Michigan Law Review

Volume 62 | Issue 5

1964

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MICHIGAN LAW REVIEW

Vol. 62 MARCH 1964 No. 5

RADIATION INJURIES: STATUTE OF LIMITATIONS INADEQUACIES IN TORT CASES†

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IN 1963 Consolidated Edison Company, which supplies electricity to the New York City metropolitan area, announced its intent to build a very large nuclear reactor in the middle of that city's millions of inhabitants.[1] Predictably, there was a loud and mixed reaction by various groups to the possible danger this might create for the general public, as distinguished from the workers who would operate the plant. One former chairman of the Atomic Energy Commission announced his opposition to such schemes because so many people would be endangered by harmful exposure to radiation if it should accidentally be discharged beyond the reactor site.[2] After substantial periods of operation the cores of such reactors inevitably contain large amounts of radioactive fission products. Even *The New York Times* editorially questioned the advisability of the proposed site for the same reasons.[3] Some suggested that the city's legislative council should prohibit such construction.[4] The ultimate decision in the dispute, however, will be made by the AEC because constitutionally the federal government has paramount power and, in the opinion of the present writers,[5] in the Atomic Energy Act of 1954[6] Congress superseded all local regulatory power regarding nuclear safety in the siting of such reactors. In the light of this conclusion, the reaction to

† Acknowledgment is gratefully made to the Michigan Memorial Phoenix Project, the Ford Foundation, and the W. W. Cook Endowment Fund for financial support of the research on which this article is based.

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1 N.Y. Times, May 10, 1963, p. 1, col. 4; Time, July 26, 1963, p. 42.

2 Lecture, "Whatever Happened to the Peaceful Atom?" delivered at Princeton University, Feb. 19, 1963. On the other side, see CONG. REC.—Appendix A5657 (remarks of Representative Holifield) (Sept. 9, 1963).

3 N.Y. Times, May 31, 1963, p. 24, col. 5.

4 See note 1 *supra.*

5 See STASON, ESTEP & PIERCE, ATOMS AND THE LAW 1002-74 (1959) [hereinafter cited as ATOMS AND THE LAW]. See also Estep & Adelman, *State Control of Radiation Hazards: An Intergovernmental Relations Problem,* 60 MICH. L. REV. 41, 58-63 (1961). For an earlier discussion, see Estep, *Federal Control of Health and Safety Standards in Peacetime Private Atomic Energy Activities,* 52 MICH. L. REV. 333 (1954).

6 68 Stat. 919 (1954), 42 U.S.C. § 2011 (1958).

the announcement of still another group focuses upon a problem which is more important to lawyers and to their clients.

The New York State Association of Trial Lawyers declared its intent to draft and seek enactment of legislative provisions to "overcome the absence of adequate common and statutory law on the liability arising from accidents caused by atomic development projects."[7] For some years a few lawyers have been warning the bar and the legislatures that existing rules were not adequate to handle the legal problems presented in radiation exposure cases. An analysis of many of these problems is available elsewhere,[8] but there is one problem which has had very little and certainly inadequate attention in the opinion of the present writers, *i.e.*, how long after exposure to radiation should a potential plaintiff be permitted to sue the allegedly liable defendant?

Some injuries from overexposure to radiation may manifest themselves within existing statutory limitations periods, at least under some liberal (or loose) judicial interpretations. Many injurious manifestations, however, will not arise for a great many years after exposure; it is the thesis of this article that some new legislative solutions must be adopted. Limiting the right to sue to the existing time periods as construed by many courts will be manifestly unfair to plaintiffs. A blanket, unconditional extension of the time period to as much as thirty years for all cases regardless of the local rule as to when the cause of action accrues, however, will place unrealistic burdens on defendants. This article, after first analyzing in detail the impact and inadequacies of existing statutory time limitations for radiation cases, will outline some more realistic provisions which legislatures should enact. The analysis here will be limited to general tort liability cases, workmen's compensation problems already having been considered in a companion article.[9]

One further initial comment should be made. The AEC will have a difficult task in balancing the competing interests which bear upon the request of Consolidated Edison Company to build in the heart of New York City.* Responsible sources claim that at long last competitive nuclear power is no longer just around the corner, but is a present reality if huge generating stations are built. The proof of these claims, however, lies in the building of

7 N.Y. Times, Aug. 12, 1963, p. 21, col. 1.

8 ATOMS AND THE LAW 1002-74.

9 Estep & Allan, *Radiation Injuries and Time Limitations in Workmen's Compensation Cases*, 62 MICH. L. REV. 259 (1963).

* After this article was in type, Consolidated Edison announced that it is withdrawing its application at this time. Atomic Indus. Forum Memo, Jan. 1964, p. 5.

operating plants. Clearly the economics of nuclear power will be much better if the plants can be built close to the main consumers, *i.e.*, large population concentrations. On the other hand, no responsible scientist or engineer will assert categorically that a large nuclear power plant cannot under any circumstances discharge extremely dangerous radioactive material beyond the confines of the reactor site. The AEC, therefore, conceivably could deny Consolidated's request. Nevertheless, neither this nor similar action would significantly decrease the need for modification of statute of limitations provisions. Although the numerous commercial power reactors already built, under construction, or definitely planned, are not so close to so many people as that proposed in New York City, they are not at isolated sites far from human populations. If a substantial accident should occur under the right conditions, certainly hundreds or thousands of the general public could be endangered, although in most accidents to date only employees have been exposed.[10] Even more important perhaps in measuring the need for immediate legal action is the potential hazard created by transporting large quantities of radioactive waste from reactor sites to burial grounds, and by the many thousands of much smaller radiation sources now authorized under AEC license. Therefore, it is now time to make some changes in our laws; the Consolidated Edison request serves only to dramatize the problem. The limitations difficulty exists no matter how the questions of whether to apply strict liability or negligence rules, of which types of injuries to cover, and of how to prove causal connection are answered.[11] The statute of limitations problem cannot be avoided; enactment of adequate statutory rules should not be delayed.

PRESENT LAW ON STATUTES OF LIMITATIONS

A. *When the Limitation Period Begins*

In deciding whether or not an action is barred, the initial determination usually involves the question of when the statute

10 See, *e.g.*, Gomberg, Bassett & Velez, Report on the Possible Effects on the Surrounding Population of an Assumed Release of Fission Products into the Atmosphere from 300-Megawatt Reactor Located at Lagoona Beach, Michigan (1957). For listings of actual accidents, see *Hearings Before the Subcommittee on Research and Development of the Joint Committee on Atomic Energy on Employee Radiation Hazards and Workmen's Compensation*, 86th Cong., 1st Sess. 855-58 (1959); Goodman, *Radiation Injuries*, 5 ATOMIC ENERGY L.J. 20 (1963); Saenger, *Radiation Accidents*, 84 AM. J. ROENTGENOLOGY 715, 722 (1960).

