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Exploring the Viability of Class Actions Arising from
Environmental Toxic Torts: Overcoming Barriers to Certification

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*An environmental toxic tort (ETT) may arise where a personal injury results from tortuous exposure to environmental **contamination**. The subject of this article is the apparent trend in the class action jurisprudence to treat certification of ETTs as generally, if not inherently, undesirable, due to the allegedly “individualized” nature of the causation inquiry. The author argues that, by characterizing ETT claims in this way, the courts have overlooked elements of causation that are common to all class members, in particular the requirement to determine whether a toxic substance or **contaminant** is even capable of causing a particular harm or disease (general or generic causation).*

1. INTRODUCTION

In modern industrial society, people encounter a range of potentially harmful toxic substances while going about their everyday lives. These substances might be in the food we eat, the air we breathe, or the water we drink. The term “toxic tort” refers to claims where a plaintiff alleges *190 that exposure to a toxic substance is the cause of his or her illness. One obvious example is when a smoker develops lung **cancer** and claims that it was caused by inhaling the toxic substances found in cigarettes. While exposure to toxic substances in the environment may not be as noticeable as cigarette smoke, it can be just as harmful. In Canada, the most renowned and tragic illustration of this occurred in Walkerton, Ontario, where the drinking water became **contaminated** with a virulent strain of *E. Coli* bacteria, and seven people died and thousands more fell ill.¹ The term “environmental toxic tort” (ETT) will be used to describe claims where the plaintiff alleges that she has suffered personal injury as a result of exposure to toxic substances or **contaminants** released into the environment.²

By and large, the Canadian tort system has failed to provide redress for ETTs.³ A prominent reason for this failure is the cost and complexity of proving causation in this context. Unlike the typical personal injury claim, where the cause-effect relationship is relatively straightforward, (e.g. a driver suffers whiplash after being rear-ended), the causal link between a toxic substance and a particular health effect can be both complicated and uncertain. As a result, litigants must rely on expert witnesses to interpret the conflicting scientific evidence on causation in a way that will best advance their claim. Many individual plaintiffs, however, simply cannot afford a protracted and costly “battle of the experts.” Consequently, victims are going uncompensated and wrongdoers are persisting undeterred.⁴ This is especially troubling given that environmental **contamination** often has widespread effects, and impacts very large groups of people.

*191 In search of a more accessible method of recovery, plaintiffs have turned to class proceedings. As McCleod-Kilmurray observes, a class action is precisely useful “where complexity and expert scientific evidence make conflicting

findings likely and individual litigation virtually impossible to afford.”⁵ Despite this facially natural fit, however, plaintiff groups have encountered judicial resistance to certifying ETTs.

The trouble with class actions for ETTs, and the subject of this article, is the potential trend in Canadian jurisprudence⁶ to treat the certification of ETTs as generally, if not inherently, undesirable, due to their allegedly overwhelming “individualized” nature. This is because the jurisprudence on criteria for certification has evolved to place great weight on whether or not the common issues predominate over individual ones.

In 2001, the Supreme Court of Canada's certification “trilogy”⁷ contributed to this evolution by setting the stage for two key trends in the case law: treating the requirement that a class action be the “preferable *192 procedure” as the “principal analytical threshold” for certification,⁸ and focusing the determination of this requirement on whether or not the common issues “predominate” over the individual issues.⁹ In the influential Ontario case of *Pearson v. Inco Ltd.*,¹⁰ Nordheimer J. of the Superior Court of Justice denied certification of an ETT on the basis that a class proceeding was not preferable, since proving medical causation was highly individualized, and therefore, individual issues would predominate over common ones. There residents of Port Colborne alleged that Inco's nickel refinery emitted toxic and carcinogenic chemicals over a period of decades, **contaminating** the air, water and soil in the town, and resulting in a range of personal injuries, as well as diminution of property values in the **contaminated** areas. By the time this case was appealed, the plaintiffs had dropped their health-related claim and proceeded solely on the basis of alleged loss of property value. Appearing to agree with Nordheimer J.'s analysis, the Ontario Court of Appeal noted that the plaintiffs had originally asserted “sweeping claims for damages from ... adverse health effects from nickel oxide **contamination**.”¹¹ The Court stated in *obiter* that in the original framing of the plaintiffs' claims, the individual injury claims “would have ‘dwarfed’ the resolution of the common issues.”¹² It has thus been suggested that *Pearson II* may stand for the proposition that: “recovery of personal injury damages for the adverse health effects of pollution is not possible in a class-action venue under Canadian law.”¹³ Indeed, after *Pearson II*, plaintiffs have limited their pleadings to claims for loss of property value in two cases involving environmental **contamination**, in spite of the potential existence of personal injury.¹⁴ Thus, while no definitive authority exists on the viability *193 of certifying ETTs, some members of the legal community are interpreting the case law in a prohibitive manner. The questions at this juncture then become: Why does the case law appear to be going in this prohibitive direction, and is this direction sound? Does this reaction to the *Pearson II* decision rest on solid ground or is it premature?

The purpose of this article is to address these questions by stepping back and re-evaluating what the current case law means for the viability of certifying ETTs. I will endeavor to show that it would be premature, at this formative stage of class action jurisprudence in Canada, to rule out certifying this category of claim. I will suggest that the main barrier impeding certification is the way Canadian courts have dealt with the particularly complex nature of causation in this context. By accepting the argument that assessing causation is overwhelmingly an individual enterprise, the courts have ignored the elements of causation that are common to all class members, and have failed to take advantage of the flexible procedures offered by class proceeding legislation to accommodate complexity.

To accomplish this purpose, I will first outline the unique characteristics of ETTs that contribute to the difficulties plaintiffs encounter at the certification stage. Second, I will discuss possible jurisprudential barriers, including the courts' treatment of causation, which may be responsible for the view in the legal community that ETTs are not amenable to certification. Third, I will advance an approach to overcoming these perceived constraints by re-framing arguments in support of ETT certification in ways that better illuminate the common issues at stake. This approach will include the need to appreciate the immense factual variability encompassed by the umbrella terms of “environmental **contamination**” and “personal injury,” and how these differences affect the certification analysis.

*194 2. CHARACTERISTICS OF ENVIRONMENTAL TOXIC TORTS

Personal injury claims that arise out of exposure to environmental **contamination** have unique characteristics that make determination of liability a more difficult and uncertain task. Moreover, as will later become apparent, these same unique attributes also impact how courts apply the certification criteria to ETTs. As Lin reminds us, “the paradigmatic traditional tort case involves a single identifiable plaintiff, a single identifiable defendant, and a readily determinable cause of the tortious event.”¹⁵ When injury occurs in the context of environmental **contamination**, by contrast, one can no longer assume such a simple relationship. Indeed, the unique character of toxic substances adds a layer of complexity to the traditional tort inquiry. As Rabin notes:

Toxic substances evoke the special apprehensions of unseen risk. They emanate from sources that are hard to identify. They attack us unawares, planting the seeds of future debilitating disease. They run a course that we cannot discern. Translated into legal terms, they pose unique challenges to a tort system premised on adversary treatment of easily identifiable two-party accidents.¹⁶

In addition to the difficulty of establishing causation, there can be uncertainty as to the very identity of the parties. The problem of “indeterminate defendants,” or difficulties identifying the source of the harm, arises because of the possibility of there being multiple sources of the plaintiff's injury, each which *could* be sufficient to cause the harm, or play a contributing role. Rarely is any particular toxic agent the exclusive source of a given health problem, especially for insidious illnesses that emerge over time.¹⁷ Returning to the example of lung **cancer**, someone could develop the disease from exposure to any one or combination of a number of pollutants, such as second hand smoke, industrial chemicals, or traffic emissions. The problem of “indeterminate plaintiffs” stems from the normally diffuse nature of environmental **contamination**, and difficulty defining the boundaries of the harm. Notably, environmental **contamination** differs from the harm caused by defective products, which, too, might *195 involve toxic substances, because defective products ordinarily claim a limited and discrete number of victims over a period of time.¹⁸

Related to the challenge of indeterminate defendants is proving the necessary causal link between the plaintiff's damage and the toxic substance emitted or controlled by the defendant. Damages for ETTs are recoverable in negligence, strict liability (the rule in *Rylands v. Fletcher*), and possibly nuisance.¹⁹ There can be no recovery in tort unless a causal nexus is established between the defendant's tortious conduct and the loss for which recovery is sought. The traditional test for causation requires the plaintiff to show that his injury would not have occurred “but for” the negligence of the defendant, on a balance of probabilities. While courts end up making a *legal* determination on the existence of causation, it is important to bear in mind that such a finding is inherently uncertain, and that this is true for all torts, to varying degrees:

It is extremely difficult if not impossible, to identify the true cause of any event in a metaphysical sense ... At best, ideas of causation are based on perceptions of events and theories as to how events occur in the physical world ... the presentation of reasonable explanations for events based on particular perspectives and the best available knowledge ... A probabilistic and uncertain element is inherent in the notion of cause-in fact even if it is not common or useful for the courts to admit its existence ... the civil burden is [thus] by definition probabilistic.²⁰

Proving causation in the context of toxic substances, however, puts the added burden on plaintiffs to establish two types of causation, both general and specific. This is because, unlike the causal connection between being hit by a car and suffering a broken bone, for instance, the causal connection between a toxic substance and a disease is not as easy to decipher. Thus, a plaintiff must first prove “general” or “generic” causation--that a particular substance is capable of causing a particular illness. The issue must be addressed, whether explicitly or implicitly,²¹ in toxic torts litigation, since

it is axiomatic that “an agent cannot be considered to cause the illness of a specific person unless it is recognized as a cause of that disease in general.”²² Next, a plaintiff must prove “specific” *196 or “individual” causation—that exposure to a particular toxic substance did, in fact, cause the plaintiff’s illness.

Due to the scientific uncertainty that surrounds toxic substances and the probabilistic evidence that is invoked to describe their risks, having to prove two types of causation introduces two additional causal uncertainties, over and above what is inherently unsure in the very concept of causation. First, it is often difficult to determine general causation, since reliable information on health effects is available for relatively few substances.²³ Epidemiological studies are usually the best, and frequently the only, evidence available to courts to resolve the issue of general causation. These studies are designed to establish a statistical or probabilistic association between exposure to a toxic substance and the incidence of a disease. This is typically accomplished by comparing the incidence of disease across exposed and unexposed populations.²⁴ Based on this comparison, it is possible to estimate the “excess risk” of disease attributable to a particular toxic substance, as compared with the “background risk” attributable to all other factors.²⁵

Second, uncertainties arise when determining specific causation.²⁶ Since most illnesses are present at background levels in the general population, exposure to a toxic substance may be one of many risk factors (*e.g.* diet, heredity, or smoking habits) that may be implicated as a cause of an individual’s illness. Only in rare circumstances is a toxic substance the exclusive, or even predominant, cause of a particular illness.²⁷ Epidemiological evidence, standing alone, is often insufficient to establish the “magical 51% probability” required to establish specific causation in any given case.²⁸ Indeed, since “epidemiological studies ... can only attribute a proportion of the incidence of disease in a population to any particular source ... [they] are not designed to prove specific causation.”²⁹

Thus, plaintiffs run into difficulties proving general causation because of absent or unreliable scientific information, and then struggle to prove specific causation because of the inadequate fit between the general and probabilistic scientific evidence available and the legal requirement to *197 show that the particular defendant’s toxic substance caused a particular plaintiff’s injury. As Strand explains:

We may know, for example, that a group of people has a specific type of **cancer** and that some of them contracted that **cancer** from exposure to the defendant’s waste, but we do not know which individuals of that group were affected by the waste We are still at the elementary stage of knowing simply that they can be caused entirely or in part by exposures to certain substances; we cannot tie the exposures more precisely to the injuries.³⁰

The causal analysis is further complicated in environmental **contamination** cases where there may be a time lag between exposure and manifest harm, because exposure occurred at low levels for an extended period of time. This latency makes evidence more difficult to gather, since it is less likely that a plaintiff will be able to prove the timing and extent of the exposure years down the road. As Jacob points out, “in the environmental context, we are no longer dealing with a consumer who has made a choice. We are dealing with people who are either randomly or haphazardly exposed often through no fault or choice of their own to dangerous chemicals.”³¹ Presumably, when someone chooses to engage in an activity or buy a product, he has a better idea as to what was his exposure. Moreover, “supervening causal events” are likely to take place during the latency period, which may offer alternative explanations for the individual’s harm, and further amplify the challenge of linking the exposure to the disease.³²

The centrality of scientific evidence to making legal determinations of causation in the context of toxic torts has three important implications. First, as indicated above, a plaintiff attempting to prove legal causation may be encumbered by the limits of scientific knowledge on her particular toxic substance--disease relationship. The evidence is almost always

probabilistic, which a court may consider insufficient, or there may be an absence of evidence all together. Second, even if scientific knowledge is available, using it in court requires costly experts to explain complex scientific and statistical analyses.³³ Third, there are the consequences of bringing the very different epistemologies of law and science together in the same conversation. As alluded to earlier, traditional tort law is accustomed to making relatively definite cause and effect conclusions by looking backwards at isolated events that transpire between two identifiable *198 actors. Science, on the other hand, is oriented towards predicting future causal relationships by analyzing the past, and generating probabilistic evidence.³⁴ The use of scientific language and expert testimony can add to the already difficult task of meeting the civil standard for proving causation when scientific notions of proof are imported into the legal arena:

While proof in a civil case is defined as a probability of 51% or greater, the scientific community does not consider a proposition to have been proven until it has been established to a degree of certainty of 95% or more. Thus, even where a causal relationship sufficient to meet legal standards exists, it may be difficult or impossible for a toxic tort plaintiff to produce a scientist willing to testify that the causal connection has been proven. Theoretically, courts should simply apply the legal standard to scientific evidence, but experience has shown that judges sometimes implicitly adopt the scientific standard.³⁵

When courts confuse the civil standard with the demands of scientific certainty, it becomes virtually impossible for the plaintiff alleging a toxic tort to establish causation if the evidence fall shorts of scientific proof.

Although ETTs tend to share a number of characteristics, many of which I have canvassed, one must not lose sight of the fact that the term “ETT” denotes a heterogeneous group of situations. The circumstances of ETTs are found at different points along several factual spectrums, from manner of **contamination**, potency of toxin, number and kind of associated health-effects, and body of available knowledge. For example, **contamination** can fall on a scale from being the product of an isolated mass accident, to occurring as a result of continued and dispersed activity.³⁶ It also tends to be distributed irregularly, resulting in uneven exposures within affected populations. There may be only one, or many, possible contributing polluters, and there may be only one, or many, possible associated health-effects. These health effects, in turn, may fall on a spectrum of diseases, from those that are verycommonin a population and have many potential causes, to those referred to as “signature diseases,” which are “extremely rare in the general population, but far more prevalent in persons exposed to a particular substance.”³⁷ As Brennan explains, “when a particular disease is highly associated with a certain *199 kind of substance, the attributable fraction of disease is said to be high.”³⁸ As we shall see, this factual variety impacts relevant legal determinations, and will thereby inform any answer to the question of how viable class certification is for ETTs. For instance, the degree to which causation will pose an obstacle for a plaintiff will depend on the available knowledge and understanding of the toxic substance and disease in question. Moreover, policy considerations underlying a judge's decision might be affected by the nature of the polluting enterprise (*e.g.* social utility), or the nature of the harm (*e.g.* egregiousness).

To be sure, although one could argue that the characteristics of ETTs tend to occupy the more complex end of the toxic tort spectrum, there is much overlap between the general attributes of ETTs and other toxic torts. Consequently, it is noteworthy that motions to certify personal injury claims related to toxic products have been more successful than those related to environmental **contamination**. Writing in the context of product liability, the British Columbia Court of Appeal in *Harrington v. Dow Corning Corp.*,³⁹ adopts Professor Boodman's view that class action legislation was created with uncertainty and complexity in mind:

[M]odern methods of mass production and distribution often make it difficult or impossible to identify the exact source or sources of injury, to link a particular victim to a particular defendant, and to demonstrate accurately the harmful effects of a defendant's act other than on the basis of

epidemiological studies and statistical probabilities. Class proceedings were designed with precisely these uncertainties in mind.⁴⁰

While no binding pronouncement or holding on the viability of certifying ETTs exists, certain themes in judicial comment and certification analyses seem to betray an almost polar opposite reaction to the difficulties and complexities inherent in proving ETTs. The message appears to be that a class action is no place for working out complex parts of a larger whole.

3. DIRECTIONS IN THE JURISPRUDENCE AND POTENTIAL BARRIERS TO CERTIFICATION

Thus far, the courts' reception of ETTs as a category of class action has been mixed, prompting speculation about their amenability to class ^{*200} and perhaps even an assumption in the legal community that this question will be answered in the negative.⁴¹ The purpose of this section is to explain this gloomy outlook by identifying doctrinal barriers and how they interact with emerging interpretive trends, and the unique characteristics of ETTs, in a way that discourages certification. Specifically, courts have been heavily influenced by how the “preferable procedure” requirement of the certification test has evolved. In particular, interpretations of that requirement have oriented the courts towards a highly discretionary approach, where policy considerations drive the analysis.

(a) Preferable Procedure, Policy and Judicial Discretion

The consensus among legal commentators is that the preferable procedure requirement presents the greatest obstacle to certification.⁴² In *Hollick*, Chief Justice McLachlin set out the key interpretive principles that would guide subsequent rulings across the country. The Chief Justice interpreted s. 5(1) of the Ontario *CPA*, which states that a court shall certify a class proceeding on a motion “... if (d) a class proceeding would be the preferable procedure for the resolution of the common issues ...”⁴³ She stated that the preferability inquiry involves determining whether a class action would be a “fair, efficient and manageable” method of advancing the claim, as compared with other options.⁴⁴ Moreover, the inquiry “should be conducted through the lens of the three principal advantages of class actions: access to justice, judicial economy, and behaviour modification.”⁴⁵ In spite of the open ended wording of s. 5, McLachlin C.J. reasoned that “it would be impossible to determine whether the class ^{*201} action is preferable in the sense ... of advancing the claim without looking at the common issues in their context.”⁴⁶ Thus, the question of whether a class action is a preferable procedure, “must take into account the importance of the common issues in relation to the claims as a whole,”⁴⁷ and ask whether the resolution of common issues will advance the action.

The Supreme Court's revision of the preferability requirement was no small amendment. It fundamentally altered the frame of reference for weighing the usefulness of a class proceeding by shifting it from the point of view of achieving a specific policy goal--resolving common issues in an efficient way-- to one aimed at promoting a broad, and ultimately discretionary, sense of what will move a claim forward. In McCleod-Kilmurry's view, *Hollick* is problematic because it invites wide judicial discretion. She points out that its three animating policy goals are “disparate [and] allow for so much flexibility. [Moreover] ... extensive discretion also puts the focus on the philosophies and predispositions of judges.”⁴⁸ McLachlin C.J. openly acknowledged that what is required is “a practical cost-benefit approach to this procedural issue, and to consider the impact of a class proceeding on class members, the defendants, and the court.”⁴⁹ As a consequence of expanding judicial discretion in certification motions courts have begun to place greater weight on the policy goal of judicial economy when dealing with environmental claims, and have therefore devised interpretive tools to weed out judicially uneconomic claims.

*202 (b) Interpreting Judicial Economy

The case law reveals different interpretations of what it means for a *procedure* to be “economical,” some more explicit than others. In determining whether or not a class action is a judicially economic procedure, courts have focused on the narrow question of whether or not common issues “predominate” over individual issues.⁵⁰ The assumption here is that if common issues predominate, then the resolution of the common issues will advance the progress of the claim in a way that justifies the class procedure. As Robertson observes, “it does not appear that fairness and efficiency are being balanced [;] but instead there is a predominance test hidden in the application of the preferable procedure test.”⁵¹ Another way of describing this doctrinal development is that the preferable procedure requirement boils down to one question: “how far down the road to determination of the entire claim does resolution of the common issues take the proceeding?”⁵²

The judicial emphasis on predominancy plays out in *Hollick*, as does the tendency to interpret this concept quantitatively. Here the plaintiffs sought certification of a claim for damages related to physical and noise pollution emanating from a landfill site. In deciding whether or not certification would be judicially economic, the Court seemed to place exclusive weight on its finding that “any common issue here is negligible in relation to the individual issues.”⁵³ Specifically, the Court reasoned that while “each of the class members must ... establish that the ... landfill emitted physical or noise pollution, there is no reason to think that any pollution was distributed evenly across the geographical area or time period specified in the class definition. On the contrary it is likely that some areas were affected more seriously than other times.”⁵⁴ When viewed in the context of the entire claim, resolving the common issue--whether *203 the landfill emitted physical or noise pollution--would not “significantly advance the action,” since the effect of the pollution on each class member would still have to be assessed individually.

Similar reasoning appears at both levels of court in *Pearson*. The plaintiffs provided a list of 14 issues that could be resolved at a common trial, including questions related to the extent of **contamination**, the risk posed by the **contaminants** to human health and the environment, and the liability of Inco for the release of the **contaminants**.⁵⁵ The motions judge, Nordheimer J. held that resolving the common issues would not advance the trial, essentially because their resolution would be of mere “theoretical interest until the particular factual circumstances of each individual claimant is examined.”⁵⁶ He observed that “the process of determining whether a causal link exists for any given class member with respect to any given allegation of harm is extensive and very much individualized.”⁵⁷ As a result, “individual issues would abound.”⁵⁸ On appeal in *Pearson II*, the Court applied a variation of the “predominance” test--the “dwarfing” test. Instead of asking whether common issues predominated, the Court commented, albeit *in obiter*, that had the plaintiffs not removed the previously included health claims from their application, the “individual issues would have dwarfed the common ones.”⁵⁹ The danger, however, of a quantitative and comparative focus on individual versus common issues is that attention may turn to the hypothetical goal of efficiently completing an individual action, rather than choosing the procedure that will most efficiently see through the resolution of all class members' claims.

In *Barrette c. Ciment du St-Laurent inc.*,⁶⁰ the Supreme Court of Canada recently had the opportunity to revisit facts similar to *Hollick*, but this time in the context of an appeal of a Quebec Superior Court decision and not a certification motion. As such this case did not challenge certification doctrine *per se*, including the primacy of a “predominance” test, but did provide an example of how courts can use different procedures and rules of evidence to turn individual issues into ones more amenable to collective treatment.

As in *Hollick*, the class members in *St. Lawrence* suffered damages and annoyances caused by emissions from a nearby industrial site. Despite *204 these factual similarities, the motion to certify was granted (under Quebec's permissive

class action regime) and the plaintiffs later prevailed at trial and on appeal to the Supreme Court of Canada. One of the issues on appeal was the trial judge's approach to assessing individual damages. Instead of requiring each individual class member to prove his or her injury, as would normally be required, Dutil J. heard evidence from a representative sample of 62 class members and used this evidence to divide the entire class into four geographic zones or subgroups based on the amount of damage or annoyance the sample members suffered.⁶¹ She then determined the amount of damages to be awarded to each class member by using an average for each zone.⁶² Lebel and Deschamps JJ. found that Dutil J.'s approach was reasonable and appropriate “[g]iven the trial judge's discretion and the difficulty of assessing environmental problems and annoyances.”⁶³

Dutil J.'s approach made it possible to resolve, on a collective level, issues that would normally require individual determinations, effectively transforming individual issues into common ones. Thus, if certification had been the issue in *St. Lawrence Cement*, the plaintiffs could have argued that such an approach would have minimized the burden on judicial resources, and thus advanced the policy objective of judicial economy. Lebel and Deschamps JJ. distinguished *Hollick* on the basis that in *St. Lawrence Cement* “the representatives provided detailed evidence of the injury they had suffered, [which enabled] Dutil J ... to infer from it that the members in each zone had suffered similar injuries.”⁶⁴ Perhaps the result in *Hollick* could have been different if some relatively minor evidentiary/procedural adjustments had been considered at the certification stage, thereby making the common issues “predominant” and allaying concerns about cost-efficiency. In the case of ETT claims, however, even if more detailed evidence of injury was available prior to certification, the procedures adopted by Dutil J. (e.g. identifying subgroups and averaging damage awards) may not apply, since determining individual causation in such claims is more complex and would likely require each class member to give evidence (e.g. regarding levels of exposure to the toxic substance and other disease agents; and other risk factors, as discussed further below).

***205** The principles laid out in *Hollick* by McLachlin C.J. also had a second effect on what it means for a procedure to be judicially economic. After narrowing the analysis of judicially economic procedures to a question of predominancy, she then opened the policy door wide and expanded the “end” to which a procedure should be cost-efficient from merely “advancing the plaintiffs claims,” to also balancing the interests of plaintiffs, defendants, and courts. Consequently, as individual issues become greater in number and complexity, certification may be less likely simply because of the increased burden on judicial resources. Thus, consideration of the number of remaining individual issues re-surfaces when taking into account how much it will cost to proceed with the required individual trials.

Nordheimer J. expressed concern about overtaxing judicial resources in *Pearson I*. The claims in this case included personal injury, loss of property value and loss of use and enjoyment of property, and all of them were denied certification. Nordheimer J. found that they would all require case-by-case assessments. For example, he noted that property values are affected by a wide range of factors, including “quality of schools available, the presence of criminal activity, heavy traffic, other industrial pollution, proximity to transit ... and so on.”⁶⁵ Speaking in reference to all the claims he stated:

Given the wide variety of harm and the size of the proposed class, this class proceeding will quickly become unmanageable and will inevitably disintegrate into the need for thousands of individual trials with potentially tens, if not hundreds of thousands of individual issues to be resolved. Consequent on that reality, will be the need for discovery of each and every one of 20,000 members of the proposed class.⁶⁶

Implicit to this reasoning, however, is that the consequence of denying certification would be a “savings” of 20 thousand trials altogether. While not admitted outright, the Court is treating “too much access to justice” as a legitimate concern because of the strain on judicial resources, and packages this worry as one about “manageability.”

The view that *Pearson* discourages motions to certify ETTs is supported by the reasons why the plaintiff group was eventually successful on appeal. In an effort to improve their chances of success on appeal, the plaintiffs narrowed the scope of their claim to loss of property value, abandoning their claim for personal injury. In allowing the appeal, Rosenberg J.A. disagreed with Nordheimer J. regarding the extent of the individual inquiry required to resolve the claim for loss of property value. *206 He conceded that individual litigation would be necessary, but only to resolve the “relatively narrow issue of quantifying the effect on particular properties.”⁶⁷ This finding appeared to rely on the plaintiffs' contention that a public announcement made by the Ministry of Environment about the high level of nickel **contamination** had resulted in a measurable, across-the-board reduction in property values, which had a similar effect on the class as a whole. It is unclear from Rosenberg J.A.'s use of the term “quantifying the effect” whether he contemplated that causation would be determined on a class-wide basis, with individual assessments of damages, or whether individual assessment of causation would be required for each class member.⁶⁸ However, as already noted, he stated that the individual issues that were involved in making out the personal injury claims would have been too numerous and complex.⁶⁹ The message emanating from *Pearson*, therefore, seems to have been that reducing the complexity and number of individual issues will increase one's chance at certification.

(c) Discretion, Policy and Merits of the Claim

Returning to the theme of a highly discretionary approach, it appears that the “unmanageability” of numerous and complex individual issues does not always deter courts from certifying. Taking a broader view of the jurisprudence, outside of just environmental harm, reveals how courts' overall analysis of the ‘social utility’ of the claim affects whether or not a court chooses to overcome these hurdles. While the Supreme Court in *Hollick* expressly endorsed a broad cost-benefit analysis, it also expressly rejected a “preliminary merits” test for certification. McLachlin C.J. emphasized that “the certification stage is decidedly not meant to be a test of the merits of the action ... or whether the claim is likely to succeed.”⁷⁰ There is only the minimum evidentiary requirement that “the class representative ... show some basis in fact for each of the certification requirements set out in ... the Act, other than that the pleadings disclose a cause of action,”⁷¹ which appears to be a “fairly low threshold” to meet.⁷² *207 Nevertheless, there are examples in the case law that challenge the notion that courts exercise restraint in this regard.

The basic premise here is that a judge's view of the merits can influence determination of the certification criteria. This is especially tempting when the judge must review evidence that is relevant to the certification requirements so as to determine whether or not the minimum evidentiary requirement is met. As Kimmel explains: “evidence that is ‘relevant’ to the certification requirements can often also go to establishing (or at least suggesting) the likelihood of success on the merits, and many judges cannot help but be influenced by their opinion of the merits that emerges from the relevant evidence.”⁷³

In *Pearson I*, for example, the defendant appeared to present persuasive evidence suggesting that personal injury claims were unlikely to succeed on the merits. Inco brought evidence that “there is no scientific evidence at all of adverse health effects in Port Colborne attributable to nickel ... On the contrary, Port Colborne continues to be one of the most studied communities in Canada, and repeated health surveys have found no increased incidences of disease among Port Colborne residents.”⁷⁴ Inco brought the results of a study that monitored workers at its nickel refinery who were continuously exposed to refinery dust containing the most potent form of nickel, and were exposed to one hundred thousand times

greater amount than current Port Colborne residents, yet still showed no increase in **cancer** rates.⁷⁵ On the other hand, the plaintiffs' relied heavily on the fact that certain nickel forms are generally classified as carcinogenic by Health Canada, and did not address issues of potency, concentration and exposure.⁷⁶ The key question is whether the Judge would have taken a different view if the evidence showed a significant increase in **cancer** (or other diseases) among persons exposed to nickel **contamination**. If so, an implicit merits test, however thin, would create a barrier for plaintiff groups who cannot afford a level of expert evidence comparable to that which the defendant can bring to a certification motion.

Given that *Hollick* explicitly requires judges to consider the impact of certification on defendants, it is difficult to imagine how a judge might avoid being influenced by his personal view of the merits of the case. Although a certification motion is meant to be about proper procedure, the outcome of one will obviously have a substantive impact on the *208 defendant's position. For example, "the costs involved in taking a certified class action to trial, and even just the possibility of being subject to a huge damage award if the class is successful, create an incentive for the defendants to settle a certified claim, even if they are confident in their chances of succeeding at trial on the merits."⁷⁷ If a judge is greatly sceptical of the merits of a claim, he may be swayed by such policy considerations as the potential impact on defendants, and waste of judicial resources. As Justice Slater succinctly puts it in *L. (T.) v. Alberta (Director of Child Welfare)*, "if the action is doomed to fail there is little point in certifying the class proceeding."⁷⁸

The doctrinal barriers posed by complex individualized claims seem to be more easily overcome when the plaintiffs' appear to have suffered great harm. For example, it appears as though the court was "influenced by the particular circumstances of the class members in *Rumley* (vulnerable children who suffered great harm) and had less sympathy for the residents and property owner in *Hollick* who may have suffered a variety of damages."⁷⁹ In both *Rumley* and *Cloud v. Canada (Attorney General)*⁸⁰ the Court took a liberal approach to the preferability test and certified despite the fact that substantial and numerous individual issues remained. In both cases, the plaintiffs' alleged abuse and poor treatment at residential schools. In *Rumley*, the claims were in negligence and breach of fiduciary duty. It was decided that the issues of establishing a duty and breach thereof would be dealt with in common, and "injury and causation" would have to be litigated in individual proceedings. Interestingly, despite the ostensible complexity of establishing a causal connection from abuse to subsequent injuries (*e.g.* emotional trauma, disintegration of family unit, impaired ability to function as a wife and mother, requirement for ongoing psychological counsel)⁸¹ for each of the individual plaintiffs,⁸² McLachlin C.J. stated that in her view "the individual issues will be a relatively minor aspect of this case."⁸³

*209 The plaintiffs in *Cloud* also succeeded in certifying their claims. On appeal, Goudge J.A. agreed with the dissenting judge of the Divisional Court that it was of primary and common importance to the claims in negligence, fiduciary obligation or aboriginal rights, to determine the nature and extent of the legal duties, and whether those duties were breached.⁸⁴ Once again the court seemed undeterred by complexity when it held: "the resolution of these common issues therefore takes the action ... up to the point where only harm, causation and individual defences such as limitations remain for determination. This moves the action a long way [emphasis added]."⁸⁵ While many undoubtedly complex and numerous individual issues remained, this did not detract from using a common forum to resolve certain common issues the court also viewed as complex.

The defendants in *Cloud* advanced arguments very similar to the defendants in the environmental tort cases discussed above. Specifically, they argued that:

[The] vast majority of issues require individual determination, ... that these issues involve[d] individual acts of abuse, different perpetrators, unique individual circumstances ... and an array of different

limitations, triggers and discoverability issues. They argue[d] that the common issues [were] negligible in comparison and that their resolution will not significantly advance the action.”⁸⁶

The fact that the defendants in this case were unsuccessful with similar arguments strongly suggests that the preferable procedure doctrine is heavily animated by courts' views about the social or other value of the claim.

(d) Applying Certification Doctrine to Environmental Toxic Torts

In the absence of an authoritative interpretation of the certification criteria in the context of ETTs, this section will identify some of the interpretive signals found in the case law that help explain the view that ETTs are not amenable to certification. The first of these is the message that establishing causation of personal injury due to toxic exposure is a *highly*, or even, *inherently* individual undertaking. This, in turn, requires that a plethora of individual issues be determined on a case-by-case basis. The second and related proposition is that a finding of general causation is either irrelevant or minimally useful to determining specific causation. *210 Thus, an inquiry into general causation at the class level will not advance the progress of an individual trial. Without general causation questions to serve as common issues, courts struggle to find a common issue(s), which they believe will be significant enough in relation to individual issues to justify a class action. Third, the limits of scientific knowledge surrounding toxic harm, together with the role played by a judge's view of the merits of an action, create a potential barrier to ETT certification.

Pearson I provides the clearest example of the judicial view that an ETT is predominantly an individual inquiry. Here the Court stated that “the process of determining whether a causal link exists for any given class member with respect to any given allegation of harm is extensive and very much individualized.”⁸⁷ In light of the characteristics of ETTs discussed earlier, certain judicial apprehensiveness with handling ETTs en masse is understandable. Indeed, Nordheimer J. was alive to the intricacies involved in establishing causation between particular toxic substance and a particular harm. He divided the individual issues into those relating to an individual's exposure and those relating to the connection between that exposure and a particular illness. He listed a few factors relevant to individual exposure, such as:

the person's health history, their occupation ... amount of time they spend in their homes as opposed to outside in their gardens as opposed to other places, their travelling habits, their personal habits (e.g. smokers v. non-smokers), their work or school histories and so on.⁸⁸

Moreover, it would be necessary to know “the concentration of any **contaminants** found in the person's yard as well as the concentrations found inside their home since the risks from exposure are directly related to the concentration of the **contaminants** to which one is exposed.”⁸⁹

Nordheimer J. identified the problem of disease latency (intervening factors) to determining exposure, as well as the possibility of alternative causes, since most diseases caused by environmental **contamination**, like **cancer**, have multiple causes and are not signature diseases. Thus, Nordheimer J. noted the need to inquire into, “the time between exposure and the onset of the disease, other potential causes for the illness that may be present, the risk factors peculiar to the individual for the illness and a host of other individual considerations ... [all of which] must be analyzed on an individual basis.”⁹⁰ Given the complexity of this causal relationship, *211 its resolution would likely require complicated, and perhaps lengthy, expert evidence during individual trials. Ultimately, to Nordheimer J., the argument is that the complexity and number of individual issues required to establish causation for ETTs militated against bothering with a common trial, since the trial would quickly disintegrate into thousands of individual trials, where many complex issues would have to be resolved.

Another unique aspect of ETTs that affects certification is the division between general and specific causation. Recall that it is one thing to establish that a particular substance Y is capable of causing X illness, and quite another to say

that Y *actually did* cause X. Of course, in law, it is only required that Y cause X on a balance of probabilities. Since courts are not able to take judicial notice of such information, and because causation is a necessary condition for all ETTs, the *general* causation question, whether Y is capable of causing X, is applicable to all class members affected by the toxic substance in question, and has the potential to serve as *the* universal common issue in ETTs certification motions. Resolving general causation also typically involves costly scientific evidence and expert testimony; thus pooling class members' resources might help. The promise of this picture is threatened when courts take a dismissive view, as was done in *Pearson I*, of the value of general causation to advancing the claim as a whole. In this case, the proposed common issue, which spoke to general causation, was: at what level do the **contaminants** of concern pose a risk to the natural environment or to human health, or both?⁹¹ According to Nordheimer J., all the common issues, including this one, were of “no more than theoretical interest” to the resolution of individual causation. He explained:

While the determination of those common issues will have relevance to the individual class member's claims, the degree to which they will assist in the overall determination of those claims is minimal. Assuming for the moment, that ... (iii) it can be determined how widespread the distribution was of the **contaminants** and (iv) it can be determined at what level the **contaminants** pose risks either to the natural environment or to human health, the impact of those determinations would be very much abstract in the result until the particular circumstances of each individual claimant are considered.⁹²

Thus, while Justice Nordheimer acknowledged that the common questions have *some* value, it is not enough to justify a class proceeding. He applied a simple predominancy test that focused on how far resolving the common issues would take a class member towards completing her individual ***212** cause of action. The immediate counter-argument would point out that the question of general causation is always “theoretical” until the individual variables are applied. Moreover, it is a question that will still have to be decided in each individual trial. The message from *Pearson I*, however, remains: general causation questions do not advance trials. To be sure, not only does this sentiment represent a blow to the common issue of general causation, but also to related ones, depending on the cause of action. In negligence, for example, coming to findings of fact on the risks of a particular activity or substance would open the door for other common issues to be resolved, such as the standard of care a reasonable person would have exercised while doing the risky activity or handling the dangerous substance.

While the Ontario Court of Appeal in *Pearson II* did not comment on the lower court's findings on the value of resolving general causation, the debate was recently picked up in another ETT case, *Ring v. Canada (Attorney General)*.⁹³ The defendant in this case took Nordheimer J.'s position further and argued that questions of general causation in the context of toxic injury are *irrelevant* to questions of individual causation, and that this is *inherent* to these types of claims. The plaintiffs alleged that the herbicides containing toxic chemicals sprayed by the defendant, the Federal Crown, caused their **cancer**, or their risk of **cancer**. One of the proposed common issues was a general causation question: do the chemicals sprayed materially contribute to the risk of causing lymphoid **cancers** in humans, and if so, what is the smallest amount?⁹⁴

Experts for the third party defendant argued that “by its very nature the Plaintiffs' claim lacks commonality ... because the chain of causation allegedly connecting the Crown's and Third Parties' emission of the herbicides to the proposed class member's alleged injury requires an inherently individual analysis--class member by class member.”⁹⁵ They go on to argue that the reason why no ETT has been certified in Canada is because “this lack of commonality among class members ... is inherent in these types of claim, where the chain of causation allegedly connecting the use of herbicides to a class member's injury is inherently individual and subject to enormous variation from one class member to the next.”⁹⁶ One expert, Dr. Wiernik stated that this is because:

*213 such a general question would be of no use in determining whether a herbicide caused a specific types of disease or **cancer** or lymphoma in a specific individual--the relevant question under accepted scientific principles for determining causation of disease.”⁹⁷

Apparently, the “scientific principles” referred to require that scientific knowledge about the allegedly toxic substance be examined strictly in relation to a particular set of circumstances. Thus, Dr. Guzelian, a toxicologist, only admitted to a very limited role played by general causation in the individual causal inquiry:

General causation involves an analysis of the available scientific and medical knowledge, including a critical review of the available toxicological and epidemiological literature to determine whether the chemical is known to cause the disease in question under the circumstances of the particular case [emphasis added].

In essence, the position of the defendant experts in *Ring* is that, as a matter of scientific principle, the inquiries into general and specific causation of a disease are inextricable. By this view, it is simply illogical to speak of toxic substances having causal properties without being very specific about which individual, under what circumstances was exposed. From the perspective of mustering a sufficient number or quality of common issues to meet the requirement of “significantly advancing the trial,” such a position is fatal. In *Pearson I*, Nordheimer J. did not go as far as to say general and specific causation were inextricable, but he did open the door to undervaluing the importance of first determining general causation. The fact that the defendants in *Ring* went through this door is an indication of the negative message sent by *Pearson I* and *II* on the value of general causation to a class claim.

If *all* issues of causation are by *definition* individual, then, in the causally complex arena of ETTs, and under current interpretations of certification criteria, the common issues will likely, if not always, be “negligible” in comparison. Thus, when taken together, one arrives at the conclusion that general causation questions make poor common issues, if one accepts the argument that they are either irrelevant or minimally useful to resolving other common or individual issues, or that they will not advance a claim efficiently because there will be so many individual issues left.

In this way, the causation inquiry often takes on a threshold quality in certification motions. Professor Boodman observed that “at the certification stage of a class proceeding causation must be examined ‘hypothetically’ *214 to decide commonality or the degree of inclusiveness as regards the parties.”⁹⁸ This is because the relationship between a class of plaintiffs and a defendant is what links the class together, and in tort law, this relationship is the causal connection between the defendant's conduct and the plaintiffs' harm. Applying this frame to ETTs, the tie that binds is the very possibility that the toxic substance emitted by the defendant can theoretically cause each class member's harm because of their exposure.

The theme of the impact of scientific language and epistemology resurfaces in this discussion, and might help understand what underlies the Court's view in *Pearson I*, as well as the defendant experts' position in *Ring*. Both positions understood individual causation in ETTs to be highly individualized and overwhelmingly complex. Analyzing causation in scientific language makes it easier to slip from legal models of causation and certainty to scientific ones, and thus more likely to dismiss the value of general causation to the overall causation analysis. It is notable that in *Ring*, the expert testimony was riddled with expressions like “medical causation,”⁹⁹ “scientific principles for determining causation of disease”¹⁰⁰ or “the proposed common question ... would be of no use to him as a clinical oncologist.”¹⁰¹

Finally, there may be a potential barrier for ETTs as a result of the combined effect of limited or costly scientific evidence about toxic harm, and the suggestion that a judge's view of the merits of an action impacts her view of certification. In *Pearson I*, Nordheimer J.'s view of the evidence for causation of the limited scientific evidence appeared to be influenced

by the actual results of scientific studies, and thus may have simply reflected reality. However, it is not known whether the situation appeared this way due to the plaintiff group's lack of access to critical scientific rebuttal evidence. In *Ring*, however, the potential for imbalance is bare. On the defendant's side was a troupe of expert epidemiologists and toxicologists, and on the plaintiff's side was Dr. Margaret E. Sears, who held a doctorate in Chemical Engineering, and was qualified by the court to act as a "bibliographer and [to] identify literature dealing with the association between chemicals and malignant lymphomas."¹⁰²

***215 4. RE-FRAMING ENVIRONMENTAL TOXIC TORTS TO OVERCOME REAL OR IMAGINED BARRIERS TO CERTIFICATION**

To challenge the conclusion that certification of ETTs is not viable, this section will explore how causation might be re-analyzed as a common issue. It is assumed that what is driving ETT plaintiffs away from certification motions is the fear that overly simplified judicial interpretations of what constitutes a preferable procedure will not accommodate, let alone capitalize on, the complexities inherent to these claims. Here it is argued that using general causation as a common issue will add weight to the common issues side of the "number and complexity" scale so as to attenuate the "predominating" effect of those issues that are inherently individual in the complex arena of ETTs.

(a) General Causation as a Distinct and Useful Concept

The first step to appreciating the potential of general causation as a common issue is to acknowledge that it is conceptually distinct from, and relevant to, the determination of other issues (*e.g.* specific causation). Certification decisions in the context of product liability, where toxic substances are also implicated, bear this out. For example, in *Harrington*, the British Columbia Court of Appeal upheld a decision to certify a class of plaintiffs who alleged personal injury from silicone gel breast implants. The common issue here was whether the implants were reasonably fit for their intended purpose. Though formulated in the language of product liability, the underlying question addressed general causation. As Justice Huddart explained:

[T]he first step in every products liability case ... is the determination of whether the product is defective under ordinary use or, although non-defective, has a propensity to injure. Some American authorities refer to this step as "general causation," whether a product is capable of causing the harm alleged ... The final step will be the determination of individual causation and damages.¹⁰³

In the recent Ontario case of *Boulanger v. Johnson & Johnson Corp.*,¹⁰⁴ it was alleged that the drug, Prepulsid caused the cardiac conditions suffered by the plaintiffs. Justice Macdonald certified a class proceeding based on a number of common questions, which included the following general causation question: "whether Prepulsid can cause or materially *216 contribute to cardiac arrhythmia, including ventricular tachycardia, cardiac arrest, prolonged QT, *torsades de pointes*, ventricular fibrillation, sudden death and other heart disease."¹⁰⁵ Furthermore, the motions judge underscored the value of determining general causation to subsequent individual proceedings. She recognized that individual issues such as specific causation, fault, and damages, would remain, but noted that "their resolution will be considerably influenced by the outcome of the common issues trial."¹⁰⁶ Justice MacDonald went on to make the important observation that the subsequent individual issues would become irrelevant "if a trial judge concludes that Prepulsid is not cardiotoxic or otherwise ineffective ..."¹⁰⁷

In *Ring*, despite detailed expert evidence to the contrary, Barry J. disagreed with the third party defendant position that general and specific causation of disease are inextricable, and went on to certify the class on the basis that general causation was a common issue that would advance the litigation forward. First he distinguished between legal and scientific inference:

[A] conclusion regarding general causation between a collective *group* of exposures and a *group* of diseases is not an acceptable approach in epidemiological research. The Plaintiffs are entitled, however, to try and make the case that it is an acceptable approach in negligence law ... Cross-examination ... at trial will help determine whether ... [the] experts have focused on what they need for medical certainty rather than on what the law requires for proof in a civil case, namely proof on a balance of probabilities.¹⁰⁸

The common causal issue in this case was whether exposure to dioxin and HCB, *at any dose*, may contribute to the risk of persons receiving the dose developing a malignant lymphoma,”¹⁰⁹ which the court held to be “a substantial ingredient of each of the class members' claims, is necessary for the resolution of each class member's claim, and [one that] will move the litigation forward to a significant degree.” In particular, Barry J. was swayed by the argument that assessing the causal properties of dioxin and HCB at a common trial could “lead to a meaningful legal answer regarding the creation of unreasonable risks”¹¹⁰ and thus inform another common issue: standard of care. Significantly, it is knowledge of general causation, not specific causation that contributes to the standard of care analysis.

*217 As indicated in *Boulangier*, but underplayed in *Pearson I*, a finding of general causation can assist in determining specific causation in subsequent individual trials. The relevant *legal* question is: when does probabilistic evidence about causation across a population or group warrant a finding of causation for a specific member, on a balance of probabilities? Although from a scientific perspective, such a question would never be asked, courts in the United States have employed a number of approaches to specific causation in toxic tort cases that draw from evidence of general causation. The point here is not to advocate for any one approach in particular, but simply to make more concrete the possible relevance of general causation to a determination of specific causation. One common approach in the U.S. jurisprudence assumes specific causation if the defendant's conduct (*e.g.* release of toxic substance) more than doubled the plaintiff's risk of injury.¹¹¹ Causation is inferred from a particular strength of general causation plus individual exposure. Applying this method essentially reformulates the civil standard into a quantitative rule, where being exposed to double the risk *is* cause-in-fact on a balance of probabilities.¹¹² Alani Golanski advances another approach that combines “differential diagnosis” of individual class members with general probabilistic evidence.¹¹³ Differential diagnosis is a patient-specific process of elimination used in medicine to identify the most likely cause of a set of symptoms from a list of possible causes, for which general causation is assumed. Thus, experts are called upon to “rule in” suspected causes (via general causation analyses) and “rule out” other possible causes. A finding of causation on a balance of probabilities will depend on the extent to which the latter occurs.¹¹⁴

(b) Procedural Value of Resolving General Causation

Part of qualitatively assessing whether or not a common issue advances an action *as a whole* is the degree to which it enables the action (i.e. all class members' claims) to occur at all. Treating general causation *218 as a common issue has procedural advantages that facilitate the bringing of class claims in economically efficient ways.

In light of the potential for findings of general causation to make substantive contributions to determining subsequent important issues--and thus significantly advance the litigation--the fact that their resolution might require complex and lengthy evidence militates in favour of certification. This is true from both the perspective of judicial economy and access to justice. In *Dumoulin v. Ontario*,¹¹⁵ a claim involving allegations of negligent exposure to toxic mould in a courthouse, the plaintiffs proposed a common general causation issue that would assess the potential adverse health consequences of exposure to toxic mould. Although Cullity J. ultimately denied certification, he reasoned that the fact that the common

issues “may be too difficult and may require a lengthy trial underlines the advantages for all parties of having them dealt with only once.”¹¹⁶ In stark contrast, Nordheimer J. in *Pearson I* came to the exact opposite conclusion when he used the observation that the existence of common issues would “not in any way reduce the extreme complexity that will be involved in resolving these issues”¹¹⁷ to deny certification, and essentially ignore the purposes of the remedial legislation.

In *Ring*, Barry J. also turned Nordheimer J.'s analysis of judicial economy on its head. Instead of treating the possibility of thousands of individual trials as prohibitive, he argued that, “where the class consists of tens of thousands of people, access to justice would be promoted and judicial economy achieved by having the common issues resolved at a single hearing.”¹¹⁸ Furthermore, “if the common issue is resolved in favour of the defendants and third parties, thousands of trials will probably be avoided.”¹¹⁹

A final way that resolving general causation in a class proceeding contributes to advancing claims as a whole is the opportunity it provides to create a useful body of evidence that an individual claimant would not *219 otherwise be able to muster. For example, in *Wilson v. Servier Canada Inc.*,¹²⁰ a product liability case involving weight loss drugs, Cumming J. observed that “in the absence of class treatment, the class members would be unable to obtain the benefit of the collection of medical and scientific data and research that address issues relating to the diseases asserted to be caused by the drugs.”¹²¹ Thus, the goal is to allow plaintiffs to marshal evidence relevant to their individual trials without spending exorbitant amounts of money on expert witnesses. Plaintiffs can then draw from this body of relevant facts and evidence, in conjunction with fresh evidence at individual proceedings to complete their causes of action.

5. DECONSTRUCTING “ENVIRONMENTAL TOXIC TORT”

In order to accomplish the task of re-framing how ETTs might better fit in certification law, the term “ETTs” was treated monolithically. However, a more precise answer to the central question of this article--the viability of ETT certification--requires an appreciation for the enormous factual variety encompassed by this one term. As discussed in Part 2 the circumstances of ETTs are found at different points of several factual spectrums. These, in turn, serve as factors that affect the degree to which a given ETT case will “fit” within legal doctrine. Professor Brennan indirectly supports this argument by categorizing environmental injury and pollution into different “paradigms” and observing that, “some environmental injury paradigms lend themselves to institutional responses such as tort litigation that are inappropriate ... for other paradigms. Abandoning the unitary concept of pollution makes this fact recognizable.”¹²² To illustrate this point, this section will look at the heterogeneity of ETTs along two dimensions: nature of **contamination**, and the type of personal injury alleged.

(a) Nature of **Contamination**

Professor Brennan provides a useful two-spectrum framework for analyzing the nature and extent of **contamination** dispersal. His first spectrum describes the concentration of the **contamination**, from highly concentrated to more dispersed. His second spectrum describes the sources *220 of **contamination**, from one (singular) site to multiple sites. For example, ground water **contamination** in an aquifer with slow subterranean movement would be an example of less concentrated **contamination**. On the other hand, air pollution with strong prevailing winds is an example of highly dispersed pollution. In his view, dispersed pollution “challenges the limits of mass tort litigation as the plaintiff class grows in size and geographic distribution. Therefore, successful tort litigation will center on concentrated, singular environmental paradigms.”¹²³ Applying his framework to certification criteria has a number of implications.

First, dispersed, uneven, or haphazard **contamination** exacerbates the problem of “indeterminate plaintiffs,” since it becomes more difficult to figure out who was exposed and at what dose. Assessing specific causation naturally becomes more complex. Because dispersed pollution (*e.g.* air pollution) exposes numerous people to toxic substances at low doses

it creates huge classes where only a small number of class members actually suffered harm. This, in turn, increases the likelihood a court will find the individual issues “unmanageable.” *Pearson I* provides a good example of these characteristics at work. The **contamination** in this case was air pollution that was highly dispersed across a large geographic area (Port Colborne), which led to a proposed class of more than 17,000. Exposure was highly varied and dependent on proximity to the nickel refinery. As discussed in Part 3, this was a crucial point for the motions judge, since it added to the complexity of the individual determinations that remained. He found that the evidence in the record clearly showed that **contamination** levels were uneven across the various locations within the geographic boundaries of the proposed class.¹²⁴

The **contamination** in *Ring* was similarly dispersed. In that case the **contamination** was herbicides sprayed between 1956 to 2004, which allegedly created a risk of developing **cancer**, (malignant lymphomas), for the individuals present at a military base, CFB Gagetown. Due to the dispersed nature of the toxic substance, it was particularly difficult to determine exposure and dose. To determine exposure, factors such as “body weight, hand surface area, body surface area, inhalation rate, soil ingestion, soil adherence factor, wild berry ingestion rate, local fish ingestion rate, and wild game ingestion rate,” had to be taken into account.¹²⁵ Significantly, despite these complications the court granted certification *221 in this case, and the Newfoundland Court of Appeal has since granted leave to appeal.

Drinking **contaminated** water, on the other hand, occupies the other end of the spectrum, since it fits the paradigm of “singular concentrated” **contamination**. Such cases are more amenable to certification. First, identifying plaintiffs is more straightforward because the class is limited to people who drank the **contaminated** water. Determining level of exposure and dose is also relatively simple, since all one needs to know is (1) the concentration of **contamination** in the drinking water, and (2) how much water was ingested. Thus, the required “hypothetical” causal link¹²⁶ between class members is created and commonality more easily established. Specific causation is less complicated, which directly affects how courts determine whether or not the individual issues will “predominate” and act as a bar to certification. Courts are more likely to find these classes “manageable” because they usually involve smaller classes. Even if the individual assessments are complex, less judicial resources are required to adjudicate the claims, and judicial economy may give way to access to justice.¹²⁷

There are also categories of **contamination** that do not fit neatly at either end of Brennan's spectrum. In recent years, several cases have arisen involving “vapour intrusion,” a process whereby volatile **contaminants** in groundwater evaporate and seep into the air in overlying buildings.¹²⁸ In general, cases involving exposure to indoor airborne pollutants are harder to categorize, since they involve concentrated **contamination**, but unlike drinking water, exact exposure is more difficult to measure, and cumulative doses tend to be lower. Thus, the **contamination** caused by vapour intrusion probably falls somewhere in the middle of the spectrum.

Toxic torts involving defective products have enjoyed greater acceptance in class action law than ETTs. Earlier, a comparison was made between the former and the latter for the purpose of demonstrating that general causation issues linking toxic substances and diseases are both *222 possible and helpful. While this still holds, it is important to bear in mind that, factually speaking, product toxic tort cases do not overlap neatly with ETTs. This difference may help explain the variable success between these general categories. Product liability cases more closely resemble the “singular, concentrated” ends of Brennan's spectrum, and thus enjoy similar advantages with respect to meeting certification criteria. For example, in *Andersen v. St. Jude Medical Inc.*,¹²⁹ a products liability case, Cullity J. distinguished *Pearson I* on the facts. He explained that the causation issues were more complex in *Pearson* because of the added individual issues relating to exposure and dose, which arose from the nature of the **contamination**. In contrast, *St. Jude Medical* addressed “a putative class of known individuals each of whom received a heart implant, or other device, coated with the same allegedly hazardous substance the specific issues of causation that would have to be determined on an individual

basis would, in my judgment, be far more narrowly focused than those that were held to detract from ... preferability in *Pearson*.”¹³⁰

(b) Type of Personal Injury Alleged

A further source of complexity is that a given toxic substance is capable of causing, or contributing to, a range of different health problems or types of personal injury. In *Pearson I*, the plaintiffs alleged that exposure to toxic substances emitted from Inco's refinery had caused numerous physical and psychological conditions, including:

... irritation and inflammation of the skin, eyes, nasal passages and lungs, coughing, choking, inability to breathe, burning sensations in the chest and abdomen, nausea, vomiting, headaches, dizziness, collapse, loss of consciousness, loss or impairment of the senses of smell and taste, loss of appetite, swelling of exposed areas ... anxiety, nervous shock, mental distress, emotional upset ... [and] increased risks of **cancer** and lung disease.¹³¹

This type of claim, described as “sweeping”¹³² by the Ontario Court of Appeal, can be problematic. Since causation must be established in relation to each alleged health problem, individual trials will inevitably become more complex, giving rise to apprehensions about overtaxing judicial resources. The “sweeping” claims in *Pearson* can be contrasted *223 with product liability cases, where ingestion of a particular product is often linked to a particular health effect, or a limited range of health effects. A second, and related issue, is that where a personal injury claim is broadly framed, courts have difficulty articulating a general causation question that will generate a useful answer--either by ending the litigation if answered in the negative, or by moving the liability inquiry forward by contributing to the resolution of other common and individual issues. Significantly, a definitive ruling on a focused general causation question may allow the court to decertify the proceeding. As noted in *Harrington*, “If silicone breast implants are not proven capable of causing the harm alleged, the litigation will end ...”¹³³

The distinction between expansive versus focused general causation questions may help explain divergent results of ETT certification cases. In *Ring*, the proposed common issue was whether exposure to certain herbicides could materially contribute to, or materially increase the risk of, causing lymphoid **cancers**. Barry J. found it significant that, if the court resolved the common issue in favour of the defendants, then thousands of individual trials would likely be avoided.¹³⁴ Thus, although the nature of the **contamination** in *Ring* (i.e. highly dispersed herbicide spraying) created difficulties with identifying plaintiffs and determining relative risk, the focused nature of the general causation inquiry might have persuaded the court that granting certification would afford access to justice to the plaintiffs, while at the same time (potentially) limiting the burden on judicial resources. The common issue in *Ring* can be contrasted with *Pearson I*, where the plaintiffs proposed to determine the level at which the **contaminants** emitted by Inco “pose risks to the natural environment or to human health, or both?”¹³⁵ This question is inherently subjective, since it requires the court to define what should be considered a “risk to the environment or to human health.” As well, it would not necessarily bring the court any closer to resolving the issue of causation, since it would likely not produce findings linking exposure to a particular toxic substance, or combination thereof, to a particular health problem.

6. CONCLUDING THOUGHTS

This article began with the central question of the viability of certifying ETT claims in Canadian law. In the face of some discouraging *224 messages from the jurisprudence on class certification, the primary task undertaken was to examine the jurisprudential foundation for these messages and critically construct new ways of understanding ETT claims so that they might better fit within the current doctrinal principles in this area. In particular, it was seen how courts struggle to deal with the complexity of the substantive law of causation within the procedural context of class action. Paradoxically,

part of the answer suggested here is to further complicate causation in the context of ETT certification, in order to take advantage of “general causation”--the core of commonality--as a device for justifying certification. These are important tasks because if the discouraging messages are correct, then victims of environmental toxic injury would be left without the prospect of a legal remedy--unable to bring an individual claim due to the complexity and expense involved in proving causation, and without recourse to a class proceeding because the causation analysis is too “individualized.”

Footnotes

- a1 Faculty of Law, University of Victoria.
- 1 Ontario, Ministry of the Attorney General, *Report of the Walkerton Inquiry: The Events of May 2000 and Related Issues, Part One: A Summary* (Toronto: Queen's Printer for Ontario, 2002).
- 2 This would be in contrast to, for example, personal injury from being exposed to a toxic substance present in a defective product.
- 3 The author's search of the case law revealed one Canadian case where an individual plaintiff succeeded in holding a defendant liable in tort for personal injury flowing from environmental **contamination**. In *Leibel v. South Qu'Appelle (Rural Municipality)* (1943), [1944] 1 D.L.R. 369 (Sask. C.A.), the plaintiff became violently ill as a result of drinking well water **contaminated** with arsenic. The defendant municipality was held liable for negligently allowing arsenic to escape into the environment during the process of mixing poisoned grasshopper bait, resulting in the **contamination** of the well.
- 4 Jamie Cassels & Craig Jones, *The Law of Large Scale Claims: Product Liability, Mass Torts, and Complex Litigation in Canada* (Toronto: Irwin Law, 2005) at 208. This statement is broadly applicable to all toxic tort cases “involving large numbers of persons who have been exposed ... to toxic substances that cause health effects through non-observable modes of causations”: *ibid.*, at 203.
- 5 Heather McCleod-Kilmurray, “*Hollick* and Environmental Class Actions: Putting the Substance into Class Action Procedure,” (2002-2003) 34 *Ottawa L. Rev.* 363 at 283.
- 6 The analysis in this article focuses on common law jurisdictions in Canada. Quebec has particularly permissive class action legislation that does not invite a comparative analysis with legislation in other provinces: *Code of Civil Procedure*, R.S.Q. c. C-25., Book IX. Also see Stuart Kugler & Robert Kugler, “Quebec: The Class Action Haven,” (2004) 1 *Can. Class Action Rev.* 155. The criteria for certification are similar in provinces other than Quebec (with minor variations that will be identified as relevant): *Class Proceedings Act*, S.A. 2003, c. C-16.5 [Alberta CPA]; *Class Proceedings Act*, R.S.B.C. 1996, c. 50 [British Columbia CPA]; *Class Proceedings Act*, C.C.S.M. c. C130 [Manitoba CPA]; *Class Proceedings Act*, S.N.B. 2006, c. C-5.15, s. 6(2) [New Brunswick CPA]; *Class Actions Act*, S.N.L. 2001, c. C-18.1, s. 5(2) [Newfoundland CAA]; *Class Proceedings Act*, 1992, S.O. 1992, c.6 [Ontario CPA] *Class Actions Act*, S.S. 2001, c.C-12.01 [Saskatchewan CPA]. The certification requirements from the British Columbia CPA are reproduced below as a representative example:
- 4(1) The court must certify a proceeding as a class proceeding ... if all of the following requirements are met:
- (a) the pleadings disclose a cause of action;
 - (b) there is an identifiable class of 2 or more persons;
 - (c) the claims of the class members raise common issues, whether or not those common issues predominate over issues affecting only individual members;
 - (d) a class proceeding would be the preferable procedure for the fair and efficient resolution of the common issues;
 - (e) there is a representative plaintiff who

- (i) would fairly and adequately represent the interests of the class,
- (ii) has produced a plan for the proceeding that sets out a workable method of advancing the proceeding on behalf of the class and of notifying class members of the proceeding, and
- (iii) does not have, on the common issues, an interest that is in conflict with the interests of other class members.

- 7 In 2001, the Supreme Court of Canada issued three decisions that remain the leading authorities on the certification criteria in Canadian common law jurisdictions: *Western Canadian Shopping Centres Inc. v. Dutton*, [2001] 2 S.C.R. 534 [*Western Canadian*]; *Hollick v. Metropolitan Toronto (Municipality)*, (sub nom. *Hollick v. Toronto (City)*) [2001] 3 S.C.R. 158 [*Hollick*]; and *Rumley v. British Columbia*, [2001] 3 S.C.R. 184 [*Rumley*].
- 8 Cassels & Jones, *supra* note 4 at 345.
- 9 See Stefano Fortini, "The Preferable Procedure Analysis in a Class Proceeding Certification Motion," (2004) 1 Can. Class Action Rev. 311 at 313.
- 10 (2002), 2002 CarswellOnt 2446 (S.C.J.) [*Pearson I*].
- 11 *Pearson v. Inco Ltd.* (2005), 2005 CarswellOnt 6598 (C.A.) [*Pearson II*], at para. 3.
- 12 *Ibid.* at para. 70.
- 13 Jeffery Lem & Daniel Remick, "Annotation," in *Pearson*, *supra* note 11 [Lem & Remick].
- 14 See *Windsor v. Canadian Pacific Railway* (2006), 2006 CarswellAlta 633 (Q.B.), [*Windsor*]; and *Wamboldt v. Northstar Aerospace (Canada) Inc.*, 12 January 2007, Court File #06-CV-307624CP, (O.S.C.J.) [Statement of Claim], online: <http://www.cba.org/ClassActions/class_2007/ontario/main/2007-01-25_northstar.aspx> [*Wamboldt*]. The claims advanced *Windsor* and *Wamboldt* are factually similar. In both cases, a class of residential property owners allege that volatile chemical, trichloroethylene (TCE), escaped from the defendant's industrial facility, migrated into the groundwater beneath their homes, and then evaporated and seeped into the air in overlying buildings through a process known as vapour intrusion. The plaintiffs' claims are limited to damages arising from loss of property value, despite the health risks posed by exposure to TCE. In the *Windsor* case, at least two class members were proceeding with individual claims for personal injury at the time the court heard the motion for certification: *Windsor* (Q.B.) at para. 126.
- 15 Albert Lin, "Beyond Tort: Compensating Victims for Environmental Toxic Injury," (2004-2005) 78 S. Cal. L. Rev. 1439 at 1445.
- 16 Robert Rabin, "Environmental Liability and the Tort System," (1987) 24 Hous. L. Rev. 27 at 32.
- 17 David Rosenberg, "The Causal Connection in Mass Exposure Cases: A "Public Law" Vision of the Torts System," (1984) 97 Harv. L. Rev. 851 at 856.
- 18 Rabin, *supra* note 16 at 34.
- 19 A full discussion of how negligence, nuisance and the rule in *Rylands v. Fletcher* are applied in environmental litigation is beyond the scope of this article.
- 20 Martin Boodman, "The Malaise of Mass Torts," (1994-1995) 20 Queen's L.J. 213 at 255-56 [emphasis added].
- 21 Lynda Collins, "Material Contribution to Risk and Causation in Toxic Torts," (2001) 11 J.E.L.P.105 at 109.

- 22 Michael Green, Mical Freedman & Leon Gordis, "Reference Guide on Epidemiology," in *Reference Manual on Scientific Evidence*, 2nd ed., (Washington, DC: Federal Judicial Center, 2000), at 384 [*Reference Guide*].
- 23 Lin, *supra* note 15 at 1447.
- 24 *Ibid.* at 1449.
- 25 Rosenberg, *supra* note 17 at 857.
- 26 *Ibid.* at 857.
- 27 *Ibid.* at 856.
- 28 John G. Fleming, "Probabilistic Causation in Tort Law," (1989) 68 Can. Bar Rev. 137 at 662.
- 29 Lin, *supra* note 15 at 1449.
- 30 Palma J. Strand, "The Inapplicability of Traditional Tort Analysis to Environmental Risk," (1982-1983) 35 Stan. L. Rev. 575 at 582 [emphasis added].
- 31 Edwin J. Jacob, "Responses to Robert L. Rabin," (1987) 24 Hous. L. Rev. 27 at 60.
- 32 Collins, *supra* note 21 at 107.
- 33 Lin, *supra* note 15 at 1451.
- 34 *Ibid.* at 1452.
- 35 Collins, *supra* note 21 at 112-13.
- 36 Troyen A. Brennan, "Environmental Torts," (1993) 46 Vand. L. Rev. 1 at 13.
- 37 Lin, *supra* note 15 at 1447. Where a person suffers from a "signature disease" of this type, probabilistic evidence may be sufficient to establish causation. For example, epidemiological studies have shown that asbestos exposure is the cause of nine out of ten incidences of mesothelioma: Brennan, *supra* note 36 at 15.
- 38 *Ibid.* The attributable fraction (or risk) of disease has been defined as: "The proportion of disease in exposed individuals that can be attributed to exposure to an agent, as distinguished from the proportion of disease attributed to all other causes": *Reference Guide*, *supra* note 22 at 388.
- 39 (2000), 2000 CarswellBC 2183 (C.A.).
- 40 *Ibid.* at para. 40 [emphasis added].
- 41 See Lem & Remick, *supra* note 13.
- 42 Cassels & Jones, *supra* note 4 at 345 (describing the preferability stage as the "principle analytical threshold in for class actions").
- 43 Ontario CPA, *supra* note 6.
- 44 Hollick, *supra* note 7 at para. 28.

- 45 *Ibid.* at para. 27. The Chief Justice invoked the three policy objectives to structure the preferability inquiry “in the absence of legislative guidance.” The Ontario legislation is silent as to which factors should be considered, leaving it to the discretion of the judiciary to determine what is significant: Ontario *CPA*, *supra* note 6. The class action legislation in Manitoba and Saskatchewan mirrors the Ontario legislation in this respect. In the remaining provinces with class action legislation, several factors are specified to guide the courts' assessment of the preferable procedure. These factors are more or less the same in each province. See *supra* note 6: Alberta *CPA*, s. 5(2); British Columbia *CPA*, s. 4(2); Newfoundland *CAA*, s. 5(2); New Brunswick *CPA*, s. 6(2). Despite the presence of legislative guidance, courts in these provinces have treated the policy objectives adopted in *Hollick* as complementary to the legislated factors: *Windsor*, *supra* note 14 (Q.B.) The British Columbia *CPA* provides a representative example of what the legis-certification, lated factors are:
- 5(2) In determining whether a class proceeding would be the preferable procedure for the fair and efficient resolution of the common issues, the court must consider all relevant matters including the following:
- (a) whether questions of fact or law common to the members of the class predominate over any questions affecting only individual members;
 - (b) whether a significant number of the members of the class have a valid interest in individually controlling the prosecution of separate actions;
 - (c) whether the class proceeding would involve claims that are or have been the subject of any other proceedings;
 - (d) whether other means of resolving the claims are less practical or less efficient;
 - (e) whether the administration of the class proceeding would create greater difficulties than those likely to be experienced if relief were sought by other means.
- 46 *Hollick*, *supra* note 7 at para. 28 [emphasis added].
- 47 *Ibid.* at para. 30.
- 48 McCleod-Kilmurray, *supra* note 5 at 284.
- 49 *Hollick*, *supra* note 7 at para. 29. Note the possibly conflicting messages, on the one hand stating that preferable procedure is about advancing the claim as a whole, and on the other hand, stating that it is about the costs and benefits for all involved.
- 50 In contrast to the class action legislation in the U.S., [Fed. R. Civ. P. 23 \[Rule 23\]](#), all Canadian jurisdictions decided against including a requirement that common issues must predominate over individual issues. Instead, class action legislation in British Columbia, Alberta, Newfoundland and New Brunswick includes predominance as a factor to be considered in the overall preferability inquiry. The legislation in Ontario, Manitoba and Saskatchewan is silent on the issue: see *supra* note 45. As predominance is not a statutory requirement in Canada, it has been argued that courts have placed too much emphasis this factor, resulting in an overly restrictive application of the certification test: Fortini, *supra* note 9 at 314.
- 51 Dawn Robertson, “The Problem with Preferable Procedure,” (2005) 2 Can. Class Action Rev. 197 at 214 [Robertson].
- 52 Fortini, *supra* note 9 at 310 [emphasis added].
- 53 *Hollick*, *supra* note 7 at para. 32.
- 54 *Ibid.*
- 55 *Pearson I*, *supra* note 10 at para. 103.
- 56 *Ibid.* at para. 118.

- 57 *Ibid.* at para. 119.
- 58 *Ibid.* at para. 121 [emphasis added].
- 59 *Pearson II*, *supra* note 11 at para. 70.
- 60 2008 SCC 64 [*St. Lawrence Cement*].
- 61 *Ibid.* at para. 109.
- 62 *Ibid.* at para. 111.
- 63 *Ibid.* at para. 116 [emphasis added].
- 64 *Ibid.* at para. 110.
- 65 *Pearson I*, *supra* note 10 at para. 123.
- 66 *Ibid.* at para. 119.
- 67 *Pearson II*, *supra* note 11 at para. 73.
- 68 This is relevant to ETTs because of the inevitable need to determine specific causation individually, which I will discuss in a later section.
- 69 *Pearson II*, *supra* note 11 at para. 70.
- 70 *Hollick*, *supra* note 7 at para. 16.
- 71 *Ibid.* at para. 28.
- 72 Jessica A. Kimmel, “The Merits of the Merits in the Class Certification Analysis,” (2007) 4 *Can. Class Action Rev.* 3 at 6.
- 73 *Ibid.* at 13.
- 74 *Pearson I*, *supra* note 10 at para. 31.
- 75 *Ibid.* at para. 20.
- 76 *Ibid.* at para. 36.
- 77 Kimmel, *supra* note 72 at 12.
- 78 (2006), 2006 *CarswellAlta* 184 (Q.B.) at para. 36.
- 79 Robertson, *supra* note 51 at 209.
- 80 (2004), 2004 *CarswellOnt* 5026 (C.A.) at para. 81.
- 81 *Rumley v. British Columbia* (1998), 1998 *CarswellBC* 2343 (S.C. [In Chambers]) at para. 24.
- 82 The class in *Rumley* comprised all current and former students of a residential school who suffered abuse or who failed to receive a proper education while at the school. It also included family members who suffered damages as a result of the abuse

of students at the school, and family members or others who themselves were abused by a student that resulted from the student being abused at the school: *Rumley*, *supra* note 7 para. 11.

83 *Rumley*, *supra* note 7 at para. 36.

84 *Cloud*, *supra* note 80 at para. 81.

85 *Ibid.* at para. 82.

86 *Ibid.* at para. 79.

87 *Pearson I*, *supra* note 10 at para. 119.

88 *Ibid.* at para. 120.

89 *Ibid.*

90 *Ibid.* at para. 121.

91 *Ibid.* at para. 103.

92 *Ibid.* at para. 117.

93 (2007), 2007 CarswellNfld 256 (T.D.).

94 *Ibid.* at para. 4.

95 *Ibid.* at para. 75 [emphasis added].

96 *Ibid.*

97 *Ibid.* at para. 24 [emphasis added].

98 Boodman, *supra* note 20 at 245.

99 *Ring*, *supra* note 93 at para. 33.

100 *Ibid.* at para. 24.

101 *Ibid.* at para. 33.

102 *Ibid.* at para. 54.

103 *Harrington*, *supra* note 39 at para. 45 [emphasis added].

104 (2007), 2007 CarswellOnt 252 (S.C.J.).

105 *Ibid.* at para. 26.

106 *Ibid.* at para. 53.

107 *Ibid.*

- 108 *Ring, supra* note 93 at para. 151 [emphasis added].
- 109 *Ibid.* at para. 144.
- 110 *Ibid.* at para. 151.
- 111 See *In re Hanford Nuclear Reservation Litigation*, 292 F.3d 1124 (9th Cir. 2002), 1137; *Allison v. McGhan Medical Corp*, 184 F.3d 1300 (U.S. 11th Cir. Ga. 1999), 1315 n. 16.
- 112 Verne R. Walke, “Restoring the Individual Plaintiff to Tort Law by Rejecting ‘Junk Logic’ about Specific Causation,” (2004) 56 *Alta. L. Rev.* 381 at 461. A key problem with this approach, however, is that very few toxic substances cause a doubling of risk for a particular illness: Frederica Perera, “Environment and **Cancer**: Who Are Susceptible?” (1997) 278 *Science* 1068 at 1072.
- 113 Alani Golanski, “General Causation at a Crossroads in Toxic Torts Cases,” (2003-2004) 108 *Penn St. L. Rev.* 479.
- 114 *Hall v. Baxter Healthcare Corp.*, 947 F.Supp. 1387 (D.Or., 1996).
- 115 (2005), 2005 CarswellOnt 4544 (S.C.J.).
- 116 *Ibid.* at para. 30. The case of *Palmer v. Stora Kopparbergs Bergslags AB* (1983), (sub nom. *Palmer v. Nova Scotia Forest Industries*) 60 N.S.R. (2d) 271 (T.D.), serves as an example of just how complex it can be to determine general causation. This was a representative action that sought an injunction to restrain a company from spraying an allegedly toxic herbicide. The applicants had to prove that there was a strong probability that the herbicide, in the concentrations to be sprayed, posed a risk to human health. The trial consumed 21 days for evidence and two days for argument. All 49 witnesses were experts except for the plaintiffs themselves.
- 117 *Pearson I, supra* note 10 at para. 108.
- 118 *Ring, supra* note 93 at para. 158.
- 119 *Ibid.* at para. 149.
- 120 (2000), 2000 CarswellOnt 3257 (S.C.J.).
- 121 *Ibid.* at para. 101.
- 122 Brennan, *supra* note 36 at 18.
- 123 *Ibid.* at 21.
- 124 *Pearson I, supra* note 10 at para. 120.
- 125 *Ring, supra* note 93 at para. 45.
- 126 Boodman, *supra* note 20 at 245.
- 127 Thus it is not surprising that a Quebec court recently certified an ETT case involving drinking water **contamination**. In *Spieser c. Canada (Procureur général)* (2007), 2007 CarswellQue 2191 (S.C.), residents of the small town of Shannon alleged that volatile organic chemicals escaped from the Valcartier military base and **contaminated** the town's water supply, which resulted in abnormally high rates of **cancer** and other diseases. Note that Quebec has particularly permissive certification criteria: see *supra* note 6.

128 See *Windsor* and *Wamboldt*, *supra* note 14.

129 (2003), 67 O.R. (3d) 136 (S.C.J.).

130 *Ibid.* at para. 58 [emphasis added].

131 *Pearson I*, *supra* note 10 at para. 19.

132 *Pearson II*, *supra* note 11 at para. 3.

133 *Harrington*, *supra* note 39 at para. 57.

134 *Ring*, *supra* note 93 at para. 149.

135 *Pearson I*, *supra* note 10 at para. 103.

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