How will loss of Temik affect insect, nematode control?

Elton Robinson
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What is in this article?:

- As seed treatments have improved, many cotton producers have already eliminated Temik in favor of seed treatment for early season thrips control.
- Temik still comes out on top versus seed treatments for control of secondary pests such as spider mites and aphids, according to Arkansas Extension entomologist Gus Lorenz.

University of Arkansas Extension plant pathologist Scott Monfort says Temik's biggest benefit for cotton producers has been control of nematodes in moderate to severe infestations.

This summer, Bayer CropScience and the Environmental Protection Agency entered into a voluntary agreement for Bayer to withdraw its registration and cease production of Temik (aldicarb). How will the loss of this chemical affect pest control in cotton?

Speaking at Cotton Incorporated's Crop Management Seminar in Memphis, Arkansas Extension entomologist Gus Lorenz pointed out that many cotton producers have already eliminated Temik in favor of seed treatment for early season thrips control.

EXHIBIT "A"

This is due primarily to the convenience of seed treatments versus Temik in-furrow, Lorenz noted. "There are no more stopped up tubes. No more forgetting to fill up the box."

Lorenz says the transition from in-furrow treatments to seed treatments happened quickly. "In Arkansas, we went from being about 80 percent users of Temik in the 1990s, to less than 1 percent to 2 percent of our acreage being treated. How much the loss of Temik impacts us is questionable."

According to Lorenz, studies indicated big differences between first generation seed treatment technology and Temik in terms of control of thrips.

"When the seed treatments first came out, we felt the Temik was still better for yield and profit," Lorenz said. "But as they perfected the seed treatments, we began to see a change. We weren't seeing the benefit from Temik. The seed treatments are doing just as well as the in-furrow.

"The obvious advantages to the seed treatments is the reduced toxicity and the application issues, which is why our growers made this transition to seed treatments," Lorenz said.

Temik still comes out on top versus seed treatments for control of secondary pests such as spider mites and aphids, according to Lorenz.

Lorenz pointed to a survey of 150 Southeast cotton producers in 2004-05 which indicated that growers using Temik in-furrow had a 1 in 170 chance of having to treat for spider mites. For growers who relied on seed treatments alone, the odds of treatment went to a 1 in 17, almost a nine-fold difference.

Trials have shown that the use of Temik "did significantly decrease the spider mite population compared to seed treatments and foliar applications," Lorenz said. "Visual inspection also indicated much less spider mite damage with Temik versus the seed treatments and the foliar applications."

Aphids in cotton »

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Toxic Pesticide Banned after Decades of Use

Twenty-five years after the worst outbreak of pesticide poisoning in U.S. history, an agreement is announced that phases out all uses of aldicarb

By Maria Cone and Environmental Health News | Wednesday, August 18, 2010 | 5

A farm chemical with an infamous history – causing the worst known outbreak of pesticide poisoning in North America – is being phased out under an agreement announced Tuesday by the Environmental Protection Agency.

Manufacturer Bayer CropScience agreed to stop producing aldicarb, a highly toxic insecticide used to kill pests on cotton and several food crops, by 2015 in all world markets. Use on citrus and potatoes will be prohibited after next year.

Tuesday's announcement comes 25 years after a highly publicized outbreak of aldicarb poisoning sickened more than 2,000 people who had eaten California watermelons.

New EPA documents show that babies and children under five can ingest levels of the insecticide through food and water that exceed levels the agency considers safe.

"Aldicarb no longer meets our rigorous food safety standards and may pose unacceptable dietary risks, especially to infants and young children," the EPA said in announcing the agreement.

For infants, consumption of aldicarb residue – mostly in potatoes, citrus and water – can reach 800 percent higher than the EPA's level of concern for health effects, while children between the ages of one and five can ingest 300 percent more than the level of concern, according to an Aug. 4 EPA memo.

In a statement, Bayer CropScience said Tuesday that its decision to agree to phase out aldicarb came after EPA's new report calculated the health risks to children.

The company said it "respects the oversight authority of the EPA and is cooperating with them" even though it "does not fully agree" with the agency's new assessment. Bayer CropScience stressed that the analysis "does not mean that aldicarb poses an actual risk" to consumers.

One of the most acutely hazardous pesticides still used in the United States, aldicarb is a carbamate insecticide that is taken up by roots and carried into the fruit of a plant. High levels of aldicarb can have neurotoxic effects; it inhibits an enzyme that controls the transmission of messages to nerves.

"After thousands of poisonings, it is mind-boggling that aldicarb is still in use," said Steve Scholl-Buckwald, managing director of the environmental group Pesticide Action Network North America. "The wheels just grind so, so slowly. It never should have been registered in the first place back in 1970 and by the mid-1980s there was sufficient data to suggest it should have been taken off the market."

On the Fourth of July in 1985, three people who had eaten watermelon in Oakland, Calif., rapidly became ill with symptoms that included vomiting, diarrhea, muscle twitches and abnormally slow heart rates. At the same time, people in Oregon were falling ill, too, and tests of watermelons found extremely high levels of aldicarb, which was illegal to use on all melons.

California ordered an immediate ban on watermelon sales, which meant huge quantities had to be destroyed in fields and at stores at

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the height of the season. How aldicarb got into watermelons remains unknown, but experts suspected that some melon farmers used low levels of it intentionally and illegally and that some also might have flowed off nearby cotton fields.That summer, a total of 1,350 cases of aldicarb poisoning from watermelon were reported in California, plus another 692 cases in eight other states and Canada, according to a report by the U.S. Centers for Disease Control and Prevention. Seventeen people were hospitalized. Six deaths and two stillbirths were reported in people who fell ill, but the pesticide was not listed as the cause of death in coroner reports.

To date, it remains the largest case of pesticide food poisoning documented in North America.

Richard Jackson, who was a top official in California's health department at the time of the watermelon poisonings, testified at a U.S. Senate hearing back in 1991 that aldicarb posed a health risk to children and that regulations offered an inadequate margin of safety.

"It is good the revocation is happening; it is a shame it took 20 years," said Jackson, now chair of environmental health sciences at UCLA.

Dr. Lynn Goldman, an environmental health professor at Johns Hopkins University's Bloomberg School of Public Health, also welcomed the agreement, noting that aldicarb has been under special review at the EPA for more than 25 years.

"It is good to see that EPA and Bayer have now reached an agreement to phase out the remaining uses," Goldman said Tuesday.

Goldman was an epidemiologist with California's health department when the outbreak occurred.

"As a state health official, I wanted to see stronger action on aldicarb," she said, adding that she and Jackson "recommended that aldicarb be banned in California, because of its potency and what seemed to be a large temptation for misuse. We obviously did not prevail."

Aldicarb was the first of the so-called "dirty dozen" pesticides that an environmental group, Pesticide Action Network North America, targeted in 1985 for worldwide ban. At the time, it was found in bananas and in well water on Long Island, NY.

Scholl-Buckwald said that the EPA relies mostly on voluntary agreements, instead of bans, to avoid lawsuits from manufacturers.

"The system is designed to leave things like this on the market as long as possible. It's innocent until proven guilty. It's really unconscionable that it takes literally decades to do this," he said.

Goldman in 1993 was named EPA assistant administrator overseeing pesticide programs, but she said Tuesday that even then, her efforts to restrict aldicarb were hamstrung by insufficient scientific evidence at the time and a weak pesticide law. She said she faced "the need to exercise due process in making sure that the company producing the chemical had a fair hearing."Years later, in 2007, the EPA concluded that there were "potential human health risks" from drinking-water contamination, as well as risks to birds and other wildlife. But the agency approved its continued use with added precautions, such as increased setbacks between fields and water wells and reduced amounts applied to crops.

Then, this month, the EPA revised its analysis using new toxicity data and determined that current uses meant babies and young children were at risk of being exposed to levels in water and food that exceeded the agency's level of concern.

Aldicarb residues are found in grapefruit, oranges, orange juice, potatoes, frozen French fries and sweet potatoes. It already has been banned in bananas because of the potential for high exposure in children.

In the new analysis, children's exposure from drinking water was estimated based on aldicarb use at cotton and peanut farms in Georgia.

"Potatoes, citrus and water are the greatest contributors to the aldicarb exposure," the EPA document says.

Bayer researchers recently reported that water contamination has been minimal. They analyzed 1,673 drinking-water wells that were

within 300 meters of fields treated with aldicarb, which has the trade name Temik, and found that none violated the EPA's health advisory limit.

"For nearly 40 years, Temik has provided farmers with unsurpassed control of destructive pests, without compromising human health or environmental safety," Bill Buckner, president and CEO of Bayer CropScience, said in a statement Tuesday.

While it is known that high exposure can cause vomiting, diarrhea and neurotoxic effects, the potential for chronic health effects from low exposure remains poorly understood. It is not carcinogenic, although researchers found a high rate of colon cancer in pesticide applicators exposed to high levels.

Its use has steeply declined in the U.S. over the past couple of decades, particularly on food crops. It is currently legal to use only on citrus, potatoes, dry beans, peanuts, soybeans, sweet potatoes, sugar beets and cotton. Its main use is to kill mites and nematodes on cotton, potatoes and citrus.

In 2008, about 75,000 pounds were applied to California crops – almost entirely cotton - compared with more than half a million pounds in 1998, according to state Department of Pesticide Regulation data.

Union Carbide was the sole manufacturer of aldicarb until 1987. Its plant in Bhopal, India, was making aldicarb when a pesticide called methyl isocyanate leaked, killing several thousand people in 1984.

Aldicarb already has been banned in Europe, although it is still used, and perhaps manufactured, in other countries.

Under the new agreement, Bayer, the sole U.S. manufacturer, said its distribution will end by 2017. Use on citrus and potatoes will be banned beginning in 2012, and all remaining uses will end in 2018. In the meantime, new requirements will go into effect to change labeling and to protect ground water near cotton, soybean and peanut farms.

"We recognize the significant impact this decision will have on growers and the food industry, and will do everything possible to address their concerns during this transition," Buckner said. He added, "We recognize the loss of this tool to growers and will seek innovative solutions to fill this void."

But Scholl-Buckwald said he was disappointed that the agreement didn't have earlier deadlines.

"After 40 years, the question is why should there be a phaseout period at all," he said.

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AgSense: Alternative insecticide treatments exist

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Temik, an insecticide whose active ingredient is aldicarb, is used mainly on cotton, peanut and potato crops

in our area to control early season pests (Thrips and nematodes). Temik is now owned and manufactured by Bayer CropScience, and was formerly owned and produced by Union Carbide which will be phased out by 2018. It is a granular insecticide with high levels of dermal toxicity.

The main disadvantage of Temik is its high level of solubility that restricts its use in areas where the water table is close to the surface. In August, the Environmental Protection Agency (EPA) announced that the insecticide Temik will be phased out. According to the EPA, Temik does not meet the food safety standards and the recent report showed high risk mainly to infants and children.

According to the EPA memo, the Temik residue is high in citrus, potatoes and water. In infants the residue of Temik can be as high as 800 percent while in children ages 1 to 5, they can ingest 300 percent more than the level of concern.

High exposure of Temik results in diarrhea and vomiting, and adverse effects of nervous system inhibits an enzyme that regulates the control of messages to the nerves. Although not carcinogenic, there are reports of high rates of colon cancer with pesticide applicators who are exposed to high levels. The "lock and load" option to apply Temik has reduced the contact with humans and has been safer to apply.

Temik, which is a carbamate insecticide, has been in the market for the past 40 years and provided farmers with an excellent benefit, mainly in the control of pests, and has been a "wonder drug" to most of the growers. Although it is applied on large number of crops like citrus, potatoes, dry beans, peanuts, soybeans, sweet potatoes, sugar beets and cotton.

Bayer CropScience, is the sole manufacturer in the United States and agreed to the new EPA regulation

EXHIBIT "C"

and said that its distribution will end in December 2017 and all use must end by December 2018. The use of Temik will be banned in citrus and potatoes by December 2011. In other crops like cotton, peanut and soybeans, there will be a change in labeling and care will be taken to protect groundwater near the crops.

At present, there are seed treatments like Cruiser, a Syngenta product which is a systemic insecticide and belongs to subclass neonicotinoids. It has a couple of advantages such as replacing planter box, in-furrow and foliar insecticide application for controlling early season insects. Cruiser is safe as there is minimum contact with humans. It is an alternative to Temik in controlling sucking pests at planting. It is showing promising results on cotton at planting to get crops to a healthy and vigorous initial growth but does not have a long-lasting effect after planting compared to Temik.

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Bayer CropScience Cooperates with EPA's Decision to Cancel Temik® Uses in Citrus and Potatoes

Bayer CropScience is cooperating with the Environmental Protection Agency (EPA) following the August 16, 2010 announcement to cancel uses of aldicarb, sold as Temik® brand insecticide/nematicide, on potatoes and citrus. Uses on all other crops will remain, but will be phased out over the next few years.

For nearly 40 years, Temik has provided farmers with unsurpassed control of destructive pests, without compromising human health or environmental safety. Bayer recognizes this decision has significant impact on employees, growers, and the food industry, and will work to address concerns of stakeholders during this transition.

Why the change in registration

With the submission of the new data and more conservative assumptions in the EPA's risk cup assessments, the agency determined that the use of Temik on potatoes, citrus and potential residues in southeast groundwater were no longer acceptable. Although the company does not fully agree with this new risk assessment approach, these findings do not represent a food safety issue.

Impact to the channel

According to the agreement with the EPA, farmers may continue to use existing stocks of Temik on citrus and potatoes until December 31, 2011, allowing inventories to clear the channel of trade. Uses on all other crops will be maintained with some additional label changes, until an orderly product phase-out is completed. These label changes include reduced label use rates for cotton and peanuts and increased buffer areas around vulnerable wells.

The agreement with the EPA provides the following dates:

- December 31, 2014 – the last date of sale by Bayer CropScience
- December 31, 2016 – the last date of sales by the distribution channel to the end user
- August 31, 2018 – the last use date by an end user

Going Forward

Bayer CropScience recognizes the loss of this tool for growers, and has and will continue to seek innovative solutions to fill this void. Bayer CropScience leads the industry in bringing new products to agriculture with recent solutions such as Corvus, Balance Flex, Oberon, Envidor, Movento, Belt, Laudis, and new products pending registration, such as Nilion and Luna. During this transition, customers and stakeholders may continue to have questions regarding the product and related issues. Customers can contact the Bayer CropScience Customer Interaction Center at 866-992-2967 for further information or send their question to: communications@bayercropscience.com, or call Al Luke, Strategic Business Entity Lead (919-549-2462), or Lee Hall, Temik® Product Manager (919-549-2455).

EXHIBIT "D"

3 of 10 DOCUMENTS

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COMMENT: AN OUNCE OF PREVENTION: REHABILITATING THE ANTICIPATORY NUISANCE DOCTRINE

NAME: *Andrew H. Sharp**

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LEXISNEXIS SUMMARY:
... Anticipatory nuisance, a seldom-used common law doctrine is a potentially effective method of preventing the kind of environmental harm described above. ... Finally, section V argues that anticipatory nuisance is an appropriate way for plaintiffs to prevent environmental harm. ... The anticipatory nuisance doctrine has an added benefit in that it prevents the defendant's economic waste. ... Anticipatory nuisance theory is, therefore, a common-sense approach to the problem of threatened environmental harm. ... As discussed above, many state courts require a nuisance per se in order to enjoin an anticipatory nuisance. ... Individual states are inconsistent in their application of the anticipatory nuisance doctrine. ... V. REHABILITATING THE ANTICIPATORY NUISANCE DOCTRINE ... Moreover, the anticipatory nuisance doctrine is not unduly harsh to defendants even when harm is not absolutely certain. ... The anticipatory nuisance doctrine can survive the traditional objections of uncertainty of harm and the adequacy of future relief. ... These suggestions apply with equal weight to the state legislatures that have codified the anticipatory nuisance doctrine. ... This model statute offers the opportunity for consistent guidelines for applying the anticipatory nuisance doctrine. ...

TEXT:

[*627] I. INTRODUCTION

Consider the following scenario: a middle-aged couple, the Jacksons, buys a sprawling six-acre plot of land in scenic western Massachusetts. The purchase of this land is the culmination of years of saving and shrewd financial management.

Upon the land the Jacksons build a large colonial house, strategically situated to overlook the brook that bounds through their property. The source of the brook is a small river that flows into it one mile away.

Shortly after moving into their dream house, the Jacksons learn that a national paint manufacturing company will soon complete a factory being built two miles upstream from their home. In fact, the plant will begin manufacturing paint in three weeks. Concerned about possible contamination to the brook, the Jacksons contact the company in order to find out how the plant will dispose of its waste. They learn that some waste from the manufacturing process will be put into steel drums and buried two hundred yards from the river's edge. Less toxic waste will flow from the plant directly into the river.

Appalled at the planned manner of waste disposal, the Jacksons look for a way to prevent the impending damage both to their property's value and also to their health. There are no local ordinances that restrict the plant's disposal methods.

Anticipatory nuisance, n1 a seldom-used common law doctrine is a potentially effective method of preventing the kind of environmental **[*628]** harm described above. It enables courts of equity to act in anticipation of a threatened nuisance. n2 Many courts, however, have resisted granting injunctions on the basis of this doctrine for a variety of reasons. n3 While judicial restraint is justified in some respects, there are a number of situations in which the doctrine should apply. n4 This Comment argues for a reassessment of anticipatory nuisance and suggests instances where its use is appropriate to prevent environmental harm.

Section 11 of this Comment articulates the mechanics of an anticipatory nuisance action and explains the traditional rationale for its use. Section Ill reviews the doctrine's use in both federal and state courts. Section IV discusses the limited statutory versions of anticipatory nuisance and their interpretations by state courts. Finally, section V argues that anticipatory nuisance is an appropriate way for plaintiffs to prevent environmental harm. This Comment argues further that courts and legislatures can and should fashion a standard of application that promotes equity and predictability in anticipatory nuisance actions.

11. ANTICIPATORY NUISANCE: ITS UTILITIES AND LIMITATIONS

Anticipatory nuisance is an equitable doctrine that is recognized in the common law of most states. n5 The doctrine gives courts "the power to interfere by injunction to restrain a party from so using his own property as to destroy or materially prejudice the rights of his neighbor . . . ." n6 Courts have used the doctrine of anticipatory nuisance to prevent many types of harmful activities, ranging from the operation of waste disposal plants n7 to mining. n8 While as a general **[*629]** rule courts enjoin only existing nuisances, courts may enjoin a present action though no nuisance currently exists, where it is obvious that the completed act will result in a nuisance. n9

A. The Benefits of Using Anticipatory Nuisance

The anticipatory nuisance doctrine enables courts of equity to provide a more speedy, complete, and permanent remedy than a court at law could provide. n10 Courts of equity act in situations where a legal remedy is either inadequate or inappropriate. Without this power, parties would suffer extreme harm that courts of law could not redress adequately. n11 Courts particularly stress the need to prevent permanent harm that will affect the environment. For example, in *Attorney General v. Jamaica Pond Corporation*, n12 the Massachusetts Attorney General sought to prevent the defendants from lowering the water level of a public pond. n13 The Attorney General claimed that such lowering would injure fish in the pond and expose the shores to slime and offensive vegetation, thereby endangering public health. n14 The Massachusetts court held that neither an injunction after-the-fact nor an indictment would protect the pond:

> Neither of these remedies can be evoked until a part of the mischief is done, and they could not, in the nature of things, restore the pond, the land and the underground currents to the same condition in which they are now . . . . The preventative force of the decree in equity, restraining the illegal acts before any mischief is done, clearly gives a more efficacious and complete remedy. n15

Once some kinds of harm occur, it may be difficult or impossible to restore the environment. Anticipatory nuisance thus enables courts of equity to prevent permanent harm.

