Osgoode Hall Law Journal

Volume 24, Number 1 (Spring 1986)

Article 6

Of Herbicides and Humankind: Palmer's Common Law Lessons

Bruce H. Wildsmith

Of Herbicides and Humankind: Palmer's Common Law Lessons

Abstract
In 1982-83 a small group of Cape Breton landowners and two Indian chiefs, with wide-spread public support took the multi-national forest industry to court in Nova Scotia; and lost Their objective was to obtain an injunction to prevent the spraying of a dioxin-contaminated herbicide on forest plantations near their homes and properties and those of their neighbours The case raised important environmental law issues including the use of class actions, reliance upon common law causes of action, and the availability of injunctive remedies Most significantly, the case brought to the fore the question of how the judicial system should handle the deliberate release of toxic chemicals into the environment when uncertainty existed concerning the impact this activity would have. In this article the author provides background to the case and analyzes the Nova Scotia Supreme Court decision. He concludes that future plaintiffs in a similar position should win on existing legal theory. Finally, Professor Wildsmith suggests an alternative approach that judges could and should within an evolving common law system, take to adjust the burden of proof in cases concerning the use of toxic chemicals.

OF HERBICIDES AND HUMANKIND: PALMER'S COMMON LAW LESSONS

BY BRUCE H. WILDSMITH*

In 1982-83 a small group of Cape Breton landowners and two Indian chiefs, with wide-spread public support, took the multi-national forest industry to court in Nova Scotia, and lost. Their objective was to obtain an injunction to prevent the spraying of a dioxin-contaminated herbicide on forest plantations near their homes and properties and those of their neighbours. The case raised important environmental law issues including the use of class actions, reliance upon common law causes of action, and the availability of injunctive remedies. Most significantly, the case brought to the fore the question of how the judicial system should handle the deliberate release of toxic chemicals into the environment when uncertainty existed concerning the impact this activity would have. In this article the author provides background to the case and analyzes the Nova Scotia Supreme Court decision. He concludes that future plaintiffs in a similar position should win on existing legal theory. Finally, Professor Wildsmith suggests an alternative approach that judges could, and should within an evolving common law system, take to adjust the burden of proof in cases concerning the use of toxic chemicals.

I. INTRODUCTION

> . . . as I understand it . . . the judge concluded that there was not enough evidence to decide that the use of that particular type of herbicide was harmful. From the knowledge that I have of the law, it seems to me that until the question of the proof of onus [sic] is shifted from where it stands now to the individual or to the group that initiates the utilization of a new product, this type of decision will continue to take place.[1]

On September 15, 1983, Mr. Justice Merlin Nunn rendered his judgment in the controversial Nova Scotia herbicide spraying case, *Palmer* v. *Nova Scotia Forest Industries*.[2] In a mammoth decision, 182 pages typescript, he refused to grant an injunction to prevent the spraying of herbicides containing the chemicals 2,4,5-T and 2,4-D and awarded costs to the defendant. Additionally, the court was prepared to hear arguments

---

* B.Sc. (Guelph), LL.B. (Dal.), LL.M. (Harv.), Professor of Law, Faculty of Law, Dalhousie University, Halifax, N.S.

[1] Hon. Charles L. Caccia, Minister of the Environment (Canada), *House of Commons Debates* (27 September 1983) at 27501.

[2] (1983), 60 N.S.R. (2d) 271, 26 C.C.L.T. 22, 12 C.E.L.R. 157, 2 D.L.R. (4th) 397 (S.C.). All citations will be to the report of the case in the N.S.R.'s.

on the question of damages claimed by the defendant as a result of an earlier interim injunction that had prevented it from spraying in 1982, and perhaps in 1983.[3]

For many observers, the plaintiff's loss of the case, coupled with liability for costs and damages, demonstrates the futility of using the courts as a mechanism of environmental protection. In my view,[4] the decision in *Palmer* should not be seen in this light for at least three reasons. First, the trial generated enormous media attention. There was national coverage in Canada in magazines such as Maclean's, newspapers such as the *The Globe and Mail*, the *Toronto Star*, and the *Ottawa Citizen*, and on television, including the CBC's The Journal. In the United States,[5] articles appeared in the *New York Times* and NBC provided U.S.-wide television coverage. Even European sources covered the issue.[6] Locally, virtually all the newspapers and both the CBC and Atlantic television networks provided almost daily coverage of the trial and surrounding events. The National Film Board made a one-hour documentary, "Her-

[3] The claim for damages stems from undertakings given by the plaintiffs to secure the interlocutory injunction. The undertakings provide that the plaintiffs would indemnify the defendant for any loss suffered as a result of the issue of the interim injunction if the action for a permanent injunction failed. Mr. Justice Denne Burchell's decision granting the interlocutory injunction is reported in (1982), 53 N.S.R. (2d) 278 (S.C.). The grant of the interlocutory injunction was appealed by the defendant and the Appeal Division set it aside in December in an oral decision. Because the provincial licences required before spraying could legally take place were about to expire, no spraying could effectively take place before the following summer, and "[i]t is apparent that full and proper trial of the issues herein can and should be held well before next summer." See (1982), 58 N.S.R. (2d) 191 at 192. The trial in fact took place in May, 1983, with some argument heard and concluding briefs submitted in early June. Since Nunn J. did not render his decision until mid-September and the defendant did not spray at the sites in question in 1983, it was arguable that the plaintiffs may have been responsible for damages flowing from the failure to spray for two years rather than only one.

[4] The reader should appreciate that the author assisted the plaintiffs as counsel from the fall of 1982 through until the conclusion of the trial proceedings in September of 1983. He was not involved at the outset in events leading to the interim and interlocutory injunctions or in the post-trial decision not to appeal and to settle questions relating to costs and damages.

[5] It should be remembered that at the time in the U.S., 2,4,5-T was still the subject of controversy. The U.S. Environmental Protection Agency had suspended the use of 2,4,5-T for forestry applications, subject to reconsideration through a judicial-style inquiry. The major chemical manufacturers, including Dow Chemical of Midland, Michigan, were contesting this decision. Many of the experts involved in the *Palmer* case also had involvement, or were expected to have involvement, in these hearings. Similarly, the U.S. Veterans' class action case based on the exposure of soldiers to Agent Orange during the Vietnam War was at that time under litigation and on the verge of going to trial. The trial was expected to open in June of 1983, but was adjourned and the case was eventually settled.

[6] Interest in Europe stemmed from a variety of reasons, including the involvement of Micmac Indians, and the facts that the defendant was a Nova Scotia branch of a large Swedish multi-national forest company, that one of the plaintiffs' leading expert witnesses was a Swedish doctor, and that major fund raising efforts were conducted in Sweden.

bicide Trials." Harrowsmith described the event as the "Judgement Day for Agent Orange."[7] While the media coverage may be described, in some cases, as over-simplified and sensationalist it is clear that in many respects the court challenge heightened public awareness of the problem of toxic-chemical pollution, which, regardless of the merits of the *Palmer* decision, is serious. In the process, the judiciary and other members of the legal community, the politicians and the government regulators themselves were forced to take stock of the problem and their role in relation to toxic chemicals. The educational value of the court challenge must not be underestimated.

Second, in a pragmatic sense, the plaintiffs won the case. They lost the battle to persuade Mr. Justice Nunn, but won the war over spraying 2,4,5-T in Nova Scotia. At the eleven spray sites involved in the case, 2,4,5-T was not sprayed in 1982. No permits were granted to spray 2,4,5-T anywhere in Nova Scotia in 1983; neither was it sprayed in 1984 or 1985. It appears that in the aftermath of the trial, despite Nunn J.'s statement that "this court is of the opinion that these spraying operations can be carried out in safety and without risk to the health of the citizens of this province,"[8] the political and regulatory decision makers in Nova Scotia and the forestry companies and other users have decided not to pursue the matter. Perhaps they have been influenced by the ultimate counterpoint to the court outcome: a matter of weeks after the Nova Scotia decision the major supplier of 2,4,5-T products, Dow Chemical in Midland, Michigan, announced it would no longer market products containing 2,4,5-T and the U.S. Environmental Protection Agency totally banned the use of 2,4,5-T for any purpose in the United States.[9] The plaintiffs were vindicated in the larger arena, if not in the courtroom.

Third, and most important for this article, the legal theory underlying the plaintiffs' case remains intact and is strengthened in several respects. The thesis of this paper is that the common law has more life than is apparent to the casual reader of the decision of Nunn J.: it has retained the vitality to provide potential relief against a proposed spraying operation in a situation akin to *Palmer*. Perhaps the next time an injunction is

---

[7] (April/May 1983) 7:6 Harrowsmith 125.

[8] *Supra*, note 2 at 355.

[9] See, *e.g.*, J. Steed, "Spray Unleashes a Forest of Fear", *The [Toronto] Globe and Mail* (26 November 1983) 10.

sought, the plaintiffs and their supporters will succeed in the judicial forum. There is good reason to think that this should be so.

II. BACKGROUND

This case has numerous complexities,[10] many of which are not germane to understanding the legal issues surrounding similar spraying situations.[11] The gravamen in the case is that the defendant forest company wished to spray herbicides on forest land that it either owned or leased from the provincial government. The purpose of spraying was to chemically weed its conifer plantations: in essence to retard the growth or kill unwanted plants, including hardwoods, so that the softwoods, which the company had planted or which had naturally regenerated, would more quickly become dominant. This would speed up the production cycle. Before releasing these chemicals into the environment of Nova Scotia, Nova Scotia Forest Industries (NSFI) was required to obtain a permit for each spray site under Nova Scotia's *Environmental Protection Act*.[12] These permits had been obtained. They authorized spraying only from the ground, not from the air. Since this statute preserves common law rights of action and remedies,[13] as long as the herbicides remained on NSFI's land, it is difficult to see what private cause of action the

[10] In addition to the decisions at trial, *supra*, note 2, and on the interlocutory injunction at trial and on appeal, *supra*, note 3, there are two other reported decisions made in the context of this case relating to costs. Originally the action was against three forestry companies and in discontinuing the proceedings against one of them, that defendant, Scott Paper International Inc., became entitled to costs. The taxation of the bill of costs was appealed at (1983), 59 N.S.R. (2d) 216 (S.C.) and a further appeal from that decision is reported at (1983), 58 N.S.R. (2d) 193 (C.A.).

[11] An exception to this concerns the use of juries. The plaintiffs in setting the matter down for trial filed a jury notice. The defendant moved to strike the jury. The motion was heard by Nunn J., who at this point had been assigned to deal with all matters relating to this case. In an unreported decision, he granted the motion. He would not allow the case to be heard by the jury on the basis that the evidence, especially that from scientific experts, would be too complicated for a jury of laypeople to understand. In my view this perspective does not give enough credit to the capacity of intelligent laypeople, especially when the trial judge does not have any more obvious scientific expertise and in light of the fact that he retains the power at any point to withdraw the case from the jury. The plaintiffs argued that despite extensive scientific evidence, neither the jury nor a judge was going to resolve a scientific issue over which the scientific community is itself split; in the final analysis the evidence would boil down to a common sense assessment on whether the risk is acceptable. The decision to disallow a jury badly hurt the plaintiffs. Also, a decision against them by a jury of peers would have been much more acceptable to the plaintiffs and would have helped maintain their faith in democratic principles and our system of administering justice.

[12] S.N.S. 1973, c. 6, s. 23(1).

[13] *Ibid.* s. 55(1).

plaintiffs would have against the defendant.[14] Therefore, a central assumption of the plaintiffs' case was that the herbicides would escape.

The particular chemical that concerned the plaintiffs was Esteron 3-3E, a product manufactured by Dow Chemical. This phenoxy herbicide is composed of 50 percent 2,4-D and 50 percent 2,4,5-T. A contaminant in all 2,4,5-T is a particular dioxin isomer, 2,3,7,8-tetrachlorodibenzo-p-dioxin, commonly called TCDD. Nunn J. stated: "The contaminant TCDD is one of the most toxic chemicals known to man."[15] While TCDD is the best known dioxin, there is controversy as to its detrimental effect upon humans and the environment, especially when used in small quantities. It is known that 2,4,5-T contains other isomers of dioxin besides TCDD, as well as a variety of isomers of a similar group of chemicals called furans. Much less is known about the other dioxins and the furans. While much of the interest in the case stemmed from the sense that 2,4,5-T was on trial, it was not necessary to condemn the chemical in order for the plaintiffs to succeed in establishing a cause of action. The proper point in the proceeding at which to consider the risk posed by 2,4,5-T would be upon choosing appropriate remedies.

The plaintiffs, understandably, were concerned about the danger to themselves and the environment from spraying 2,4,5-T. They were motivated to act because of the particular chemicals involved. Yet there may not exist a perfect symmetry between motivation and a legally cognizable basis for complaint. Thus it is necessary to place the plaintiffs' concerns into a legal framework acceptable to the court. The old forms of action may no longer be mandatory, but the judicial system has yet to abandon the notion that only certain complaints can give rise to a judicially cognizable cause of action. Therefore, since not all issues, decisions, or alleged wrongs are justiciable, an appropriate peg must be found upon which to hang the plaintiffs' case.

Amazingly, we have yet to develop a legal theory giving us a justiciable right to be free of toxic chemicals. Trespass to the person is theoretically adequate for direct, deliberate physical invasions. Personal injuries that can be linked to a defendant's negligent action or nuisance may be recompensable. However, in the *Palmer* situation it would have

---

[14] This is not to rule out the possibility of several grounds to challenge this on-site activity. First, one might argue that the Minister of the Environment was in breach of his duty under the *Environmental Protection Act*, *supra*, note 12, and that as a result the permits were invalidated. Second, it can be, and was in *Palmer*, argued that Indians who have unextinguished aboriginal rights in relation to the spray site can maintain an action for the effect the presence of toxic chemicals would have on the exercise of their rights. Third, it may be that the public has a right of access to the site, for example to hunt or fish, that similarly gives rise to a cause of action.

[15] *Supra*, note 2 at 350.

been clearly inadequate to base the action on a general notion that the plaintiffs have a right to a safe environment.

If protection of humankind through notions of bodily integrity or a safe environment is inadequate, we are thrown back to the one interest that seems to enjoy universal protection: property. Obviously property does not enjoy absolute protection, but the law has historically always managed to develop causes of action rooted in protection of property. It was to these notions of property that the plaintiffs turned.

All of the plaintiffs owned or occupied land in the vicinity of the proposed spray sites or on watercourses downstream from the areas to be sprayed. Each plaintiff was not necessarily the closest landowner or resident to the spraying sites and there were others who also owned land adjacent to these sites. In order to cover unknown factors or contingencies related to wind or drift or runoff and to prevent the possibility of only receiving a plaintiff-specific remedy, the suit was framed as a representative or class action. The statement of claim then asserted six causes of action: private nuisance; trespass to land; the rule in *Rylands* v. *Fletcher*;[16] the right of riparian owners to water undiminished in quality; the right of landowners to ground water free of chemical contamination; and breach of statute, especially of the environmental protection and pollution control provisions of the *Fisheries Act*.[17] By way of relief, the plaintiffs sought to prevent the spraying before it took place. Prevention is particularly important when damage from the spraying would not likely be obvious shortly after the spraying (latency periods measured in decades may apply for such possible outcomes as cancer) and the potential injuries are inherently uncompensable (birth defects and genetic damage as well as cancer and environmental damage). A permanent injunction was requested to accomplish this: the particular form sought was an anticipatory injunction, commonly referred to as a *quia timet* injunction. The plaintiffs also requested a declaration that they had the right to be free of exposure to the phenoxy herbicide and "such other relief as this Honourable Court thinks just."[18]

Palmer will likely prove to be a very influential environmental case for the future. It is not, however, a decision that ought to be accepted at face value in all respects. The balance of this article will emphasize some of the ways in which the analysis in *Palmer* is flawed. In particular, the article will focus on four weaknesses in the decision. First, the trial judge correctly states the law on trespass to land but fails to apply this

---

[16] (1868), L.R. 3 H.L. 330.

[17] G.R.S.C. 1970, c. F-14.

[18] See *supra*, note 2 at 343.

law to the evidence before him. In other words, legal theory supports a successful outcome for the plaintiffs here and in a future law suit involving the spray of chemicals. On the evidence in *Palmer*, the plaintiffs probably should have won. Second, Nunn J. explains the law of nuisance incompletely and thereby fails to address some important questions. In particular, he fails to consider the non-health aspects of herbicide spraying. Third, he does not adequately address questions of relief. Fourth, recognizing that a case of this nature poses severe problems related to proof, a common law judge ought to deal with questions of risk and uncertainty in a new way.

III. CLASS ACTION

Before turning to these four central issues, note should be taken of the significance of the *Palmer* case from the standpoint of class actions. Originally the proceeding was commenced by a group of plaintiffs described as "CAPE BRETON LANDOWNERS and ELIZABETH MAY and VICTORIA PALMER on their own behalves and on behalf of CHIEF RYAN GOOGOO, REVEREND CHARLES MULLENDORE, JACK MACGILLIVRAY, ROBERT SANSON [sic], CHIEF THOMAS FRANCIS, and on behalf of all persons in the Province of Nova Scotia who are opposed to the spraying of 2,4-D and 2,4,5-T for forestry purposes."[19] The defendants, initially three but later reduced to one because of problems with standing, opposed the class action nature of the claim. As the description noted above indicates, the claim had two suspect aspects to it. One is the idea that one named plaintiff can bring a representative action on behalf of other named individuals. Since the other named individuals (Googoo, Mullendore, MacGillivray, Sanson, Francis) had all filed undertakings with respect to discrete spray areas and were all represented by the same counsel, it was not clear why the suit was not structured so that they each sued on their own behalf as well.[20] Second, expressing the class as all persons in Nova Scotia who are opposed to the spraying introduced a breadth to the class that does not seem meaningful and makes identification of membership very difficult.

Mr. Justice Burchell orally held on August 10 during the *ex parte* application for an interim injunction that a class action could be maintained. He stated, "Pursuant to Civil Procedure Rule 5.09(1), I

---

[19] Supreme Court decision, *supra*, note 3.

[20] Perhaps it was anticipated that GooGoo *et al.* would be sheltered from liability for costs, but the undertakings given by each of them would foreclose this possibility. The undertakings included liability for costs as well as damages should the plaintiffs ultimately be unsuccessful. See *ibid.* at 280.

accepted the standing of several of the plaintiffs, Victoria Palmer, Chief Ryan GooGoo and Chief Thomas Francis, to represent other holders of lands adjacent to spray areas."[21] The matter was further considered on August 19 on the *inter partes* application for an interlocutory injunction. Burchell J. states, "On the question of standing, I made essentially the same ruling as before but I recognized the right of certain parties, as downstream owners, to maintain an action relative to unauthorized pollution of water sources in actual use."[22] In substance, Burchell J. allowed the structure of the suit as a class action to stand unaltered. In reality, however, he allowed a plaintiff to maintain standing in relation to a particular spray site to which he or she was connected. The injunction was not province-wide in application and did not affect spray sites at other locations in the province.[23]

The defendant appealed the interlocutory decisions on the class nature of the proceeding. The Nova Scotia Supreme Court, Appeal Division, delivering an oral decision through MacKeigan C.J.N.S., stated:

> In view of Mr. Wildsmith's assurance that the originating notice and statement of claim will be amended to provide that Victoria Palmer will represent only landowners in the Lochaber district and that other persons will be named as representative plaintiffs in respect of other areas, we need not consider the merits of the application. We therefore dismiss this application.[24]

This should have made two points clear. One is that the theory underlying the class action was that each spray site would define a separate class. In other words, one named plaintiff could represent all landowners in the vicinity of that spray site. Conversely, each spray site would require its own plaintiff. Second, and most important, the Appeal Division was in effect holding that a class action was an appropriate mechanism to use in a spraying context.

Despite the Appeal Division's disposition of the class or representative action issue, the defendant persisted in arguing to the trial judge that a representative action was not proper, and Mr. Justice Nunn, who now had charge of the case, entertained the argument. The trial judge finally expressed his view on the subject in his final decision on September 15, 1983. There, after setting out Nova Scotia Civil Procedure Rule 5.09(1),[25] Nunn J. notes that "this rule has two basic requirements —

---

[21] *Ibid.*

[22] *Ibid.* at 281.

[23] There was an undertaking by the defendants not to spray certain areas until the interlocutory application was disposed of. See *ibid.*

[24] Appeal Division decision, *supra*, note 3 at 192.

[25] 5.09(1). "Where numerous persons have the same interest in a proceeding . . . the proceeding may be begun, and, unless the court otherwise orders, continued, by or against any one or more of them as representing all or as representing all except one or more of them."

numerous persons and the same interest."[26] He stated there was "no problem with the numerous person requirement"[27] and focused on whether those in the class had the same interest. In holding that they have the same interest, he states, "Clearly the plaintiffs and those represented by them have a common interest and a common grievance and the relief sought is beneficial to all."[28] This was so even though the mechanism by which spray would reach members of the class might differ and the probability of harm might vary from class member to class member. He also reached this conclusion despite several adverse Ontario precedents dealing with maintaining class actions where a nuisance is alleged.[29]This aspect of Mr. Justice Nunn's decision must be applauded.

One ironic point, however, must be noted. Nunn J. remarks correctly that the action is really a combination of a number of representative actions. He therefore concludes:

> It may have been more proper for the action of each group to have been brought separately and all consolidated via consolidation of action procedure [*quaere:* why go through a more complex procedure to achieve the same result?] or *perhaps one or more representatives could have represented all of the areas together.*[30] [Emphasis added.]

Ironically, Nunn J. expresses a more liberal view on this issue than the plaintiffs themselves had dared assert. The logic of the trial judge's suggestion would have allowed one plaintiff to have represented all of NSFI's spray sites throughout the province, not just those involved in the actual case, and, perhaps by utilizing the notion of a representative defendant, all forestry operations in Nova Scotia. Similarly, if an undertaking with respect to costs and damages before granting an interim or interlocutory injunction was required by the court, presumably only one individual need undertake such personal exposure. It is also noteworthy that this suggestion seems at odds with the position underlying the Appeal Division's comments on amending the class descriptions to have a plaintiff at each site. A further irony is that the plaintiffs kept resisting the defendant's argument that a representative action was improper by referring to the Appeal Division's decision. The trial judge had seemingly ignored the Appeal Division and expressed a more liberal point of view. What would have happened if the plaintiffs had, after the Appeal Division's limiting decision, gone the course the trial judge suggested? Would they

---

[26] *Supra*, note 2 at 337.

[27] *Ibid.*

[28] *Ibid.* at 339.

[29] *Preston* v. *Hilton* (1920), 55 D.L.R. 647 (Ont. S.C.); *Turtle* v. *Toronto* (1924), 56 O.L.R. 252 (C.A.); *St. Lawrence Rendering Co.* v. *Cornwall* (1951), [1951] 4 D.L.R. 790 (Ont. H.C.).

[30] *Supra*, note 2 at 339.

have been as free as the defendant and the trial judge in ignoring the apparent *res judicata* impact of the higher court's views?

In any event, all five judges, Burchell and Nunn JJ. MacKeigan C.J.N.S., and Jones and Macdonald JJ.A., were of the view that a class or representative plaintiff's action was proper. An important precedent has been set.

IV. TRESPASS TO LAND

As in relation to class actions, Nunn J.'s views on the legal theory underlying trespass to land are laudable. The application of the theory, however, leaves much to be desired.

Nunn J. notes that trespass to land is actionable *per se* and does not require proof of damage.[31] He quotes from *Salmond and Heuston on The Law of Torts*[32] that it is a trespass to place anything upon the plaintiff's land or to cause any physical object or noxious substance to cross the boundary of the plaintiff's land. He includes an extensive quote from a New Brunswick spraying case, *Friesen* v. *Forest Protection Limited.*[33] Included in the quote is the following, *per* Dickson J.:

> To throw a foreign substance on the property of another, and particularly in doing so to disturb his enjoyment of his property, is an unlawful act. The spray deposited here must be considered such a foreign substance, and its deposit unquestionably amounted to a disturbance, however slight it may have been, of the owner's enjoyment of their property. I therefore must conclude that the defendant, in depositing the spray did in fact commit what would, in the absence of statutory authority, be considered a trespass.[34]

Mr. Justice Nunn himself states, "again there is no doubt in my mind that, if it is proved that the defendant permits any of these substances on the plaintiffs' lands, it would constitute a trespass and be actionable."[35]

A very interesting aspect of the decision appears in the following sentence quoted from *Freisen*, immediately following the above passage:

> This of course does not involve any question of whether or not the spray may have been toxic or non-toxic, because even to have thrown water or garbage or snow or earth tippings, or any substance on the property would equally have amounted to an act of trespass.[36]

---

[31] *Ibid.* at 346.

[32] 18th ed. (Agincourt, Ontario: Carswell, 1981) at 39.

[33] (1978), 22 N.B.R. (2d) 146 (Q.B.).

[34] *Supra*, note 2 at 346.

[35] *Ibid.*

[36] *Ibid.*

Thus, in terms of whether the plaintiffs had a legal cause of action, questions of toxicity are irrelevant. It matters not if the chemicals are 'unsafe'. Water alone would suffice!

Why, then, did the plaintiffs not succeed on the basis of trespass to land? The only explanation offered by Nunn J. is contained in two comments. He concludes his discussion of trespass to land by stating, "Again, entitlement to a remedy, will be based upon proof as to whether such substance will be deposited on the lands of the plaintiff."[37] At this point in the decision, there is no reference to whether or not such proof was present. Only once thereafter in his decision does Mr. Justice Nunn come back to the issue of trespass. There he states, "As to trespass, none has been proved as probable to occur. Possibilities do not constitute proof."[38] At one very important level, the learned trial judge's discussion is significant because it confirms the plaintiffs' legal theory: if the spray drifted from the defendant's spray sites to the plaintiffs' lands, the defendant will have committed an actionable wrong. The ostensible reason the plaintiffs failed was lack of proof. Mr. Justice Nunn's discussion is deficient because it does not deal with what obviously is a very critical issue: the likelihood of the defendant being able to spray without the chemical drifting onto the plaintiffs' lands. Nunn J. discusses extensively the evidence on the health risks posed by 2,4,5-T, but does not adequately discuss the possibility of drift.

Little would be gained by reviewing in detail the evidence presented to the trial judge concerning possible drifting of the toxic spray. On the summary of evidence presented in the decision, though, the plaintiffs' case seems persuasive. The herbicide could only legally be sprayed in accordance with the instructions printed on the label, and this specified only spraying when the wind is "above calm" and below eight kilometers per hour. The only meteorologist and weather forecaster to testify stated that it was impossible to predict winds within these limits[39] and that even with a trained and experienced meteorologist on site "it would be almost impossible to forecast periods sufficiently long enough to make the completion of the spray program possible."[40] This view was not contradicted. As well an Environmental Protection Service employee, William Ernst, testified that a 1981 study on drift during forestry herbicide use in Nova Scotia indicated "that both in aerial and ground spray applications there was a drift of the chemicals depositing them on areas

---

[37] *Ibid.*

[38] *Ibid.* at 355.

[39] *Ibid.* at 282.

[40] *Ibid.* at 283.

beyond the blocks sprayed."[41] Indeed, at one point during the trial proceedings, the trial judge said to the plaintiffs' counsel:

> Look, I'm, I'm not so sure that we're not using science to . . . really portray what is obvious. You know, if you take a fly sprayer and you do it in the wind, the wind is going . . . to move the spray. You don't have to, you don't have to pound that one too hard for me to accept it as a — as a fact. There obviously is a direct relationship between wind and drift in anything — that will feather up into the air on a windy day and it'll move farther than it may on a calm day.[42]

To this, the plaintiffs' counsel responded: "It's not necessary for me to go through with evidence of that type."[43]

As indicated in the discussion above, off-site drift was not a mere possibility, even a probability, but rather a virtual certainty. Since the plaintiff classes represented all surrounding landowners and some individual plaintiffs were in close proximity to the sites, it is hard to see how the trial judge could have reached the conclusion he did on the issue of trespass to land.

V. NUISANCE

> There is perhaps no more impenetrable jungle in the entire law than that which surrounds the word "nuisance". It has meant all things to all people, and has been applied indiscriminately. . . . Few terms have afforded so excellent an illustration of the familiar tendency of the courts to seize upon a catchword as a substitute for any analysis of a problem. . . .[44]

Exception cannot be taken with the statements made by Nunn J. on the law of nuisance,[45] as far as they go. He quotes, for example, that the "essence of the tort of nuisance is interference with the enjoyment of land."[46] The important element of the law of nuisance for him, though, is that "only some substantial interference with a person's enjoyment of property gives rise to an action in nuisance."[47] There is no analysis of what is meant by "substantial interference." Nunn J. finesses this problem by reasoning that is, with respect, suspect. He indicates that the plaintiffs were concerned about the possible human health effects of the chemicals, and concludes that "[a]s a serious risk of health, if

---

[41] *Ibid.* at 286.

[42] This was during the direct examination of William Ernst: Trial Transcript at 233.

[43] *Ibid.* at 234.

[44] *Prosser and Keeton on the Law of Torts*, 5th ed. (St. Paul, Minn.: West Pub. Co., 1984) at 616.

[45] See *supra*, note 2 at 345.

[46] *Ibid.*, quoting from *Street on Torts*, 5th ed. (London: Butterworth, 1972) at 212.

[47] *Ibid.*

proved, there would be no doubt that such an interference would be substantial."[48] This is undoubtedly so. But he then states:

> In other words, the grounds for the cause of action in nuisance exist here provided that the plaintiffs prove the defendant will actually cause it, i.e., that the chemicals will come to the plaintiffs' lands and that it will actually create a risk to their health.[49]

Put differently, Nunn J. is saying that since a serious health risk is a substantial interference, if the plaintiffs prove it they have succeeded. He then assumes that the negative is equally true, that is, if the plaintiffs do not prove a serious health risk, they lose. In logic this is called the fallacy of denying the antecedent.[50] This is a very serious logical error. With respect, the trial judge ought to have considered, in light of his finding on the health issue, what was meant by a "substantial interference" and whether this nevertheless existed. In other words, something less than a serious health risk might nevertheless amount to a nuisance.

Ultimately deciding what amounts to a "substantial interference" is a matter of judgment. In most cases, when the physical condition of the plaintiff's land is impacted, there is a substantial interference.[51] In contrast, an impact on the person's use and enjoyment of land should be measured in terms of its objective effect on the ordinary comfort of human existence.[52] Without belabouring the point, one cannot help noting that the chemicals in question were herbicides, designed to harm or kill living plants. As well, Nunn J. states that the "contaminant TCDD [contained in 2,4,5-T] is one of the most toxic chemicals known to man. One witness described it as 'exquisitely toxic'."[53] If a neighbour was

---

[48] *Ibid.*

[49] *Ibid.*

[50] The fallacy of denying the antecedent is explained in W.C. Salmon, *Logic* (Toronto: Prentice-Hall, 1963) at 27-28. An argument displaying this logic has this form:

If p, then q.
Not -p.
∴ Not -q.

An example given by Salmon is the following:

If Columbia University is in California, then it is in the United States.
Columbia University is not in California.
∴ Columbia University is not in the United States.

Putting Mr. Justice Nunn's argument in this form would give us the following:

If a serious health risk exists, then a substantial interference with the use and enjoyment of lands exists.
A serious health risk does not exist.
∴ A substantial interference with the use and enjoyment of lands does not exist.

[51] *Prosser and Keeton on the Law of Torts, supra,* note 44 at 627.

[52] *Ibid.* at 627-28.

[53] *Supra,* note 2 at 350.

spraying such a substance next door, would the normal person not consider the ordinary comfort of existence affected?

VI. RELIEF

Ultimately, the plaintiffs wished to prevent the herbicide spraying. To this end they claimed by way of relief a permanent injunction. Injunctions have their own particular requirements that must be met before being granted, and so to avoid the possibility of making out a cause of action but failing on relief, the plaintiffs also claimed a declaration and "such other relief as this Honourable Court thinks just."[54] Additionally, damages could be considered in lieu of an injunction, as will be elaborated on later.

Nunn J. deals first with the claim for a declaration which he concludes is not within the power of the court to grant. His view is that the relief "reaches the realm of a broad social right," that it is "a societal matter" and that it is "not justiciable between these parties."[55] The reason seems to be that "exposure may come from any sources and in many different situations,"[56] For example, Nunn J. states that "[by] far the greatest amount of phenoxy herbicides are used in agriculture and such a declaration would have wide-spread ramifications in that industry without anyone involved having been able to present evidence or argument to this court."[57]

The problem with this approach to the question of granting a declaration is that it assumes that too broad a declaration was sought. Pitting the plaintiffs as against all the world poses more severe problems in determining the existence of a legal right. But in the context of a law suit against one particular defendant that proposed a discrete course of action (that is, to spray particular chemicals on particular lands), the more appropriate assumption is that any requested declaration would relate only to the activities of the named defendant. Putting the issue differently, all the plaintiffs sought was a declaration that they had the right to be free of 2,4,5-T on their lands as a result of the activities proposed by the defendant. What could be more justificable?[58]

---

[54] *Ibid.* at 342-43.

[55] *Ibid.* at 343.

[56] *Ibid.*

[57] *Ibid.* at 344.

[58] It is perhaps of more than passing interest to note that the *Bedford Service Commission* case relied upon by Nunn J. was reversed on appeal by the Supreme Court of Canada: (1977), [1977] 2 S.C.R. 269. Laskin C.J.C. stated, at 270, that a declaratory action attacking the decision as to where to locate a garbage dump did raise justiciable issues.

Having disposed of the claim for a declaration, the only other form of relief considered by Mr. Justice Nunn is the injunction. He states:

> The plaintiffs must, however, prove the essential elements of a regular injunction, namely irreparable harm and that damages are not an adequate remedy. . . . Finally, any injunction is a discretionary remedy and sufficient grounds must be established to warrant the exercise by the court of its discretion. . . . I am satisfied that a serious risk to health, if proved, would constitute irreparable harm and that damages would not be an adequate remedy. Further, recognizing the great width and elasticity of equitable principles, I would have no hesitation in deciding that such a situation would be one of the strongest which would warrant the exercise of the Court's discretion to restrain the activity which would create the risk.[59]

Again, Nunn J. falls into the logical fallacy of denying the antecedent. He wrongly assumes that if a serious risk to health would justify an injunction, then negating the health risk also negates the injunction.[60] Thus an important question that the court should have asked but did not is what, if anything, less than a serious risk to health would justify an injunction. Indeed, Nunn J. describes a serious risk to health as "one of the strongest [situations] which would warrant the exercise of the Court's discretion,"[61] intimating that less strong situations would also justify an injunction.

Another very serious consequence of reducing the issue of a remedy to the question of a serious risk to health is that Nunn J. never considers the issue of whether a less severe remedy than a permanent, total injunction would be appropriate. If this question was asked, at least two possible approaches could have been legitimately pursued. One would be to explore the possibility of a conditional injunction. In this way, for example, concerns about the method of application could be addressed. Thus the court could enjoin the spraying unless it was carried out in accordance with any stipulations the court thought appropriate. The second way would be to substitute damages for the injunction. The court would in effect be saying that while the plaintiffs will be wronged, in all the circumstances

---

[59] *Supra*, note 2 at 348.

[60] See Salmon, *supra*, note 50. The syllogism takes this form:
If a serious risk to health exists, then an injunction should issue.
A serious risk to health does not exist.
∴ An injunction should not issue.

[61] *Supra*, note 2 at 348.

an injunction should not be granted. They can be adequately treated by a payment for prospective damages.[62]

Relief short of a permanent injunction would have been a disappointment to the plaintiffs, but there would be vindication in establishing the existence of a legal wrong. Also of vital practical importance would be the likely effect on the question of costs. If costs are to follow the event, then success on the merits of the cause of action is helpful.

VII. THE EVOLVING COMMON LAW: BURDENS OF PROOF

The *Palmer* case presented a novel problem to the court. The plaintiffs desired to prevent a particular chemical compound, 2,4,5-T, with its inevitable contaminant TCDD, from being sprayed. While this article has attempted to show that the plaintiffs were entitled to succeed in some measure regardless of the health risks associated with 2,4,5-T and TCDD, it is also fair to say that the case in effect put the chemicals on trial. As Mr. Justice Nunn himself concluded:

> This matter thus reduces itself now to the single question. Have the plaintiffs offered sufficient proof that there is aserious risk of health and that such serious risk of health will occur if the spraying of the substances here is permitted to take place?[63]

Notice that, for the trial judge, the *sine qua non* of the case is whether or not a serious health risk exists. In order to make an affirmative finding, "the plaintiffs [must offer] sufficient proof." As Nunn J. says elsewhere: "The complete burden of proof, of course, rests upon the plaintiffs throughout for all issues asserted by them."[64] In short, if the plaintiffs say these chemicals are unsafe, let them prove it.

The problem with this approach is captured, perhaps unwittingly, by the learned trial judge when he states:

---

[62] See *Shelfer* v. *London Electric Lighting Co.* (1894), [1895] 1 Ch. 287 at 322-23, where Smith L.J. deals with when damages should be a substitute for an injunction:

> (1) If the injury to the plaintiff's legal rights is small,
> (2) And is one which is capable of being estimated in money,
> (3) And is one which can be adequately compensated by a small money payment,
> (4) And the case is one in which it would be oppressive to the defendant to grant an injunction. . . .

See generally, A.M. Linden, *Canadian Tort Law*, 3d ed. (Toronto: Butterworths, 1982) at 559-60; J.G. Flemming, *The Law of Torts*, 6th ed. (Toronto: Carswell, 1983) at 412-13. Of importance in considering this alternative are the Canadian counterparts to *Lord Cairns Act* of 1858. This authorizes the court to award damages in addition to or in substitution for an injunction: see, *e.g.*, *Judicature Act*, R.S.O. 1980, c. 223, s. 21; *Judicature Act*, S.N.S. 1972, c. 2, ss 38(1), 2(7).

[63] *Supra*, note 2 at 348.

[64] *Ibid.* at 347.

> As to the wider issues relating to the dioxin issue, it hardly seems necessary to state that a court of law is no forum for the determination of matters of science. Those are for science to determine, as facts, following the traditionally accepted methods of scientific inquiry. A substance neither does nor does not create a risk to health by court decree and it would be foolhardy for a court to enter such an enquiry. *If science itself is not certain, a court cannot resolve the conflict* and make the thing certain.[65] [Emphasis added.]

This translates into saying that if the plaintiffs must prove the human health dangers of the chemicals, but the scientists themselves have not agreed or settled this issue in scientific terms, then the plaintiffs lose. Scientific uncertainty results in the benefit of the doubt being given to the chemicals. In a court of law, chemicals are presumptively innocent. The classical analysis illustrated by the *Palmer* case values the right to produce and use chemicals over possible adverse human health effects. As Nunn J.'s view demonstrates, the court is normally only concerned with the probable and not the possible.[66]

At one point, the learned trial judge refers to well-established principles of law and to the court "varying and altering them to adjust to an ever-changing society."[67] This of course is a reference to the fact that the common law system cannot be static and purely precedent-bound. The common law must be capable of evolution and growth to accommodate new circumstances and new perceptions. One aspect of this growth must be with burdens of proof concerning suspect chemicals whose consequences are uncertain. Incomplete information must not work in favour of the companies that produce chemicals. Who gave chemicals priority over human health concerns? Surely no one did so advertently.

One response to the burden of proof problem would be to enact new legislation. In legislating a reversal, democratically elected persons adjust the burdens to reflect their perceptions of the appropriate balance to be struck between what might be characterized as industrial and developmental concerns, and health and environmental concerns. Indeed, included in the aftermath of the *Palmer* decision was such a suggestion. Charles Caccia, at that time federal Minister of Environment, publicly stated that such legislative action should be taken, and indeed argued that there was room for the courts themselves to put some form of burden of proof on the defendant in the case of the threat of potential con-

---

[65] *Ibid.* at 348.

[66] *Ibid.* at 349.

[67] *Ibid.* at 348.

tamination from toxic chemicals.[68] Perhaps if the Liberal government had not shortly thereafter been defeated such legislation would have been introduced. However, even if such legislation had materialized, at least one problem is evident. How far would Parliament press its constitutional ability to deal with common law causes of action? Burdens of proof in private legal proceedings would appear *prima facie* to be matters of property and civil rights in the provinces, under provincial legislative jurisdiction as a result of section 92(13) of the *Constitution Act, 1867*.[69] Perhaps ten provinces in addition to or in substitution for the federal government would need to legislate to achieve the desired outcome.

While a legislated response may be appropriate, it is not necessary. Not only will legislative action be slow in coming, if it ever does, but legislation may very well not represent the best approach. This might be so because burdens of proof in common law actions are, like the causes of action themselves, the product of judicial law making. By and large judges over the centuries have responded to new needs within their elaborate self-made system. This has been done on a situation-by-situation, case-by-case, incremental basis. Occasionally the incremental advance has been more or less revolutionary,[70] but it is always tempered by the exigencies of the case at hand. In my view, a *Palmer*-style situation, which requires proof in the face of uncertainty and in which it is virtually impossible to demonstrate harm, requires a judicial reversal of the burden of proof.

Such a judicial response is not out of keeping with developing precedent. Apt analogies exist. Before illustrating by reference to two high-level decisions, one overriding point should be made: proof in a legal sense need not equate to proof in a scientific sense. Science requires demonstration of a very high order before accepting a statement as proven and true; something must be virtually certain. Law, on the other hand, normally deals in probabilities. Because of the fundamental nature of law, the need to adjust human relations, and the need to reach a final decision in the case at hand, law injects policy and value considerations

---

[68] See, *e.g.*, C. Caccia, Minister of the Environment, Gov't of Canada, Address (Environmental Law Section, Canadian Bar Association, 25 January 1984), esp. at 7.

[69] (U.K.), 30 & 32 Vict., c. 3. See *e.g.*, *MacDonald* v. *Vapour Canada Ltd.* (1976), 66 D.L.R. (3d) 1 (S.C.C.).

[70] See, *e.g.*, *Donoghue* v. *Stevenson* (1932), [1932] A.C. 562; *The Wagon Mound (No. 1)* (1961), [1961] A.C. 388 (P.C.); *Hedley, Bryne & Co. Ltd.* v. *Heller & Partners Ltd.* (1963), [1964] A.C. 465; *R.* v. *Sault Ste. Marie* (1978), [1978] 2 S.C.R. 1299; *Saskatchewan Wheat Pool* v. *Gov't of Canada* (1983), [1983] 1 S.C.R. 205.

into decisions.[71] This is how and why law evolves. Unlike the natural and physical sciences, law represents the best compromise we can practically fashion to govern our relations with each other. It is not an objective system of verifiable 'truths'.[72]

Thus the proposition being advanced is this: it is appropriate for a judge to respond to cases involving suspect chemicals in the face of scientific uncertainty by finding the chemicals presumptively unsafe, despite the inability of the plaintiff to demonstrate the likelihood of harm, unless the defendant is able to prove on the balance of probabilities that the chemicals are safe. Note that this view circumvents problems of causation in fact, but does, in its reference to 'suspect' chemicals, retain a need for some minimal rational connection between the chemicals and harm; there must be some reason to regard the chemicals as unsafe before reversing the burden of proof. Arguably, without such a connection, section 7 of the *Canadian Charter of Rights and Freedoms*,[73] with its reference to the fundamental principles of justice, might be offended.[74] Before saying more about these problems, consider two Anglo-Canadian

---

[71] See, *e.g.*, H.L. Korn, "Law, Fact, and Science in the Courts" (1966) 66 Colum. L. Rev. 1080 esp. at 1093-95. Korn states, at 1093-94:

> A further, and perhaps the most fundamental, source of difficulty in technical fact determination is that the law and the scientific knowledge to which it refers often serve different purposes. Concerned with ordering men's conduct in accordance with certain standards, values, and societal goals, the legal system is a prescriptive and normative one dealing with the "ought to be". Much scientific knowledge, on the other hand, is purely descriptive; its "laws" seek not to control or judge the phenomena of the real world, but to describe and explain them in neutral terms.

He notes, at 1094, that in a variety of cases "the law deals with a subject within the special province of one of the sciences but utilizes a concept which has been skewed from analogous scientific ones by policy and value considerations which do not concern the scientists." He concludes, at 1095, that "the formulation of rules of law may reflect deliberate judgements concerning the extent to which scientific knowledge should be determinative." The *M'Naghten* test for insanity is a classic example of 'policy and value ingredients' being superimposed on psychiatric learning to produce a legal concept which has no counterpart in the psychiatrist's conceptual system.

See also M.R. Gelpe & A.D. Tarlock, "The Uses of Scientific Information in Environmental Decisionmaking" (1974) 48 S. Cal. L. Rev. 371, esp. at 385-88; H.L.A. Hart & A.M. Honoré, *Causation in The Law* (1959) esp. ch. III: "Causation and Responsibility"; T.F. Schrecker, *Political Economy of Environmental Hazards* (Ottawa: Law Reform Commission of Canada, 1984) esp. ch. 2: "The Politics of Science."

I am indebted for much of the material in this section of the paper to my colleague at Dalhousie Law School, Prof. Stephen Mills. He ably prepared a written submission on this issue which was presented to Mr. Justice Nunn.

[72] I do not overlook the fact that scientific truths held at one time are later proven wrong or replaced by better hypotheses. In this sense scientific truths are not absolute but rather the subject of agreement amongst scientists at a particular time. The point of science, however, is that it purports to describe reality in an objective way that can be demonstrated to be accurate.

[73] Part I of the *Constitution Act, 1982* being Schedule B of the *Canada Act, 1982* (U.K.), 1982, c. 11.

[74] Gelpe & Tarlock, *supra*, note 71 at 373, refer to a similar "due process" problem in the American *Bill of Rights*, U.S. Const. amend IX.

cases where, for reasons of policy, common law judges have held defendants liable despite the failure of the plaintiffs to prove causation in fact.

The first of these cases is *Cook* v. *Lewis*.[75] Here A was struck by birdshot immediately after the defendants B and C discharged their guns. The jury found that A was shot by one of the defendants but was unable to say which one it was. Despite this finding the Supreme Court of Canada held that liability could be imposed on both B and C. As a result, liability was imposed on someone who did not cause the harm to the plaintiff. Several explanations for this were given by the various members of the Court. In general, however, the Court seemed to base its decision on two factors: the defendants' conduct was such that it was impossible for the plaintiff to show who caused him harm; and both defendants had been at fault, and as between an innocent plaintiff and a defendant who was at fault, it was proper to assign responsibility to the defendant even if he had not actually caused the harm.

In the second case, *McGhee* v. *National Coal Board*,[76] the plaintiff had contracted dermatitis after working in the defendant's brick works. He alleged that the defendant had materially increased the risk of dermatitis by not installing showers. It was conceded by the defendant that it had breached its duty of care to the plaintiff by not installing showers, but the defendant contended that as a result of the medical debate over the causes of dermatitis the plaintiff had not proved on a balance of probabilities that the failure to provide the washing facilities caused the harm. An alternative cause was suggested: working in the kiln had caused the dermatitis, and since the defendant had not been negligent in assigning the plaintiff to this work, it was not liable.

The majority of the court acknowledged that the state of medical evidence made it impossible to prove that the defendant's fault had caused the plaintiff's harm. Nonetheless, the court held that the defendant was liable. Lord Wilberforce stated:

> [T]he question remains whether a pursuer must necessarily fail if, after he has shown a breach of duty, involving an increase of risk of disease, he cannot positively prove that this increase of risk caused or materially contributed to the disease while his employers cannot positively prove the contrary.... [T]here is an appearance of logic in the view that the pursuer, on whom the onus lies, should fail.... The question is whether we should be satisfied in factual situations like the present, with this logical approach. In my opinion, there are further considerations of importance. First, it is a sound principal that where a person has, by breach of duty of care, created a risk, and injury occurs within the area of that risk, the loss should be borne by him unless he shows that it had some other cause.

---

[75] (1951), [1952] 1 D.L.R. 1 (S.C.C.).

[76] (1972), [1972] 3 All E.R. 1008 (H.L.).

> Secondly, from the evidential point of view, one may ask, why should a man who is able to show that his employer should have taken certain precautions, because without them there is a risk, or an added risk, of injury or disease, and who in fact sustains exactly that injury or disease, have to assume the burden of proving more: namely, that it was the addition to the risk, caused by the breach of duty, which caused or materially contributed to the injury? In many cases of which the present is typical, this is impossible to prove, just because honest medical opinion cannot segregate the causes of an illness between compound causes. And if one asked which of the parties, the workman or the employers should suffer from this inherent evidential difficulty, the answer as a matter of policy or justice should be that it is the creator of the risk who, ex hypothesi, must be taken to have foreseen the possibility of damage, who should bear its consequences.
>
> . . . [T]o bridge the evidential gap by inference seems to me something of a fiction, since it was precisely this inference which the medical expert declined to make. But I find in the cases quoted an analogy which suggests the conclusion that, in the absence of proof that the culpable condition had, in the result, no effect, the employers should be liable for an injury, squarely within the risk which they created and that they, not the pursuer, should suffer the consequence of the impossibility, foreseeably inherent in the nature of his injury, of segregating the precise consequence of their default.[77]

Lord Reid also noted that "the legal concept of causation is not based on logic or philosophy. It is based on the practical way in which the ordinary man's mind works in the every-day affairs of life."[78]

Perhaps the most telling summation of the lessons to be learned from *Cook* v. *Lewis* and *McGhee* v. *National Coal Board* was made by Ernest Weinrib:

> The allocation of the burden of proof is not always to be the plaintiff's, but it must be subservient to compelling requirements of justice. And the primarily evidential nature of cause in fact should not render it impervious to the considerations of policy, purpose and value.[79]

This approach to causation is illustrated in a closely analogous situations to *Palmer* by the now-famous United States Court of Appeal decision in *Reserve Mining Co.* v. *Environmental Protection Agency*.[80] A significant issue in this case involved discharges from the defendant's taconite processing plant and the question of whether the discharges should be enjoined. Proof of harm fell below the normal balance of probabilities threshold, and yet the Court of Appeal issued an injunction against the discharge. Circuit Judge Bright reasoned:

> In assessing probabilities in this case, it cannot be said that the probability of harm is more likely than not. Moreover, the level of prrobability does not readily convert into a prediction of consequences. On this record it cannot be forecast

---

[77] *Ibid.* at 1012-13.

[78] *Ibid.* at 1011.

[79] E.J. Weinrib, "A Step Forward in Factual Causation" (1975) 38 Mod. L. Rev. 518.

[80] (1975), 514 F.2d 492 (U.S.C.A., 8th Cir.).

> that the rates of cancer will increase from drinking Lake Superior water or breathing Silver Bay air. The best that can be said is that the existence of this asbestos contaminant in air and water gives rise to a reasonable medical concern for the public health. The public exposure to asbestos fibers in air and water creates some health risk. Such a contaminant should be removed. . . . [T]he existence of this risk to the public justifies an injunction decree requiring abatement of the health hazard on reasonable terms as a precautionary and preventive measure to protect the public health.[81]

Later, Bright J. again relates the remedy to possible future harm. He states, "In fashioning relief in a case such as this involving a possibility of future harm, a court should strike a proper balance between the benefits conferred and the hazards created by Reserve's facility."[82] Still later he notes that the probabilities of harm with respect to water "must be deemed low for they do not rest on a history of past health harm attributable to ingestion but on a medical theory implicating the ingestion of asbestos fibers as a causative factor in increasing the rates of gastrointestinal cancer among asbestos workers." While with respect to air there is "a higher degree of proof . . . the hazard cannot be measured in terms of predictability, but the assessment must be made without direct proof." Bright J. tells us the hazards "can be measured in only the most general terms as a concern for the public health resting upon a reasonable medical theory." He notes, though, that "[s]erious consequences could result if the hypothesis on which it is based should ultimately prove true." The U.S. Court of Appeals concludes that "[a] court is not powerless to act in these circumstances."[83] While granting the injunction, the court lessened its impact on the defendant by taking into account factors such as harm not being shown to be "imminent or certain."[84]

Considering the *Palmer* case in light of the *Reserve Mining* approach and my suggestion with respect to burdens of proof, it is fair to comment that a different court, perhaps with different evidence, could come to a different result. Taking Nunn J.'s findings at face value, we can see that he accepted that "TCDD is one of the most toxic chemicals known to man"[85] and that in animal studies TCDD was found to be "among other things, fetotoxic, teratagenic, carcinogenic and to cause immunological deficiencies, enzymatic changes, liver problems and the like."[86] Considerable evidence was adduced of studies involving humans, some

---

[81] *Ibid.* at 520.

[82] *Ibid.* at 535.

[83] *Ibid.* at 536. All of the quotations in this paragraph come from the same source.

[84] *Ibid.* at 537.

[85] *Supra*, note 2 at 350.

[86] *Ibid.* at 352.

of which indicated a positive finding of harm to humans, but the trial judge accepted that, while these studies were likely flawed, "in all these cases the exposure was massive, either through accident or industrial exposure or the Vietnam War."[87] He concludes that this evidence is "not of significant probative value in light of the actual low possible exposure here."[88] For him "[t]he key to the use of all these [carcinogenic or otherwise toxic substances] is dosage."[89] "[T]here are no-effect levels and safe levels for humans and wildlife for each of these substances [2,4-D, 2,4,5-T and TCDD]."[90]

If it can be said that TCDD in large or experimental levels is harmful to animals (and surely this is an unassailable proposition), what is it reasonable to conclude about its effect on humans at low doses? The 'legal' answer given by Nunn J. in *Palmer* is to the effect that nothing can be concluded. The first proposition does not prove the second, and hence the plaintiffs lose. Utilizing the test and terminology proposed earlier in this section of the article, the first proposition (harmful effects in animals at large or experimental level doses) makes TCDD a 'suspect chemical'. In other words, we may not know what its effect is on humans, especially at low dosages, but there is a sufficient, reliable body of knowledge of its effects on animals to suspect that it may be harmful to humans. This should be enough, as it seemed to be in *Reserve Mining*, to warrant presumptively enjoining the use of TCDD in light of the potentially serious human consequences if it is in fact harmful and the relatively inconsequential economic effects on the defendant if it has to use alternate techniques (for example, another herbicide such as Roundup, or manual weeding). This position is merely presumptive since the defendant could lead sufficient evidence during the trial to prove no likely human health hazards. Even if the proponent of the chemical failed in this regard, the injunction could always be subject to reconsideration in light of new studies and new evidence. It may be difficult, and expensive, to prove a substance more likely safe than not. But as between putting this burden on those passively exposed to the chemicals and those actively using them, where, as a matter of judicial policy, should the burden lie? Similarly, as between presuming a suspect chemical safe and presuming it harmful, which is the wiser and more appropriate judicial response?

---

87 *Ibid.*

88 *Ibid.* at 353.

89 *Ibid.*

90 *Ibid.* at 354.

VIII. CONCLUSION

Palmer v. *NSFI* is in many ways a startling case. It sits at the cutting edge of the development of common law approaches to environmental problems. The case raises many issues important to environmental litigation; it illustrates environmental law in microcosm. This article has focused on the gains in environmental litigation made in *Palmer* and on ways in which further advances could and should have been made. Of particular credit to Nunn J. are the views expressed on class actions and the theoretical adoption of trespass to land as the basis for an environmental action. Particularly flawed, in my view, is his insistence upon the need to find "a serious risk to [human] health"[91] or a strong probability of harm[92] before finding that a nuisance has been proven or that injunctive relief is appropriate. Similarly, his failure to deal with the evidence that spraying would result in drift of herbicides to the plaintiffs' lands (and so amount to trespass to land) seems extraordinary. A variety of other criticisms might be directed at the reasons for judgment in *Palmer*, but the litany of issues would considerably expand the scope of this article.[93] Suffice it to say that silence about other aspects of the decision should not be taken as acquiesence.

---

[91] *Ibid.* at 348; also expressed as "a serious risk of health" at 345.

[92] One aspect of the reasons which deserves greater attention is the relationship between the concepts of probability and risk.

[93] Other issues of note include:

(1) The nature and value of scientific inquiry and its relation to law. Judge Nunn, *supra*, note 2 at 352, seems to discount animal studies because "the doses are extremely high." He does not seem to appreciate that the doses are high because the researchers are interested in whether there is any reaction to the chemicals at all, and if so, what. It appears that only small-dose, and therefore long-term, experiments would be meaningful to him. Again, does he appreciate the difficulty and expense of doing this? Similarly, does the court appreciate the inherent problems in doing retrospective epidemiological studies, such as those performed by Drs. Tung and Hardell? Because they depend upon human memories and assessments, they are probably all to some extent flawed. Much has been written on these themes lately: see *supra*, note 71 and material cited in references.

(2) The relationship between the court's role in private/public interest ligitation and regulatory decisions. Nunn J. describes, at *supra*, note 2 at 300, the *Palmer* case as taking on "the nature of an appeal from the decision of the regulatory agency [i.e., Agriculture Canada, which registers pesticides for use in Canada, after advice from Health and Welfare Canada] and any such approach through the courts ought to be discouraged in its infancy." But what is the nature of that regulatory process? Are the public involved and if so, how? (They are not at present). How reliable is that process? Why ought a regulatory decision, made for one purpose, foreclose a fresh inquiry by a different body for a different purpose? It is like saying to a civil court that a defendant is not liable in damages because a criminal court has acquitted him, or *vice versa*.

(3) Why is credence given to an unexplained regulatory process in Canada and the United Kingdom, while those in the United States, Sweden and other countries, which reached opposite conclusions, are discarded? See Palmer, *ibid.* at 350.

(4) The admissibility and relevance of the defendant's previous conduct. The plaintiffs led evidence as to how the defendant carried out its spraying operations in 1982 on sites not

Perhaps the most long-term problem illustrated by *Palmer* relates to the way in which the court system should handle issues of scientific uncertainty. Science can provide many answers and present most legally significant cause-and-effect relationships on the basis of a reliable estimate of probability. In other situations, however, such as those involving human exposure to small doses of toxic chemicals, science may not be able to provide answers today with any degree of certainty. The necessary experiments may not have been done, or may not be economically or

---

covered by the interim injunction. This included evidence of violations of the requirements set down in the N.S. Department of Environment permits and the legally significant instructions on the labels of the herbicide. Nunn J. *ibid.* at 351 said "this is clearly not relevent as well as not admissible under the exclusionary rule of similar fact evidence." Not only was evidence of prior conduct inadmissible, but "the defendant is entitled to ask the court to assume that any spraying will be done in accordance with these directions [in the labels on the spray containers]" and that the "defendant is further entitled to ask for the assumption that its conifer release program will be properly managed and that all scientific skill and knowledge usually associated with such a program will be used" (*ibid.* at 351). Ironically, Nunn J. cites as authority for this approach *Attorney General* v. *Corporation of Nottingham* (1904), [1904] 1 Ch. 673. There a *quia timet* injunction was sought to prevent the defendant from using as a smallpox hospital a building it had recently erected, on the grounds that such a hospital would be both a public and a private nuisance. In the course of using terminology virtually identical to that used by Nunn J., Farwell J. went on to say, at 677, that the defendants "are entitled in the present case to the benefit of the observation that the hospital has been open and has received patients for the last six months, during the last half of which it has been full, and that no mischief has at present arisen therefrom." Farwell J. also points out that evidence of what happened with other hospitals was heard by him and notes authority, with which he disagrees, that the plaintiffs "might have shown what in fact was the effect in the neighbourhood of the only other hospitals under the same conditions" (*per* Cotton L.J., in *Hill* v. *Metropolitan Asylum District* (1880), 42 L.T. 212 (C.A.) at 215; appeal (1882), 47 L.T. 29 (H.L.). In other words, despite some controversy about whether what other hospital operators did at other hospitals is admissible, the authority cited by Nunn J. in fact looked at the conduct of this defendant for the previous six months as an aid in determining what it would do in the future. For a modern statement of the similar fact rule see *Phipson on Evidence*, 13th ed. (London: Sweet & Maxwell, 1982) at 184 *et seq.*, which states that subject to two exceptions, "evidence of facts or transactions similar to the fact or transaction directly in issue is admissible if it is logically probative, that is if it is logically relevant in determining the matter which is in issue, and is not otherwise excluded, *e.g.* by the rule against hearsay." Phipson points out the court has a discretion to, and should, reject such evidence unless it is "reasonably conclusive" and would not raise a "difficult and doubtful controversy of precisely the same kind" (at 184). As an example, *Phipson* at 223 notes *Sattin* v. *National Union Bank* (1978), 122 S.J. 367 where the Court of Appeal allowed the plaintiff's appeal from a trial judge's refusal to admit evidence of another occasion when jewellery lodged at the bank had been discovered missing. The plaintiff was claiming damages for the loss of a diamond that had been deposited as security with the bank and was using the similar fact evidence to rebut the suggestion that the defendant used reasonable safeguards for securing customer's property. See also *Mood Music Publishing Co. Ltd.* v. *De Wolfe Ltd.* (1975), [1976] Ch. 119 (C.A.).

(5) As already indicated, a critical factor for the trial judge was the quantity of TCDD in the Esteron 3-3E proposed to be sprayed. The legally permissible level of TCDD contamination in 2,4,5-T in Canada is 0.1 parts per million (100 parts per billion), yet Nunn J. accepted that the 2,4,5-T to be used by the defendant would have only 0.01 p.p.m. (10 p.p.b.) TCDD, 10 times less than the regulatory limit. There were containers of Esteron 3-3E remaining from the previous spray season at the defendant's warehouse, but no evidence

ethically possible. Indeed, science itself has its own limitations. How should a court treat these problems? There may be no one way to deal with all problems, but at least where the use of suspect chemicals is concerned, plaintiffs ought not to fail because they cannot demonstrate, in the wake of uncertain science, that discernable harm is more probable than not. If there is a rational basis to think harm is more than speculative, such as by virtue of scientifically acceptable animal experiments, then the burden should rest with those seeking to impose risk to justify doing so. Why should the common law prefer herbicides to humankind?

---

was led of the TCDD content of these containers by sampling them. Rather, the only evidence led by the defendant of TCDD content was Exhibit D-70. This was a letter written by a salesman for Dow Chemical Canada to a lawyer for the defendant "indicating that from information supplied by the laboratory where the product was formulated [in Midland, Michigan], the TCDD content was 'non-detectable at .01 parts per million.'" (at 311). The 2,4,5-T had been manufactured at least four years before and the analysis provided was from sample batches. In other words, the trial judge accepted as proof of the level of TCDD contamination a letter sent by a salesman based on information provided to him by a person or persons not before the court based on tests performed by persons unknown and not before the court and without details of what tests were performed. Is this not hearsay evidence of the worst sort? What of the so-called "best evidence" rule, at least in the sense that the "non-production [of the best evidence, here, an analysis of the Esteron 3-3E at the defendant's warehouse] may be matter for comment or affect the weight of that which is produced." See *Phipson* at 70. And what of "the chief illustration of the 'best evidence' maxim . . . the rule which demands that the *contents of a document* must, in the absence of legal excuse, be proved by primary and not by secondary or substitutional evidence" (*Phipson* at 72)?

(6) The trial judge awarded costs against the plaintiffs, although as a result of negotiations between the parties the defendant did not press to enforce this right — a liability estimated in a range approaching $250,000. This liability was imposed without hearing the parties on the issue of costs, and represents a very severe deterrent to others interested in pursuing public interest litigation. Suffice it to say that courts have a discretion in respect of the award of costs, and that judges have relieved unsuccessful plaintiffs of liability for the defendant's costs where novel questions of law or issues of public importance have been involved. See *e.g. Dalhousie University* v. *City of Halifax* (1979), 9 N.S.R. (2d) 643 (C.A.), at 676; *Chater* v. *City of Dartmouth* (1975), 20 N.S.R. (2d) 34 (S.C.) at 61; *Rosenberg* v. *Grand River Conservation Authority* (1975), 61 D.L.R. (3d) 643 (Ont. H.C.) at 652; *Shore* v. *Cantwell et al.* (1975), 21 N.S.R. (2d) 288 (S.C.) at 297; *Re Nanticoke Ratepayers' Association and Environmental Assessment Board* (1978), 83 D.L.R. (3d) 722 (Ont. H.C.) at 723-33; R. Anand & I.G. Scott, "Financing Public Participation in Environmental Decision Making" (1982) 60 Can. B. Rev. 81 esp. at 96-100; Schrecker, *supra*, note 71 at 77.