11 See detailed analysis of these questions in ATOMS AND THE LAW. See also Estep, *Radiation Injuries and Statistics: The Need for a New Approach to Injury Litigation*, 59 MICH. L. REV. 259 (1960).

started to run. Approximately ninety percent of the state statutes mark the beginning of the limitation period at the time the cause of action "accrued."[12] Of the remaining states, Florida and Wisconsin provide that an action shall be brought "within" the specified period;[13] Pennsylvania requires that suit be filed within a certain number of years "from the time when the injury was done";[14] Delaware and Louisiana measure the period from the date the damages or injuries "were sustained";[15] in Connecticut suit must be brought within a specified time "from the date of the act or omission complained of."[16] For certain tort actions involving injuries to the person or to real and personal property, Connecticut has established two limitation periods: "within one year from the date when the injury is first sustained or discovered or in the exercise of reasonable care should have been discovered," and "except that no such action may be brought more than three years from the date of the act or omission complained of."[17] Most of these statutory standards are relatively flexible, thus allowing the courts substantial discretion in deciding when the requisite circumstances existed which gave rise to a claim as a matter of substantive law.[18] The Missouri legislature, however, has prescribed definite criteria for determining the date of accrual: "[T]he cause of action shall not be deemed to accrue when the wrong is done or the technical breach of contract or duty occurs, but when the damage resulting therefrom is sustained and is capable of ascertainment, and, if more than one item of damage, then the last item, so that all resulting damage may be recovered, and full and complete relief obtained."[19]

Despite the apparent uniformity in statutory language, judicial construction of limitations statutes has resulted in a variety of approaches for selecting the point of time from which the period should be measured. Although the approaches are sometimes difficult to categorize, the subsequent discussion analyzes two principal lines of authority which are further divided into variations on each approach.[20] The majority of decisions designate the time

12 *E.g.*, CAL. CIV. PROC. CODE § 312; MINN. STAT. ANN. § 541.01 (1947).

13 FLA. STAT. ANN. ch. 95, § 11 (1960); WIS. STAT. ANN. § 330.19 (1958).

14 PA. STAT. ANN. tit. 12, § 31 (1953).

15 DEL. CODE ANN. tit. 10, § 8118 (Supp. 1962); LA. CIV. CODE ANN. art. 3537 (West 1953).

16 CONN. GEN. STAT. ANN. § 52-577 (1960).

17 CONN. GEN. STAT. ANN. § 52-584 (1960).

18 See *Developments in the Law—Statutes of Limitation*, 63 HARV. L. REV. 1177, 1200 (1950).

19 MO. ANN. STAT. § 516.100 (1949).

20 Compare McNeal, Bloom, Christovich, Cope, Cull, & DeJarnette, *The Statute of*

when the negligence or wrong occurred as the point of accrual of a cause of action. On the other hand, there appears to be a growing body of authority which measures the limitation period from the date on which the plaintiff had notice of his injury, or, in at least two cases, from the time the causal connection was ascertained by the injured party.

1. *At the Time of Negligence or Wrong*

In any action brought to recover damages caused by the tortious conduct of the defendant, the claimant must allege and prove that some legally protected interest has been invaded and, in order to recover more than nominal damages, that he has incurred an actual loss.[21] Therefore, it seems illogical to say that the statute of limitations started running prior to a legally compensable invasion of a protected interest, because it would be impossible to sustain an action without that essential element. This, however, is precisely the result which at least two courts have reached.[22] In both cases the defendants' wrongful conduct had occurred some years prior to the actual effect upon the plaintiffs. In one of the decisions, the anomalous result can be attributed to the selection by the Connecticut legislature of the language, "from the date of the act or omission complained of."[23] But the statute involved in the other decision employed the typical language of accrual; moreover, the court specifically recognized that the plaintiff could not have maintained an action before he had suffered an injury to his property caused by defendant's negligence.[24] Nevertheless, the court declared that recovery could not be permitted for negligent conduct occurring at an earlier date not within the statutory period, even though suit was brought shortly after the injurious

Limitations Problem in Relation to Atomic Energy Liability, 26 INS. COUNSEL J. 347, 349 (1959), where five possible points of time are mentioned with respect to when the limitation period could start running.

21 For example, in a suit based on negligent conduct of the defendant. PROSSER, TORTS 165 (2d ed. 1955).

22 Dincher v. Marlin Firearms Co., 198 F.2d 821 (2d Cir. 1952) (applying a Connecticut statute); Hooper v. Carr Lumber Co., 215 N.C. 308, 1 S.E.2d 818 (1939). See also Powers v. Planters Nat'l Bank & Trust Co., 219 N.C. 254, 13 S.E.2d 431 (1941).

23 CONN. GEN. STAT. ANN. § 52-577 (1960) (formerly § 8324). The Connecticut Supreme Court avoided a literal application of the statute in a case involving facts similar to those in *Dincher v. Marlin Firearms Co.* by construing the plaintiff's claim as one for failure to warn "that the defendant, although knowing that the cartridge, if defective, would be an inherently dangerous article and a source of unreasonable risk of injury to those who might use it, permitted it to be available for future use without indicating by label or otherwise the danger to which the user would expose himself." Thus, defendant's course of conduct continued to the time of injury, at which time the statute began to run. Handler v. Remington Arms Co., 144 Conn. 316, 321, 130 A.2d 793, 795 (1957).

24 Hooper v. Carr Lumber Co., 215 N.C. 308, 311, 1 S.E.2d 818, 820 (1939).

impact on plaintiff's property. Although it is unreasonable to hold that a claim can be barred by a limitation before the cause of action arises, these two decisions indicate that the defense may be successful when the wrongful conduct precedes the injury by a substantial period of time.

Obviously, such authority would be applicable in a radiation incident, especially if there were a significant time lapse between the negligent release of radioactive material and the actual exposure of the persons or property of those ultimately harmed. For example, disposal of waste products in a river, or even in a large lake or an ocean, might eventually contaminate the land of riparian owners or fish which are caught and sold. The wrongful conduct was the improper disposal and, applying the above analysis, the statute would begin to run from that time. However, the better reasoned decisions involving analogous circumstances have rejected that argument and have designated the time when the conduct resulted in injury to the plaintiff as the point from which the limitation statute began to run.[25] Even if the more reasonable approach were taken in these circumstances, the principal characteristic of radiation injuries which creates significant problems in avoiding an unreasonable limitations bar is the substantial delay between actual exposure and manifestation of the physical effects.

Usually a defendant's wrongful act and the resulting injury to a plaintiff's person or property are contemporaneous. Factual situations are not uncommon, however, in which the plaintiff is without notice of any wrongful conduct or any harm that he has suffered, although there may have been an invasion of his legally protected interests which has the potential for causing significant injury with the passage of time. Illustratively, a variety of items, including surgical sponges, rubber tubes, forceps, and broken needles, have been left in incisions following operations. The patient seldom realizes it until the foreign body reaction has manifested itself to such an extent that subsequent surgery is required and the object is found during the later operation.[26] Not infrequently the courts have held that the patient's action accrued at the moment the defendant allegedly committed his act constituting the malpractice, thereby barring the claim without a real opportunity for the plaintiff to obtain relief.[27] In addition, numerous cases

25 See, *e.g.*, White v. Schnoebelen, 91 N.H. 273, 18 A.2d 185 (1941); Foley v. Pittsburgh-Des Moines Co., 363 Pa. 1, 68 A.2d 517 (1949).

26 See, *e.g.*, Capucci v. Barone, 266 Mass. 578, 165 N.E. 653 (1929) (sponge); Thatcher v. De Tar, 351 Mo. 603, 173 S.W.2d 760 (1943) (surgical needle).

27 *E.g.*, Graham v. Updegraph, 144 Kan. 45, 58 P.2d 475 (1936) (cause of action accrued

involving latent injuries caused by exposure to deleterious substances have raised the limitation issue, and the courts have often sustained the position that the injury occurred when there was a wrongful invasion of personal or property rights, for at that moment liability for the wrongful exposure arose.[28]

One further illustration of a plaintiff without notice of his cause of action involves the situation where faulty workmanship results in the early deterioration of a structure, the consequential damage being the proximate result of the defendant's wrongful conduct. It has been held that the legal wrong occurred at the time the work was performed, and the damages subsequently discovered merely enhanced the loss resulting from that wrong.[29]

The three situations just described, and undoubtedly numerous others, are clearly analogous to the circumstances which will arise in radiation incidents. Because such cases will likely provide the judicial precedent for the interpretation of existing limitation statutes as applied to delayed manifestation radiation injuries, it becomes imperative to understand the courts' analysis in deciding when a cause of action accrued.

In *Schmidt v. Merchants Despatch Transp. Co.*,[30] the New York Court of Appeals articulated the rationale for starting the limitation period at that point of time when the facts first exist which would permit the plaintiff to succeed in an action against the defendant. At the moment of a wrongful invasion of personal or property rights a cause of action accrues, even though the injured party may be unaware of the existence of the wrong or injury.[31] Moreover, although "consequential damages may flow from an injury too slight to be noticed at the time it is inflicted," a new cause of action does not arise when such consequential damages are manifested.[32] With respect to the amount of the recovery in an action brought shortly after the right accrues, the court suggested

when defendant failed to remove some of the radium beads used for cancer therapy on the specified date for termination of the treatment); Coady v. Reins, 1 Mont. 424 (1872) (statute commenced to run the day defendant unskillfully set and treated plaintiff's fractured and dislocated arm). See generally Annot., 80 A.L.R.2d 368 (1961).

28 *E.g.*, Zimmerer v. General Elec. Co., 126 F. Supp. 690 (D. Conn. 1954); Schmidt v. Merchants Despatch Transp. Co., 270 N.Y. 287, 200 N.E. 824 (1936); Grant v. Fisher Flouring Mills Co., 181 Wash. 576, 44 P.2d 193 (1935).

29 Kennedy v. Johns-Manville Sales Corp., 135 Conn. 176, 62 A.2d 771 (1948); *cf.* White v. Schnoebelen, 91 N.H. 273, 18 A.2d 185 (1941), where an action for the negligent installation of a lightning rod was held not to be barred, because the mere possibility of injury would not have been sufficient to impose liability when the rod was installed.

30 270 N.Y. 287, 200 N.E. 824 (1936).

31 *Id.* at 300, 200 N.E. at 827.

32 *Ibid.; accord*, Ogg v. Robb, 181 Iowa 145, 162 N.W. 217 (1917).

that "so far as such consequential damages may be reasonably anticipated, they may be included in a recovery for the original injury, though even at the time of the trial they may not yet exist."[33] No mention is made, however, of consequential damages which could not be "reasonably anticipated," and presumably there could be no recovery for such damages.

If suit were brought at an early date when the potential loss is too uncertain to meet the standard for recovery, res judicata would preclude a second action when consequential damages are subsequently ascertained.[34] On the other hand, if the injured party awaits development of the consequential damages before bringing an action, his remedy will probably be barred by the statute of limitations. In order to avoid the limitations bar in this latter situation, the injured party must prove that at the time of impact the potentiality of future damage was so indefinite that full prospective damages were not recoverable, and, therefore, the statute should not run prior to maturation of substantial harm.[35] But this places the onerous burden on the plaintiff of proving that damages which have actually developed could not have been "reasonably anticipated" at the time of the initial injury. Adding to the dilemma of the plaintiff is the fact that often he has no notice of either the wrongful conduct or the slight harm he has immediately sustained, which makes it virtually impossible to obtain judicial relief in many of the cases involving latent injuries.

In a recent decision the New York Court of Appeals applied the *Schmidt* analysis in a suit for radiation-induced injuries.[36] A product sold by the defendant had been injected into plaintiff's sinuses for the purpose of making them perceptible in X-rays. Part of the substance, which was allegedly radioactive, remained in plaintiff's head and produced a carcinoma resulting in the loss of an eye fourteen years after the injection. The New York limitation period for claims based on negligence is three years.[37] The action was brought within two years after the eye was removed

33 Schmidt v. Merchants Despatch Transp. Co., 270 N.Y. 287, 300-01, 200 N.E. 824, 827 (1936). See ATOMS AND THE LAW 262 for a discussion of the standard of proof required to prove future injury. See also Annot., 85 A.L.R. 1010 (1933), regarding standards with respect to future pain and suffering.

34 The doctrine of merger would foreclose a second suit if plaintiff had obtained judgment in the first action, and if the defendant had been successful in the earlier suit he could plead the judgment in bar. See BLUME, AMERICAN CIVIL PROCEDURE 354-55 (1955).

35 See *Developments in the Law, supra* note 18, at 1206.

36 Schwartz v. Hayden Newport Chem. Corp., 12 N.Y.2d 212, 190 N.E.2d 253, 237 N.Y.S.2d 714 (1963).

37 N.Y. CIV. PRAC. ACT § 214(6).

and the plaintiff learned the supposed cause of his injury. Although recognizing that an action accrues only when there has been actual harm to the plaintiff, the court adopted the view expressed in *Schmidt* and assumed that the radioactive substance acted immediately upon the plaintiff's internal tissue. Thus, even though some actual deterioration of a plaintiff's bodily structure must occur before the statute begins to run, the immediate ionizing effect when human tissue is exposed to radioactive material[38] apparently will satisfy this requirement. A person who has unknowingly been exposed to nuclear radiation is therefore precluded from recovering for any serious physical effects which develop, since his action will be barred under the usual interpretation of limitations statutes.

The fact that plaintiff received notice of a slight injury, although he lacked knowledge of the full potential harm, has been a significant factor in certain cases.[39] Illustratively, in two actions brought in Florida each plaintiff suffered injuries which had developed from allegedly negligent X-ray treatment. In one, plaintiff experienced no burns or other reaction immediately, but developed sores several years later;[40] the other claimant suffered slight burns and an erythema reaction at the time of treatment, resulting in a cancerous condition some years subsequent.[41] In the former suit the statute of limitations was held not to start running until plaintiff had notice of her injury, *i.e.*, when the sores developed. The latter action, however, was barred because the limitation period was calculated from the date of defendant's negligence, since the plaintiff was put on notice of the invasion of a legal right. If a person were informed that he had been negligently exposed to a certain level of radiation, without experiencing immediate ill effects, would this be sufficient notice for his cause of action to accrue? Assuming that it would, he is then faced with the burden of proving consequential damages which are "reasonably anticipated," or possibly awaiting the development of actual injury which may occur at a time when his remedy is foreclosed by a limitations period.

To avoid the harsh result of just claims being barred, some courts have developed a theory of continuing negligence. When a series of breaches occurs or a particular relationship continues which existed when the wrongful act was committed, these courts

38 See ATOMS AND THE LAW 10-35.
39 *E.g.*, Ogg v. Robb, 181 Iowa 145, 162 N.W. 217 (1917).
40 City of Miami v. Brooks, 70 So. 2d 306 (Fla. 1954).
41 Buck v. Mouradian, 100 So. 2d 70 (Fla. App. 1958).

hold that the limitation period starts on the date of the last breach in the series or at the termination of the relationship.[42] The relationship theory has been used frequently in circumstances where, because of improper working conditions,[43] an employee incurred a lung disease from the inhalation of dust, fumes, or other deleterious substance for an extended time, or where a physician's omission or neglect resulted in a latent injury, but the doctor-patient relationship continued for some time after the specific act of malpractice.[44] The continuing tort theory has been employed successfully in litigation not involving employment or the doctor-patient relationship. Cases have arisen in which people residing in the vicinity of industrial plants have suffered latent personal injury, and sometimes property damage, as the result of chronic exposure to dusts or toxic elements negligently emitted by the plants. Some courts have placed the beginning of the limitation period at the date of last exposure in order to save plaintiffs' remedy from the statutory bar.[45] Clearly, such authority will be applicable to some suits for recovery of damages caused by chronic exposure to radiation—for example, the continual discharge of radioactive dust particles over a residential area from a nuclear power plant in which the safety devices have become defective. Application of this doctrine, however, may depend upon the manner in which the complaint is framed, because under these cases the defendant's wrongful conduct must *continue* during the entire period of exposure or throughout the relationship.[46]

Attempts to utilize the continuing tort theory have been made in cases where there was neither a continuous exposure nor a continuing relationship between the plaintiff and defendant. Confronted with a limitations bar if an action were based on the defendant's original negligent act, a few claimants suffering from latent injuries have alleged that the defendant had a continuing

42 See Annot., 11 A.L.R.2d 277, 289 (1950).

43 *E.g.*, Rowe v. Gatke Corp., 126 F.2d 61 (7th Cir. 1942); Plazak v. Allegheny Steel, 324 Pa. 422, 188 Atl. 130 (1936); Tennessee Eastman Corp. v. Newman, 22 Tenn. App. 270, 121 S.W.2d 130 (1938). *Contra*, Columbus Mining Co. v. Walker, 271 S.W.2d 276 (Ky. 1954).

44 *E.g.*, Thatcher v. De Tar, 351 Mo. 603, 173 S.W.2d 760 (1943); Gillette v. Tucker, 67 Ohio St. 106, 65 N.E. 865 (1902).

45 Reynolds Metals v. Yturbide, 258 F.2d 321 (9th Cir. 1958); Berry v. Franklin Plate Glass Corp., 66 F. Supp. 863 (W.D. Pa. 1946), *aff'd*, 161 F.2d 184 (3d Cir.), *cert. denied*, 332 U.S. 767 (1947).

46 For instance, a claim for malpractice might charge the defendant with permitting a foreign object to remain in plaintiff's body after an operation and negligently failing to discover the object during the remaining period of treatment. See Thatcher v. De Tar, 351 Mo. 603, 173 S.W.2d 760 (1943).

duty to warn persons who had been exposed to the deleterious substance in defendant's product.[47] However, these attempts have thus far been unsuccessful, although at least one court recognized some merit in the idea of creating a new common-law tort based on a continuing duty of a manufacturer to warn the public of harmful effects or need for treatment after exposure to damaging substances, once the manufacturer has some reason to believe that such exposure has occurred.[48] This idea could readily be applied to a radiation incident, and a court might be willing to save a plaintiff's claim by imposing a duty on those who use radioactive materials to warn the public or specific individuals of possible damaging exposures. In this way one whose radiation injury was induced by a single exposure might also be able to invoke the continuing tort doctrine.

A variation of the theory of continuing negligence was applied in *Wright v. Carter Prods.*[49] where plaintiff contracted dermatitis caused by a chemical compound used in a deodorant manufactured by defendant. Plaintiff had applied the product two or three times a week for five years, but then developed a slight rash. She discontinued its use for five months, and the rash subsided; subsequently, a severe allergic reaction developed after only two applications. Suit was filed within the limitation period, if the period were calculated from the date of the last application. The court held that if the trier of fact should find that plaintiff's affliction was proximately caused by the last application, then her claim accrued at that time.[50] Thus, where an injury is the result of a series of exposures having a cumulative effect, the last few, or indeed the last exposure itself, may have been a necessary element in the causation of the ultimate damage. If plaintiff would have incurred no injury without the final contact or exposure, then clearly under the theory of this case, the limitation should not start before that time. On the other hand, the earlier exposures will usually have contributed to the total damage, and it frequently would be impossible to prove the precise exposure which made some injury certain to occur and without which no harm would have resulted. Therefore, the continuing tort theory alleviates a substantial proof problem in many factual situations.

47 *E.g.*, Zimmerer v. General Elec. Co., 126 F. Supp. 690 (D. Conn. 1954); Schwartz v. Heyden Newport Chem. Corp., 12 N.Y.2d 212, 190 N.E.2d 253, 237 N.Y.S.2d 714 (1963).

48 Zimmerer v. General Elec. Co., *supra* note 47, at 693.

49 244 F.2d 53 (2d Cir. 1957).

50 *Id.* at 63.

Because of the cumulative effect of exposure to radiation,[51] special problems may arise in those cases in which a plaintiff has been exposed a number of times. Four possible situations may occur: first, more than one person may have exposed the plaintiff, but all the exposures were needed for any injury to result; second, again having multiple defendants, each exposure was sufficient to cause some injury, and thus each defendant is merely a contributing tortfeasor; third, one person may have caused all the exposures, and the sum of the exposures was required to produce an injury; and, fourth, the single defendant may have exposed plaintiff each time to injury-inducing quantities of radiation. The latter two situations could be handled under the traditional continuing tort theory. However, the existence of multiple defendants will present novel questions in attempting to utilize the doctrine, and it seems unlikely that it would be applied in such circumstances. Certainly, both the first and second situations create additional problems in working out the substantive liability of each defendant if the limitation issue were to be settled in favor of the plaintiff.[52]

2. *At the Time of Notice of Injury*

A significant trend in the judicial interpretation of limitations statutes appears to be developing in cases involving delayed manifestation diseases or injuries caused by wrongful conduct which was unknown to the plaintiff at the time of the technical invasion of his legal interests. In order to save meritorious claims from the statutory bar, courts have frequently been forced to formulate new theories and reasons to justify placing the start of the limitation period at some date subsequent to the time that plaintiff would probably have been able to sustain a cause of action (had he known of its existence). The underlying rationale which supports this rather recent development is that a person must have some notice of his cause of action, an awareness either that he has suffered an injury or that another person has committed a legal wrong which ultimately may result in harm to him, before the statute can begin to run.

The major impetus in this development came from the decision in *Urie v. Thompson*,[53] wherein the Supreme Court held that the plaintiff's cause of action accrued when the injurious conse-

51 See ATOMS AND THE LAW 23.

52 For a detailed discussion of the general problem of multiple defendants in radiation cases, see ATOMS AND THE LAW 361-421.

53 337 U.S. 163 (1949). See generally Annot., 11 A.L.R.2d 277 (1950).

quences of defendant's negligence became manifest. After working thirty years for the defendant railroad, in 1940 plaintiff became disabled from silicosis, a pulmonary disease caused by the prolonged inhalation of silica dust. Suit was filed in 1941, and the defendant pleaded the three-year limitation.[54] Defendant proposed two alternative theories as to when the cause of action accrued: first, that Urie must have unwittingly contracted silicosis long before 1938, thus not within the limitation period before suit was filed; or, second, that each inhalation of silica dust was a separate tort, therefore recovery should be limited to the consequential damages resulting from inhalations between 1938 and 1940, when he stopped working. But the Court flatly rejected "such a mechanical analysis of the 'accrual' of petitioner's injury."[55] However, the Court avoided applying the theory of continuing negligence which would have accomplished the same favorable result for Urie. Of particular significance is the Court's reference to "the traditional purposes of statutes of limitations, which conventionally require the assertion of claims within a specified period of time after *notice* of the invasion of legal rights."[56] The opinion emphasized the humane legislative plan upon which plaintiff's claim was based[57] and that defendant's theories would thwart the congressional purpose. Furthermore, the Court quoted language from a California workmen's compensation case[58] as authority for holding that the limitation period begins when the disease manifests itself. Clearly these two factors, the congressional plan for the protection of railroad employees, and the fact that a workmen's compensation decision was cited as authority, could make *Urie v. Thompson* distinguishable from a case involving a common-law tort claim or one in which an employment or confidential relationship was lacking.

On the other hand, the principle that plaintiff must receive some notice of his cause of action before the statute of limitations starts running has been applied in the context of a common-law tort claim.[59] Moreover, several courts have considered workmen's

54 Plaintiff's claim was brought under the Federal Employers' Liability Act, which provides that an action shall be barred three years after it accrues. 35 Stat. 66 (1908), as amended, 45 U.S.C. § 56 (1954).

55 337 U.S. 163, 169 (1949).

56 *Id.* at 170. (Emphasis added.)

57 Both the Federal Employers' Liability Act, 35 Stat. 65 (1908), as amended, 45 U.S.C. §§ 51-60 (1958), and the Boiler Inspection Act, 36 Stat. 913 (1911), as amended, 45 U.S.C. §§ 22-34 (1958), were involved in the present action.

58 Associated Indem. Corp. v. Industrial Acc. Comm'n, 124 Cal. App. 378, 12 P.2d 1075 (1932).

59 See, *e.g.*, City of Miami v. Brooks, 70 So. 2d 306, 309 (Fla. 1954).

compensation cases as applicable authority in interpreting limitations provisions governing nonstatutory claims.[60] In workmen's compensation cases courts frequently justify a liberal interpretation of accrual language because they feel that such statutes involve a "humane legislative scheme,"[61] or in many instances because the statute creates a particular relationship which places a special duty on the defendant for plaintiff's protection.[62] Often, compensation cases, such as *Urie v. Thompson*, are cited when courts resolve general tort litigation in which neither of these arguments is present. Considerations of fairness may also play an important role in the construction of limitations statutes. Admittedly, these statutes are supported by a strong public policy in favor of repose and fairness to potential defendants, but the countervailing consideration of justice for plaintiffs who are blamelessly ignorant of their claims may overcome this policy.[63] Courts often refer to the unreasonable, even absurd, result of holding that an action is barred before the plaintiff knew of his injury, or place emphasis on the fact that the right to recover for many serious but slowly developing diseases would be nullified if the statute ran before there was notice to the injured party of his claim.[64] One additional reason which has been given for delaying the start of the limitation period is that the injurious consequences suffered by plaintiff were the product "of a period of time rather than a point of time," and, therefore, the afflicted party can be held to be injured only when the accumulated effects manifest themselves.[65]

Although the underlying rationale of the theory under discussion is that the element of notice to the plaintiff is essential to the accrual of a cause of action, the decisions vary as to what constitutes sufficient notice. Four possibilities are suggested by the language of the opinions. One idea, frequently appearing, is that the damages or injury must be susceptible of ascertainment.[66] It would

60 See, *e.g.*, Sylvania Elec. Prods. v. Barker, 228 F.2d 842 (1st Cir. 1955) (applying Nebraska law); Huysman v. Kirsch, 6 Cal. 2d 302, 57 P.2d 908 (1936).

61 See, *e.g.*, Hutchison v. Semler, 227 Ore. 437, 361 P.2d 803 (1961).

62 See, *e.g.*, Brush Beryllium Co. v. Meckley, 284 F.2d 797 (6th Cir. 1960) (applying Ohio law); City of Miami v. Brooks, 70 So. 2d 306 (Fla. 1954).

63 See Fernandi v. Strully, 35 N.J. 434, 173 A.2d 277 (1961).

64 See, *e.g.*, Ricciuti v. Voltarc Tubes, Inc., 277 F.2d 809 (2d Cir. 1960) (applying Connecticut law); Ayers v. Morgan, 397 Pa. 282, 154 A.2d 788 (1959).

65 The quoted phrase originally appeared in Associated Indem. Corp. v. Industrial Acc. Comm'n, 124 Cal. App. 378, 381, 12 P.2d 1075, 1076 (1932). See Urie v. Thompson, 337 U.S. 163, 170 (1949); Brush Beryllium Co. v. Meckley, 284 F.2d 797, 800 (1960); United States v. Reid, 251 F.2d 691, 695 (5th Cir. 1958).

66 See, *e.g.*, Gahimer v. Virginia-Carolina Chem. Corp., 241 F.2d 836 (7th Cir. 1957); Ayers v. Morgan, 397 Pa. 282, 154 A.2d 788 (1959).

seem that this is basically the approach taken in *Urie v. Thompson*, the idea being expressed there in terms of manifestation of the harmful effects of defendant's wrongful act. The connotation of manifestation is that the injury is ascertainable by observation or by some other means of human perception. Of course, there are varying degrees of manifestation, and the decisions do not discuss the problem of whether a disease, for example, is "ascertainable" when symptoms first appear or only after it can clearly be diagnosed as a particular disease.

A second possibility as to when notice is sufficient is the moment that plaintiff actually discovers or knows that he has a particular disease or injury.[67] Indeed, it has frequently been held that the limitation period did not commence until the plaintiff's illness was actually diagnosed by a physician.[68] Although this standard of notice can be easily determined, it is susceptible to abuse by a plaintiff who is aware of symptoms foretelling his serious condition but who delays confirmation of his apprehension that he is suffering from a fatal disease.

The third possible date when the action will accrue is usually mentioned as an alternative to the time when plaintiff knew of his injury or disease. This is when he *should* have known.[69] This idea may also be phrased so as specifically to require reasonable diligence on the part of the plaintiff to discover the nature of his illness.[70] By permitting use of this alternative to actual knowledge of the plaintiff, courts preserve the inherent fairness of the concept of notice of a cause of action as a condition for accrual.

As a fourth possibility for when the notice is sufficient, there is language in two California malpractice cases which suggests that the limitations statute may not start to run until plaintiff knows the specific cause of his disability.[71] In both cases, however, the doctor-patient relationship continued long enough to support the decisions solely on the basis of a continuing negligence theory.

67 See, *e.g.*, McGhee v. Chesapeake & O.R.R., 173 F. Supp. 587 (W.D. Mich. 1959); Seaboard Air Line R.R. v. Ford, 92 So. 2d 160 (Fla. 1956).

68 Young v. Clinchfield R.R., 288 F.2d 499 (4th Cir. 1961); Ricciuti v. Voltarc Tubes, Inc., 277 F.2d 809 (2d Cir. 1960); Sylvania Elec. Prods. v. Barker, 228 F.2d 842 (1st Cir. 1955); Bradt v. United States, 221 F.2d 325 (2d Cir. 1955); Muse v. Freeman, 197 F. Supp. 67 (E.D. Va. 1961).

69 See, *e.g.*, Seaboard Air Line R.R. v. Ford, 92 So. 2d 160 (Fla. 1956); Hutchison v. Semler, 227 Ore. 437, 361 P.2d 803 (1961).

70 See Ricciuti v. Voltarc Tubes, Inc., 277 F.2d 809 (2d Cir. 1960); Gulf Oil Corp. v. Alexander, 291 S.W.2d 792 (Tex. Civ. App. 1956).

71 See Hundley v. St. Francis Hosp., 161 Cal. App. 2d 800, 327 P.2d 131 (1958); Trombley v. Kolts, 29 Cal. App. 2d 699, 85 P.2d 541 (1938).

Nevertheless, in each opinion the holding was at least partially supported by the idea that notice of causal connection is a prerequisite for commencing the limitation period. Moreover, decisions involving workmen's compensation claims which suggest that notice of the cause of plaintiff's injury is a condition of accrual[72] could provide analogous authority in a common-law tort claim.[73]

Even though courts have gone quite far to relieve innocent plaintiffs who were victims of slow-developing diseases, or delayed manifestation injuries, from the harsh result of a statutory bar, the problem of what will constitute sufficient notice of a cause of action remains unsettled. Of particular importance is the question of whether notice to a person that he was negligently exposed to radiation will immediately give rise to a cause of action. He has technically suffered an "injury" which, presumably, would entitle him to at least a nominal recovery. But unless future injury were "reasonably certain" to occur[74] and such anticipated loss could be substantiated, the plaintiff would remain uncompensated for the actual serious damage which might develop subsequently. On the other hand, if limitations statutes were construed so as to commence running only after the plaintiff has notice of his ultimate injury (even though he knew of the exposure), perhaps twenty or thirty years after exposure, potential defendants are placed at a considerable disadvantage. The plaintiff, knowing that he has been exposed to a specified dose of radiation by the defendant, can preserve his evidence, await development of any serious consequences and then spring his claim on the defendant who will obviously be hard-pressed to defend adequately against a suit. Not only is there a danger of spurious claims being brought under these circumstances, but the fact that radiation-induced injuries are nonspecific also creates the distinct possibility of recoveries for injuries which were not caused by the defendant.[75] The obvious inequities cast upon either plaintiffs or defendants, depending upon which concept of notice is adopted, suggest the stark inadequacy of existing principles of interpretation of the accrual of a cause of action.

72 See, *e.g.*, Consolidation Coal Co. v. Porter, 192 Md. 494, 64 A.2d 715 (1948); Whitehead v. Holston Defense Corp., 205 Tenn. 326, 326 S.W.2d 482 (1959).

73 The First Circuit looked to Nebraska workmen's compensation cases to decide how the Nebraska courts would construe a limitation in a common-law tort action. Sylvania Elec. Prods. v. Barker, 228 F.2d 842 (1st Cir. 1955). *But cf.* Repass v. Keleket X-ray Corp., 212 F. Supp. 406 (D.N.J. 1962).

74 For a detailed discussion of problems of proving future damages, see ATOMS AND THE LAW 465-94. See also Estep, *Radiation Injuries and Statistics: The Need for a New Approach to Injury Litigation*, 59 MICH. L. REV. 259, 275 (1960).

75 See Estep, *supra* note 74, at 268.

The problems are perhaps more complex and thus more likely to defy equitable solution when the radiation victim receives no immediate notice of the exposure. If he develops, for example, sterility, cancer, or leukemia several years hence, would this be notice that he had been exposed to radiation at an earlier date, and by whom? These are not difficulties raised solely by limitation provisions, but at least in part by the nature of the injuries. Providing that a plaintiff could meet minimal proof standards as to a particular defendant's liability for his injuries, it would appear that some courts would hold that the cause of action did not accrue until plaintiff at least knew, or should have known, of his injury, and even perhaps not until he knew its causal connection with defendant's radiation source. Even this could be known only in a statistical sense because each of these diseases occurs in a certain percent of the population without any known cause and certainly without exposure to more than background radiation. Therefore, it does not seem unlikely that a court which is not bound to follow the notice theory of accrual might consider the difficult proof problems that it would be required to resolve and avoid such problems by holding the action barred by the statute of limitations.

B. *Suspension of the Limitation Period*

Apart from considerations of whether or not a cause of action has accrued, other circumstances may prevent commencement of litigation despite the existence of a cognizable claim.[76] Legislatures and courts have recognized certain conditions as grounds for postponement of the start of the limitation period or interruption of the running of the statute. These conditions are categorized in terms of plaintiff's incapacity to bring an action, conduct of defendant which hinders suit, and special circumstances in which an action has failed or is otherwise prevented. Many of the tolling provisions are common throughout the country with only slight variations from state to state, while other enactments are peculiar to one or two jurisdictions.

1. *Plaintiff's Incapacity*

Legal disabilities such as infancy, insanity, and imprisonment are generally recognized in limitation statutes as bases for postponement. The legislative provisions may include claimants hav-

[76] See generally *Developments in the Law—Statutes of Limitations*, 63 HARV. L. REV. 1177, 1220-37 (1950).

ing "any legal disability"[77] or specify particular disabilities to be protected.[78] Frequently a maximum period is set for which the limitation can be tolled,[79] or, on the other hand, a single limitation period may be applicable, regardless of the type of claim, after the disability is removed.[80] Otherwise, the statute will be tolled throughout the period of disability and the limitation normally governing the particular cause involved will start running when the plaintiff acquires the capacity to sue. In Delaware and Pennsylvania, however, limitations applicable to personal injury actions are not affected by disabilities.[81] One further qualification, generally recognized, is that the plaintiff's infirmity must exist when the cause of action accrues and will not suspend the statute once it has commenced running.[82]

Although the above-mentioned tolling provision will not be generally significant in coping with the special problems arising in radiation cases, it could be utilized advantageously in particular circumstances. If recovery were to be allowed to children, deformed as a consequence of the genetic damage suffered by a parent who had been irradiated,[83] the cause of action might be tolled during his minority, providing no special limitation statute is enacted to accommodate such new principles of liability. Moreover, radiation injuries suffered by a viable foetus might not become manifest during early childhood, and this particular tolling statute would be especially relevant. Obviously, any person who is under a legal disability at the time of exposure may benefit from the additional time allowed by a suspension of the usual limitation period. There are other circumstances concerning a plaintiff's capacity to sue which are commonly recognized as grounds for tolling a limitation, but they have no particular relevance to radiation injuries.[84]

77 *E.g.*, KAN. GEN. STAT. ANN. § 60-307 (1949).

78 *E.g.*, ARIZ. REV. STAT. ANN. § 12-502 (1956).

79 *E.g.*, MONT. REV. CODES ANN. § 93-2703 (1947) (cannot extend period more than five years except for infancy).

80 *E.g.*, N.H. REV. STAT. ANN. § 508:8 (1955) (within two years after the disability is removed).

81 DEL. CODE ANN. tit. 10, § 8115 (1953); PA. STAT. ANN. tit. 12, § 35 (1953) (as construed in Peterson v. Delaware River Ferry Co., 190 Pa. 364, 42 Atl. 955 (1899)).

82 See *Developments in the Law*, *supra* note 76, at 1229.

83 See Estep & Forgotson, *Legal Liability for Genetic Injuries From Radiation*, 24 LA. L. REV. 1 (1963).

84 State legislatures have generally provided for the suspension of limitations statutes during the interim between the claimholder's death and the appointment of a personal representative, if decedent's action was not already barred. *E.g.*, GA. CODE ANN. § 3-803 (1935). An extension may be granted if death occurred within thirty days after the expiration of the limitation period. *E.g.*, MICH. STAT. ANN. § 27.610 (1935). Usually the rep-

2. *Defendant's Conduct*

Perhaps the most common tolling provision in existence today is that which excludes from the limitation period the time that defendant is absent from the state in which plaintiff resides. Typically, if the defendant is absent when the cause accrues, the statute of limitations will not begin running until he returns; also, the limitation is tolled if the defendant departs after the claim arises, although a specified minimum period of absence may be required.[85] About one-fourth of the states suspend the period only when the defendant leaves to take up residence in another jurisdiction.[86] Moreover, application of the tolling statute in a particular state may be circumscribed by certain limitations—that the plaintiff be a resident,[87] that the cause have arisen within the state,[88] or that suit be brought within a maximum tolling period.[89] Obviously, the policy underlying this tolling provision is to protect the plaintiff who is unable to obtain personal jurisdiction over a defendant. Therefore, it seems illogical to regard the defendant as "absent" if a means of substituted service is available.

Although the source of injurious radiation frequently will be stationary and thus usually affect only persons in the vicinity of defendant's nuclear operations, in a significant number of cases persons and property outside the state of defendant's place of business or incorporation might be irradiated. Illustratively, an accident during shipment of radioactive materials or the improper disposal of waste products affecting land several miles downstream could create a cause of action in another state where the injurious impact occurred. Therefore, unless the defendant acquired sufficient contacts so as not to be "absent" from the state where injury occurred, the limitation apparently would be tolled, and an injured party would be able to assert his claim several years after the statute would otherwise have run. However, to take advantage of the tolling provision, suit usually would have to be filed in the

resentative must bring the action within one year after death, assuming that the statute of limitations otherwise applicable to decedent's claim would have run before that time. *E.g.*, ILL. ANN. STAT. ch. 83, § 20 (Smith-Hurd 1962). If the cause of action accrues after the plaintiff's death, the start of the limitation period is generally held to be postponed until a representative is appointed. See *Developments in the Law, supra* note 76, at 1233. For a decision holding that decedent's claim for personal injury did not arise until after death, see McGhee v. Chesapeake & O.R.R., 173 F. Supp. 587 (W.D. Mich. 1959).

85 See *Developments in the Law, supra* note 76, at 1224-25.

86 *E.g.*, MO. ANN. STAT. § 516.200 (1949).

87 *E.g.*, R.I. GEN. LAWS ANN. § 9-1-18 (1956).

88 *E.g.*, PA. STAT. ANN. tit. 12, § 40 (1953).

89 *E.g.*, CONN. GEN. STAT. ANN. § 52-590 (1960) (seven years).

state where the action arose,[90] and plaintiff might not be able to acquire jurisdiction over the absent defendant. Thus, such a tolling provision may have only a limited effect on statutes of limitations in radiation cases. State legislatures also have enacted provisions to suspend the limitation period upon a defendant's demise, usually extending the time for bringing suit to one year after the appointment of a representative.[91] But this will have little relevance in radiation incidents, assuming that the potential defendant usually will be a corporation. A claim against a dissolved and liquidated corporation would have little, if any, value.[92]

Although statutes of limitations are some evidence of a legislative judgment as to the capability of courts to decide old claims, their primary purpose is the protection of defendants from the harassment and surprise of having to defend against stale claims. Consequently, the statute of limitations is usually regarded as a personal defense and frequently must be specifically pleaded by the defendant.[93] If the defendant has promised not to plead the statute, courts will enforce the agreement in most circumstances under usual contract principles. However, a waiver may be unenforceable if it was made before, rather than after, liability arose or if it is of indefinite duration rather than for a definite period of time.[94] In addition, even though defendant's conduct does not constitute a waiver, *i.e.*, acts only resembling a promise, it may be sufficient for the application of principles of estoppel.[95] Where defendant's fraud or misrepresentations have induced plaintiff to forbear prosecution of a known claim, and the limitation period expired during the period of forbearance, the defendant generally is estopped from relying on the statutory bar.[96] Moreover, courts may employ an equitable estoppel to defeat the statutory bar in

90 Since limitation provisions are generally characterized as procedural in the conflict of laws, a forum would apply its own tolling statute; therefore, in any state in which defendant had resided during the limitation period the action would be barred. See part D *infra*.

91 *E.g.*, NEV. REV. STAT. § 11.310 (1960). However, Hawaii has expressly provided that the defendant's death does not interrupt the running of the statute of limitations. HAWAII REV. LAWS § 241-16 (1955). In a few other states no provision to postpone the statutory bar in this situation has been included among the other tolling sections. *E.g.*, Colorado, Kansas, and Ohio.

92 See LATTIN, CORPORATIONS ch. 12, § 11 (1959).

93 *E.g.*, FED. R. CIV. P. 8(c).

94 See *Developments in the Law*, *supra* note 76, at 1223-24.

95 See generally Dawson, *Estoppel and Statutes of Limitation*, 34 MICH. L. REV. 1 (1935).

96 *E.g.*, Glus v. Brooklyn E. Dist. Terminal, 359 U.S. 231 (1959), 12 W. RES. L. REV. 122 (1960). Although *Glus* was an FELA case, there is usually an exception to the general rule where the limitation is "substantive," *i.e.*, enacted in conjunction with a statute creating a cause of action. *Id.* at 123.

circumstances involving plaintiff's reasonable reliance on any conduct of a misleading nature.[97]

If a major nuclear incident were to occur, the responsible party might be willing to promise to waive the defense of a limitation bar in consideration for promises from those who were exposed that they would not file suit until a radiation-induced injury manifested itself.[98] The inducement on defendant's part would be the avoidance of having to defend immediately a large number of cases and the certain prospect of a few high recoveries for speculative damages which juries are likely to award. On the other hand, the potential plaintiffs would have a strong motive to enter such an agreement because of the substantial proof problems they must face in trying to establish future injuries which are "reasonably certain" to develop.[99] Furthermore, assuming that extensive settlement negotiations would arise out of an incident of any magnitude, plaintiffs might succeed in estopping a plea of limitations if defendant's conduct during such negotiations was of a character that misled plaintiffs.

Defendant's fraudulent concealment of the existence of a cause of action is commonly recognized by both the judiciary and legislatures as a justifiable basis for postponement of the limitation period.[100] Whether the rationale is expressed in terms of defendant's conduct estopping him from pleading the statute, the acts of fraudulent concealment constituting a basis for tolling the limitation, or defendant's activity amounting to a fraud which gives rise to an independent cause of action, the same result will be achieved, because the damage in a suit for fraud presumably would be the value of the claim that was barred. The principal problems facing the courts are what conduct constitutes fraudulent concealment and what facts must be concealed in order to invoke this exception.

Generally, the acts of concealment must comprise active misrepresentation or conduct rather than silence or inaction, unless

97 *E.g.*, Hayes v. Gessner, 315 Mass. 366, 52 N.E.2d 968 (1944) (assurances that the claim would be satisfied without suit); McLearn v. Hill, 276 Mass. 519, 177 N.E. 617 (1931) (request by defendant that plaintiff delay filing a complaint).

98 However, if such an agreement would not be enforceable because it was of an indefinite duration (see text accompanying note 94 *supra*), the parties could set a maximum period of twenty-five or thirty years during which defendant would not plead the statute as a defense to an action arising out of this particular incident.

99 See authorities cited note 74 *supra*.

100 See, *e.g.*, MD. ANN. CODE art. 57, § 14 (1957); Perrin v. Rodriguez, 153 So. 555 (La. App. 1934). See generally Dawson, *Fraudulent Concealment and Statutes of Limitation*, 31 MICH. L. REV. 875 (1933).

there exists a relationship of a fiduciary nature or a statutory duty to disclose.[101] Whether defendant intended to conceal or merely made innocent misrepresentations should not be determinative, since the effect on plaintiff's claim will be the same in either situation. Moreover, where a confidential relationship exists, as between doctor and patient, a duty affirmatively to disclose wrongful conduct is frequently implied where defendant allegedly knew of the negligent act,[102] and occasionally has been imposed where he did not know.[103] In addition, it has been held that a defendant who voluntarily undertook to treat the plaintiff for injuries suffered as a result of its negligence, had a duty placed upon it to disclose fully the extent of his injuries and the probable future disability to be expected. In this case, however, defendant's agents had also *actively* misrepresented plaintiff's condition to him.[104]

Precisely what facts need to be concealed to prevent the statute of limitations from running remains unsettled. If the defendant has caused plaintiff's injury and, by active concealment of facts which otherwise would have come to plaintiff's attention, successfully prevents him from learning that he is injured, clearly the limitation period should be postponed.[105] On the other hand, where the defendant merely fails to diagnose accurately a pre-existing injury or illness without intending to mislead or hinder inquiry, the cause of action—for failing to disclose the fact of injury —has not been concealed.[106] In one case, although the plaintiff had notice that he was suffering some ill effects from radiation treatments, the defendant's representations that no injurious results would follow were held to be a sufficient ground for tolling the statute, providing the plaintiff could not have discovered the facts with reasonable diligence.[107] However, absent a confidential relationship it seems unlikely that the defendant very often would have more information than the plaintiff about the extent and

101 See *Developments in the Law, supra* note 76, at 1221; Annot., 173 A.L.R. 576, 585 (1948). An example of a statutory duty to disclose would be the obligation of a motorist to stop and give his name to the other party, and even offer assistance in case of physical injury, whenever he is involved in a collision.

102 *E.g.*, Saffold v. Scarborough, 91 Ga. App. 628, 86 S.E.2d 649 (1955); Hinkle v. Hargens, 76 S.D. 520, 81 N.W.2d 888 (1957). *But see* Buchanan v. Kull, 323 Mich. 381, 35 N.W.2d 351 (1949). See also Annot., 80 A.L.R.2d 368, 400-14 (1961).

103 *E.g.*, Morrison v. Acton, 68 Ariz. 27, 198 P.2d 590 (1948); Rosane v. Senger, 112 Colo. 363, 149 P.2d 372 (1944).

104 Pashley v. Pacific Elec. Ry. Co., 25 Cal. 2d 226, 153 P.2d 325 (1944).

105 See *Developments in the Law, supra* note 76, at 1221.

106 Eschenbacher v. Hier, 363 Mich. 676, 110 N.W.2d 731 (1961).

107 Hudson v. Shoulders, 164 Tenn. 70, 45 S.W.2d 1072 (1932). *But see* Ogg v. Robb, 181 Iowa 145, 162 N.W. 217 (1917).

nature of the latter's injuries, unless, of course, defendant knew that it had negligently exposed plaintiff to a damaging quantity of a deleterious substance, *e.g.*, nuclear radiation. One further element necessary for the prosecution of a claim is the identity of the wrongdoer, and, although it may seem contrary to our adversary system, there are circumstances in which the defendant's failure to identify himself to the plaintiff constitutes conduct so improper that the limitation will be postponed.[108]

In one of the early cases involving a claim for radiation injuries, *La Porte v. United States Radium Corp.*,[109] the plaintiff filed a bill in equity to enjoin the defendant from asserting the statute of limitations as a defense on grounds of fraudulent concealment. The bill was dismissed because the court found that there was not sufficient knowledge or reason to believe that a hazard existed at the time the injury was incurred or even during the limitation period. Thus, the defendant could not have been under a duty to disclose a hazard of which it could not have been aware. Even today the state of knowledge regarding the amount of radiation which will cause some physical harm is uncertain; indeed, there are many conflicting theories regarding all of the possible effects of radioactivity on human cells. Moreover, the *La Porte* reasoning could be applied to a circumstance in which the defendant had no knowledge, or reason to know, that it had exposed a particular individual. As the law now stands, therefore, it would seem that an allegation of fraudulent concealment based solely on a failure to notify of radiation exposure will seldom be successful, absent a confidential relationship.

3. *Special Circumstances*

When a timely suit is prevented or stayed by a legislative act or an injunction, the statute of limitations usually is tolled.[110] Moreover, the plaintiff is frequently granted additional time to file a new action where his suit has failed—for example, because the action was instituted against the wrong party[111]—or where judgment was reversed, other than on the merits.[112]

108 *E.g.*, Kurry v. Frost, 204 Ark. 386, 162 S.W.2d 48 (1942) (defendant did not disclose that she, rather than her husband, was the hit-and-run driver who injured plaintiff).

109 13 F. Supp. 263 (D.N.J. 1935).

110 *E.g.*, ILL. ANN. STAT. ch. 83, § 24 (Smith-Hurd 1956); S.C. CODE § 10-110 (1962).

111 CONN. GEN. STAT. ANN. § 52-593 (1960).

112 *E.g.*, ALA. CODE tit. 7, § 35 (1958); N.Y. CIV. PRAC. ACT § 205. Less common, but appearing in a significant number of statutes, is a provision suspending the limitation applicable to a claim held by or against an alien, subject or citizen of any country at war with the United States. *E.g.*, MICH. STAT. ANN. § 27.608 (1935).

Arkansas has enacted a unique statute permitting a party to preserve a cause of action against an unknown tortfeasor by filing a complaint within the limitation period against John Doe.[113] In contrast to other tolling provisions, the plaintiff is here required to undertake certain formal steps, *i.e.*, file a complaint and an affidavit that the true defendant's identity is unknown, rather than merely being allowed to acquire the benefits of suspension of the limitation because of his own incapacity or the defendant's conduct. Such a provision is especially relevant to radiation cases in which the injured party is aware that he was overexposed but is uncertain as to the party responsible. Even in a situation in which a person first has notice of a possible radiation injury when there is a physical manifestation such as cancer or leukemia, he might be permitted to bring a John Doe action to preserve his claim until the actual defendant can be determined, providing, however, that the court would say that his cause of action did not accrue until he received some notice of his claim.

C. *When a Wrongful Death Action Is Barred*

Although at common law a right of action could not be founded upon the death of a person, and the death of either party terminated liability for personal torts, in all American jurisdictions statutes have been enacted to rectify both situations.[114] "Survival acts" make it possible to maintain or continue a tort action after the death of either the plaintiff or defendant,[115] while "death acts" permit recovery for damages sustained as a result of the decedent's death. Most of the states have adopted "death acts" modeled after England's Fatal Accident Act,[116] commonly referred to as Lord Campbell's Act. There are three distinguishing features in this type of statute: it creates a right of action for death caused by a wrongful act, neglect or default, which, if death had not ensued, would have entitled the decedent to maintain an action and recover damages; the action is for the exclusive benefit of specified persons, usually limited to the immediate family of the deceased; and the damages recoverable are such as result to the beneficiaries from the death.[117] Although otherwise similar to Lord

113 ARK. STAT. ANN. § 37-234-36 (1962).

114 See PROSSER, TORTS 705 (2d ed. 1955).

115 See generally Evans, *A Comparative Study of the Statutory Survival of Tort Claims For and Against Executors and Administrators*, 29 MICH. L. REV. 969 (1931); Note, 48 HARV. L. REV. 1008 (1935).

116 9 & 10 Vict., c. 93 (1846).

117 TIFFANY, DEATH BY WRONGFUL ACT § 22 (2d ed. 1913). The state statutes may

Campbell's Act, a few state statutes create a cause of action in favor of the decedent's estate or have been construed as allowing an action to be maintained notwithstanding the nonexistence of the persons for whose benefit the action is primarily given.[118] A third type of "death act" is clearly distinguishable since it merely authorizes the survival of the claim which decedent could have maintained, enlarging it to include the damages sustained by his estate as a result of his death, rather than creating a new cause of action for the damages suffered as a consequence of decedent's passing.[119]

Nuclear radiation not only causes physical injury, such as cancer, but it also shortens the normal life expectancy of persons who are overexposed.[120] Even if a decedent had never suffered an illness directly attributable to radiation, his family may be able to recover their loss resulting from his early death. Of course, although the decedent suffered a radiation-induced injury, he may have been unable to recover because his action was barred. Therefore, it is imperative to examine two limitation problems which may be particularly relevant in radiation cases; when does the statute of limitations for a wrongful death action begin to run, and what is the effect on such an action if decedent's claim was time-barred.

1. *Commencement of the Limitation Period*

Generally, a special statute of limitations governs wrongful death actions. Although each case will be determined on the basis of the particular language of the applicable limitation provision, the great weight of judicial authority holds that the statutory period begins at the time of death.[121] This result is usually reached whether the limitation statute requires that suit be filed within a specified period (without mention of any point of time from which the period is to be computed), from the date the cause of action "accrued," or within a specified time after death.[122] How-

vary in the following respects: (1) the members of the family for whose benefit an action may be brought, (2) the person in whose name it may be brought (Lord Campbell's Act designated the decedent's personal representative as the proper party), (3) the time within which an action must be filed, (4) the manner of distributing the recovery, and (5) the measure of damages, *i.e.*, limitations on recovery. *Id.* § 24.

118 See *id.* § 25.

119 *E.g.*, CONN. GEN. STAT. ANN. § 52-555 (1960); see Floyd v. Fruit Indus., Inc., 144 Conn. 659, 136 A.2d 918 (1957).

120 See ATOMS AND THE LAW 270.

121 See Annot., 174 A.L.R. 815, 817 (1947).

122 *E.g.*, St. Francis Hosp., Inc. v. Thompson, 159 Fla. 453, 31 So. 2d 710 (1947) (within specified time); Western & A.R.R. v. Bass, 104 Ga. 390, 30 S.E. 874 (1898) (from date of "accrual"); