hurdles they faced were harsh formal law and an unresponsive legal process. Lawrence M. Friedman has termed personal injury law between 1880 and 1910 a "system of noncompensation." It was a system of noncompensation because of the legal doctrines that impeded recovery and other barriers that reflected the "resources and power" of defendants.⁸³ Trial courts, according to Friedman and Thomas D. Russell, were a component of a system "that sifted and discouraged plaintiffs, allowing only a persistent, lucky few to win favorable verdicts and compensation for their injuries."⁸⁴

Occupational disease litigation in the 1920s and 1930s also may be understood primarily as a system of noncompensation. None of the victims of radiation poisoning in the New Jersey cases won a favorable verdict from a court. A "persistent lucky few" received cash settlements out of court. Anthony

80. For other suggestions that women litigants frequently pursued a wider, more altruistic agenda, see Bale, *supra* note 74, at 83-84; Alice Kessler-Harris, *Protection for Women: Trade Unions and Labor Laws*, in *DOUBLE EXPOSURE: WOMEN'S HEALTH HAZARDS ON THE JOB AND AT HOME* 139-154 (Wendy Chaukin ed. 1984).

81. West, *supra* note 73, at 15; Sherry, *supra* note 77, *passim*.

82. Mindi Miller, "I Want My Story Told": An Anthropological Analysis of Malpractice Plaintiffs' Discourse (1986) (unpublished Ph.D. dissertation, Rice University).

83. Lawrence M. Friedman, *Civil Wrongs: Personal Injury Law in the Late 19th Century*, 1987 AM. B. FOUND. RES. J. 351; Lawrence M. Friedman & Thomas D. Russell, *More Civil Wrongs: Personal Injury Litigation, 1901-1910*, 34 AM. J. LEGAL. HIST. 295 (1990); see also Thomas D. Russell, *Historical Study of Personal Injury Litigation*, 1 GA. J. S. LEGAL. HIST. 109 (1991).

84. Friedman & Russell, *supra* note 83, at 295.

Bale, in his study of workers' compensation in the United States concluded, that "this most publicized occupational disease of the twenties led to some considerable financial recoveries in the tort system, although most victims were uncompensated or badly under compensated."⁸⁵

At the time of the dial-painter episode, most American jurisdictions did not include occupational diseases in their workers compensation systems.⁸⁶ Only six state or federal schemes provided for compensation for any disease arising from employment.⁸⁷ Eight other states, including New Jersey, compensated only certain, specifically designated, occupational diseases.⁸⁸ Seventeen states expressly excluded all injuries not attributable to an accidental injury.⁸⁹ Courts of fifteen states found that the use of the phrase "injury by accident," or similar designations, meant that legislatures intended to limit the scope of compensation and precluded the coverage of occupational disease under workers' compensation.⁹⁰

New Jersey passed its first workers' compensation law in 1911.⁹¹ The act provided for compensation for "injuries received . . . in the course of employment."⁹² Like other compensation acts of this period, the law represented "a compromise system. Each side gave a little, got a little."⁹³ For workers, the act abolished the employer's use of the common-law defenses of assumption of the risk, contributory negligence, and the fellow servant rule.⁹⁴ These defenses barred recovery if the worker knew about the risk before the injury, if the worker failed to exercise appropriate care, or if the harm was caused by the injured employee's co-workers.⁹⁵ This "unholy trinity" of defenses often had been used by corporate defendants to defeat liability in tort lawsuits.⁹⁶

85. Bale, *supra* note 1, at 644-46.

86. Robert H. Canan, Comment, *Industrial Law: Workmen's Compensation: Occupational Diseases and the Statute of Limitations*, 24 CAL. L. REV. 594, 594 n.4 (1936).

87. William W. Rabinovitz, *Compensation of Occupational Diseases from a Legal Viewpoint*, 12 WIS. L. REV. 198, 204-05 (1937).

88. *Id.* at 204 n.28.

89. *Id.* at 202.

90. *Id.* at 202-04.

91. Act of April 4, 1911, ch. 95, 1911 N.J. ACTS 134-45.

92. Act of April 4, 1911, ch. 95, 1911 N.J. ACTS 134.

93. LAWRENCE M. FRIEDMAN, *A HISTORY OF AMERICAN LAW* 682-83 (2d ed. 1985).

94. Act of April 4, 1911, ch. 95, 1911 N.J. ACTS at 135.

95. Leslie I. Boden, *Workers' Compensation*, in *OCCUPATIONAL HEALTH: RECOGNIZING AND PREVENTING WORK-RELATED DISEASE* 149 (Barry S. Levey & David H. Wegman eds., 2d ed. 1988); Friedman, *supra* note 83, at 356-58.

96. Sherry Brandt-Rauf, *Workers' Compensation and Occupational Disease: The Case of Cancer*, 2 *OCCUPATIONAL MEDICINE* 189, 189 (1987).