Anticipatory nuisance has additional value because it is flexible enough to allow defendants the opportunity to conduct the questioned acts in such a way so as not to constitute a nuisance. In *Cardwell v. Austin*, n16 a homeowner sought an injunction to prevent **[*630]** Bay City from building a septic tank that would be 18 feet wide, 60 feet long, and 8 feet deep. n17 The Texas Court of Civil Appeals enjoined that particular septic tank as a prospective nuisance because a tank that large would give off annoying odors, whereas a smaller tank would not. n18 The Cardwell court, however, denied a permanent injunction so as to allow the defendants to construct a smaller septic tank. n19

The anticipatory nuisance doctrine has an added benefit in that it prevents the defendant's economic waste. If a nuisance was clearly going to occur but only an after-the-fact injunction was available, such an injunction, if granted, would render the defendant's building or equipment useless. The anticipatory nuisance doctrine prevents such economic waste because plaintiffs need not wait until the defendant completes the questioned act to seek a remedy. An-

ticipatory nuisance theory is, therefore, a common-sense approach to the problem of threatened environmental harm. The doctrine offers a remedy that is both speedy and flexible. Judicial limitations, however, severely inhibit viable application of the doctrine.

B. Judicial Limitations on Using Anticipatory Nuisance

Despite the utility of anticipatory nuisance injunctions for plaintiffs seeking to prevent irreparable environmental harm, courts have used the doctrine sparingly and only within established guidelines. n20 The most limiting guideline is the requirement that an enjoinable prospective nuisance be a "nuisance per se," sometimes referred to as a "nuisance at law." n21 A "nuisance per se" is an act that is a nuisance "at all times and under any circumstances, regardless of location or surroundings . . . ." n22 Conversely, a "nuisance per accidens" **[*631]** is an action that becomes a nuisance by reason of circumstances and surroundings. n23 According to courts adhering to the per se requirement, no court could enjoin a future act unless the act was, in and of itself a nuisance, or would almost certainly result in one. n24 Unlike courts with no per se requirement, courts using the per se requirement will not enjoin a nuisance per accidens. n25

Sometimes courts place limitations on anticipatory nuisance actions that relate to the kind of harm that can be avoided through preliminary injunctive relief. n26 Usually, courts require that the future harm must materially diminish the value and the ordinary enjoyment of the complainant's property, and the ordinary enjoyment thereof. n27 Courts, however, impose other requirements. For example, **[*632]** courts may require, in part, that the harm be irreparable. n28 Courts may also require plaintiffs to allege specific and definite harm. n29 The differing requirements regarding harm limit the use of anticipatory nuisance because they each restrict the range of situations in which a prospective injunction is appropriate.

Early anticipatory nuisance cases did not establish a clear standard of certainty that a given act would result in a nuisance. Early courts used phrases such as "clear and satisfactory" n30 and "sufficient" n31 to describe the evidence required. The vagueness of this language enables courts to base their reasoning loosely on prior cases while deciding a case according to the equity of the facts involved. Restated, phrases such as "clear and satisfactory" and "sufficient" are broad enough to accommodate differing interpretations of the same set of facts. n32

Judicial limitations on anticipatory nuisance, and the per se requirement in particular, discourage plaintiffs from using the doctrine. Similarly, the lack of a clear certainty of harm standard contributes to a lack of predictability with anticipatory nuisance cases. Accordingly, unpredictability also discourages the doctrine's use. The limitations placed upon anticipatory nuisance are evident in both federal and state court decisions.

111. THE USE oF ANTlCIPATORY NUISANCE IN FEDERAL AND STATE COURTS

Federal and state courts treat anticipatory nuisance cases differently. Federal courts have established a federal common law of anticipatory nuisance that is a more coherent and consistent construction of the doctrine than the state courts' version. This is attributable largely to the fact that fewer anticipatory nuisance cases reach the federal courts. Many more such cases are brought on the state level because, by their nature, anticipatory nuisance claims arise from disputes between property owners. Anticipatory nuisance **[*633]** cases rarely involve residents of different states, as was the case in *Missouri v. Illinois*. n33 Accordingly, in anticipatory nuisance cases there is seldom the diversity of citizenship necessary in order to allow such a case to be brought in federal court. Federal courts' interpretation of anticipatory nuisance, therefore, remains fairly consistent. In contrast, state courts' interpretations vary from state to state and are often inconsistent within individual states. n34 The inconsistency of state court interpretations of anticipatory nuisance inhibits expanded use of this valuable doctrine. Therefore, more uniform treatment of anticipatory nuisance on the state court level is needed to make the doctrine practicable.

A. Federal Courts

Two pre-1900 federal cases established the basis for the use of anticipatory nuisance in both federal and many state courts. n35 The United States Supreme Court in *Mugler v. Kansas* n36 declared that courts of equity could act prospectively to provide a more complete and appropriate remedy than was available at law. n37 In *Coosaw Mining Company v. South Carolina*, n38 the Court issued an injunction against the mining of phosphate from the Coosaw River. n39 The Court observed that proceedings at law could not always protect future public interests. n40 Therefore, in certain cases, only through a prospective injunction could the Court secure the public interests adequately. n41 Both of these cases show recognition of anticipatory nuisance claims on the federal level.

Federal courts have addressed anticipatory nuisance specifically only three times since 1900. n42 In *Missouri, v. Illinois*, Illinois wanted **[*634]** to build a sewage channel from the Chicago River to the Des Plaines River. n43 The Des Plaines River empties into the Illinois River which, in turn, empties into the Mississippi River at a point forty-three miles above St. Louis. Missouri thus sought to prevent construction of the channel, which it claimed would impair its citizens' health. n44 Missouri charged that Illinois' threatened action would be a direct and continuing nuisance and therefore sought preliminary injunctive relief. n45 The United States Supreme Court recognized Missouri's anticipatory nuisance claim n46 and found that if the defendant's acts would naturally and necessarily cause damage and irreparable injury, a prospective injunction was appropriate. n47 The test applied in *Missouri v. Illinois* required "determinate and satisfactory evidence" for the prospective enjoining of a nuisance. n48 Moreover, the Court held that the facts must"real and immediate" danger. n49 The defendant argued the Court lacked jurisdiction, but the Court refused to sustain the demurrer and required the defendant to appear and to answer the complaint. n50 Thus, the Supreme Court discussed the dynamics of anticipatory nuisance theory without applying it to the facts of the case.

In *Texas v. Pankey*, Texas sought to enjoin the use of toxaphene, a pesticide spray. n51 While the Tenth Circuit Court of Appeals recognized that such a threatened activity could be enjoined, it did not discuss the anticipatory nuisance doctrine and its accompanying standards. n52 However, the Tenth Circuit did, in fact, enjoin an anticipated nuisance. The fact that it did not discuss "anticipatory" or "threatened" **[*635]** nuisance is an example of how the doctrine lacks a clear identity.

In *California Tahoe Regional Planning Agency v. Jennings*, n53 the Ninth Circuit Court of Appeals applied the "determinate and satisfactory evidence" requirement of *Missouri v. Illinois*. n54 In *California Tahoe*, California and a local planning agency sought to enjoin prospectively the construction of four hotel-casinos. n55 After finding that congressional action did not preclude the common law nuisance doctrine, the court held that the state failed to establish that the danger of nuisance was "real and immediate" as required by *Missouri v. Illinois*. n56 While the Ninth Circuit affirmed the doctrine of anticipatory nuisance, n57 the court distinguished high-rise hotels from untreated sewage, noxious gases, and poisonous pesticides, and concluded that the former was not the sort of injury that can be enjoined as a potential nuisance. n58 The court thus implicitly distinguished between types of environmental harm without drawing a line between the two types of harm. n59

Because so few anticipatory nuisance cases reach federal courts, it is difficult to draw sweeping conclusions from federal courts' treatment of anticipatory nuisance. A few observations, however, can be made. First, none of the above cases require a nuisance per se in order for a prospective injunction to issue. In *Missouri v. Illinois*, the Supreme Court found it sufficient that a nuisance would necessarily result from pouring sewage into the Mississippi River. n60 In *California Tahoe*, the Ninth Circuit denied an injunction not because there was no nuisance per se but because the harm threatened was uncertain and insufficiently severe. n61 Taken together, these cases suggest that federal courts may apply a standard that is less strict **[*636]** than the nuisance per se standard used by many state courts. By considering certainty of harm as in *Missouri v. Illinois*, and degree of harm as in *California Tahoe*, federal courts display a willingness to enjoin otherwise legal activities that create a nuisance because of the circumstances involved.

Federal courts have also indicated that potential health-related environmental harm is an appropriate occasion for a prospective nuisance action. n62 The *California Tahoe* case implies that, although an aesthetic nuisance would not be enjoined prospectively, courts would enjoin health-related harm resulting from sewage and gases. n63 Finally, it is surprising that, given the *California Tahoe* court's affirmation of the doctrine of anticipatory nuisance, no subsequent cases have been brought relying on the court's ruling.

Although federal courts are more consistent than state courts in applying anticipatory nuisance theory, there remain problems with federal use of the doctrine. *Pankey* highlights the fact that anticipatory nuisance as a doctrine suffers from an identity crisis. In that case, the Tenth Circuit never once used the phrase "anticipatory nuisance." Also, the reluctance of the *California Tahoe* court to establish a test for distinguishing between types of harm underscores the need for clear guidelines for applying anticipatory nuisance theory. As this Comment will argue, however, it is possible for courts and legislatures to cure these deficiencies.

B. State Courts

State courts treat anticipatory nuisance in a variety of ways. The instances where it can be used and the elements required by the courts indicate no clear standard of application.

Many courts have expressed openly a reluctance to apply the doctrine at all n64 In a "note" n65 to *West v. Ponca City Milling Co.*, n66 **[*637]** the Supreme Court of Oklahoma declared that normally it would refuse to en-

join the construction of a lawful structure solely on the basis that it would be used so as to constitute a nuisance. n67 The complainant could, however, always receive legal and equitable redress if a nuisance did in fact result. n68 The court would issue an injunction only to enjoin a nuisance per se. n69 Similarly, in *Brammer v. Housing Authority of Birmingham Dist.*, n70 an Alabama court denied an injunction against building low income housing projects for blacks because the projects did not create a nuisance per se. n71 In *Brammer*, the plaintiffs failed to establish that Birmingham's projects would naturally or inevitably result in a nuisance. n72 The *Brammer* court also recognized a general rule against anticipatory injunctions based upon the availability of legal redress once the harm materialized. n73

The reluctance of some courts to issue prospective injunctions is understandable. It is difficult for a plaintiff to prove that a given harm will result from a proposed activity. Accordingly, there is a presumption that an activity will be conducted in a non-offensive manner. n74 This presumption exacerbates the plaintiff's already heavy burden of proof.

Courts that disdain prospective injunctions do not view the denial of relief to be a calculated risk. n75 Rather, as in the cases discussed **[*638]** above, courts rely on the fact that the plaintiffs could always have waited for an injunction after the nuisance actually occurred. n76 In none of the above cases, however, did the courts confront the threat of irreparable injury, and thus it was reasonable to give the defendant the benefit of the doubt.

As discussed above, many state courts require a nuisance per se in order to enjoin an anticipatory nuisance. n77 A nuisance per se is an act that will be a nuisance at all times and under any circumstances. n78 Courts that use the per se requirement seldom dismiss an action without considering other factors. It is often difficult, however, to determine whether courts weigh one factor more heavily than another.

Several cases suggest that the difference between a nuisance per se and a nuisance resulting from circumstances is at least partly a matter of whether the harm is irreparable. n79 In *King v. Hamill*, the Maryland Court of Appeals denied an injunction to restrain the building of a stable in part because the plaintiffs failed to establish that the stable would be a nuisance per se. n80 In deciding the per se issue, the court considered the fact that the erection of such a structure would not result in irreparable injury. n81 Similarly, in the Maryland case of *Leatherbury v. Gaylord Fuel Corporation*, n82 the plaintiff presented insufficient evidence to establish that a limestone quarry would be a nuisance per se. n83 The *Leatherbury* court discussed the lack of irreparable injury and the conflicting testimony of expert witnesses as the basis for finding for the defendant on the per se issue. n84 These cases suggest that a finding of irreparable harm is at least one important factor that courts consider in elevating a nuisance per accidens to the status of nuisance per se.

Other courts have distinguished between nuisance per se and nuisance per accidens according to the illegality of the proposed **[*639]** activity. For example, in another Maryland case, *City of Bowie v. Board of County Commissioners*, n85 the Maryland Court of Appeals illustrated this difference by comparing the proposed construction of a bordello with the proposed construction of an airport. n86 The bordello would have been a nuisance from the very moment it opened. n87 In contrast, the airport might or might not have become a nuisance. n88

The distinction reveals a stricter interpretation of the definition of nuisance per se based upon the proposed activity's actual illegality. While this per se requirement is by definition less ambiguous and more easily relied upon, it can contribute to unfair outcomes. For example, in *Wallace v. Andersonville Docks, Inc.*, n89 the Tennessee Court of Appeals reversed an injunction to restrain the operation of a motorcycle scrambles course. n90 In its reversal the court held that if "the thing complained of is a nuisance per accidens, that is, a nuisance in fact which by reason of circumstances, surroundings or operations, may cause injury but the harm is uncertain or contingent, such nuisance will not be enjoined anticipatory to its going into operation." n91 Because noise is usually not a nuisance per se, n92 the *Wallace* court refused to enjoin the nuisance despite its admission that the motorcycles would "considerable" noise. n93

A few courts have adopted a dual standard that requires either a nuisance per se or that a nuisance will necessarily result from the activity. n94 In *Brammer*, n95 the Supreme Court of Alabama confused its attempt to reconcile nuisance per se and non-nuisance per se cases. n96 The *Brammer* court held that, as a general rule, when a plaintiff seeks an injunction to prevent the building of a lawful structure whose use will constitute a nuisance, the court will not enjoin **[*640]** its construction or completion. n97 Thus, the *Brammer* court recognized a general rule against enjoining nuisances per accidens. The *Brammer* court admitted, however, that the rule is different when the injury will be an inevitable consequence of the act. n98 It is strange for a court to distinguish between inevitable consequences and nuisance per se when the definition of nuisance per se inherently entails inevitability. Thus, the dual standard, in ef-

fect, enjoins those nuisances that necessarily result from threatened acts regardless of whether the act is a nuisance per se.

New Mexico courts provide a clearer application of the dual standard. n99 For example, in *Phillips v. Allingham*, n100 the state supreme court denied an anticipatory injunction of a gasoline storage site because storing gasoline neither was a nuisance per se nor would it necessarily result in one. n101 In contrast, in *Koeber v. Apex-Albuq. Phoenix Express*, n102 the court granted an injunction against the construction of a truck terminal. n103 Although the terminal was not a nuisance per se, the construction, operation, and maintenance of the terminal "[made] it manifest" that it would necessarily become a nuisance, or made it highly probable that it would become one. n104 What is immediately confounding about the dual standard the court employed in this case is that a "necessarily results" requirement obviates a per se requirement. Thus, nuisances per se are included within the set of actions that would "necessarily result" in a nuisance. In other words, if a "necessarily results" test is used, a per se requirement is redundant.

The "necessarily results" standard is more favorable to plaintiffs than the strict per se standard. This is because the "necessarily results" standard encompasses a larger range of circumstances than a strict per se standard. In reality, those courts that adopt a dual standard are, therefore, using the broader "necessarily results" standard.

Some courts that grant injunctions for non-nuisance per se situations do so as a matter of fairness according to the particular facts **[*641]** in the case. For example, in *City of Marlin v. Holloway*, n105 plaintiff homeowners sought an injunction to prevent the city from constructing a sewage plant. The homeowners alleged that the plant would inflict irreparable injury upon them. n106 In a sparse opinion, the Texas Court of Civil Appeals found that the plant would emit foul and obnoxious odors that would especially annoy the plaintiffs. n107 Simply stated, the defendant had no right to create a nuisance. n108 The Supreme Court of Arkansas offered similarly simple reasoning in *Huddleston v. Burnett*. n109 In that case, the prospective nuisance was a filling station and public garage. The court held that the honking of horns and the starting and stopping of cars would create an intolerable nuisance to nearby residents. n110 In granting the injunction, the court hinted that the lack of a showing of public necessity for the garage and gas station contributed to the decision. n111

Most courts, however, do not decide non-per se anticipatory nuisance cases on such simple grounds. Often courts bring into play a variety of factors such as the certainty of harm, the definiteness of the injury, and the immediacy of the danger. n112 Typically, courts treat these factors according to nebulous standards such as "practically certain" n113 and "clear and convincing" evidence. n114 Accordingly, these standards leave courts with little more to guide them than common sense.

Curiously, courts seldom incorporate the level of the anticipated harm's severity into court-fashioned standards for anticipatory nuisance. **[*642]** For example, in *Wilsonville v. SCA Services, Inc* n115 the Village of Wilsonville, Illinois sought an injunction to prevent the operation of a chemical waste disposal plant. n116 The Illinois Supreme Court granted the injunction, finding it highly probable that the chemical waste disposal site would bring about a substantial injury. n117 In arriving at this conclusion, the court observed that a balancing is necessary between public benefit and individual rights. n118 In a concurring opinion, Justice Ryan argued that the court's test, as adopted from *Fink v. Board of Trustees*, n119 was unnecessarily narrow. n120 In Justice Ryan's view, "there are situations where the harm that is potential is so devastating that equity should afford relief even though the possibility of the harmful result occurring is uncertain or contingent." n121 Thus, according to Justice Ryan, if the resulting harm would be severe, a lesser probability of it occurring should be required. n122 In this way, courts can consider a wider range of factors and thereby avoid the absurdity of a court waiting until disaster has occurred before providing relief.

Justice Ryan's argument is a rare statement of the view that the public is entitled to protection not only from the nearly certain effects of a proposed activity, but also from the catastrophic, yet less certain, effects of a proposed activity. Strangely, courts that have considered the harm's severity have not discussed this argument. The advancement of technology, however, makes ascertaining the farreaching environmental impact of a given activity more realistic. Accordingly, it may be only now that plaintiffs can argue fairly for the need to consider future catastrophic harm. Yet, it is a common sense approach to environmental nuisance law for courts to deem a moderate risk of catastrophic harm as serious as the absolute risk of a lesser harm.

Individual states are inconsistent in their application of the anticipatory nuisance doctrine. n123 Accordingly, there is a general lack of **[*643]** predictability as to which factors courts will give the most weight. For example, while Maryland courts concur in their use of the per se requirement, n124 they differ as to its application. While the *Leatherbury* n125 and *King* n126 courts both interpreted nuisance per se as requiring a need for certainty of injury,

the *Bowie* n127 court interpreted a nuisance per se as an activity which by its mere existence constituted a nuisance. n128

Similarly, Alabama courts have differed in their interpretation of Alabama's anticipatory nuisance statute. n129 Most Alabama courts will enjoin a contemplated structure or action if it will be a nuisance per accidens and it will result in sufficient injury. n130 In *Gilmore v. City of Monroeville*, n131 however, the Alabama Supreme Court denied an injunction against a proposed building in which the city would fuel city vehicles and garbage trucks. n132 The court refused the injunction despite evidence from nearby property owners that the building's operation would entail noise, odors, vermin, flies, and traffic problems. n133

To further illustrate, in the 1971 Louisiana case of *Olsen v. City of Baton Rouge*, n134 the Court of Appeals refused to issue an injunction **[*644]** against a proposed garbage transfer facility because the facility would not be a nuisance per se. n135 Three years later, in *Salter v. BWS Corporation, Inc*., n136 a Louisiana court held that while the defendant could conduct its waste disposal plan safely and legally, a qualified injunction was appropriate because of the disastrous consequences of improper waste disposal. n137

There are several explanations for this inconsistency within state courts. One reason is that because anticipatory nuisance cases arise so infrequently, predictability is not of paramount importance. A second explanation is that concepts such as nuisance per se and nuisance per accidens are malleable enough to support varying interpretations. A third explanation is that the lack of one phrase to describe nuisances enjoined prospectively inhibits a uniform application of anticipatory nuisance theory. It is possible, too, that some of the inconsistency stems from a continually evolving awareness of environmental issues that leads courts to find previous standards unacceptable.

Overall, there is both an initial reluctance of state courts to embrace the anticipatory nuisance doctrine n138 and an inconsistency in its application within certain states. n139 Courts that apply the doctrine often require that the questioned activity be a nuisance per se. n140 Courts use the per se requirement in a variety of ways. n141 For example, some courts employ a per se standard based upon the illegality of the proposed activity. n142 A few courts apply a combination of the per se and "necessarily results" tests. n143 Still other courts **[*645]** grant injunctions for non-per se situations and do so as a matter of fairness according to the facts in the case. n144 Often courts use a laundry list of other variables to decide anticipatory nuisance cases, such as definiteness of injury, immediacy of injury, and the severity of injury. n145

For plaintiffs to view anticipatory nuisance as a feasible and predictable doctrine, courts and legislatures must adopt a more coherent approach to its use. A restructuring of anticipatory nuisance standards is appropriate because injunctive relief based upon nuisance law can be an effective way to prevent threatened environmental harm, while affording defendants the opportunity to conform to higher standards of safety. Moreover, a restructuring is warranted because legislative efforts to codify the doctrine have failed to provide predictability and consistency in application.

IV. STATUTORY USE AND INTERPRETATION OF ANTICIPATORY NUISANCE

Currently, two states have statutes that provide injunctive relief for anticipatory nuisances: Alabama n146 and Georgia. n147 The statutes are remarkably similar. Yet, the differing judicial interpretations given to them by their respective state courts mirrors the uneven judicial interpretation of the common law doctrine.

Alabama state law provides: "[W]here the consequences of a nuisance about to be erected or commenced will be irreparable in damages and such consequences are not merely possible but to a reasonable degree certain, a court may interfere to arrest a nuisance before it is completed." n148 On its face the statute resembles the same definition of anticipatory nuisance developed in the early case of *Adams v. Michael*. n149 That is, courts may enjoin an act that upon completion will obviously be a nuisance. n150

[*646] The Alabama statute, as well as the early definition, leaves plenty of room for creative interpretation. Alabama courts have disagreed as to the degree of certainty required by the statute. For example, the *Rouse v. Martin* court required "no reasonable doubt of injury." n151 The *Bellview Cem. Co. v. McEvers* court used a negative approach by denying an injunction because the nuisance complained of was "dubious or contingent." n152 Thus, the *Rouse* and *Bellview* courts interpreted the statute differently with regard to certainty of harm.

Alabama courts also established the kind of injury that would be appropriate for a prospective injunction. In *Clifton Iron Co. v. Dye*, n153 for example, the court denied an injunction because the court found that while the washing of ores would constitute a nuisance, the resulting damages would be merely nominal. n154 Similarly, in *Shell Oil Co. v. Edwards*, n155 the decrease in property value to nearby residences because of a service station's proximity was an

insufficient injury to merit a prospective injunction. n156 Thus, some Alabama courts interpret the state's anticipatory nuisance statute to account for the extent of injury.

The Alabama Code does not on its face require a nuisance per se for a prospective injunction. n157 Accordingly, most Alabama courts find that, if a contemplated structure or action will, by reason of location or circumstances be a nuisance per accidens and results in sufficient injury, it states a case for an injunction. n158 At least one Alabama court, however, used a per se requirement. n159 Thus, Alabama **[*647]** courts exhibit some inconsistency with respect to whether the Alabama statute requires a nuisance per se.

Despite the existence of an anticipatory nuisance statute, Alabama courts have little guidance in deciding anticipatory nuisance cases. This lack of guidance is illustrated by the fact that the Alabama courts have had to fashion their own standards regarding both the certainty of harm and the weighing of the severity of the injury threatened, and have differed as to whether the statute requires a nuisance per se. Accordingly, the Alabama statute is in need of an overhaul to the same extent as the common law of other states with regard to anticipatory nuisance.

Georgia state law n160 reads "[W]here the consequence of a nuisance about to be erected or commenced will be irreparable damage and such consequence is not merely possible but to a reasonable degree certain, an injunction may be issued to restrain the nuisance before it is completed." This language is remarkably similar to the Alabama statute. n161 The Georgia courts, like those in Alabama, have established criteria for certainty and sufficiency of injury. Georgia courts agree that mere anticipation or apprehension of injury from the operation of a business or from some other lawful activity is insufficient to warrant injunctive relief. n162 The injury must be irreparable and certain to warrant the issuance of an injunction. n163

Like Alabama courts, Georgia courts have found it necessary to fill in the considerable gaps left by their state's anticipatory nuisance statute. Like the Alabama statute, the Georgia statute offers the state courts nothing more than a minimal common law definition of anticipatory nuisance. Accordingly, the Georgia statute needs to be more specific in order to achieve consistency and uniformity of application.

These codifications of anticipatory nuisance do little to avoid the ambiguity inherent in the common law doctrine. This is inevitable because the statutory language offers no clear standards or guidelines. It would be helpful for state legislatures to codify the doctrine along with specific standards of certainty of harm, level of harm, **[*648]** and some mention of a balancing of public and private interests. Given the ad hoc creation of standards of applicability by most state courts, only by codifying the doctrine can states achieve true predictability in anticipatory nuisance.

V. REHABILITATING THE ANTICIPATORY NUISANCE DOCTRINE

A. In Defense of Anticipatory Nuisance

The common law reluctance to embrace anticipatory nuisance stems from two primary criticisms of the doctrine. One criticism is that, if an anticipated harm is uncertain or contingent, it is unfair to assume that defendants will conduct their businesses or activities so as to create a nuisance. n164 Courts are understandably hesitant to force industry to conform with the speculative future scenarios created by overly sensitive individuals. It is unrealistic to compel industry to conform to standards that may never be relevant.

In a great many situations, uncertainty of harm should be sufficient to quell anticipatory claims. For instance, in the early case of *Adams v. Michael*, a Maryland court denied an injunction to prevent the construction of a felt roofing factory because the allegations of harm were not specific or definite. n165 Without full disclosure of specific factors that would cause the harm, and disclosure of the harm itself, there is no way to conclude that the factory would have constituted a nuisance to the plaintiffs. n166

Inability to project specific harm and its causes, however, is less of an obstacle today in the environmental context. Today, experts can predict with relative certainty the result of potentially harmful activities such as the disposal of hazardous wastes. The use of experts is evident in *Salter v. BWS Corporation*, n167 in which a Louisiana court granted an injunction to prevent the defendant from building a disposal plant for acid and other chemicals. n168 At trial the plaintiff relied on the testimony of a chemist, a sanitary engineer, a civil engineer, and an expert in water pollution to establish the probability of harm. n169 The potential unfairness of enjoining an activity to prevent **[*649]** a plaintiff 's vague notion of harm is thus removed when experts from the scientific and technological community testify to the specific and definite nature of the future harm. n170

The second primary objection to anticipatory nuisance injunctions is that the plaintiff seeking the injunction will have an adequate remedy at law after the harm occurs. n171 This argument is viable when the harm at issue will not result in permanent injury. Thus, if the plaintiff fears the odor resulting from the proposed garbage transfer facility will be harmful, it is not unreasonable to make the plaintiff wait until the odor materializes before enjoining the facility's use. n172 When the injunction is finally issued, all the plaintiff has endured is a finite period of inconvenience and perhaps slight health impairment for which courts at law can award compensation.

There are occasions, however, particularly in the environmental law area, where a remedy at law cannot provide adequate compensation. Such occasions include catastrophic damage causing widespread impairment of health, permanent damage to natural resources, and latent damages which may or may not be detectable in later years.

Moreover, the anticipatory nuisance doctrine is not unduly harsh to defendants even when harm is not absolutely certain. Two arguments exist to support this view. First, certain types of environmental harm that are permanent and far-reaching warrant injunctive relief even if the harm is not certain. n173 Courts' discussions of the importance of the level of harm have been cursory. n174 As Justice Ryan's concurring opinion in *Wilsonville* asserts, the level of harm is a more important consideration than courts have recognized. n175 Accordingly, because the policy of protecting the public from severe **[*650]** and permanent harm outweighs the hardship defendants may suffer from prospective injunctions, it is reasonable to stop defendants from risking a high degree of future harm. Such prospective injunctions are not overly harsh to defendants, but are rather the result of a thoughtful balancing of the interests involved.

Second, when used in the form of a qualified injunction, anticipatory nuisance is flexible so as to give defendants the opportunity to conform to satisfactory safety standards. n176 This approach recognizes that anticipatory nuisance actions do not have to stifle industrial growth in order to ensure necessary public health safeguards.

Injunctive relief's utility and flexibility in the environmental context are particularly evident in cases where courts issue qualified anticipatory injunctions for nuisances. n177 A qualified injunction is one which a court issues contingent upon the defendant's actions. Suppose, for example, a defendant planned to erect a building lacking an essential safety feature. A court might enjoin the defendant to continue building only if it remedies the defective aspect. Thus, if the defendant conforms to the court-ordered safety standard in the building of the structure, construction may continue. n178 The qualified injunction's utility is that it recognizes both the potential severity of prospective relief and the severe ramifications of some types of environmental harm. n179 It allows defendants the opportunity to conform their plans with state of the art safety standards even though the proposed plan is legal. n180

In *Cardwell v. Austin*, the plaintiff wanted to enjoin the defendant from building a septic concentration tank on the defendant's land. n181 The Texas Court of Civil Appeals found that the proposed tank was too small and would not purify the sewage flowing into it. n182 Such a tank would give off foul odors and create a nuisance. n183 A septic tank of proper dimensions and construction, however, would emit only minimal odors. n184 The court thus granted an injunction that did not enjoin perpetually the defendant from building a septic tank, but rather enjoined only construction of the tank as the defendant originally **[*651]** proposed. n185 The defendant was still free to redesign and build a better and cleaner tank.

The import of compelling builders to conform to non-statutory safety standards is even more evident in *Salter v. BWS Corporation.* n186 In that case the defendant planned to bury various kinds of industrial waste. n187 The plaintiffs, fearing pollution of their wells and pond, sought an injunction. n188 The Louisiana Supreme Court found that this waste disposal operation could be conducted safely; however, the consequences of failure to exercise great care to prevent the escape of poisonous materials were so serious that a qualified injunction was appropriate. n189 The court enjoined the defendant from burying wastes according to the original plan, but left the defendant free to adopt a new disposal scheme that adhered to safety standards cited by the plaintiffs. n190

Another possible argument against expanded use of the anticipatory nuisance doctrine is that it is more appropriate for a legislature to set safety standards rather than rely on the expert witnesses called by parties in individual cases. Scientific recognition of the long-reaching effects of various industrial activities is, however, a constantly evolving process. It is unrealistic to expect legislatures to keep step with advancing technology. Anticipatory nuisance's utility is that it can fill in the gaps left when the legislature cannot keep pace with the rapid scientific recognition of harm.

The anticipatory nuisance doctrine can survive the traditional objections of uncertainty of harm and the adequacy of future relief. It is uniquely sensitive to environmental harm and flexible enough to avoid being unduly harsh to defendants. Moreover, anticipatory nuisance enables plaintiffs to act against environmental harm without having to wait for statutory recognition of that harm. Inconsistency of application, however, remains a drawback to expanded use of an-

ticipatory nuisance. Therefore, courts and legislatures can and should fashion a coherent and practical construction of the doctrine in order to further its use.

B. Towards Fashioning A Standard Of Application

The most practical version to date of anticipatory nuisance is the "necessarily results" standard as applied in *Koeber v. Apex-Albuq.* **[*652]** *Phoenix Express*. n191 necessarily results" test enjoins proposed activities that necessarily result in a nuisance, or proposed activities where it is highly probable that a nuisance will result. n192 This test avoids the rigidity of the approach used in *City of Bowie v. Board Of County Commissioners*, n193 which enjoined a proposed activity only if the activity was, in and of itself, illegal. n194 Such a mechanical application of the nuisance per se standard fails to consider the irreparable damage that lawful activities can cause. n195

Conversely, a standard based upon "fairness," as used in *Marlin v. Holloway*, n196 is defective because it allows too much flexibility. Fairness is an elusive concept and is susceptible to creative interpretation. Such a standard would offer little guidance to courts and litigants.

For a "necessarily results" test to be complete it must allow for a reasonable standard of certainty of harm. How probable must harm be to justify injunctive relief? Courts cannot make this judgment in a vacuum, but rather must consider the extent of harm as well. Court-fashioned standards fail to consider the anticipated harm's severity. This deficiency is highlighted aptly by Justice Ryan's concurring opinion in *Wilsonville v. SCA Services*. n197 For a workable standard of anticipatory nuisance application, there must be a balancing between the probability of harm and the severity of anticipated harm. Courts should not ignore a moderate risk of catastrophic or widespread harm merely because it is not highly probable that such harm would result.

This Comment therefore recommends that courts and legislatures adopt a "necessarily results" version of anticipatory nuisance. It is important that courts allow for a reasonable standard of certainty of harm. Moreover, courts must balance certainty of harm with the severity of harm. Courts can construct a consistent and workable version of anticipatory nuisance through the application of the "necessarily results" standard.

These suggestions apply with equal weight to the state legislatures that have codified the anticipatory nuisance doctrine. To date, the **[*653]** codified versions of the doctrine do little to avoid the ad hoe creation of standards by state courts. There is little point in having an anticipatory nuisance statute if it cannot offer guidance to courts and lawyers regarding its interpretation.

Therefore, this Comment suggests the following as a model anticipatory nuisance statute:

Where the consequences of an activity about to commence will necessarily result in a nuisance, or if it is highly probable that a nuisance will result, a court may enjoin the nuisance before the activity is completed. Where the threatened harm is catastrophic, widespread, or irreparable, a court may enjoin the proposed activity even though it may be merely probable that the harm will occur.

A court may issue a qualified injunction when appropriate so as to allow a defendant to alter the proposed activity in conformity with such modifications as the court deems necessary, provided such modifications are sufficient to eliminate the potential for a nuisance.

This model statute offers the opportunity for consistent guidelines for applying the anticipatory nuisance doctrine. It allows for a balancing of severity of harm with certainty of harm, and it explicitly offers courts the option of issuing a qualified injunction. Admittedly, phrases like "highly probable," "probable," and "necessarily" are inexact. More narrowly tailored language, however, may be impractical. This model statute offers more predictability while allowing courts the flexiblity to decide the gamut of factual situations.

VI. CONCLUSION

While anticipatory nuisance is a potentially viable route to prevent severe environmental damage, it is not surprising that plaintiffs use it infrequently. While traditional criticisms of the doctrine wield less force today, both statutory and common law offer little predictability and stability. Because the utility of a practicable anticipatory nuisance theory is considerable, however, a reassessment of the doctrine by environmental lawyers, courts, and legislatures is appropriate.

This Comment recommends a "necessarily results" test that accounts for levels of both certainty and harm. Such a test utilizes the flexibility inherent in the doctrine of anticipatory nuisance.

Legal Topics:

For related research and practice materials, see the following legal topics:
Environmental LawLitigation & Administrative ProceedingsNuisances, Trespasses & Strict LiabilityReal Property LawTortsNuisanceRemediesInjunctionsPrerequisitesInjuryReal Property LawTortsNuisanceTypesNuisance Per Se

FOOTNOTES:

n1 *See, e.g.*, Olsen v. City of Baton Rouge, 247 So. 2d 889, 894 (La. App. 1st Cir.), *application denied*, 259 La. 755, 252 So. 2d 454 (1971); King v. Hamill, 97 Md. 103, 111, 54 A. 625, 627 (1903).

n2 *See, e.g.*, State of Texas v. Pankey, 441 F.2d 236 (10th Cir. 1971); Attorney Gerneral v. Jamaica Pond Aqueduct, 133 Mass. 361 (1882).

n3 *See, e.g.*, California Tahoe Regional Planning Agency v. Jennings, 594 F.2d 181, 194 (9th Cir.), *cert. denied*, 441 U.S. 864 (1979); Adams v. Michael, 38 Md. 123, 129 (1873).

n4 *See, e.g.*, City of Bowie v. Board of County Commissioners, 260 Md. 116, 123, 271 A.2d 657, 660 (1970).

n5 *See, e.g.*, Marlin v. Holloway, 192 S.W. 623, 624 (Tex. Civ. App. 1917); West v. Ponca City Milling Co 14 Okla, 646, 648-49, 79 P. 100, 101 (1904); Adams v. Michael, 38 Md. at 125.

n6 Adams v. Michael, 38 Md. at 125.

n7 *See, e.g.*, Olsen v. City of Baton Rouge, 247 So. 2d 889; Village of Wilsonville v. SCA Services, 86 Ill. 2d 1, 426 N. E.2d 824 (1981).

n8 *See, e.g.*, Coosaw Mining Co. v. South Carolina, 144 U.S. 550 (1892); Leatherbury v. Gaylord Fuel Corp 276 Md. 367, 347 A.2d 826 (1975).

n9 *See* Adams v. Michael, 38 Md. at 129; King v. Hamill, 97 Md. 103, 111, 54 A. 625, 627 (1903).

n10 Mugler v. Kansas, 123 U.S. 623, 673 (1887).

n11 Adams v. Michael, 38 Md. at 125; *see also* King v. Hamill, 97 Md. at 111, 54 A. at 627.

n12 133 Mass. 361 (1882).

n13 *Id*. at 362.

n14 *Id*. at 362-63.

n15 *Id*. at 363.

n16 168 S.W. 385, 386 (Tex. Civ. App. 1914).

n17 *Id*. at 386.

n18 *Id*. at 387.

n19 *Id*.

n20 *See, e.g*., Adams v. Michael, 38 Md. at 129 (a court may enjoin a prospective nuisance if it can "form an opinion as to the illegality of the acts complained of, and the irreparable injury which will ensue"); King v. Hamill, 97 Md. at 111, 54 A. at 627 (the court denied an injunction against the construction of a stable because the stable was not a nuisance "per se"); Davis v. Miller, 212 Ga. 836, 839, 96 S.E.2d 498, 502 (1957) (the court refused to enjoin the construction of an automobile service station because a service station was not a nuisance per se and the feared harm was too speculative).

n21 For examples of cases where courts followed this guideline, *See* King v. Hamill, 97 Md. at 111, 54 A. at 627; Cooper v. Whissen, 95 Ark. 545, 549, 130 S.W. 703, 704 (1910); *see also* West v. Ponca City Milling Co., 14 Okla. at 649-50, 79 P. at 102 (1904).

n22 Marshall v. Consumers' Power Co., 65 Mich. App. 237, 265-66, 237 N.W.2d 266, 283 (1975); *see also* Bluemer v. Saginaw Central Oil & Gas Service Inc 356 Mich. 399, 411, 97 N.W.2d 90, 96 (1959).

In *Marshall*, the plaintiff, a resident of Midland County, sought to prevent the defendant from building a pressurized water nuclear power plant in that county. The plaintiff alleged that the plant would constitute a private and/or public nuisance, 65 Mich. App. at 241, 237 N.W.2d at 271-72. Specifically, the plaintiff claimed that the proposed cooling pond and towers would necessarily create fog and ice that would invade the plaintiff's property. *Id.* at 242, 237 N.W.2d at 271-72. The plaintiff charged that the existence of the plant would cause the plaintiff to be depressed due to the fear of catastrophic harm. *Id*. at 243, 237 N.W.2d at 271-72. Also, the plaintiff claimed that the plant would cause the plaintiff's property values to decline. *Id*. at 243, 237 N.W.2d at 271-72. The Marshall court held that because the defendant's plant would violate no law or ordinance it was not a nuisance per se. *Id*. at 265-66, 237 N. W.2d at 283. Moreover, the construction and effect of the defendant's plant was too uncertain to provide a basis for declaratory relief. *Id*. at 266, 237 N.W.2d at 283.

Bluemer involved a suit by a customer against a service station at which the customer fell through a trap door designed to permit access to the basement. 356 Mich. at 402-03, 97 N.W.2d at 91. While this case did not involve an anticipatory nuisance, the *Bluemer* court did discuss the distinction between a nuisance per se and a nuisance per accidens. *Id*. at 411-15, 97 N.W.2d at 96-98.

n23 *See supra* note 22.

n24 *See, e.g*., Marshall v. Consumers' Power Co 65 Mich. App. at 265-66, 237 N.W.2d at 283; Davis v. Miller, 212 Ga. at 839, 96 S. E.2d at 502; City of Lynchburg v. Peters, 145 Va. 1, 25, 133 S. E 674 682 (1926).

n25 *See, e.g*., West v. Ponca City Milling Co 14 Okla. at 649-50, 79 P. at 102 (the court refused to enjoin the construction of a frame building within the fire limits of the city of Guthrie, Oklahoma because the building would not be a legal nuisance); Brammer v. Housing Authority of Birmingham Dist 239 Ala. 280, 284, 195 So. 256, 259 (1940) (the court denied an injunction against low income housing projects for blacks regardless of whether the projects were a nuisance per accidens).

n26 *See* Adams v. Michael, 38 Md. 123, 128 (1873) (the court required that the questioned activity must threaten material harm to the complainant, and that the allegations of harm be specific and definite); West v.

Ponca City Milling Company, 14 Okla. at 649-50, 79 P. at 101 (the construction of a wooden frame building would not result in "special" or "irreparable" harm to the plaintiffs who owned a nearby lot).

n27 Adams v. Michael, 38 Md. at 129.

n28 *See* Davis v. Miller, 212 Ga. at 839, 96 S. E.2d at 502; West v. Ponca City Milling Company, 14 Okla. at 648-49, 79 P. at 101; ICing v. Hamill, 97 Md. at 111, 54 A. at 627.

n29 *See* Adams v. Michael, 38 Md. at 128.

n30 Mugler v. Kansas, 123 U.S. at 673.

n31 *See* King v. Hamill, 97 Md. at 111, 54 A. at 627; Marlin v. Holloway, 192 S.W. at 624.

n32 *See* West v. Ponca City Milling Company, 14 Okla. at 650, 79 P. at 102 (injunction denied because of "conflicting" evidence); St. James Church v. Arrington, 36 Ala. 546, 548, 76 An. Dec. 332 (1860) (injunction denied where injury was "uncertain"); Attorney General v. Jamaica Pond Aqueduct, 133 Mass. 361, 364 (1882) (the "necessary effect" of the defendant's act was to create a nuisance).

n33 108 U.S. 208 (1900).

n34 *See infra* note 123 and accompanying text.

n35 Mugler v. Kansas, 123 U.S. 623 (1887); Coosaw Mining Co. v. South Carolina, 144 U.S. 550 (1892). The *Mugler* court was the first federal court to espouse the doctrine of anticipatory nuisance, although it admitted that courts of equity rarely exercised this power. 123 U.S. at 673.

The *Coosaw Mining* court relied primarily upon Jamaica Pond as an instructive case. 144 U.S. at 566.

n36 123 U.S. 623.

n37 *Id*. at 673.

n38 144 U.S. 550.

n39 *Id*. at 567,

n40 *Id*.

n41 *Id*.

n42 *See* Missouri v. Illinois, 180 U.S. 208 (1900); Texas v. Pankey, 441 F.2d 236 (10th Cir. 1971); California Tahoe Regional Planning Agency v. Jennings, 594 F.2d 181 (9th Cir. 1979).

n43 180 U.S. at 209-11.

n44 *Id*. at 213.

n45 *Id*. at 214.

n46 *Id*. at 244-45.

n47 *Id*. at 248.

n48 *Id*.

n49 *Id*. By the time the Supreme Court decided *Missouri v. Illinois*, the anticipated pollution had already begun. The Court, however, decided the case upon anticipatory nuisance standards and in all other respects it is an anticipatory nuisance case.

n50 *Id*. at 249.

n51 Texas v. Pankey, 441 F.2d 236, 237 (10th Cir. 1971). Toxaphene is a chlorinated camphene pesticide used by landowners to kill caterpillars. *Id*. The State of Texas brought this action because it feared that rainfall would carry toxaphene into the Canadian River, thereby polluting the water. *Id*. at 238.

n52 *Id*. at 242. By the time the circuit court delivered its opinion the defendant landowners had already begun spraying toxaphene. *See* California Tahoe v. Jennings, 594 F.2d at 194. Accordingly, the court treated the action as one to enjoin further spraying and thus avoided any issue of mootness that would have arisen if the court granted a prospective injunction. *Id*.

n53 594 F.2d 181 (9th Cir. 1979).

n54 *Id*. at 193-94.

n55 *Id*. at 184, California Tahoe represents several individual cases combined for appeal. *Id*. at 186. Various plaintiffs challenged the construction of the hotel-casinos on various grounds, including violation of an ordinance and the invalidity of the builders' building permit. *Id*. at 187-89. The anticipatory nuisance action reflected the fear of the California Tahoe Regional Planning Agency and the State of California that the hotel-casinos would attract many people and cars to the area, thereby creating a nuisance. *Id*. at 193.

n56 *Id*. at 193.

n57 *Id*.

n58 *Id*. at 194.

n59 *Id*.

n60 Missouri v. Illinois, 180 U.S. at 248. In *Missouri v. Illinois* the Supreme Court did not discuss whether pouring sewage into the Mississippi River was a nuisance per se. The Court's analysis focused on whether a nuisance would necessarily result from such an activity.

n61 California Tahoe v. Jennings, 594 F.2d at 193-94.

n62 *Id*. at 194. Although the *California Tahoe* court recognized that not every injury to the environment is a nuisance under federal common law, it did not establish guidelines to determine what type of harm constituted an enjoinable nuisance. *Id*. The court, however, added that "we cannot consider high rise hotels and their occupants as indistinguishable from untreated sewage, noxious gases, and poisonous pesticides." *Id*.

n63 *Id*.

n64 *See, e.g*., Cooper v. Whissen, 95 Ark. 545, 549,130 S.W. 703, 704 (1910); Swaim v. Morris, 93 Ark. 362, 368, 125 S.W. 432, 434 (1910).

n65 The "note" referred to did not appear in the official state reporter, but was cited in *Cooper v. Whissen*, 95 Ark. at 549, 130 S.W. at 704.

n66 14 0k Ia. 646, 79 P. 100 (1904). In *West v. Ponca City*, the plaintiffs were property owners seeking to prevent the defendant from constructing a frame building within the fire limits of the city of Guthrie, Oklahoma. *Id*. at 648-49, 79 P. at 101. The plaintiffs feared that the building would cause their property values to fall and their fire insurance to rise. *Id*. at 648-49, 79 P. at 101.

n67 *See* note to West v. Ponca City as quoted in Cooper v. Whissen, 95 Ark. at 549, 130 S.W. at 704. In that note, the West court declared:

[W]here an injunction is sought merely on the ground that a lawful erection will be put to a use that will constitute a nuisance, the court will ordinarily refuse to restrain the construction or completion of the erection leaving the complainant free, however, to assert his rights thereafter in an appropriate manner if the contemplated use results in a nuisance.

n68 *Id*. at 549, 130 S.W. at 704.

n69 14 Okla. at 649, 79 P. at 101.

n70 239 Ala. at 280, 195 So. at 256.

n71 *Id*. at 281-82, 195 So. at 257.

n72 *Id*. at 284, 195 So. at 259.

n73 *Id.; see also* Olsen v. City of Baton Rouge, 247 So. 2d 889, 894 (1971) (injunction to prevent the construction of a garbage transfer facility was denied).

n74 *See* LeBourgeois v. City of New Orleans, 145 La. 274, 282, 82 So. 268, 271 (1919) (court assumed a tuberculosis hospital would be well kept and maintained); Olsen v. City of Baton Rouge, 247 So. 2d at 894 (plaintiffs failed to bear burden of proof to show that a garbage transfer facility would be conducted as a nuisance).

n75 This statement calls for proof of a negative. No courts have expressly declared that by denying relief they create the possibility of a future injury without an adequate remedy. However, the willingness of many

courts to wait until a nuisance occurs demonstrates a tacit acceptance of the risk of irreparable harm. *See supra* notes 64-74 and accompanying text.

n76 *See, e.g.*, Cooper v. Whissen, 95 Ark. at 549, 130 S.W. at 704; Brammer v. Housing Authority of Birmingham Dist., 239 Ala. at 284, 195 So. at 259; Olsen v. City of Baton Rouge, 247 So. 2d at 894.

n77 *See supra* notes 69-73 and accompanying text; *see also* King v. Hamill, 97 Md. 103, 111, 54 A. 625, 626 (1903); Wallace v. Andersonville Docks, 489 S.W.2d 532 (Tenn. App. 1922).

n78 *See supra* note 22.

n79 *See* King v. Hamill, 97 Md. at 111, 54 A. t 626; Leatherbury v. Gaylord Fuel Corporation, 276 Md. 367, 377-79, 347 A.2d 826, 83- 9-33 (1975).

n80 97 Md. at 111, 54 A. at 627.

n81 *Id*. at 111, 54 A. at 627.

n82 276 Md. 367, 347 A.2d 826 (1975).

n83 *Id*. at 378-79, 347 A.2d at 833.

n84 *Id*. at 377-79, 347 A.2d at 832-33.

n85 260 Md. 116, 271 A.2d 657 (1970).

n86 *Id*. at 127-28, 271 A.2d at 663.

n87 *Id*. at 127-28, 271 A.2d at 663.

n88 *Id*. at 127-28, 271 A.2d at 663.

n89 489 S.W.2d 532 (1972).

n90 *Id*. at 535.

n91 *Id*.

n92 *Id*. at 534.

n93 *Id*. at 533-34.

n94 *See, e.g.*, Phillips v. Allingham, 38 N.M. 361, 365, 33 P.2d 910, 914 (1934); Koeber v. Apex-Albuq. Phoenix Express, 72 N.M. 4, 5-6, 380 P.2d 14, 16 (1963). Some courts require both that the action be a nuisance

per se and necessarily result in a nuisance. *See, e.g.*, Brammer v. Housing Authority of Birmingham Dist., 239 Ala. 280, 284, 195 So. 256, 259 (1940).

n95 239 Ala. 280, 195 So. 256.

n96 *Id*. at 283-84, 195 So. at 258-59.

n97 *Id*.

n98 *Id*. at 284, 195 So. at 259.

n99 *See* Phillips v. Allingham, 38 N.M. 361, 33 P.2d 910 (1934); Koeber v. Apex-Albuq. Phoenix Express, 72 N.M. 4, 380 P.2d 14 (1963).

n100 38 N.M. 361, 33 P.2d 910.

n101 *Id*. at 365, 33 P.2d at 914.

n102 72 N.M. 4, 380 P.2d 14 (1963).

n103 *Id*. at 5-6, 380 P.2d at 16.

n104 *Id*. at 5-6, 380 P.2d at 16.

n105 192 S.W. 623.

n106 *Id*.

n107 *Id*. at 624.

n108 *Id*.

n109 172 Ark. 216, 287 S.W. 1013 (1926).

n110 *Id*. at 216, 287 S.W. at 1013.

n111 *Id*. at 217, 287 S.W. at 1014.

n112 *See, e.g.*, Pennsylvania Co. for Insurance, Inc. v. Sun Co., 290 Pa. 404, 413, 138 A. 909, 912 (1927) (court used a "necessarily results" test and required that injury be actually threatened, practically certain, and irreparable; the court established this test as part of a joint per se/necessarily results test); Lauderdale County Board of Education v. Alexander, 269 Ala. 79, 85, 110 So. 2d 911, 916 (1959) (injury to result from alleged anticipatory nuisance must be definite and inevitable); Fink v. Board of Trustees of Southern Illinois University, 71 Ill. App. 2d 276, 218 N. E.2d 240, 244 (1966) (nuisance must necessarily result from the contemplated act or thing, and the danger must be real and immediate).

n113 *See* Pennsylvania Co. for Insurance v. Sun Co 290 Pa. 404, 413, 138 A. 909, 912 (1927) (the plaintiff landowner failed to prove that harm from the defendant's storage tanks was practically certain to occur).

n114 *See* Otto Seidner, Inc. v. Ralston Purina Co., 67 R.I. 436, 481, 24 A.2d 902, 909 (1942) (the plaintiff landowner failed to present clear and convincing evidence that the defendant's proposed coalyard would constitute a nuisance upon completion).

n115 86 Ill. 2d 1, 426 N.E.2d 824 (1981).

n116 *Id*. at 6-7, 426 N.E.2d at 827. The Village of Wilsonville believed that the operation of the defendant's chemical waste disposal site would entail spillage of waste, odors, and dust. *Id*. at 15-16, 426 N. E.2d at 831.

n117 *Id*. at 26-27, 426 N.E.2d at 836-37.

n118 *Id*. at 23-24, 426 N.E.2d at 835.

n119 Ill. App. 2d 276, 218 N.E.2d 240 (1966).

n120 Wilsonville v. SCA Services, 86 Ill. at 37-38, 426 N.E.2d at 842.

n121 *Id*. at 37-38, 426 N.E.2d at 842.

n122 *Id*.

n123 *See infra* notes 124-437 and accompanying text.

n124 *See* Leatherbury v. Gaylord Fuel Corporation, 276 Md. 367, 347 A.2d 826 (1975); King v. Hamill, 97 Md. 103, 54 A. 625 (1903); Adams v. Michael, 38 Md. 123 (1873); City of Bowie v. Board of County Commissioners, 260 Md. 116, 271 A.2d 657 (1970).

n125 276 Md. 367, 347 A.2d 826. In *Leatherbury*, a farming family sought to enjoin the construction of a limestone quarry. *Id*. at 367-70, 347 A.2d at 828. The Leatherburys alleged that limestone dust would destroy vegetation and kill fish on their nearby 80 acre farm. *Id*. at 367-70, 347 A.2d at 828. The Maryland Court of Appeals denied an injunction because the Leatherburys "failed to establish with reasonable certainty that a nuisance will result." *Id*. at 379, 347 A.2d at 833.

n126 97 Md. 103, 54 A. 625. In the early case of *King*, the plaintiff sought an injunction to prevent the construction of a stable near the plaintiff's home. *Id*. at 104, 54 A. at 626. The court held that the plaintiff did not prove with certainty that a nuisance would result. *Id*. at 111, 54 A. at 627. The *King* court also emphasized that the stable would not result in irreparable injury to the plaintiff. *Id*. at 111, 54 A. at 627.

n127 260 Md. 116, 271 A.2d 657. *Bowie* involved a suit by the city of Bowie to prevent the development and construction of an airport. *Id*. at 118, 271 A.2d at 658. The Maryland Court of Appeals declined to enjoin the airport and cited *Adams v. Michael* for the proposition that if a business is lawful the court will not enjoin it prospectively. *Id*. at 125-26, 271 A.2d at 662-63; *see* Adams v. Michael, 38 Md. at 125.

n128 *See supra* notes 80, 82, and 86 and accompanying text.

n129 *See* ALA. CODE § 6-5-125 (1975).

n130 *See infra* note 158.

n131 384 So. 2d 1080 (Ala. 1980).

N132 *Id*. at 1081.

n133 *Id*.

n134 247 So. 2d 889.

n135 *Id*. at 894. The Court of Appeals agreed with the trial court's finding that a garbage transfer facility was not a nuisance per se. *Id*. at 894. The court added :

This determination is correct inasmuch as the proposed facility under the facts cannot be classified as one which will be a nuisance at all times and under any circumstances regardless of its location or surroundings, such as a bawdy house operated in violation of the law, *Id*. at 894.

n136 290 So. 2d 821 (1974). The defendant BWS Corporation proposed to bury the industrial waste in trenches fifteen feet deep by thirty feet wide by one hundred fifty feet long. *Id*. at 823. The waste would be covered by ten feet of clay. *Id*. The Louisiana court held that the defendant could operate its disposal site safely if it lined the trenches with impermeable material, as recommended by the defendant's own experts. *Id*. at 824-25. Thus, the court enjoined the defendant to conduct its operations in compliance with its experts' recommendations. *Id*. at 825.

n137 *Id*. at 825.

n138 *See supra* note 64.

n139 *See supra* notes 123-37.

n140 *See supra* note 77.

n141 *See supra* notes 79-93.

n142 *See supra* notes 85-92 and accompanying text.

n143 *See supra* notes 94-104.

n144 *See supra* notes 105-11.

n145 *See supra* notes 112-37.

n146 ALA. CODE § 6-5-125 (1975).

n147 GA. CODE ANN. § 41-2-4 (1980) (formerly GA. CODE ANN. § 72-204).

n148 ALA. CODE § 6-5-125 (formerly 7 § 1083).

n149 38 Md. at 123. In *Adams*, the plaintiff homeowner sought to enjoin the defendant from building a felt-roofing factory. *Id*. at 125. The plaintiff feared that dirt, odor, and smoke from the factory would render his property unusable. *Id*. The court held that the allegations were too general for the court to conclude that the factory would be a nuisance. *Id*. at 128-29. In the court's opinion, the plaintiff needed to show the proximity of the factory to his own buildings, which combustible materials the defendant planned to use, and the quantity of smoke likely to be emitted from the factory. *Id*.

n150 *Id*. at 129.

n151 75 Ala. 510 (1883). In *Rouse*, the target of injunctive relief was the construction of a cotton gin to be built nearby the plaintiffs' houses. *Id*. at 513. The *Rouse* court found that the gin would cause smoke, odors, and noise, thereby creating a nuisance. *Id*. at 515.

n152 168 Ala. 535, 53 So. 272 (1910). In *Bellview Cemetery*, the plaintiff landowners sought to enjoin the establishment of a cemetery near their property. *Id*. at 537, 53 So. at 273. The plaintiffs alleged that a cemetery built on such porous soil would eventually contaminate their land. *Id*. at 537, 53 So. at 273. The court held that the plaintiffs did not prove that the feared harm would result. *Id* at 545-46, 53 So. at 275.

n153 87 Ala. 468, 6 So. 192 (1889).

n154 *Id*. at 471-72, 6 So. at 193.

n155 263 Ala. 4, 81 So. 2d 535, *cert. denied*, 350 U.S. 885 (1955).

n156 263 Ala. 4, 81 So. 2d 535. In *Edwards*, residents of Birmingham wanted to prevent the defendant from building a filling station. *Id*. at 6, 81 So. 2d at 537. The plaintiffs, however, failed to prove any harm other than the decrease in property values. *Id*. at 8-9, 81 So. 2d at 539. Moreover, the court rejected the plaintiffs' argument that a filling station was a nuisance per se. *Id*. at 11, 81 So. 2d at 541.

n157 ALA. CODE § 6-5-125 (1975).

n158 *See* Jackson v. Downey, 252 Ala. 649, 652-53, 42 So. 2d 246, 248-49 (1949); Town of Hokes Bluff v. Butler, 404 So. 2d 623, 625 (1981); *see also* Bloch v. McCown, 219 Ala. 656, 123 So. 213, 215 (1929).

n159 Gilmore v. City of Monroeville 384 So. 2d 1080 (Ala, 1980). In *Gilmore*, property owners filed suit to enjoin the city of Monroeville from erecting a building to be used for fueling city vehicles. *Id*. The plaintiffs presented evidence that the operation of the public works shop would cause odors, noise, vermin, and traffic. *Id*. at 1081. The Alabama Supreme Court, however, refused to issue an injunction because the public works shop was not a nuisance per se. *Id*.

n160 GA. CODE ANN. § 41-2-4 (1980).

n161 ALA. CODE § 6-5-125 (1975).

n162 *See* Davis v. Miller, 212 Ga. 836, 839, 96 So. 2d 498, 502 (1957); Richmond Cotton Oil Co. v. Castellaw, 134 Ga. 482, 67 S. E. 1126, 1127 (1910).

n163 *See* Farley v. Gate City Gas Light Co. 105 Ga. 323, 327, 31 S. E. 193, 198 (1898).

n164 In fact, most courts assume that the defendant will conduct the questioned activity so as not to create a nuisance. *See supra* note 74 and accompanying text.

n165 38 Md. at 128.

n166 *Id*. at 129.

n167 290 So. 2d 821 (1974).

N168 *Id*. at 825.

n169 *Id*. at 823-24.

n170 While expert testimony is invaluable for proving definiteness of harm, the cost of procuring experts is prohibitive. Accordingly, this expense discourages potential plaintiffs, who cannot afford expert witnesses from bringing anticipatory nuisance suits.

n171 *See, e.g*., Missouri v. Illinois, 180 U.S. 208, 244 (1900) (the defendant argued unsuccessfully that "the law furnishes a plain, adequate and complete remedy for this nuisance"); Olsen v. City of Baton Rouge, 247 So. 2d at 894 ("the general rule is that courts will not grant injunctions of anticipatory nuisances, the reason being that such relief is premature and the complaining party has available the possibility of obtaining injunctive relief if the facility once constructed and in operation is proven to be a nuisance in fact").

n172 *See* Olsen v. City of Baton Rouge, 247 So. 2d at 893-94.

n173 *See, e.g*., Attorney General v. Jamaica Pond Aqueduct Corp., 133 Mass. 361, 363 (1882) (a remedy at law could not restore a pond, the land, and underground currents to their condition prior to the defendant's actions).

n174 *See, e.g*., Village of Wilsonville v. SCA Services, 86 Ill, 1, 426 N.E.2d 824 (1981); *see also* Seacord v. People, 121 Ill. 623, 13 N.E. 194 (1887).

n175 Village of Wilsonville v. SCA Services, 86 Ill. at 37-,38, 426 N.E.2d at 842.

n176 *See supra* notes 177-90 and accompanying text.

n177 *See* Cardwell v. Austin, 168 S.W. 385 (Tex. Civ. App. 1914); Salter v. BWS Corporation, 290 So. 2d 821 (1974); Village of Wilsonville v. SCA Services, 86 Ill. 1, 426 N.E.2d 824.

n178 *See supra* notes 177-90 and accompanying text.

n179 *Id.*

n180 *Id.*

n181 168 S.W. 385.

n182 *Id.* at 387.

n183 *Id.*

n184 *Id.*

n185 *Id.*

n186 290 So. 2d 821.

n187 *Id.* at 822; *see supra* note 136 and accompanying text.

n188 *Id.* at 823.

n189 *Id.* at 825.

n190 *Id.*

n191 *See* Koeber v. Apex-Albuq. Phoenix Express, 76 N.M. 4, 5-6, 380 P.2d 14, 16 (1963).

n192 *Id.* at 5-6, 380 P.2d at 16.

n193 260 Md. 116, 271 A.2d 657 (1970).

n194 *Id.* The Bowie court used a bordello as an example of an activity that was, in and of itself, a nuisance.

n195 *See supra* notes 90-93 and accompanying text.

n196 192 S.W. 623.

n197 86 Ill. 1, 426 N. E.2d 824 (1981).

1 of 5 DOCUMENTS

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COMMENT: BEYOND FEAR: ARTICULATING A MODERN DOCTRINE IN ANTICIPATORY NUISANCE FOR ENJOINING IMPROBABLE THREATS OF CATASTROPHIC HARM

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LEXISNEXIS SUMMARY:
... Because the threats of catastrophic harm created by modern technology can be small or altogether uncertain, actions in anticipatory nuisance will fail for an inability to show a high probability of injury. ... Section IV identifies case precedent in which courts have sought to evade the limitations of traditional anticipatory nuisance doctrine. ... Thus, anticipatory nuisance doctrine as applied by courts usually favors defendants who create risk and disfavors plaintiffs who must bear it. ... Upon first hearing the case, the Supreme Court of Washington refused to issue an injunction, citing the standard rule in anticipatory nuisance requiring a high probability of injury and noting that the weight of the evidence showed the reservoir would be constructed safely. ... V. REFORMING ANTICIPATORY NUISANCE DOCTRINE ... By insisting that the usual balancing of the equities test be performed in all cases, the proposed anticipatory nuisance analysis allows for consideration of all relevant factors: the magnitude of injury, the probability of injury, and the social utility of the defendant's conduct. ... If tort law is to play a continuing role in regulating the risks that modern society imposes upon individuals and the environment, courts must be willing to abandon traditional anticipatory nuisance doctrine. ...

HIGHLIGHT:

We must not make a scarecrow of the law, Setting it up to fear the birds of prey, And let it keep one shape, till custom make it Their perch, and not their terror.

Measure for Measure, Act II, Scene I

TEXT:

[*441] I. INTRODUCTION

Genetic technicians at Man-Bug, Inc. have spent the last seven years developing a new synthetic bacterium, Ice-Ten, that raises the freezing point of water by ten degrees. Man-Bug executives believe Ice-Ten has tremendous potential in the ski industry, which is constantly looking for better ways to keep snow on the ground longer, and are eager to rush their microbe to market. The Man-Bug technicians have conducted extensive laboratory tests and feel

certain Ice-Ten poses no threat to the environment. Having obtained all required governmental permits, Man-Bug is finally ready to conduct field tests as to Ice-Ten's capabilities on open ground.

Word of the tests has spread, however, and residents and farmers in the area of the test site are concerned about the effects the bacteria will have on their property. The farmers, in particular, are concerned about Ice-Ten getting loose and causing frost damage to their crops.

[*442] Man-Bug knows there is some chance Ice-Ten may travel a short distance from the point of exposure and linger a bit longer than expected, but it sees this risk as small and has insured against the limited amount of damage liability it expects to incur in a worst-case scenario. Some experts in the field have postulated, however, that bacteria such as Ice-Ten, once in the open, might not only linger indefinitely, but might also spread quite far from the point of exposure. A few experts have even predicted a very slight chance of such bacteria going absolutely wild and turning the planet into a frozen ice-ball in a matter of years. n1

Confronted with the prospect of having their property transformed into an arctic wasteland, the local residents and farmers, after failing in their bid to challenge Man-Bug's permits, have decided to file a nuisance action seeking an injunction to keep the tests from going forward. n2 The question presented by this scenario and others like it is whether a court in equity is doctrinally equipped to recognize and react to a slight, but very real, threat of absolutely catastrophic harm.

Generally, tort law asks that one suffer injury prior to asserting an action in either law or equity for damages or injunctive relief. n3 Even when confronted with activity that is known to be abnormally dangerous, courts often will not take steps to prevent injury from taking place, but, through the doctrine of strict liability, will ensure a plaintiff's recovery for harm suffered by obviating the need to prove fault. n4 It is also true, however, that in nuisance law courts **[*443]** have long exercised a power to enjoin activity harmful to plaintiffs when recovery of damages at law will not provide an adequate remedy. n5 In some instances, a court may go so far as to enjoin as an anticipatory or prospective nuisance activity that has not yet caused harm, but threatens to do so. n6 In these cases, however, courts have focused only on the probability of harm, and have required a high probability (although not an absolute certainty) of injury before enjoining the threatening activity. n7

Increasingly, courts can expect to find themselves confronted with risk assessment problems such as the one posed in the Ice-Ten scenario above. Modern technologies such as genetic engineering will create more threats of potentially irreparable or catastrophic harm to individuals and the environment that cannot be effectively compensated after the fact. n8 Because the threats of catastrophic harm created by modern technology can be small or altogether uncertain, actions in anticipatory nuisance will fail for an inability to show a high probability of injury. n9 This Comment takes the position that anticipatory nuisance is a doctrine particularly well-suited to meeting the challenges posed to tort law by modern technology, but argues that the doctrine must be substantially modified if it is to realize this potential.

Section II of this Comment surveys briefly the relationship between tort law and technology and the unique risks created by modern technology. Section III describes the doctrine of anticipatory nuisance as traditionally applied by courts. Section IV identifies case precedent in which courts have sought to evade the limitations of traditional anticipatory nuisance doctrine. Finally, section V argues that a complete modernization of traditional anticipatory nuisance doctrine is appropriate within the context of the historical relationship between tort and technology and can be accomplished without unreasonably hindering technological progress.

[*444] II. TORT AND TECHNOLOGY

A. The Historical Relationship Between Torts and Technology

It almost might be said that tort law did not exist prior to the emergence of modern technology. Though the first seeds of tort liability were sown in England as early as the twelfth century, n10 the field of tort remained a neglected and undeveloped backwater until well into the nineteenth century. n11 Prior to this time, tort was hardly mentioned, if at all, in legal treatises. By the end of the nineteenth century, it had evolved abruptly into a major field of law deserving the attention of the most respected legal scholars. n12 The reason for the sudden development of tort law is well understood. As humanity's machines, particularly the railroad, vastly increased our capacity for injuring others, that portion of the law that governs relationships between people who injure one another was forced to keep pace. n13

Most significant modern tort doctrines originated in or were seminally influenced by technological advance. Strict liability, n14 products liability, n15 market-share liability, n16 proximate cause, n17 contributory and comparative negligence, n18 and even the elemental concept of **[*445]** negligence itself n19 are all examples of doc-

trines in tort law shaped, if not created, by the development of technological society. n20 Throughout the evolution of these doctrines, the creative tension dominating judicial thinking in tort law vacillated between a positivist economic desire to protect and encourage emerging technologies and a humanistic urge to insure that plaintiffs were compensated for their injuries. n21

This tension is particularly well illustrated in railroad cases. In the mid-nineteenth century, railroads were still young and promised to transform the national economy. n22 Eager to protect railroad companies from crippling jury verdicts, judges therefore refashioned or invented such concepts as assumption of risk, contributory negligence, and the fellow-servant rule to keep the scope of liability under strict control. n23 By the beginning of the twentieth century, however, railroads were well established and the number of persons injured by them was rising dramatically. n24 Courts, using such tools as the last clear chance doctrine, *res ipsa loquitur*, the vice-principal rule, and strict liability, responded by abrogating restrictions on liability formed just decades earlier. n25

This vacillation between restricting and liberalizing liability is a pattern repeated throughout tort law. Courts are willing, indeed see **[*446]** it as part of their function, to encourage technological and economic progress, but they are also sensitive to the costs incurred in terms of human suffering. n26

B. The Nature of Twentieth Century Technological Risk

The machines invented in the nineteenth century and perfected in the early twentieth century are for the most part devices that cause harm in direct, visibly foreseeable, and essentially limited ways. n27 It is, for instance, entirely foreseeable to an automobile manufacturer that its product, if defective, may inflict certain specific sorts of injuries upon a finite and identifiable group of people. n28 Because these injuries are foreseeable, the manufacturer can take reasonable steps to prevent their occurrence. Because they will be limited in nature, the manufacturer will also be able to compensate those injuries that do occur. Thus, risks created by simple industrial technology are appropriately treated within the traditional framework of a tort system that seeks primarily to compensate victims for harm already suffered.

It is not, however, foreseeable to the Man-Bug executives in the scenario outlined above just how much harm they can reasonably expect their product to cause if it malfunctions. They have established in their own minds what they consider to be an outside limit to their potential liability, but, as proponents of Ice-Ten, their perspective is subjective. They therefore may be willing to ignore the perhaps very small chance that their product will cause catastrophic harm. If Ice-Ten does cause catastrophic harm, Man-Bug probably will not be able to compensate the victims. Such dilemmas promise to become increasingly characteristic of technologies developed in the mid- to late twentieth century. n29

As modern science cuts ever closer to a comprehensive understanding of matter, energy, and life itself, it creates technologies **[*447]** that promise tremendous benefits to society. At the same time, these technologies have transformed, and will continue to transform, the scale and nature of the harm with which humanity can threaten both itself and the environment. n30

Genetic engineering, chemical engineering (including toxic chemical, pharmaceutical, and pesticide production), and nuclear energy are examples of technologies that pose risks of personal and environmental harm that may not be effectively addressed within the framework of the traditional compensatory tort system. n31 Such technologies may threaten broad segments of the population with potentially catastrophic harm and may cause injuries that are difficult to anticipate. n32 The risks posed by modern technologies thus may be harder to quantify and identify than the more straightforward risks posed by the comparatively simple mechanical innovations of the nineteenth century. n33

Commentators and scholars have debated at some length on whether courts should play an active role in the regulation of modern technological risk. n34 Those arguing against an increased judicial role have expressed fears that courts lack the technical expertise to evaluate complex risks and are likely to inhibit technological progress. n35 These writers believe regulation of modern technological risks should be left largely to administrative agencies. n36

[*448] Meanwhile, those in favor of an increased judicial role question whether administrative agencies are sensitive enough to the public interest in regulating such risks. n37 These writers also raise doubts as to whether scientists and engineers involved in the development of new technologies are capable of objectively assessing the risks they create, n38 and whether legislatures are capable of responding quickly enough to new sources of risk created by sudden accelerations in scientific knowledge. n39

This Comment assumes, *arguendo*, that an active judicial role in the regulation of modern technological risk is appropriate and that common-law tort remedies can coexist with administrative remedies. n40 Courts, however, will be unable to play an effective role in regulating threats of widespread and potentially catastrophic or irreversible harm if they are not willing to directly address such threats before injury takes place. n41

III. ANTICIPATORY NUISANCE: THE TRADITIONAL APPROACH TO ENJOINING FUTURE HARM

Although tort law is primarily concerned with allocating the cost of past injury in an efficient and fair manner, it also seeks to prevent and deter injury from occurring. n42 The standard of negligence, for example, defines an area of discretion within which the reasonable actor is expected to take precautions against foreseeable injury, and it is only when persons fail to take such precautions that compensation is mandated. n43 In fashioning such doctrines as strict liability and products liability, courts have stated that they are concerned not only with seeing injury compensated, but also with providing strong incentives for the prevention of injury. n44

[*449] Anticipatory nuisance is one tort doctrine that focuses directly on the issue of whether or not injury should be prevented before it occurs. n45 When deciding an action in anticipatory nuisance, a court does not ask whether the plaintiff should receive compensation for harm already suffered. Rather, the court asks whether the defendant should be enjoined from injuring the plaintiff in the first place. n46 Because it allows courts to act directly to prevent injury before it occurs, the doctrine of anticipatory nuisance offers a potentially effective vehicle for addressing modern threats of catastrophic or irreversible harm. n47

A. Nuisance Generally

Nuisance has remained one of the more vaguely defined areas of law, due in large part to the broad range of plaintiffs' interests and defendants' conduct that it encompasses. n48 Perhaps as a result of its ambiguous nature, nuisance law has been under-utilized by courts and litigants as a common-law tool for addressing modern risk assessment problems. n49

A private nuisance is defined generally as any activity on the part of a defendant that creates a substantial and unreasonable interference with a plaintiff's use and enjoyment of his or her own land. n50 **[*450]** A defendant's activities may be entirely reasonable, but might still result in a substantial and unreasonable interference with a plaintiff's rights. n51 Generally, the sensibilities of the ordinary or reasonable person living in the locality in question will provide the standard for defining substantial and unreasonable interference. n52 Thus, private nuisance not only protects against physical damage to the property itself, but also protects against those annoyances and discomforts that are unreasonable within the local community. n53

Public nuisance, on the other hand, is a less precisely defined term referring to "unreasonable interferences with [rights] common to the general public" n54 which are not necessarily linked to the use and enjoyment of property. n55 Though these interferences are now usually set forth in statutes and are often criminal in nature, a defendant need not be criminally culpable to be liable in public nuisance. n56 To sue for damages in public nuisance, a private plaintiff must show that he or she has suffered a unique type of injury, as opposed to a unique degree of injury, not shared by the rest of the public. n57

Historically, nuisance law was used for striking land-use bargains prior to the emergence of modern zoning and planning laws. n58 The advent of industrial technology in the nineteenth century gave rise to cases in which nuisance served as a tool for adjusting the rights of industrial and agrarian or residential landowners as their respective uses of property increasingly conflicted with one another. n59 As in the early evolution of nineteenth century personal injury law, **[*451]** judges were solicitous of economic progress and generally were careful not to apply nuisance law in such a manner as to retard industrial and technological development. n60

Remedies in public and private nuisance actions include both damages and injunctive relief. n61 Central to a determination of whether a defendant's activities can be enjoined as a nuisance, public or private, is whether or not such activity or conduct is unreasonable. n62 This determination is made through what is referred to as a "balancing of the equities," wherein the relative hardships to the plaintiff and the defendant are weighed against one another. n63 This balancing includes a determination as to whether the social utility of the defendant's conduct is outweighed by the harm it causes the plaintiff. n64

Thus, a defendant's conduct is deemed unreasonable, and therefore enjoinable, only if the gravity of harm to the plaintiff, or to the public in general in the case of public nuisance, outweighs the useful public benefits provided by the defendant's enterprise. n65 It is important to note the distinction between the unreasonableness of a defendant's con-

duct and the unreasonableness of the interference with the plaintiff's rights. It is entirely possible that a defendant's conduct can create an unreasonable interference, and thus be declared a nuisance, yet be of such public benefit that it should not be enjoined. n66 In such cases, the defendant will be allowed to continue injuring the plaintiff, but may have to provide compensation for the injury. n67

As is generally the case in equity, courts entertaining requests for injunctive relief in nuisance actions require a showing that an action for damages at law will not provide adequate relief. n68 Because equity considers every parcel of land to be unique, this requirement can **[*452]** usually be met by demonstrating that the defendant has seriously impaired the usefulness of the plaintiff's property. n69

In sum, nuisance generally provides legal or equitable remedies against defendants who have injured either a private property right or a common public right. n70 Although most cases involve existing nuisances where the plaintiff has already suffered injury, courts also have recognized that activity that only threatens injury may be enjoined as an anticipatory nuisance. n71

B. Anticipatory Nuisance

Citing the "despotism" inherent to preventing landowners from using their property as they please, courts traditionally are reluctant to enjoin threatening activity before it causes injury. n72 In *Holke v. Herman*, n73 for example, the plaintiffs brought an action in anticipatory nuisance to restrain their neighbor from digging a pond they feared would fill with sewage. n74 In response, the Missouri Court of Appeals stated:

In most instances the disposition is to wait until the dread is justified by the event. Experience has demonstrated that a meddlesome, interfering policy represses the spontaneous energy and many-sided activity, which arises naturally from self-interest and differences of taste and inclination among men and constitute the true springs of progress. The spirit of our laws is chary about regulating conduct or restricting action. n75

The *Holke* court also recognized, however, that the plaintiffs may have a cognizable interest in seeking to avoid anticipated harm:

The reasons for preventing a prospective mischief are at least as cogent as those for abating a present one. In the latter instance the courts act more readily because they are sure of their ground; the evil is visible. But the call for protection against an apprehended injury, reasonably certain to befall, is as imperative as that for relief from one now felt. Nor is the complaint required to wait until some harm has been experienced . . . [Such a] requirement would make the remedy largely useless . . . n76

[*453] Thus, when deciding anticipatory nuisance actions, courts weigh defendants' rights to use their property as they wish against plaintiffs' rights to protect themselves and their property from apparent threats of injury. n77 Courts have failed, however, to arrive at a single, clearly articulated definition of how imminently a defendant's conduct must threaten injury to a plaintiff before it can be enjoined. n78

The strictest courts will only grant prospective injunctions against defendants whose conduct can be categorized as nuisance per se. n79 A nuisance per se is generally defined as conduct that will create a nuisance "at all times and under any circumstances, regardless of location or surroundings." n80 A few courts describe an activity as nuisance per se only if it is illegal, holding for example that a brothel is a nuisance per se, but an airport is not. n81

Many courts, however, do not end their analysis with the nuisance per se test, but ask in the alternative whether the defendant's conduct "necessarily results" in a nuisance. n82 In *Purcell v. Davis*, n83 for example, the Montana Supreme Court held that the proposed construction of an oil refinery in a residential neighborhood would not constitute a nuisance per se. n84 Nevertheless, the court held that the defendant's activity could also be enjoined if it necessarily resulted in a nuisance. n85 After considering evidence that the refinery would be operated so as not to annoy the plaintiffs, the court denied the injunction. n86 In another case involving a proposed oil refinery, *Commerce Oil Refining Corp. v. Miner*, n87 a federal appellate court simply **[*454]** merged the two standards and defined a nuisance per se as that which necessarily results in a nuisance. n88

Other courts, however, eschew the nuisance per se and necessarily-results tests altogether and discuss the standard for enjoining anticipatory nuisances in more probabilistic terms. Thus, the *Holke v. Herman* court specifically held that the plaintiffs were required to show with reasonable certainty that they would be injured by the defendant's proposed pond before an injunction could issue. n89 Likewise, in *O'Laughlin v. City of Fort Gibson*, n90 the Oklahoma Su-

preme Court stated a rule requiring clear and convincing evidence of a reasonable probability of injury for an injunction to issue against a threatened nuisance. n91 Other courts have interpreted the rule in terms of certainty of harm, n92 the definiteness of injury, n93 and the immediacy of danger. n94

Alabama and Georgia, the two states that have codified anticipatory nuisance law, have also defined the test in probabilistic terms. n95 The Alabama statute states: "Where the consequences of a nuisance about to be erected or commenced will be irreparable in damages and such consequences are not merely possible but to a reasonable degree certain, a court may interfere to arrest a nuisance before it is completed." n96 The Georgia statute is almost identical, requiring irreparable injury that "is not merely possible but to a reasonable degree certain." n97

These statutes and the case law described above may not evince a single clearcut standard for the enjoining of anticipatory nuisances, but they generally do require plaintiffs to show a high probability of injury before receiving relief. n98 Furthermore, in deciding anticipatory **[*455]** nuisance actions, courts focus exclusively on the probability of injury to a plaintiff and do not consider the magnitude of a threatened injury. n99

Consequently, unless they can show they almost certainly will be injured by a defendant's conduct, it usually will be difficult for plaintiffs to prevail in an anticipatory nuisance action. n100 Also, presumably because few plaintiffs meet the initial burden of showing a high probability of injury, courts rarely apply the balancing of the equities test generally required in injunctive nuisance actions. n101 Plaintiffs, therefore, are denied the opportunity to have their interest in not being injured weighed against the social utility of the defendant's conduct. n102 As a result, a plaintiff confronting a low-probability risk of catastrophic harm created by conduct of little social utility will have no remedy prior to injury.

IV. ARTICULATING A MODERN STANDARD FOR THE ENJOINING OF FUTURE HARM: PROBABILITY OF HARM VERSUS MAGNITUDE OF HARM

The vagueness of anticipatory nuisance law, resulting in an unpredictability of application, may be one reason why the doctrine is under-utilized by plaintiffs. n103 It is not unusual, for instance, for courts to decide anticipatory nuisance cases without identifying any applicable rule or case precedent. n104 Also, the standards espoused by courts, though often unclear, generally require plaintiffs to shoulder the enormous burden of proving that a defendant's conduct will very probably, or almost certainly, injure them. n105 Thus, anticipatory nuisance doctrine as applied by courts usually favors defendants who **[*456]** create risk and disfavors plaintiffs who must bear it. As a result, productive and technologically intensive uses of land will often be preferred over passive, more environmentally neutral uses. n106

Another reason why anticipatory nuisance doctrine is generally undeveloped and little used is that there have been, until recently, relatively few fact situations that genuinely warrant such a preemptive remedy. Early industrial technology often creates effects that may annoy or injure people, but it is less likely to cause truly irreparable damage. Many courts denying relief in anticipatory nuisance actions have noted that, even if the threatened injuries do occur, the plaintiffs will still be able to seek an effective remedy after suffering harm. n107

As technology continues to evolve, however, and more threats of potentially catastrophic harm manifest themselves, plaintiffs are more likely to find themselves confronted with threats of injury that cannot be addressed adequately after the fact. n108 In the Man-Bug scenario described in section I, for example, if Ice-Ten does in fact turn the plaintiffs' farms and homes into arctic tundra, a post-injury injunction will be useless and an award of damages probably will provide an inadequate remedy. n109 If indeed Ice-Ten is capable of turning the entire planet into a frozen ice-ball, the notion of a post-injury remedy becomes altogether absurd. n110

In situations such as these, where there is a small probability of injury that is potentially unlimited or irreversible, the traditional anticipatory nuisance analysis that favors defendants' conduct becomes entirely ineffective. Because the traditional test requires a high probability of injury and ignores the magnitude of the threatened harm, such low-probability risks of enormous injury cannot be addressed rationally. n111 In a few cases, courts have confronted the inherent irrationality of weighing plaintiffs' and defendants' interests **[*457]** without considering the extent of the harm a plaintiff might suffer and have attempted to devise a more equitable means of assessing risks of future harm. n112

A. Defining Risk in Terms of Present Fear

One way in which courts have abrogated the limitations of anticipatory nuisance doctrine has been to ask whether the threat of future injury so frightens plaintiffs as to create a current injury. n113 By defining risk in terms of present

fear rather than future injury, courts can take a case out of anticipatory nuisance altogether and issue injunctions without plaintiffs showing a high probability of harm. n114 The key requirement in such cases is that the fear of injury must interfere with the comfortable enjoyment of a plaintiff's property. n115

An early case, *Tyner v. People's Gas Co*., n116 provides a stark illustration of the logic of this approach. The plaintiff in *Tyner* sought an injunction against a neighbor who had stored large quantities of nitroglycerin on his property and proposed to use it to "shoot" natural gas wells dug within 200 feet of the plaintiff's residence. n117 The Indiana Supreme Court did not consider at all whether this activity could be conducted safely, but noted simply "that an explosion of sixty to one hundred quarts [of nitroglycerin] at any given place on the surface of the earth could and probably would destroy life and property anywhere within five hundred yards of such explosion." n118 The court summarily granted an injunction, stating only that "[t]o live in constant apprehension of death from the explosion of nitroglycerin is certainly an interference with the comfortable enjoyment of life." n119

Clearly, the *Tyner* court focused on the magnitude of the potential injury, a tremendous explosion, rather than the probability of its taking place. n120 Courts have used the same approach in situations where plaintiffs were confronted with more ambiguous, less graphic **[*458]** threats of injury. In *Stotler v. Rochelle*, n121 for example, the Kansas Supreme Court upheld an injunction in favor of a plaintiff who feared that the establishment of a cancer hospital seventy-eight feet from his home might lead to the infection of himself and his family. n122 Acknowledging that science at that time could not substantiate the plaintiff's fears, the court refused to frame the question before it in terms of "a mere academic inquiry as to whether the disease is in fact highly or remotely contagious." n123 Instead, the court asked "whether, in view of the general dread inspired by the disease, the reasonable enjoyment of [plaintiff's] property would not be materially interfered with." n124

In *Everett v. Paschall*, n125 the Washington Supreme Court also cited an interference with the comfortable enjoyment of property as its basis for enjoining the continued operation of a tuberculosis sanitarium next to the plaintiff's home. n126 Here, again, the plaintiff feared he and his family might contract the disease because of the proximity of the facility. n127 The *Everett* court held that "comfortable enjoyment" must be defined according to the facts of each case and should take into account "notions of comfort and convenience entertained by persons generally of ordinary tastes and susceptibilities." n128

[*459] Some courts, when enjoining interferences with the comfortable enjoyment of property, have focused on the plaintiff's fear to such an extent as to virtually ignore evidence showing there is no probability of harm. n129 In *City of Baltimore v. Fairfield Improvement Co. of Baltimore*, n130 for example, the court prohibited the city from housing a single leper in a residential area, even while acknowledging there was little or no scientific probability of contagion. n131 In reaching its conclusion, the court embarked on a long dissertation on the social history of leprosy, stating that "[t]he horror of its contagion is as deep-seated today as it was more than 2,000 years ago . . . [and] cannot, in this day, be shaken or dispelled by mere scientific asseveration." n132

The *Fairfield Improvement* decision is probably best viewed as an aberrational reaction to a widely shared irrational fear. The extremity of the court's position is analogous to language used by the *Everett* court when it confronted scientific evidence that tuberculosis was probably not highly contagious: "The question is, not whether the fear is founded in science, but whether it exists; not whether it is imaginary, but whether it is real, in that it affects the movements **[*460]** and conduct of men." n133 Even so, the *Everett* court did not go so far as to make such a sweeping pronouncement the sole basis of its injunction against the tuberculosis sanitarium. n134 Instead, it noted there was evidence in the record of a small risk of the disease being spread by flies or through the negligence of nurses and patients. n135 "Under the facts," the court concluded, "we cannot say that the dread which is the disquieting element upon which plaintiffs' complaint is made to rest is unreal, imaginary, or fanciful." n136

Thus, in cases where courts are willing to enjoin a threat of future harm on the basis of the fear it creates, they have generally required that the fear be reasonable. n137 In determining whether a plaintiff's fear is reasonable, however, courts have tended to conduct a liberal inquiry, asking not whether the probability is high or low, but simply whether there is evidence of any probability at all. n138 It therefore might be argued that a cause of action based on a plaintiff's fear of injury, even when such fear must be reasonable, goes too far in abrogating the standard anticipatory nuisance rule requiring a high probability of harm. n139 To move from one extreme where the magnitude of harm may be wholly ignored in assessing risk, to another in which even the slightest probability of harm may be deemed sufficient to support an injunction, hardly seems a step toward true equity.

There is, however, precedent demonstrating how courts might narrowly tailor their use of the reasonable fear concept so as to specifically address the limitations of anticipatory nuisance doctrine without reaching too far in the oppo-

site direction. In *Ferry V. City of Seattle,* n140 the plaintiffs sought injunctive relief against the construction **[*461]** of a small reservoir on a hillside immediately above their homes, claiming they feared for their lives should the embankment supporting the reservoir break open. n141 Upon first hearing the case, the Supreme Court of Washington refused to issue an injunction, citing the standard rule in anticipatory nuisance requiring a high probability of injury and noting that the weight of the evidence showed the reservoir would be constructed safely. n142 "The test is, not what may possibly occur," wrote the court, "but what may be reasonably expected to happen." n143

Upon rehearing the case little more than four months later, n144 however, the court dramatically reversed itself and issued an injunction on the basis of the plaintiffs' fears creating an interference with the reasonable enjoyment of their property. n145 Although it noted that the plaintiffs had introduced some evidence to show a small probability of the embankment breaking, the court did not find that this fact alone meant the plaintiffs' fears were reasonable. n146 Instead, the court stated: "the question of reasonableness . . . turns again, not only on the probable breaking of the reservoir, but the realization of the extent of the injury which would certainly ensue; that is to say the court will look to consequences in determining whether the fear existing is reasonable." n147

Most striking of all is a separate concurrence by Chief Justice Parker, the key swing vote, in which he explained the reason for his change of heart:

If the breaking of the proposed reservoir would probably result in comparatively small damage and no loss of life, I would not demand proof of its safety with a high degree of certainty; but, in view of what now seems to me would be the appalling result of such breaking, I would want the necessity of its location there, and its safety, to be proven beyond all doubt, before withholding the injunctive relief prayed for. n148

Thus, the *Ferry* decision is a compelling example of how a court in equity, using the concepts of reasonable fear and comfortable enjoyment, can fashion a rational and equitable standard of risk assessment **[*462]** that is value-neutral and favors neither plaintiffs nor defendants. n149 By weighing both the probability and magnitude of harm in relation to one another, the *Ferry* court addressed the most serious deficiencies of traditional anticipatory nuisance doctrine n150 and arrived at a formula that effectively evaluates threats of future harm.

B. The Limitations of Assessing Risk with Fear

Depending as they do upon a unique emotional response to threatened danger, the thin line of cases espousing reasonable-fear analysis do not provide a broad enough base for reforming traditional judicial assessment of modern risk scenarios. The limitations of reasonable-fear analysis are clearly illustrated by the nature of the actions in which it has evolved.

For example, all the cases cited above involved situations in which plaintiffs complained of interferences with the enjoyment of their homes and sought to enjoin in private nuisance the intrusion of dangerous activities into areas that were strictly residential. n151 It is therefore open to question whether courts would be as solicitous of plaintiffs' fears in situations where the enjoyment disturbed did not involve the home. n152

An additional limitation on using reasonable-fear analysis as the basis for preemptive injunctions is that there is no case precedent applying the doctrine in public nuisance. n153 It may be possible to couch an argument in terms of a public fear so pervasive that it interferes with the public's enjoyment of its interests, but such an argument would find little support in the private nuisance actions brought by homeowners in the cases above. n154

[*463] Finally, as was true in the anticipatory nuisance cases discussed above, n155 courts applying reasonable-fear doctrine tend to omit the balancing-of-the-equities test generally required in injunctive nuisance cases. n156 In anticipatory nuisance actions, this omission means that plaintiffs often are denied injunctions without having their interest in not being injured weighed against the social utility of the defendant's conduct. n157 In the context of reasonable-fear analysis, it results in a defendant's conduct being enjoined without its social utility being weighed against the plaintiff's interests. n158

In sum, courts have successfully used reasonable-fear analysis to take account of the magnitude of injuries threatening plaintiffs. n159 Its application, however, has been restricted exclusively to private nuisance actions involving residential property. The scope of reasonable-fear analysis, therefore, seems too limited to address all modern technological risk scenarios that may arise. n160 Furthermore, because reasonable-fear analysis generally favors plaintiffs by often allowing injunctions to issue against any low-probability threat of injury and by failing to take account of the social utility of a defendant's conduct, it may unreasonably hinder technological progress.

C. Defining the Risk in Terms of Probability and Magnitude

Although most courts seeking to evade the strictures of traditional anticipatory nuisance doctrine have focused on the plaintiff's fear to obviate the need for a showing of a high probability of harm, n161 a few courts have addressed the doctrine's deficiencies in a more straightforward manner. n162 These courts, unlike the *Ferry v. City of Seattle* court, have not considered the issues of probability and magnitude of injury in relation to the tangential question of whether the **[*464]** plaintiff's present fear of injury is reasonable, but instead have tried to consider them in the context of anticipatory nuisance doctrine itself. n163

The case of *Harris Stanley Coal & Land Co. v. Chesapeake & Ohio Railway Co.*, n164 for example, confronted a federal appellate court was confronted with a mine operator seeking to reopen a closed coal mine on a steep mountainside approximately 100 feet above a rail line servicing both passengers and freight. n165 The railroad operating the line sought to enjoin the mining company from removing pillars of coal left to provide support in the old mine, alleging that their removal would create a risk of a landslide onto the railroad tracks below. n166 The trial court had declined to issue a preemptive injunction, stating only that the possibility of injury to passengers on a passing train "would require a coincidence of events that can hardly be raised to the status of probability." n167

On appeal, however, the Sixth Circuit Court of Appeals was willing to take a broader view of the nature of the risk presented. n168 Although it conceded that the rail line was not heavily traveled and there was thus little chance of a landslide occurring just as a train passed, the appellate court nevertheless found a compelling reason to issue the injunction:

[T]he effect of a substantial mountain slide upon a passing train might well be catastrophic. It may be that such a disaster could occur only upon a concatenation of circumstances of not too great probability, and that the odds are against it. It is common experience, however, that catastrophes occur at unexpected times and in unforeseen places. The pictorial exhibits graphically depict the steep face of the cliff behind which the pillars stand, and its proximity to the railway tracks, and it is indeed bold prophecy which denies the threatened danger. A court of equity will not gamble with human life, at whatever odds, and for loss of life there is no remedy that in an equitable sense is adequate. n169

The Sixth Circuit thus assessed risk in a decisive and direct manner, weighing the probability of a landslide occurring while a train was passing against the quantity of harm such a landslide would create. n170 **[*465]** Although the court cited no precedent for its analysis and did not mention the traditional rule of anticipatory nuisance requiring a high probability of harm, its reasoning nevertheless seems intuitively rational. n171

Village of Wilsonville v. SCA Services, Inc. n172 illustrates the problems a court may encounter when it attempts to assess risk rationally while confronting the traditional anticipatory nuisance standard more consciously than did the *Harris Stanley* court. In *Wilsonville*, the plaintiffs brought suit in public nuisance to enjoin the continued operation of a hazardous waste landfill adjacent to their village. n173 The landfill, which was licensed by the Illinois Environmental Protection Agency and was required to obtain additional permits each time toxic waste was delivered to the site, was located over an abandoned mine site. n174 The plaintiffs contended that there was a risk the abandoned mine would create subsidence in the area, causing the clay-lined trenches filled with toxic waste to break open and contaminate soil and groundwater. n175 The plaintiffs also contended that the landfill operator had stored incompatible chemicals together in the same trenches, and that, if subsidence caused the trenches to break open, these chemicals might combine and ignite, sparking fires and explosions that would emit toxic vapors and fumes. n176

The trial court held that the landfill constituted a nuisance per se and ordered the defendant to close the site and remove all toxic waste from the area. n177 On appeal, the defendant asserted that the weight of the evidence was against the trial court's finding and that the landfill therefore could not be enjoined as a prospective nuisance. n178 In evaluating the trial court's decision, the Illinois Appellate **[*466]** Court acknowledged that the traditional standard for enjoining a threat of future harm required a high probability of injury. n179 It found, however, that the rule could be abrogated in this case, stating "we do not deem it necessary here that the evidence clearly show that the harm envisioned by plaintiffs' witnesses will 'necessarily result' in order for the danger presented by the existence and operation of the landfill to be a basis for the injunction." n180 The court conceded that the evidence of toxic contamination was uncertain but concluded "that the trier of fact could have determined that there was a reasonable likelihood that escape would take place some time in the future." n181

Thus, although the appellate court's reliance upon a "reasonable likelihood" of injury allowed it to abrogate the traditional requirement of a high probability of injury, the court failed to state explicitly how it was applying the standard

and what factors should be considered. n182 Furthermore, the court did not explain why it ignored the traditional anticipatory nuisance standard. Although it seemed to suggest the facts of the case warranted a departure from the old rule, n183 the court did not identify which elements of the evidence made this departure necessary.

On appeal to the Supreme Court of Illinois, the defendant in *Wilsonville* again claimed that the weight of the evidence did not show a high probability of toxic contamination and charged that the lower courts had applied the wrong legal standard in enjoining the operation of the landfill. n184 While the Supreme Court upheld the injunction, it implicitly rejected the appellate court's reasoning. n185 Although the appellate court had been willing to abrogate the traditional anticipatory nuisance rule, the Supreme Court agreed with the defendant's contention that the traditional rule requiring a high probability of harm was applicable in this case. n186 The Supreme Court arrived at the same result as the appellate court, however, by finding that it was "highly probable" contamination would occur at the waste disposal site. n187

[*467] The contradiction in reasoning between the two courts illustrates how the traditional anticipatory nuisance rule can distort judicial analysis when applied to modern technological risk assessment scenarios. The evidence in *Wilsonville* was very technical, with numerous experts for both sides offering contradictory but apparently competent evidence on such esoteric matters as the likelihood of ground subsidence, the permeability of the soil and the characteristics of the various chemicals deposited at the site. n188 The presentation of this evidence at trial took 104 days and created a record over 13,000 pages in length. n189

As such, it would appear difficult to argue with the appellate court's characterization of the evidence of probability of injury as uncertain. n190 It thus seems somewhat disingenuous of the Illinois Supreme Court to have characterized the probability of injury as being so high that it satisfied the traditional standard for anticipatory nuisance injunctions. n191 The appellate court, on the other hand, while properly appraising the probability of harm, was either unwilling or unable to identify those instances in which the traditional doctrine should be abrogated. n192 The appellate court also failed to clearly articulate what standard should be substituted in place of the original rule. n193

The appellate and Supreme Court decisions in *Wilsonville* thus generate confusion as to how courts should approach modern risk assessment scenarios involving low-probability threats of potentially catastrophic or irreversible harm. Justice Ryan, however, in a concurrence to the Supreme Court opinion, offered an alternative to the **[*468]** traditional anticipatory nuisance standard that is both simple and straightforward. n194

Although Justice Ryan agreed with the majority that the evidence in *Wilsonville* met the traditional standard's requirement of a high probability of injury, he nevertheless argued that the standard itself was "unnecessarily narrow." n195 Instead, he suggested that a test balancing both probability and magnitude of injury would be more appropriate:

If the harm that may result is severe, a lesser possibility of its occurring should be required to support injunctive relief. Conversely, if the potential harm is less severe, a greater possibility that it will happen should be required . . . This balancing test allows the court to consider a wider range of factors and avoids the anomalous result possible under a more restrictive alternative where a person engaged in an ultrahazardous activity with potentially catastrophic results would be allowed to continue until he has driven an entire community to the brink of certain disaster. A court of equity need not wait so long to provide relief. n196

In essence, Justice Ryan's proposed standard is identical to the test applied by the court in *Ferry v. City of Seattle*. n197 The difference is that here it would be applied directly to the assessment of risk in anticipatory nuisance and not merely to an assessment of the reasonableness of the plaintiff's fear. n198

V. REFORMING ANTICIPATORY NUISANCE DOCTRINE

This Comment suggests that Justice Ryan's standard, balancing probability and magnitude of harm against one another, should entirely supplant the traditional anticipatory nuisance standard requiring a high probability of harm. Courts should apply this new balancing test in all cases where plaintiffs seek to enjoin threats of future injury in nuisance.

When considering whether or not to grant an injunction against an alleged anticipatory nuisance under this proposed test, courts should follow a three-step analysis. First, as in any case involving an injunction, the court should ask if the threatened injury is in fact irreparable at law and cannot be properly compensated with damages **[*469]** after the fact. n199 If so, the court should next assess the risk of injury, asking if the magnitude of the threatened injury outweighs the probability of its occurring. As indicated by Justice Ryan in his concurrence in *Wilsonville*, this is an

inverse balancing test -- as the magnitude of the harm increases, the lesser the probability required for an injunction to issue. n200 Conversely, as the probability increases, a lesser magnitude of harm will justify injunctive relief. n201 Finally, as is already the rule in nuisance generally, the court should balance the equities of the case, measuring the utility of the defendant's conduct and its potential benefit to society against the plaintiff's interest in receiving an injunction. n202

In giving weight to both the probability and magnitude of harm, the proposed test is closely analogous to the familiar risk assessment formula for establishing negligence espoused by Judge Learned Hand in *United States v. Carroll Towing Co*. n203 According to Judge Hand's formula, liability in negligence will be found if the probability of harm multiplied by the gravity of the potential injury exceeds the cost of precaution. n204 This formula has been universally accepted as the standard by which the reasonable person is expected to determine whether steps should be taken to prevent injury. n205 It seems only appropriate that courts in equity should use the same standard to determine whether they should take such steps in anticipatory nuisance actions.

Above all, the proposed test is inherently rational. Unlike the traditional anticipatory nuisance rule, which focuses exclusively on the probability of injury when assessing risk, the proposed test allows for a broader, more reasoned inquiry into the nature of the risk involved. By taking into account the magnitude of the threatened harm, courts can consider all issues relevant to a rational human response to danger. A calculated risk can hardly be characterized as such if the calculation involves only the probability of success or failure and ignores what is at stake.

Because the proposed anticipatory nuisance standard is a rational one, it will enable courts to arrive at correct results without running the risk of misrepresenting evidence, as the Illinois Supreme Court **[*470]** did in its consideration of the probability of injury in *Wilsonville*. n206 Furthermore, the proposed standard clearly identifies those factors appropriately considered in arriving at a correct result. Thus, the proposed standard will provide a more concrete basis for analysis than was the case in the *Wilsonville* appellate decision, where the court seemed unable to articulate the rationale behind its conclusion. n207

Another point in favor of the proposed anticipatory nuisance standard is that it can be used in those situations not reached by the reasonable-fear doctrine. n208 Because the proposed standard focuses on the central issue, the nature of the risk involved, rather than on the reasonableness of any fear plaintiffs may experience, it will be appropriate for use in both public and private nuisance actions. Furthermore, because it does not depend upon an interference with the comfortable enjoyment of property, the proposed standard is not restricted to residential property, but can be applied in all situations where any property owner's interests are threatened.

It is also important that the assessment of risk does not become so restrictive as to unreasonably hinder technological development, especially where courts are exercising a power to enjoin activity before it causes harm. By insisting that the usual balancing of the equities test be performed in all cases, the proposed anticipatory nuisance analysis allows for consideration of all relevant factors: the magnitude of injury, the probability of injury, and the social utility of the defendant's conduct. This test neither favors nor disfavors the development of technology.

The test employed in much of the reasonable-fear precedent, for example, favors the interests of risk-bearers, allowing an injunction to issue if any probability of injury is shown, therefore stifling potentially beneficial technological innovation. n209 The traditional anticipatory nuisance standard, in contrast, allows new technology to create risks regardless of its usefulness to society. The neutral nature of the proposed test, however, would hinder innovation only when the risk of injury it creates outweighs the benefits it offers.

Finally, and perhaps most importantly, the proposed anticipatory nuisance standard is entirely in keeping with the historical development **[*471]** of tort law. The tension between risk-creators and risk-bearers that has defined the evolution of tort doctrine has constantly shifted in response to technological advances. n210 Courts have tended to favor emerging technology that creates risk yet promises positive economic and social progress. Once a technology is established and the harm it creates becomes more manifest, the equilibrium tends to shift and courts adopt a neutral standard of risk assessment, or in some cases, as with strict liability, adopt a standard that favors the risk-bearer. n211

Although tort law's responses to simple industrial development have been primarily compensatory, today's more complex and potentially more hazardous technologies will in some situations create a need for judicial risk assessment prior to an injury taking place. n212 If tort law is to play a continuing role in regulating the risks that modern society imposes upon individuals and the environment, courts must be willing to abandon traditional anticipatory nuisance doctrine. If it clings to the traditional doctrine, which strongly favors risk-creators, tort law will be unable to address effectively the unique and potentially catastrophic threats of injury created by modern technology.

VI. CONCLUSION

Tort law as we know it today has evolved largely in response to risks of injury created by technology. As technology has become increasingly sophisticated and powerful, however, it has created risks of potentially unlimited or catastrophic harm that cannot be addressed adequately within the framework of a strictly compensatory tort system. Anticipatory nuisance in its present form allows for the enjoining of threats of future harm, but only when it is highly probable that such harm will occur. Courts in some instances have managed to enjoin low-probability risks of future harm by focusing on the way in which a plaintiff's fear interferes with the comfortable enjoyment of property. This approach, however, is too restricted in its application and may thwart technological innovations that are not unreasonably dangerous.

[*472] By reforming anticipatory nuisance doctrine to allow for consideration of both the probability and magnitude of injury in relation to one another, and by insisting that the equities of a plaintiff's interests be weighed against the utility of a defendant's conduct in all cases, courts will be able to assess risks of future harm rationally and objectively without unreasonably hindering technological and social progress.

Legal Topics:

For related research and practice materials, see the following legal topics:
Education LawCivil LiabilityGeneral OverviewReal Property LawTortsNuisanceRemediesInjunctionsPrerequisitesInjuryReal Property LawTortsNuisanceTypesPublic Nuisance

FOOTNOTES:

n1 *See* K. VONNEGUT, CAT'S CRADLE (1963). Vonnegut hypothesized an agent, Ice Nine, developed by the military as a weapon, which posed just such a threat. The significance of the threat is explored at various points in Vonnegut's fiction and essays.

n2 *See* Californians for Responsible Toxics Management v. Berryhill, No. 342097 (Cal. Super. Ct. Apr. 23, 1987). This unreported case, in a scenario similar to the one posed here, involved a genetic engineering firm seeking to test a bacterium, Frostban, which lowered the freezing point of water. Such a bacteria might help farmers reduce frost damage to their crops. Plaintiffs sought unsuccessfully to block open-air testing of Frostban by challenging the permitting process and never raised any common-law nuisance claims.

n3 PROSSER & KEETON, THE LAW OF TORTS § 1 (5th ed. 1984). "The law of torts, then, is concerned with the allocation of losses arising out of human activities . . . The purpose of the law of torts is to adjust these losses, and to afford compensation for injuries sustained by one person as the result of the conduct of another." *Id*. at 6 (citing Wright, *Introduction to the Law of Torts*, 8 CAMB. L.J. 238 (1944)).

n4 *See* Rylands v. Fletcher, L.R. 3 H.L. 330 (1868) (first major case to articulate the doctrine of strict liability). Generally, the modern rationale behind the doctrine is that a defendant will be allowed to engage in abnormally dangerous activity when the benefits of the activity outweigh the risk it creates. The activity, however "must pay its way," and the defendant will be held strictly liable for any harm that results. PROSSER & KEETON, *supra* note 3, § 75, at 536-37.

n5 PROSSER & KEETON, *supra* note 3, § 89, at 640.

n6 *Id*. at 640-41. *See generally* Comment, *An Ounce of Prevention: Rehabilitating the Anticipatory Nuisance Doctrine*, 15 B.C. ENVTL. AFF. L. REV. 627 (1988) (authored by Andrew H. Sharp).

n7 PROSSER & KEETON, *supra* note 3, § 89, at 640-41 (citing, *e.g.*, Hamilton Corp. v. Julian, 130 Md. 597, 101 A. 558 (1917); Nelson v. Swedish Evangelical Cemetery Ass'n, 111 Minn. 149, 127 N.W. 626 (1910)).

n8 *See* Furrow, *Governing Science: Public Risks and Private Remedies*, 131 U. PENN. L. REV. 1403, 1408 (1983).

n9 *E.g.*, Purcell v. Davis, 100 Mont. 480, 494, 50 P.2d 255, 258 (1935) (court refused to enjoin proposed oil refinery in residential neighborhood due to uncertainty of threatened noxious fumes, explosions, and fire).

n10 W. LANDES & R. POSNER, THE ECONOMIC STRUCTURE OF TORT LAW 2 (1987). The first causes of action were in intentional tort, wherein damages could be recovered through the writ of trespass *vi et armis* (by force and arms) in battery cases. For a brief discussion of the development of trespass writs, see J.H. BAKER, AN INTRODUCTION TO ENGLISH LEGAL HISTORY 56-59 (1979).

n11 L. FRIEDMAN, A HISTORY OF AMERICAN LAW 409 (1973); LANDES & POSNER, *supra* note 10, at 2-3; SPECIAL COMMITTEE ON THE TORT LIABILITY SYSTEM, AMERICAN BAR ASSOCIATION, TOWARDS A JURISPRUDENCE OF INJURY: THE CONTINUING CREATION OF A SYSTEM OF SUBSTANTIVE JUSTICE IN AMERICAN TORT LAW 1-2 (Report to the American Bar Association 1984) [hereinafter ABA Report].

n12 L. FRIEDMAN, *supra* note 11, at 409. The first treatise on tort law was not published until 1859. *Id*. *See* F. HILLIARD, THE LAW OF TORTS, OR PRIVATE WRONGS (1859). Little more than 20 years later, a great deal of literature had grown up around the subject. *See, e.g.*, O. HOLMES, THE COMMON LAW chs. 3-4 (1881).

n13 L. FRIEDMAN, *supra* note 11, at 409. A good portion of the new tort suits being brought in the mid- to late nineteenth century were directly attributable to the dramatic growth of the railroad. "In 1840, there were less than 3,000 miles of track in the United States; by 1850, 9,000; by 1860, 30,000; by 1870, 52,000. Personal-injury cases grew as fast as trackage." *Id*. at 412.

n14 *E.g.*, Langan v. Valicopters, Inc., 88 Wash. 2d 855, 567 P.2d 218 (1977).

n15 *E.g.*, MacPherson v. Buick Motor Co., 217 N.Y. 382, 111 N.E. 1050 (1916); Baxter v. Ford Motor Co., 168 Wash. 456, 12 P.2d 409 (1932).

n16 *E.g.*, Sindell v. Abbott Laboratories, 26 Cal. 3d 588, 607 P.2d 924, 163 Cal. Rptr. 132, *cert. denied*, 449 U.S. 912 (1980).

n17 *E.g.*, Palsgraf v. Long Island R.R. Co., 248 N.Y. 339, 162 N.E. 99 (1928); Petition of Kinsman Transit Co., 338 F.2d 708 (1964).

n18 *E.g.*, Butterfield v. Forrester, 11 East 60, 103 Eng. Rep. 926 (1809) (contributory negligence); Li v. Yellow Cab Co., 13 Cal. 3d 804, 532 P.2d 1226 (1975) (comparative negligence).

n19 *E.g.*, Chicago, B. & Q. R.R. Co. v. Krayenbuhl, 65 Neb. 889, 91 N.W. 880 (1902); Davison v. Snohomish County, 149 Wash. 109, 270 P. 422 (1928).

n20 *See generally* L. FRIEDMAN, *supra* note 11, at 409; ABA Report, *supra* note 11, at 1-2. "It is no coincidence . . . that the blossoming of tort law has occurred parallel to the rise in complexity of economic ordering technology . . . Tort law has been a response to all of those developments, providing some suppleness in the joints of the legal system as events place strains on the social order." *Id*.

n21 *See* L. FRIEDMAN, *supra* note 11, at 409-27.

n22 *Id*. at 410. "In this first generation of tort law, the railroad was the prince of machines, both as symbol and as fact. It was the key to economic development. It cleared an iron path through the wilderness. It bound cities together, and tied the farms to the city and seaports." *Id*.

n23 *Id*. at 409-27. For an especially compelling example of a court seeking to protect a railroad from potentially debilitating liability, see Ryan v. New York Central Railroad, 35 N.Y. 210 (1866). The defendant railroad negligently allowed one of its engines to set fire to a woodshed on its property. From there, the fire spread to a neighboring house and thence to several others. The court found the damage to the houses was too remote and denied recovery. *Id.* "The railroad in *Ryan* was held not liable precisely because the harm it caused was *too* great even though the damage could clearly, morally, be laid at its door." L. FRIEDMAN, *supra* note 11, at 411 (emphasis in original).

n24 L. FRIEDMAN, *supra* note 11, at 422. "The railway injury rate doubled between 1889 and 1906. At the turn of the century, industrial accidents were claiming about 35,000 lives a year, and inflicting close to 2,000,000 injuries." *Id*.

n25 *Id*. at 417-27. Also, a good deal of the reaction to the harsh common-law rules adopted in the mid-nineteenth century came in the form of statutory reform initiated by legislatures. *Id*.

n26 *See id*. at 409-27.

n27 *Id*. "[T]rains were also wild beasts; they roared through the countryside, killing livestock, setting fire to crops, smashing passengers and freight." *Id*. at 410.

n28 *E.g*., MacPherson v. Buick Motor Co., 217 N.Y. 382, 111 N.E. 1050 (1916) (court held that, although an automobile is not inherently dangerous, it was foreseeable that it would pose an imminent threat if negligently constructed). Just as railroads dominated personal injury law in the latter half of the nineteenth century, automobiles increasingly dominated it in the first half of the twentieth century. "In some states in the 1950's, wrecks on the highway accounted for up to forty per cent of the cases decided by appellate courts." L. FRIEDMAN, *supra* note 11, at 588.

n29 Furrow, *supra* note 8, at 1408; Bohrer, *Fear and Trembling in the Twentieth Century: Technological Risk, Uncertainty and Emotional Distress*, 1984 WIS. L. REV. 83, 86-89 (1984).

n30 Bohrer, *supra* note 29, at 86-89.

n31 *Id*. at 86.

n32 *Id*. at 86-89.

n33 *Id*. Furthermore, as technology has become more complex, the analytical nature of technical risk management has changed. *See generally* Whipple, *Fundamentals of Risk Assessment*, 16 Envtl. L. Rep. (Envtl. L. Inst.) 10190 (Aug. 1986). Engineers and scientists can no longer rely on the traditional trial-and-error method of identifying weaknesses in design, but increasingly work with technologies that "demand a predictive method that does not require error for learning." *Id*. at 10191.

n34 *Compare, e.g.*, Bohrer, *supra* note 29 *with* Huber, *Safety and Second Best: The Hazards of Public Risk Management in the Courts*, 85 COLUM. L. REV. 277 (1985). These two writers provide good examples of the well-reasoned extremes that may be reached in arguing this issue. Bohrer goes so far as to argue that the threat of harm from twentieth century technology is distinct enough to be recognized as compensable emotional distress at common law. Bohrer, *supra* note 29, at 122. Huber, in contrast, urges that common-law judges may so mishandle complex risk assessment problems as to inadvertently increase the total amount of harm to which people are exposed and argues that administrative agencies are better equipped to handle the task. His article provides a good critical survey of the literature in favor of an increased judicial role. Huber, *supra*, at 329.

n35 *E.g.*, Huber, *supra* note 34, at 329; Stewart, *The Role of Courts in Risk Management*, 16 Envtl. L. Rep. (Envtl. L. Inst.) 10208, 10209 (Aug. 1986). *See generally* Pedersen, *What Judges Should Know About Risk*, 2 NATURAL RESOURCES & ENV'T 35 (Fall 1986).

n36 *E.g.*, Huber, *supra* note 34, at 329; Stewart, *supra* note 35, at 10209.

n37 *See, e.g.*, Furrow, *supra* note 8, at 1434.

n38 *See, e.g., id*. at 1412-16.

n39 *See, e.g., id*. at 1432-34.

n40 *See* ABA Report, *supra* note 11, at 12-1 to 12-6. Tort law can play an important role "knitting" together statutes and regulatory schemes and is flexible enough to provide individualized justice. Furthermore, the decentralized nature of case-by-case tort litigation produces a body of law more immediately responsive to problems arising in a complex society and allows for the ongoing identification of moral issues and problems that may not be directly addressed by administrative agencies. *Id*.

n41 Furrow, *supra* note 8, at 1429-30.

n42 ABA Report, *supra* note 11, at 4-3 to 4-4. "A strong thread running through tort law is judicial desire to reduce the number and severity of accidents." *Id*. at 4-3.

n43 United States v. Carroll Towing Co., 159 F.2d 169, 173 (2d Cir. 1947).

n44 *See, e.g.*, Brizendine v. Visador Co., 305 F. Supp. 157, 160 (D. Or. 1969); Tillman v. Vance Equip. Co., 286 Or. 747, 756, 596 P.2d 1299, 1304 (1979).

n45 *See* Comment, *supra* note 6, at 629.

n46 *Id*. at 628.

n47 *See id*. at 629.

n48 PROSSER & KEETON, *supra* note 3, § 86, at 616. "It has meant all things to all people, and has been applied indiscriminately to everything from an alarming advertisement to a cockroach baked in a pie." *Id*. (citing Commonwealth v. Cassidy, 6 Phila. 82 (1865); Carroll v. New York Pie Baking Co., 215 A.D. 240, 213 N.Y.S. 552 (1926)). *See also* ABA Report, *supra* note 11, at 5-57:

If legal doctrines were analogized to biological development, the theory of nuisance would be said to have one of the most complex genetic inheritances in the field of torts. It partakes of all of the major theories of culpability, and it is a prism for competing views of the equities and the economics of injury laws.

Id.

n49 *See* Furrow, *supra* note 8, at 1438. "It has come to be viewed as little more than an historical source of ideas useful in establishing administrative risk-assessment procedures, a way station on the path to public regulation." *Id*. One commentator suggests that plaintiffs are less apt to bring actions in anticipatory nuisance because of the sometimes vague nature of the doctrine. Comment, *supra* note 6, at 632.

n50 PROSSER & KEETON, *supra* note 3, § 86, at 619-23. The concept of private nuisance as an action at law developed as early as the thirteenth century in the form of the assize of nuisance, a criminal writ that also offered civil relief and protected a plaintiff's land from invasions resulting from conduct taking place wholly on a defendant's property. The assize of nuisance was later supplanted by the action on the case for nuisance, limited to local interference with the use and enjoyment of private land. *Id*. at 617.

n51 *Id*. § 88, at 629.

n52 *Id*. at 627-28.

n53 *Id*. § 87, at 619-20. A private nuisance "may consist of a disturbance of the comfort or convenience of the occupant, as by unpleasant odors, smoke or dust or gas, loud noises, excessive light or high temperatures, or even repeated phone calls." *Id*. (citations omitted).

n54 RESTATEMENT (SECOND) OF TORTS § 821B(1) (1979) [hereinafter RESTATEMENT].

n55 PROSSER & KEETON, *supra* note 3, § 90, at 643. Public nuisance evolved as a strictly criminal action that protected the rights of the crown and the public in general. Originally, this action was restricted to encroachments upon royal property or the public highways, known as purprestures, and also came to be referred to as nuisance. *Id*. § 86, at 617-18. Gradually, its boundaries were expanded to include "any act not warranted by law, or omission to discharge a legal duty, which inconveniences the public in the exercise of rights common to all Her Majesty's subjects." *Id*. at 618 (citing STEPHEN, GENERAL VIEW OF THE CRIMINAL LAW OF ENGLAND 105 (1890)). By the sixteenth century, the action could be brought by private individuals in civil suits. *Id*.

n56 *Id*. at 645-46; RESTATEMENT, *supra* note 54, § 821B comment d.

n57 PROSSER & KEETON, *supra* note 3, § 90, at 646; RESTATEMENT, *supra* note 54, § 821C(1).

n58 Furrow, *supra* note 8, at 1438 (citing Ellickson, *Alternatives to Zoning: Covenants, Nuisance Rules, and Fines as Land Use Controls*, 40 U. CHI. L. REV. 681 (1973)).

n59 *Id*. at 1439.

n60 *Id*. at 1441-42 nn.171-72. Judges tended to protect industrial property owners by creating partial immunities based on statutory authorizations. Also, standards of care were applied differently to factories and railroads than they were to individual property owners. *Id*.

n61 PROSSER & KEETON, *supra* note 3, § 89, at 637.

n62 *See id*. § 88A, at 630.

n63 *Id*. at 631.

n64 *Id*.

n65 *Id*. at 630.

n66 *See id*. at 631.

n67 *E.g*., Boomer v. Atlantic Cement Co., 26 N.Y.2d 219, 257 N.E.2d 870, 309 N.Y.S.2d 604 (1970). In *Boomer*, the court found that the public benefit of the defendant's cement plant outweighed the harm caused by cement dust drifting onto the plaintiff's property. Thus, instead of closing down the cement plant, the defendant was required to pay permanent damages equal to the diminution in the value of the plaintiff's property. *Id*. at 875.

n68 PROSSER & KEETON, *supra* note 3, § 89, at 640.

n69 *Id*. Courts may also find adequate grounds for injunctive relief when continuation of the defendant's conduct might create a prescriptive easement over the plaintiff's land. *Id*.

n70 *Id*. § 86, at 618.

n71 Comment, *supra* note 6, at 628-29.

n72 *See* Holke v. Herman, 87 Mo. App. 125, 134-35 (1900).

n73 *Id*.

n74 *Id*. at 130-33.

n75 *Id*. at 135.

n76 *Id*. at 142.

n77 *Id*. at 141. "The doctrine so often stated, that courts of equity are reluctant to restrain a threatened nuisance involves the converse proposition, that they will do so when it is apparent or extremely probable a nuisance will be created." *Id*.

n78 Comment, *supra* note 6, at 632-33. The majority of anticipatory nuisance actions are brought in state courts. Thus, most confusion as to how to apply the doctrine has been at the state level. Federal courts rarely see anticipatory nuisance cases and therefore have been able to develop the doctrine more consistently. *Id*.

n79 *Id*. at 630-31.

n80 *Id*. at 630 (citing Marshall v. Consumers' Power Co., 65 Mich. App. 237, 265-66, 237 N.W.2d 266, 283 (1975)).

n81 City of Bowie v. Board of County Comm'rs, 260 Md. 116, 127-28, 271 A.2d 657, 663 (1970); Comment, *supra* note 6, at 638-39. But not all illegal conduct can necessarily be termed a nuisance per se. Padjen v. Shipley, 553 P.2d 938, 939 (Utah 1976) (holding that violation of a local ordinance requiring defendant to keep his dogs 40 feet from plaintiff's home was not nuisance per se).

n82 *E.g*., Purcell v. Davis, 100 Mont. 480, 494, 50 P.2d 255, 258 (1935). *See generally* Comment, *supra* note 6, at 639-40.

n83 100 Mont. 480, 50 P.2d 255.

n84 *Id*. at 492, 50 P.2d at 257.

n85 *Id*. at 494, 50 P.2d at 258.

n86 *Id*. at 491, 50 P.2d at 257.

n87 281 F.2d 465 (1st Cir. 1960).

n88 *Id*. at 474 (applying Rhode Island law).

n89 Holke v. Herman, 87 Mo. App. 125, 141 (1900). The *Holke* court did not rule on whether the pond was in fact enjoinable, but found there was enough evidence to argue the claim and ruled that the plaintiffs could amend their complaint. *Id*. at 142.

n90 389 P.2d 506 (Okla. 1964).

n91 *Id*. at 509 (court found no reasonable probability that plaintiff would be injured by defendant's proposed sewage treatment facility).

n92 Pennsylvania Co. for Insurance v. Sun Co., 290 Pa. 404, 413, 138 A. 909, 912 (1927).

n93 Lauderdale County Bd. of Educ. v. Alexander, 269 Ala. 79, 85, 110 So. 2d 911, 916 (1959).

n94 Fink v. Board of Trustees of S. Ill. Univ., 71 Ill. App. 2d 276, 281, 218 N.E.2d 240, 244 (1966).

n95 *See* ALA. CODE § 6-5-125 (1975); GA. CODE ANN. § 41-2-4 (Harrison 1980).

n96 ALA. CODE § 6-5-125.

n97 GA. CODE ANN. § 41-2-4. For a more detailed analysis of how courts have applied the Georgia and Alabama statutes, see Comment, *supra* note 6, at 645-48.

n98 PROSSER & KEETON, *supra* note 3, § 89, at 640-41. This treatise summarizes the general rule most succinctly: "The defendant may be restrained from entering upon an activity where it is highly probable that it will lead to a nuisance, although if the possibility is merely uncertain or contingent he may be left to his remedy of damages until after the nuisance has occurred." *Id.* For a more detailed discussion of what tests courts have used in anticipatory nuisance analysis, see generally Comment, *supra* note 6.

n99 *See, e.g.*, Purcell v. Davis, 100 Mont. 480, 494, 50 P.2d 255, 258 (1935); Commerce Oil Ref. Corp. v. Miner, 281 F.2d 465, 474 (1st Cir. 1960); O'Laughlin v. City of Fort Gibson, 389 P.2d 506, 509 (Okla. 1964).

n100 *See supra* note 99.

n101 *Supra* notes 63-65 and accompanying text.

n102 *See supra* note 99.

n103 Comment, *supra* note 6, at 632.

n104 *See, e.g.*, Turner v. City of Spokane, 39 Wash. 2d 332, 235 P.2d 300 (1951). In *Turner*, the court refused to enjoin a proposed rock-crushing plant, citing no rule, stating only that the threat to plaintiffs was "not of sufficient imminence." *Id.* at 335, 235 P.2d at 301.

n105 *See* Commerce Oil Ref Corp. v. Miner, 281 F.2d 465, 474 (1st Cir. 1960); Comment, *supra* note 6, at 632.

n106 *See generally, e.g.*, Hays v. Hartfield L-P Gas, 159 Ind. App. 297, 306 N. E.2d 373 (1974) (no injunction against 30,000 gallon propane tank within 300 feet of plaintiff's home); *Turner*, 39 Wash. 2d 332, 235 P.2d 300 (no injunction against rock-crushing plant in residential area); Purcell v. Davis, 100 Mont. 480, 50 P.2d 255 (1935) (no injunction against oil refinery 430 feet from plaintiff's home).

n107 *E.g.*, Wood v. Town of Wilton, 156 Conn. 304, 312, 240 A.2d 904, 908 (1968) (plaintiffs may receive injunction if proposed dump in residential area later creates a nuisance); *Hays*, 159 Ind. App. at 303, 306 N.E.2d at 377 (plaintiffs may enjoin proposed propane tank if it later creates a nuisance); *Turner*, 39 Wash. 2d. at 337-38, 235 P.2d at 303 (plaintiffs may enjoin proposed rock-crushing plant if it later creates a nuisance).

n108 *See supra* notes 27-33 and accompanying text.

n109 *See id.*

n110 *See id.*

n111 *See* Comment, *supra* note 6, at 641-42.

n112 *See* Ferry v. City of Seattle, 116 Wash. 661, 667, 203 P. 40, 42 (1922); Village of Wilsonville v. SCA Services, Inc., 86 Ill, 2d 1, 37-38, 426 N.E.2d 824, 842 (1981) (Ryan, J., concurring).

n113 *E.g.*, Stotler v. Rochelle, 83 Kan. 86, 91, 109 P. 788, 790 (1910).

n114 *See id*.

n115 *Id*.

n116 131 Ind. 408, 31 N.E. 61 (1892).

n117 *Id*. at 408-09, 31 N.E. at 61.

n118 *Id*. at 410, 31 N.E. at 61.

n119 *Id*. at 412, 31 N.E. at 62.

n120 *See id*.

n121 83 Kan. 86, 109 P. 788 (1910).

n122 *Id*. at 86-87, 109 P. at 788.

n123 *Id*. at 91, 109 P. at 790.

n124 *Id*.

n125 61 Wash. 47, 111 P. 879 (1910).

n126 *Id*. at 51-52, 111 P. at 881. Note that the sanitarium here was already operating, while the cancer hospital in *Stotler* had not yet been established. *Stotler*, 83 Kan. at 86, 109 P. at 788. One interesting feature of the comfortable enjoyment doctrine is that, once a court has acceded to the assessment of risk in terms of fear, the distinction between a threat currently in place and one not yet established becomes irrelevant. In other words, courts seem to assume that fear will result from the proposed activity and proceed to analyze the problem in terms of a present nuisance. *Compare, e.g.*, Goodrich v. Starrett, 108 Wash. 437, 184 P. 220 (1919) (injunction against existing funeral home which plaintiffs feared would spread disease) *with* Bragg v. Ives, 149 Va. 482, 140 S.E. 656 (1927) (injunction against proposed funeral home on same grounds). This assumption may be particularly significant in actions against proposed activity that may be more or less likely to inflict harm if it is or is not conducted negligently. *See, e.g.*, Densmore v. Evergreen Camp, No. 147, Woodmen of the World, 61 Wash. 230, 231-32, 112 P. 255, 255 (1910) (court declined to consider defendant's assertion that proposed funeral home would be operated safely).

n127 *Everett*, 61 Wash. at 48, 111 P. at 879.

n128 *Id*. at 51-52, 111 P. at 881. An ancillary question raised by the *Everett* decision and others following it is whether or not the protection of comfortable enjoyment follows from a common-law or statutory definition of nuisance. *Id*. at 50, 111 P. at 880; *see also* Ferry v. City of Seattle, 116 Wash. 661, 664, 203 P. 40, 41 (1922). The *Everett* court, and those citing it as controlling within the same jurisdiction, apparently did not believe their reliance on the concept of comfortable enjoyment was supported at common law, but only by the Washington legislature's definition of nuisance as "unlawfully doing an act or omitting to perform a duty, which act or omission either annoys, injures or endangers the comfort, repose, health or safety of others." 61 Wash. at 50, 111 P. at 880 (citing REM. AND BAL. CODE, § 8309); *see also Ferry*, 116 Wash. at 664, 203 P. at 41 (citing same). It is clear, however, that interference with the enjoyment of property has generally been termed a nuisance at

common law. *See* PROSSER & KEETON, *supra* note 3, § 87, at 619-20; RESTATEMENT, *supra* note 54, § 821D. Furthermore, the *Everett* court itself cites with approval the *Stotler* decision, handed down only five months earlier in another jurisdiction, which based its holding entirely on common-law precedent. *Everett*, 61 Wash. at 53, 111 P. at 881; *see also Stotler*, 83 Kan. at 88-91, 109 P. at 789-90.

Some courts, however, have shown themselves plainly hostile to using comfortable enjoyment doctrine to issue preemptive injunctions. *See, e.g.*, O'Laughlin v. City of Fort Gibson, 389 P.2d 506, 509 (Okla. 1964) (no injunction against proposed sewage treatment facility); Nicholson v. Connecticut Halfway House, Inc., 153 Conn. 507, 510-11, 218 A.2d 383, 385-86 (1966) (no injunction against proposed boarding house for state prison parolees). Such courts note the precedent established by cases like *Stotler* and *Everett*, but refuse to follow it, citing instead the conventional anticipatory nuisance rule that there must be a "clear and convincing" probability of injury. *O'Laughlin*, 389 P.2d at 509. These cases tend to involve situations where the evidence weighs heavily against irreparable harm taking place, or where the threatened harm itself is of such a compensable nature that the court is willing to wait and see if it takes place. *E.g., id*. Courts declining to follow such decisions as *Stotler*, however, have sometimes conceded that an injunction against a threat of future injury on the basis of the fear it creates may be appropriate in "extreme" situations. *Id*.

n129 City of Baltimore v. Fairfield Improvement Co. of Baltimore, 87 Md. 352, 364-66, 39 A. 1081, 1084 (1898).

n130 87 Md. 352, 39 A. 1081.

n131 *Id*. at 365, 39 A. at 1084.

n132 *Id.*

n133 Everett v. Paschall, 61 Wash, 47, 51, 111 P. 879, 880 (1910).

n134 *See id*. at 52-53, 111 P. at 881.

n135 *Id*.

n136 *Id*.

n137 *E.g.*, Stotler v. Rochelle, 83 Kan. 86, 91, 109 P. 788, 790 (1910) (question is whether plaintiffs have a reasonable ground upon which to base fears of contagion).

n138 *Compare* Goodrich v. Starrett, 108 Wash. 437, 439-42, 184 P. 220, 221-22 (1919) (court enjoined funeral home where evidence indicated some chance of infection) *with* Dean v. Powell Undertaking Co., 55 Cal. App. 545, 548, 203 P. 1015, 1017 (1922) (no injunction against funeral home where plaintiff asserted only that he was depressed by its presence and introduced no evidence of a threat of contagion); *see also* Hays v. Hartfield L-P Gas, 159 Ind. App. 297, 301, 306 N.E.2d 373, 376 (1974) (injunction denied because plaintiff failed to introduce any evidence that propane gas tank adjacent to his home might actually explode). *But see* Tyner v. People's Gas Co., 131 Ind. 408, 31 N.E. 61 (1892) (injunction against storage and use of nitroglycerin with no discussion or evidence of probability of explosion).

n139 *See supra* note 98 and accompanying text.

n140 116 Wash. 648, 200 P. 336 (1921).

n141 *Id*. at 655-56, 200 P. at 339.

n142 *Id*. at 658-59, 200 P. at 340.

n143 *Id*.

n144 Ferry v. City of Seattle, 116 Wash. 661, 203 P. 40 (1922) (the ease was first heard on Aug. 29, 1921, then reheard on Jan. 3, 1922).

n145 *Id*. at 662-63, 203 P. at 40.

n146 *Id*.

n147 *Id*.

n148 *Id*. at 667, 203 P. at 42.

n149 *See id*.

n150 *See supra* notes 98-100 and accompanying text.

n151 *See supra* notes 116-48 and accompanying text.

n152 *See* Blackburn v. Bishop, 299 S.W. 264, 271 (Tex. Civ. App. 1927). The extra vigilance with which this court was willing to guard the plaintiff's interest in his home was manifest in its description of that interest:

During all recorded time, man has enveloped the home with a sanctity that is not given to any other place on earth . . .

Always 'home' has meant peace and contentment, and man's rest under his own vine and fig tree are symbolical of such a condition. Holy Writ gives us such a picture when it says: 'Judah and Israel dwelt safely, every man under his vine and under his fig tree from Dan even unto Beersheba, all the days of Solomon.'

Id. (citing 1 *Kings* 4:25).

n153 For a brief explanation of public nuisance, see *supra* notes 54-57 and accompanying text.

n154 *See supra* notes 116-48 and accompanying text.

n155 *See supra* notes 79-90 and accompanying text.

n156 *See* Stotler v. Rochelle, 83 Kan. 86, 109 P. 788 (1910); Everett v. Paschall, 61 Wash. 47, 111 P. 879 (1910). For an explanation of balancing of the equities as applied in nuisance, see *supra* notes 63-65 and accompanying text.

n157 *See supra* notes 100-02 and accompanying text.

n158 *See supra* note 156.

n159 *See* Ferry v. City of Seattle, 116 Wash. 661, 662-63, 203 P. 40, 40 (1922).

n160 In the Man-Bug scenario, for example, homeowners threatened by the Ice-Ten tests would be able to seek injunctions on the basis of the reasonable-fear precedent, but farmers or commercial property owners would be unable to do so. *See supra* notes 1-2 and accompanying text.

n161 *See supra* notes 116-48 and accompanying text.

n162 *See, e.g.*, Harris Stanley Coal & Land Co. v. Chesapeake & Ohio Ry. Co., 154 F.2d 450 (6th Cir. 1946); Village of Wilsonville v. SCA Services, Inc., 86 Ill. 2d 1, 37-38, 426 N.E.2d 824, 842 (1981) (Ryan, J., concurring).

n163 *See Harris Stanley*, 154 F.2d at 453.

n164 154 F.2d 450.

n165 *Id*. at 451.

n166 *Id*. at 452.

n167 *Id*.

n168 *See id*. at 453.

n169 *Id*.

n170 *See id*.

n171 *See it*. Furthermore, the facts of the *Harris Stanley* case do not lend themselves to treatment through the reasonable-fear analysis. Although the railroad may indeed entertain reasonable fears as to the safety of its trains, freight, and passengers, it is difficult to assert that the fear somehow interferes with the railroad's "comfortable enjoyment" of its track. *See supra* note 152 and accompanying text.

n172 86 Ill. 2d 1, 426 N.E .2d 824 (1981).

n173 *Id*. at 6, 426 N.E.2d at 826-27.

n174 *Id*. at 7, 426 N.E.2d at 827.

n175 *Id*. at 10-11, 426 N.E.2d at 829. The landfill site drained toward the south, away from the village itself but toward nearby farmland. Although most of the village's water supply was purchased from another town, there were several springs and wells in the area, which were used to water gardens, livestock, and pets. At least

two residents were using, or planned to use, local groundwater for drinking purposes. *Id*. at 8, 426 N.E.2d at 828.

n176 *Id*. at 12-13, 426 N.E.2d at 830.

n177 Village of Wilsonville v. SCA Services, Inc., 77 Ill. App. 3d 618, 622, 396 N.E.2d 552, 553-54 (1979).

n178 *Id*.

n179 *Id*. at 633, 396 N.E.2d at 562.

n180 *Id*.

n181 *Id*. at 634-35, 396 N.E.2d at 563.

n182 *See id*.

n183 *See id*. at 633, 396 N.E.2d at 562.

n184 Village of Wilsonville v. SCA Services, Inc., 86 Ill. 2d 1, 14, 426 N.E.2d 824, 830 (1981).

n185 *See id*. at 25-26, 426 N.E.2d at 836.

n186 *Id*.

n187 *Id*. at 26-27, 426 N.E.2d at 836-37.

n188 *Id*. at 10, 426 N.E.2d at 828.

n189 *Id*. at 6-7, 426 N.E.2d at 827. Also, the case was tried in an emotionally and politically charged atmosphere. Rudolph, *Recent Decisions, Environmental Law/Nuisance*, 70 ILL. B.J. 586 (May 1982). Residents of the village, some of them armed, threatened drivers transporting waste to the site and urged that the landfill be blown up or the road to it blockaded. The state Attorney General also filed suit in the case, siding with the plaintiffs against both the defendant and the Illinois Environmental Protection Agency, thus continuing a running feud between the two offices. Finally, a number of local officials involved in the matter, including the state's attorney prosecuting the case and the trial judge, were up for reelection. *Id*. at 588.

n190 *See supra* note 181 and accompanying text. Furthermore, the Illinois EPA participated in all stages of the litigation and urged throughout that the landfill could be operated safely and should not be closed. Rudolph, *supra* note 189, at 586. Though an agency's word need not be taken as gospel, it seems unlikely that the Illinois EPA would militate actively in favor of the landfill remaining open if it was in fact highly likely to contaminate the area.

n191 *See Village of Wilsonville*, 86 Ill. 2d at 26-27, 426 N.E.2d at 836-37.

n192 *See* Village of Wilsonville v. SCA Services, Inc., 77 Ill. App. 3d 618, 633, 396 N.E.2d 552, 562 (1979).

n193 *Id.*

n194 *See Village of Wilsonville*, 86 Ill.2d at 37-38, 426 N.E.2d at 842. (Ryan, J., concurring).

n195 *Id.*

n196 *Id.*

n197 *See supra* notes 147-48 and accompanying text.

n198 *See id.*

n199 *See supra* note 68 and accompanying text.

n200 *Village of Wilsonville*, 86 Ill. 2d at 37-38, 426 N.E.2d at 842.

n201 *Id.*

n202 *See supra* notes 63-65 and accompanying text.

n203 159 F.2d 169 (2d Cir. 1947).

n204 *Id.* at 173.

n205 *See* PROSSER & KEETON, *supra* note 3, § 31, at 173.

n206 *See supra* notes 186-91 and accompanying text.

n207 *See supra* note 182 and accompanying text.

n208 *See supra* notes 151-54 and accompanying text.

n209 *See supra* notes 138-39 and accompanying text.

n210 *See supra* notes 10-26 and accompanying text.

n211 *See id.*

n212 *See supra* notes 27-33 and accompanying text.