The original New Jersey statute, like many other workers' compensation laws, did not provide for compensation for occupational disease claims.⁹⁷ Occupational disease was not a central concern of the framers of the early compensation statutes and "played little part in the deliberations and struggles leading to passage of the first compensation laws."⁹⁸ Consequently, workers' compensation laws were based upon a model of accidental injury.⁹⁹ As Sherry Brandt-Rauf notes, "the cases that arose based on disease did not easily fit within that framework."¹⁰⁰

New Jersey first brought occupational diseases under its workers' compensation statute in 1924. The 1911 law was amended to include "compensation for personal injuries to or for death of such employee by any of the compensable occupational diseases" that were listed in a schedule.¹⁰¹ These diseases were compensable only if "arising out of and in the course" of employment. The statute initially listed only nine diseases.¹⁰² In 1926, as a result of the publicity surrounding the dial painters' case, "mesothorium or radium necrosis" was added to the schedule of compensable diseases. Harrison Martland noted that many workers would die from radiation related causes without any jaw necrosis and would remain ineligible for compensation under this limited provision.¹⁰³ Nor could this amendment be applied retrospectively.¹⁰⁴ The dial-painter claimants were left with common-law remedies only. The *American Labor Legislation Review* lamented that New Jersey remained in the "antiquated damage suit stage" of compensation.¹⁰⁵

The restrictive compensation schedule for occupational diseases was absolute, and was designed as an obstacle that could not be overcome. As the *American Labor Legislation Review* noted, "Under this system the victims of occupational diseases which do not appear on the list are denied compensation."¹⁰⁶ The legislatures that framed these restrictions apparently feared that "blanket coverage" of all occupational disease would "convert the law into a measure of health insurance and thus cover injuries to health

97. *Herod v. Mutual Chem. Co. of America*, 180 A. 432, 432 (N.J. 1935).

98. Bale, *supra* note 1, at 444.

99. Note, *Compensating Victims of Occupational Disease*, 93 HARV. L. REV. 916, 916-17 (1980).

100. Brandt-Rauf, *supra* note 96, at 189.

101. Act of March 11, 1924, ch. 124, 1924 N.J. ACTS 230-33.

102. Act of March 11, 1924, ch. 124, 1924 N.J. ACTS at 231.

103. Bale, *supra* note 1, at 645.

104. Sharpe, *supra* note 1, at 568.

105. *New Jersey Radium Again*, 20 AM. LAB. LEGIS. REV. 60 (1930).

106. *Occupational Disease Compensation in New York*, 20 AM. LAB. LEGIS. REV. 191, 191 (1930).

indefinitely."¹⁰⁷ The American Association for Labor Legislation ("AALL"), "the principal 'think tank' and national lobbying organization concerned with protective labor legislation," believed that the lesson of the New Jersey dial-painter cases was the unjust operation of the "discredited limited schedule of compensable occupational diseases."¹⁰⁸ In 1928, the AALL organ concluded that "this sad business in New Jersey indicates again the urgent need for providing accident compensation for all occupational diseases."¹⁰⁹ John B. Andrews of the AALL concluded in 1927 that "equal protection under adequate accident compensation would in this case have protected not only the unfortunate victims of the occupational disease but would also have protected with all fairness their employer and the community as well."¹¹⁰ Andrews reminded his readers that the Association had urged the New Jersey legislature to extend the protection of worker compensation to "all victims of occupational disease instead of merely to those included in a limited list, pointing out that great injustice would otherwise be done."¹¹¹

Andrews was wrong in suggesting that the dial-painter claimants would have obtained compensation but for the limited schedule. Claimants faced other, nearly as formidable, barriers. The New Jersey compensation statute also included an especially harsh time limitation for filing claims. The state was the only jurisdiction that had enacted separate statutes of limitations for traumatic injuries as distinguished from disease-related injuries.¹¹²

Workers' compensation laws in the 1920s and 1930s provided a time limit within which a claimant was forced to file her claim. A 1936 study of limitations for filing claims for occupational diseases found that one of the most difficult problems was determining when the statutory clock on these claims began to run.¹¹³ Most jurisdictions in the 1930s held that the statute did not begin to run until the "disease is manifested." The sole exception, according to

107. Fred Wilcox, *The "Schedule" Fraud in Occupational Disease Compensation*, 24 AM. LAB. LEGIS. REV. 119, 121 (1934); see also Bale, *supra* note 1, at 559-62.

108. Joseph F. Tripp, *Law and Social Control: Historians' Views of Progressive-Era Labor Legislation*, 28 LAB. HIST. 447, 476 (1987); *New Jersey Radium Cases—The Lesson*, 18 AM. LAB. LEGIS. REV. 388 (1928).

109. *New Jersey Radium Cases—The Lesson*, 18 AM. LAB. LEGIS. REV. 388 (1928).

110. John B. Andrews, *Compensate ALL Occupational Diseases*, 17 AM. LAB. LEGIS. REV. 261, 263 (1927).

111. *Id.*

112. Canan, *supra* note 86, at 595 n.6.

113. Canan, *supra* note 86, at 595; see generally Comment, *Dust Disease and the Statute of Limitations in Pennsylvania*, 3 U. PA. L. REV. 192 (1937); Samuel Estep & Walter Allan, *Radiation Injuries and Time Limitations in Workmen's Compensation Cases*, 62 MICH. L. REV. 260 (1963); Patrick Kelley, *Statutes of Limitations in the Era of Compensation Systems: Workmen's Compensation Limitations Provisions for Accidental Injury Claims*, 1974 WASH. U. L.Q. 541.

the study, was the New Jersey statute. That statute “provid[ed] that the claim for compensation for an occupational disease injury shall be barred unless a petition is filed within one year after the date on which the employee ceased to be exposed to such occupational disease.”¹¹⁴ Thus, the statute of limitations for the common-law actions brought by the New Jersey claimants was actually more liberal than the workers’ compensation time limitation.

Even though the tort filing time limit was longer and more forgiving, the statute of limitations proved the major obstacle to recovery in common-law based suits. A memorandum prepared by USRC attorneys summarized the importance of statute of limitations for the defense.

One of our pleadings is the so-called Statute of Limitations, which based on broad terms, means that unless an injury as a result of occupational injury manifests itself and Action started within two years from the last date of employment of plaintiff by defendant, the case is barred by law. Practically all of our plaintiffs in the radium cases ceased their employment approximately ten years prior to bringing suit.¹¹⁵

The New Jersey statute of limitations that applied to tort causes of actions provided that such lawsuits “shall be commenced and instituted within two years next after the cause of such action shall have accrued and not after.”¹¹⁶

In *Freeman v. Conover*, New Jersey’s highest court held that the statute of limitations was an absolute bar even where the defendant had fraudulently concealed his wrongdoing.¹¹⁷ The court, quoting an earlier New Jersey case, declared that “time alone settles the rights of the parties, by the giant force of the statute.”¹¹⁸ New Jersey law left one opening for a plaintiff seeking to avoid the harsh operation of the statute of limitations. While a fraudulent act by a defendant that induced delay in the bringing of a lawsuit by a plaintiff is not a bar to a plea of limitations in an “action at law,” “appropriate and adequate relief under such circumstances may be afforded the plaintiff by and application to the Court of Chancery.”¹¹⁹ As the court in *LaPorte v. United States Radium Corp.* explained, “a person who has been wronged by fraud is relieved from the bar of the statute of limitations at law by a unique method. The plaintiff goes into the

114. Canan, *supra* note 86, at 595 n.6; *see also* Act of March 11, 1924, ch.124, 124 N.J. Laws 230, 232-33.

115. *LaPorte v. United States Radium Corp.*, Memorandum for Scientific Witnesses (Aug. 28, 1934), “Radium, Historical and Background Material vol. 2,” Argonne Radium Dial Project, Argonne National Laboratory.

116. *LaPorte v. United States Radium Corp.*, 13 F. Supp. 263, 272 (D.N.J. 1935).

117. *Freeman v. Conover*, 112 A. 324, 326 (N.J. 1920).

118. *Id.* at 325 (quoting *Thorpe v. Corwin*, 20 N.J.L. 311, 316 (1844)).

119. *Id.* at 326.

Court of Chancery and enjoins the plea of the statute at law."¹²⁰ The case of the Five Doomed Women was played out in chancery court. Berry confessed in May 1928 that he wanted to stay out of the court of law because he did not want to "run into *Freeman v. Conover*."¹²¹

Because the case of the Five Doomed Women was settled out of court, that court did not reach the statute of limitations question. In 1935, a federal district court in New Jersey did reach the issue and decisively ruled against a dial painter's claim. In May 1932 Vincent LaPorte had sued USRC, seeking damages for his wife's injuries and death from radiation poisoning. When USRC claimed that the statute of limitations had expired, LaPorte's attorneys began a suit in equity court to "enjoin the defendant from setting up the statute of limitations as a defense to the plaintiff's action at law."¹²²

Irene LaPorte worked for USRC from May 1917 to December 1918 and for a brief period in 1920. She remained in good health until the autumn of 1927. That year, Irene "complained of a fear that she might have radium poisoning. She delayed visiting her dentist for some time because other persons who had radium poisoning had demonstrated symptoms similar to those for which she suffered."¹²³ She was not diagnosed as "a victim of radium necrosis" until October 15, 1930. She died on June 16, 1931. Martland performed an autopsy and determined that she had died of "occupational radium poisoning."¹²⁴

The lawsuit was filed outside the two-year limit imposed by the statute of limitations. The court noted "if the action arose on the last day of her employment, the statute would have normally barred her remedy some time in 1922, which is at least two years before radium necrosis was discovered and over seven years before she was diagnosed." To avoid the effect of the statute of limitations, Vincent LaPorte had to prove fraudulent concealment. LaPorte had to show "some sort of conduct or acts which are fraudulent or unconscionable."¹²⁵ The court noted that the "important factual question" was determining "how much the scientific and medical world and the defendant knew about the industry" at the time Irene was exposed to radioactive substances.¹²⁶ After surveying the scientific and medical literature, the court concluded that "there was neither knowledge of an occupational hazard in the dial-painting industry, nor, in the light of the knowledge concerning radium, reason for the defendant to believe or to have known of the hazard." The same lack of knowledge that made it difficult for victims to name their malady and

120. *LaPorte*, 13 F. Supp. at 272.

121. Letter from Raymond Berry to Leslie Ferguson, (May 23, 1928), RBP, reel 3.

122. *LaPorte*, 13 F. Supp. at 263-65.

123. *Id.* at 265.

124. *Id.*

125. *Id.* at 275.

126. *Id.* at 266.

blame the responsible party also undermined the dial painters' attempt to overcome absolute rules of law that were often inappropriate for occupational diseases.

The court also questioned LaPorte's diligence in bringing the lawsuit. "While Martland did not diagnose her case until October 15, 1930, and her physician and dentist assured her that she did not suffer from the radium affliction, she knew of her own experience that she was suffering . . ." ¹²⁷ The trial judge, somewhat troubled by his decision, confessed "there is no question as to where the sympathies of any human being would lie in a case of this sort." But the judge stated he had "no power to adjust the law." ¹²⁸

The issue decided in *LaPorte* was not whether a cause of action existed for radiation poisoning but whether that cause of action was subject to the restrictions of an ordinary statute of limitations. USRC, though, also had claimed that no cause of action existed. A remedy under the workers' compensation law was not available because of the restricted schedule that did not specify radiation poisoning as a compensable injury. In their initial answer to the dial painters' pleading, USRC attorneys argued that the workers' compensation statute had created an exclusive remedy for injured workers. Their argument was based on the theory that the workers' compensation system was the sole means of reimbursing injured workers. If a worker did not qualify under the statute, then she could not assert a cause of action under the common law. ¹²⁹

This argument was not reached in any radium dial case but was rejected in other occupational disease lawsuits in New Jersey. In *Szalkowski v. C.S. Osborne & Co.*, an employer argued that the legislature had intended to compensate only the accidents and occupational diseases described in the statute, to exclude all other occupational diseases as not being compensable under the act, and to preclude a person from instituting a common-law action for an occupational disease not scheduled in the compensation act. ¹³⁰ The *Szalkowski* court held that if the legislature had "intended to bar an action at common law for an occupational disease contracted through the negligence of an employer, the legislature would have said so." ¹³¹ Another New Jersey appellate court also rejected the "no remedy" argument in 1933, holding "it is not to be presumed that the legislature intended to deprive the injured workman of his common-law remedy" for an unscheduled occupational disease. ¹³²

127. *Id.* at 276.

128. *Id.* at 277.

129. Defendant's Original Answer, *supra* note 18.

130. *Szalkowski v. C.S. Osborne & Co.*, 154 A. 611 (N.J. Cir. Ct. 1931).

131. *Id.* at 612.

132. *Downing v. Oxweld Acetylene Co.*, 169 A. 709, 712 (N.J. Sup. Ct. 1933).

Employers in some states, however, were able to argue successfully that their injured employees had neither a claim under the workers' compensation statute nor a common-law remedy.¹³³ The courts in these states held that workers' compensation was an exclusive remedy even where "it left workers with an occupational disease, or certain occupational diseases, without a remedy."¹³⁴

The common-law action for occupational diseases usually was based on the employer's duty to provide a safe place to work or the employer's failure to warn the worker of dangerous conditions.¹³⁵ New Jersey recognized a common-law action for occupational diseases as early as 1903. In *Meany v. Standard Oil*, an employee, who had been injured by inhaling noxious gases, successfully asserted that the employer had not exercised reasonable care in disposing of an "acid gas."¹³⁶ By 1936, a New Jersey court could state that "it is accepted law in this state that under a contract of employment it becomes the master's duty to take reasonable care to provide a proper and safe workplace in which the servant may work" The existence of a theoretical duty did not ensure success. In *Cichocki v. Geigy Company*, the appellate court in a silicosis case reversed a judgment in favor of the plaintiff because "to hold the existence of dust is prima facie evidence of negligence would violate the rights of operators and also the presumption against negligence."¹³⁷

It is difficult to generalize on the success of common-law occupational disease suits in the 1920s and 1930s. Common-law suits based on silicosis exposure met with some success in New York in the early 1930s. David Rosner and Gerald Markowitz suggest that "as workers won their suits, it emboldened more of the unemployed and their lawyers. . . . In the face of obvious suffering, judges, furthermore, were more and more likely to hold companies accountable for death and disability resulting from known risks."¹³⁸ This success led industry in New York to push for including silicosis under the state's compensation scheme. John B. Andrews pointed out that "employers who had opposed

133. See Annotation, *Workmen's Compensation Act as Exclusive of remedy by action against employer for injury or disease not compensable under act*, 100 A.L.R. 519 (1936).

134. Bale, *supra* note 1, at 602.

135. Annotation, *Duty of Master to warn servant against occupational disease*, 6 A.L.R. 355 (1920); Annotation, *Liability of employer at common law, or apart from workmen's compensation or specific occupational disease statutes, for occupational disease contracted by employee*, 105 A.L.R. 80 (1936); Francis Bohlen, *The Common Law Right of Action for Occupational Disease in Pennsylvania*, 63 U. PA. L. REV. 183 (1914).

136. *Meany v. Standard Oil Co.*, 55 A. 653 (N.J. 1903) (per curiam).

137. *Cichocki v. Geigy Co.*, 183 A. 463, 466-67 (N.J. Cir. Ct. 1936).

138. DAVID ROSNER & GERALD MARKOWITZ, *DEADLY DUST: SILICOSIS AND THE POLITICS OF OCCUPATIONAL DISEASE IN TWENTIETH-CENTURY AMERICA* 81 (1991).

inclusion of silicosis under the Workmen's Compensation Act came running to the State pleading for the inclusion of silicosis under the Workmen's Compensation Act so that they would be protected against the unlimited and terrifying common law suits which were being filed against them."¹³⁹ Rosner and Markowitz conclude that, after the state compensation act was amended to include silicosis, "compensation became so difficult to obtain and so limited that few workers found any redress through the system."¹⁴⁰

V. THE DIAL WORKERS IN THE COURTS

The dial painters faced more than unwieldy legal doctrine. After the county medical examiner's diagnosis furnished Katherine Schaub "perfect legal evidence for a lawsuit," it was "more than a year later, after many disappointments, that a firm of lawyers agreed to take the case."¹⁴¹ Other workers had similar problems in obtaining representation. Lawyers, according to Katherine Schaub, rejected her case "because of the length of time between my employment at the factory and the beginning of my illness."¹⁴²

The statute of limitations, however, was only one of several obstacles facing the workers. These impediments provided powerful economic disincentives against lawyers handling these claims on a contingent-fee basis. The rationale for contingent fees is to provide access to courts for those who do not have the resources to pay directly for legal services.¹⁴³ But typically lawyers only take cases on a contingency-fee basis where there is a high expectation of recovery.¹⁴⁴ Therefore, victims with legitimate claims often go without counsel if their case is doomed or even complicated by the facts or legal principles involved. As Owen Fiss has explained, "[t]he contingent fee does not equalize resources; it only makes an indigent plaintiff vulnerable to the willingness of the private bar to invest" in her case.¹⁴⁵ Most lawyers were unwilling to "invest" in the dial painters' cases.

After Berry filed the lawsuit on behalf of the Five Doomed Women, USRC delayed the proceedings to gain a tactical advantage. For example, the hearing in the New Jersey Chancery Court began on January 12, 1928, was adjourned to April 6, 1928, and was rescheduled for September 24, 1928.¹⁴⁶ According to

139. *Id.* at 91.

140. *Id.* at 81.

141. Schaub, *supra* note 36, *passim*.

142. Schaub, *supra* note 36, *passim*.

143. *See, e.g.,* Barry J. Nace, *The Contingent Fee: Breathing Life into America's Justice System*, 30 TRIAL, Oct. 1994, at 59.

144. Owen Fiss, *Against Settlement*, 93 YALE L. J. 1073, 1077 (1984).

145. *Id.*

146. Schaub, *supra* note 36, at 139-40.

Schaub, the defense lawyers at the April 1928 hearing argued that “one of their important witnesses was obliged to leave town, making it impossible to complete the case at that time.” Following this delay, the next open date on the court’s calendar was five months later.¹⁴⁷

These delaying tactics played a central role in Berry’s decision to settle the claims of the Five Doomed Women. Berry explained to Alice Hamilton that he felt compelled to settle the claims because his clients were suffering and could not afford a further delay.

It seemed better to accept a small sum at once, rather than to continue a protracted litigation, the outcome of which was rather doubtful because of the technicalities. I refer, of course, to the situation so far as the statute of limitations is concerned. Legally, the point is a very close one, and although I believe that we would finally win out, it would not be until after one and possibly two appeals had been taken to the Court of Errors and Appeals, which would carry the cases on for at least two years yet¹⁴⁸

The corporation and its lawyers pursued a strategy of delay that is commonly used by defendants in personal injury suits. Defendants ordinarily gain a variety of tactical advantages from exploiting the “chronic overload” that characterizes the legal process.¹⁴⁹ Delay is endemic to an overloaded court calendar, and exploitive, obstructionist defense strategies compound the already long wait for trial. This delay can also “discount” the value of recovery.¹⁵⁰ Owen Fiss notes that a plaintiff may immediately need the damages that she seeks and can often be induced to settle as a way of accelerating payment, even though she realizes that a damage award received at trial may be significantly larger.¹⁵¹ Because an indigent plaintiff’s need is so great, defendants can force her to accept a sum that is significantly less than the ordinary present value of the judgment.¹⁵² Berry explained that he felt compelled to settle the Canfield case because the family was “poverty stricken” and Mrs. Canfield was pregnant.¹⁵³ Tactical delays also increase the cost of litigation for the plaintiff’s attorney. In contingency fee arrangements, the plaintiff’s lawyer may recommend settlement because that lawyer no longer wants to invest any more time and money in the lawsuit.

147. Schaub, *supra* note 36, at 140.

148. Letter from Raymond Berry to Alice Hamilton (June 6, 1928), RBP, reel 3.

149. Galanter, *supra* note 4, at 121.

150. Galanter, *supra* note 4, at 121.

151. Fiss, *supra* note 144, at 1076.

152. Note, *Settling For Less: Applying Law and Economics to Poor People*, 107 HARV. L. REV. 442, 449 (1993).

153. Letter from Raymond Berry to Alice Hamilton (April 2, 1930), RBP, reel 1.

Delays typically work to the advantage of defendants in personal injury suits in other ways. Since plaintiffs bear the burden of proof, they are frequently hurt more by the disappearance of witnesses and the fading of memories during the long wait for trial. Discouraged attorneys, and even plaintiffs themselves, often forsake cases that languish on courts' dockets. Plaintiffs occasionally die waiting for their day in court. This too can benefit defendants. Jury damage awards for wrongful death suits are often lower than damage awards for severely injured plaintiffs. Because the family of the deceased will receive compensation instead of the victim, sympathy is not as great a factor. The deceased victim cannot display his or her injuries to a jury and cannot testify against the defendant.

All these factors were present in the dial-painter episode. The Five Doomed Women were expected to die and perhaps would not testify at their own trial. Their testimony was important both to demonstrate the severity of their conditions and to offer specific evidence of working conditions and practices within the plant. Berry had also hoped to use the testimony of Dr. Sabin Von Sochocky, a scientist and one-time executive of USRC. Von Sochocky, himself dying of radiation poisoning, had admitted that he knew the women were being injured while they were still working in the plant. He had tried to remedy the dangerous conditions but was thwarted by other members of the corporation.¹⁵⁴ Von Sochocky's revelations, if confirmed, would have been tremendously damaging to the defense, but the scientist died of radiation poisoning in 1928. Berry later explained that he settled the Canfield case in 1930, in part, because the death of Von Sochocky denied him an important witness.¹⁵⁵ Ultimately, cases where women died before a settlement generated lower settlement awards than those cases in which the victim survived until the litigation or settlement was concluded. In 1926, for example, an attorney settled three early dial-painter cases for \$9,000, \$3,000, and \$1,000. The woman still living received the highest settlement; the families of two deceased workers received the smaller awards.¹⁵⁶ Delay then, before and after a lawsuit was filed, may have significantly benefitted USRC.

Ironically, USRC's manipulation of the court's calendar may have necessitated, or at least accelerated, its ultimate settlement with the Five Doomed Women. An editorial in *Outlook* observed that "the crowded condition of the court calendar and the obstructionist policy of the Radium Corporation made it seem improbable that any settlement they could obtain might be a post-mortem one."¹⁵⁷ Similarly, in May 1928, the *New York World* declared that the postponement of the trial was "one of the most damnable travesties of justice that

154. Letter from Raymond Berry to Fredrick Hoffman (Jan. 3, 1928), RBP, reel 3.

155. Letter from Raymond Berry to Alice Hamilton, *supra* note 153.

156. Bale, *supra* note 1, at 640.

157. *Justice Outspeeds the Law*, 149 *OUTLOOK*, June 20, 1928, at 290-91.

has ever come to our attention” and concluded that “[i]f ever a case called for prompt adjudication it is the case of the five crippled women who are fighting for a few miserable dollars to ease their ‘last days on earth.’”¹⁵⁸ Schaub later wrote that “what had once been a hopeless case, unheeded and unnoticed, now flashed before the public. Everywhere people were asking why justice was being denied these five women, who, the doctors said, had but a year to live.”¹⁵⁹

As publicity grew, USRC agreed to a settlement that it might have otherwise avoided. On June 11, 1928 the Radium Corporation agreed to pay Fryer, Schaub, Larice, McDonald and Hussman \$10,000 each as \$600 each year in quarterly payments, legal costs totalling \$4,500, and past medical expenses not exceeding \$7,500 for all five plaintiffs. Berry and his legal team received \$15,000.¹⁶⁰ While USRC settled with the five claimants in the wake of intense negative publicity, the editorialists and outraged public did not realize that the settlement of the cases also could be turned to the tactical advantage of the defendants.

A variety of factors prompted the final settlement agreement. First, the delay in the case had begun to work against the corporation’s long-term interests. USRC settled because it feared its business would suffer from adverse publicity and because of the growing danger of an unknown number of future suits. Second, the case had an “educative” effect.¹⁶¹ The more the case was in the news, the more likely it became that other affected workers would consider bringing cases against the company. Indeed, after the Five Doomed Women became front-page news, more claims and suits surfaced.¹⁶² Third, the settlement allowed USRC to neutralize the most visible and dangerous claimants and wait for a better case to press to adjudication. Consequently, even though USRC’s manipulative delay did not unfold as it had anticipated, it accomplished several of the defendant’s goals and allowed it to employ other tactics to undercut the threat of widespread liability.

Although Berry gained substantial cash settlements for his clients, he recognized that the settlements represented “a strategic move on the part of the defense.”¹⁶³ USRC wanted to choose its day in court. Berry predicted that “in the future an attempt will be made to clear the question of radium dangers forever.”¹⁶⁴ In a letter to the chief medical examiner of New York City, Berry

158. Quoted in *New Jersey Radium Cases—The Lesson*, 18 AM. LAB. LEGIS. REV. 388 (1928).

159. Schaub, *supra* note 36, at 140.

160. Settlement Stipulation, June 11, 1928, PNCL, reel 86.

161. On the “educative” effect of litigation, see Marc Galanter, *Case Congregations and their Careers*, 24 L. & SOC’Y REV. 371, 383-84 (1990).

162. Bale, *supra* note 1, at 644.

163. Letter from Raymond Berry to Drinkers (June 6, 1928), RBP, reel 3.

164. *Id.*

wrote that the settlement “is a bargain in which the corporation is making a present payment of cash in order to, if possible, work itself into a better position in the future.”¹⁶⁵ He admitted that “the corporation gets a great advantage by the settlement agreement” and lamented to Alice Hamilton that he was not satisfied with the settlement because the “obvious intention of the Corporation is to clear itself in the future.”¹⁶⁶

Of course, Berry was correct. The company waited for a suit by Vincent LaPorte on behalf of his late wife Irene to press for a decision on the statute of limitation issue. The federal district court held that the statute of limitations barred any dial-painter suit against the company that had not been filed within two years of the last day of employment.¹⁶⁷ USRC was represented by the firms of Collins and Corbin, and Edwards, Smith, and Dawson—the New Jersey firms that had represented the company in all its previous claims.

The company’s defensive tactics and strategy fall within the pattern outlined by Marc Galanter in his seminal article “Why the ‘Haves’ Come Out Ahead.”¹⁶⁸ Galanter explains how the differences between parties involved in the legal process affect the way the system works.¹⁶⁹ Galanter divides parties into two groups: one-shotters, “who have only occasional recourse to the courts;” and repeat players, “who are engaged in many similar litigations.”¹⁷⁰ Repeat players, like USRC, play the “litigation game” differently than one-shotters. Repeat players, who will face many future lawsuits, are guided by different motivations and incentives. Their long-term perspective also gives them a variety of tactical advantages. Repeat players “can adopt strategies calculated to maximize gain over a long series of cases even where this involves the risk of maximum loss in some cases.” USRC, for example, paid relatively large sums of money to the Five Doomed Women, but ultimately protected themselves from the majority of potential claimants in New Jersey.

Galanter speculated that repeat players’ different litigation behavior would affect the development of legal rules.

We would then expect RPs to “settle” cases where they expect unfavorable rule outcomes. Since they expect to litigate again, RPs can select to adjudicate (or appeal) those cases which they regard as most likely to produce favorable rules. On the other hand, OSs should be willing to trade off the possibility of making “good law” for tangible gain. Thus, we would expect the body of “precedent” cases—that is, cases capable of influencing the

165. Letter from Raymond Berry to Chas. Norris (June 6, 1928), RBP, reel 3.

166. Letter from Raymond Berry to Alice Hamilton (June 6, 1928), RBP, reel 3.

167. *LaPorte v. United States Radium Corp.*, 13 F. Supp. 263, 277 (D.N.J. 1935).

168. Galanter, *supra* note 4, at 97.

169. Galanter, *supra* note 4, at 97.

170. Galanter, *supra* note 4, at 97-114.

outcome of future cases—to be relatively skewed toward those favorable to RPs.¹⁷¹

In the litigation process, then, repeat players are in a “position of advantage in the configuration of contending parties.”¹⁷²

The topology of repeat players and one-shotters explains the early settlements by USRC and its later intransigence. The company and its lawyers faced future lawsuits and they structured their litigation strategy accordingly. They chose to settle with Berry’s clients because they feared his chances of success and the insight publicity gave to potential litigants. The corporation’s attorneys pushed *LaPorte* to an adjudication because they correctly regarded it as the case most likely to produce a favorable result. After the trial court’s published opinion in *LaPorte*, no record exists of the company settling any New Jersey claims.

USRC also had retained the same lawyers for every occupational disease claim against the company.¹⁷³ These firms gained experience and skill in handling the highly complex and technical cases. This experience and specialization was offset somewhat by Berry’s growing experience and knowledge about radiation poisoning cases. Berry was involved in dial-painter litigation for nearly five years and had accumulated valuable scientific resources and legal research. This knowledge was unique: a new attorney for the dial painters would have been forced to start his research from the beginning and face an experienced defense team. Berry’s files, in fact, contain many requests from other attorneys contemplating action against the company asking legal advice.¹⁷⁴ After the settlement of the case of the Five Doomed Women in 1928, Berry was ready to bring more claims against the company. In 1930 USRC transferred two dial-painter lawsuits from state to federal court because it feared that all the suits would be consolidated under Berry’s representation.¹⁷⁵ Berry represented a dangerous and durable adversary who could have plagued USRC for years.

Berry, however, never fully used his storehouse of experience and knowledge. USRC attorneys were able to “cash out” Berry. When Berry settled Mae Cubberly Canfield’s claim in 1930, the settlement was conditioned upon his agreement to accept no future radiation poisoning suits. Mrs. Canfield received \$3,500, her husband \$1,000, and Berry \$4,000. The settlement included a stipulation by Berry “not to be connected with, directly or indirectly, any other cases against the United States Radium Corporation, nor to render assistance to

171. Galanter, *supra* note 4, at 101-02.

172. Galanter, *supra* note 4, at 103.

173. See Galanter, *supra* note 4, at 114-16.

174. See, e.g., Letter from Chas Week to Raymond Berry (April 30, 1930), RBP, reel 1.

175. Letter from Raymond Berry to Florence Kelly (Jan. 18, 1929), PNCL, reel 86.

any person or persons in any actions against said Company, or to furnish data or information to any such persons in matters against said Company."¹⁷⁶ Berry honored his agreement and routinely refused requests from attorneys seeking his advice--aid that he regularly supplied before the settlement. Berry informed one lawyer who sought his help: "I will not be able to help you As I told you on the phone, I am not going to take part in any more radium litigation and will, accordingly, not be able to be of assistance"¹⁷⁷ Katherine Wiley of the Consumer's League confirmed that Berry's departure severely crippled the campaign against USRC. As she later lamented, "Mr. B[erry] had all the data & experience[.] Other lawyers tried it [suing USRC], [they] came to me but they were not successful."¹⁷⁸

USRC's defense team did not invent this tactic. Although these secret agreements were not part of the court record, they apparently were common. The Houston law firm of Baker and Botts used such settlements to discourage lawsuits against their railroad corporation clients in turn-of-the-century Texas.¹⁷⁹ In two contemporaneous occupational disease cases, plaintiffs' attorneys also were "cashed out" with settlement agreements. In 1933, the attorney representing eleven asbestosis plaintiffs in lawsuits against Johns Manville Corporation settled all eleven claims and agreed that "he would neither directly or indirectly participate in the bringing of any new lawsuits against the company."¹⁸⁰ Ten years passed before another asbestos exposure suit was brought against the company.¹⁸¹ Similarly, when seventeen plaintiffs' lawyers involved in the Gauley Bridge disaster settled the claims of 157 plaintiffs for \$130,000 in 1933, they secretly agreed not to engaged in further legal action for another \$20,000.¹⁸² In the 1970s, defense attorneys in the Buffalo Creek mining disaster informed the plaintiffs' attorney that the multi-million dollar settlement "would have to include an agreement . . . not to represent any other plaintiffs . . . against the coal company."¹⁸³ The plaintiffs' attorney later commented that

176. Letter from Raymond Berry to Edwards & Smith (March 8, 1930), RBP, reel 1. On "buying out" legal resources of a class of claimants, see Galanter, *supra* note 161, at 383-84.

177. Letter from Arthur Karl to Raymond Berry (March 26, 1930); Letter from Raymond Berry to Arthur Karl (no date), RBP, reel 1.

178. Letter from Katherine Wiley to Josephine Goldmark (Dec. 13, 1948), PNCL, reel 86.

179. KENNETH LIPARTITO & JOSEPH PRATT, *BAKER & BOTTS IN THE DEVELOPMENT OF MODERN HOUSTON* 28 (1991).

180. PAUL BRODEUR, *OUTRAGEOUS MISCONDUCT: THE ASBESTOS INDUSTRY ON TRIAL* 114, 164 (1985).

181. *Id.* at 164.

182. MARTIN CHERNIACK, *THE HAWK'S NEST INCIDENT: AMERICA'S WORST INDUSTRIAL DISASTER* 65 (1986).

183. GERALD STERN, *THE BUFFALO CREEK DISASTER* 298-99 (1976).

such agreements were "fairly standard practice."¹⁸⁴ Recent legal texts confirm that "cashing out" talented and well-informed plaintiffs' attorneys remains an important defensive tactic.¹⁸⁵ The ploy maintains the repeat-player advantage enjoyed by corporate defendants, while effectively denying plaintiffs the services of the most effective attorney for their case.

VI. CONCLUSION

Only a few dial painters were able to overcome the factors that discouraged the use of the legal system as a remedy for their injuries, even fewer secured compensation for their illnesses. Their problems, however, cannot be explained solely by the seemingly heartless public position and legal maneuvers of their employer. The very nature of the victims' illnesses hampered clear identification of the problem and slowed formal legal involvement. The corporation defense team, though, was able to exploit the initial confusion caused by the medical aspects of the case so that the women's maladies were only gradually perceived as occupational injuries and belatedly characterized into articulatable grievances and concrete legal action. When a few women did resort to the legal system for relief, they faced hurdles endemic to the legal process and a dynamic of litigation that typically favors and rewards repeat-player defendants.¹⁸⁶

Workplace exposures to toxic substances and injurious practices continue to generate heretofore unknown occupational diseases and have vexed the legal system through the twentieth century.¹⁸⁷ According to one source, occupational exposure to toxic materials is currently responsible for causing 50,000-70,000 new illnesses annually.¹⁸⁸ Clearly, not all occupational illnesses are attributable

184. *Id.*

185. See Galanter, *supra* note 161, at 383-84; see also Ann Woolner, *Dupont Sows Suspicion with Benalate Deals*, *Fulton County Daily Report*, Sept. 16, 1996, available in LEXIS, Nexis Library, Legnews file. On the ethics of "cashing out," see Joanne Pitulla, *Co-Opting the Competition*, 78 ABA J. 101 (Aug. 1992).

186. See Galanter, *supra* note 4, at 101-02.

187. See, e.g., R. Alton Lee, *The Eradication of Phossy Jaw: A Unique Development of Federal Police Power*, 29 THE HISTORIAN 1 (1966); SILICA, SILICOSIS AND CANCER, CONTROVERSY IN OCCUPATIONAL MEDICINE (David Goldsmith, ed. 1985); BERYLLIUM: BIOMEDICAL AND ENVIRONMENTAL ASPECTS (Milton Rossman et al. eds., 1991); BENZENE: OCCUPATIONAL AND ENVIRONMENTAL HAZARDS: SCIENTIFIC UPDATE (M.A. Mehlman ed. 1989); TAMMY CROUCH & MICHAEL MADDEN, CARPAL TUNNEL SYNDROME & OVERUSE INJURIES: PREVENTION, TREATMENT & RECOVERY (1992); NICHOLAS J. WIKLEY, COMPENSATION FOR INDUSTRIAL DISEASE (1993).

188. Joseph A. Dear (Assistant Secretary, Occupational Safety and Health, Department of Labor) quoted in Carey C. Jordan, Comment, *Medical Monitoring in Toxic Tort Cases: Another Windfall for Texas Plaintiffs?*, 33 HOUS. L. REV. 473, 474 (1996).

to negligent conduct, but at least some are the result of improper handling of toxic substances, insufficient safety controls or standards, or inadequate testing of work-related, potentially toxic materials. As did the radium dial painters, the casualties of these previously unknown occupational diseases face substantial and complex obstacles at each stage of the naming, blaming, and claiming process. In part as a consequence, as little as three percent of incidents of occupational disease lead to workers' compensation claims,¹⁸⁹ and as few as one-thirteenth of disabling injuries of occupational origin received any compensation.¹⁹⁰ Despite formal reforms in legal doctrine and procedure, scientific advancements, and innovations in litigation strategy,¹⁹¹ the same forces that shaped the dial-painter episode continue to surface in other occupational health injuries and illnesses and help explain why the legal system sometimes appears inherently handicapped in its treatment of previously unrecognized occupational disease and mass tort injuries.

189. Laurence Locke, *Adapting Workers' Compensation to the Special Problems of Occupational Disease*, 9 HARV. ENVIR. L. REV. 249, 261 (1985).

188. Note, *Compensating Victims*, *supra* note 99, at 916, 925.

191. See, e.g., Jeffrey Trauberman, *Statutory Reform of 'Toxic Torts': Relieving Legal, Scientific, and Economic Burdens on the Chemical Victim*, 7 HARV. ENVIR. L. REV. 177 (1983).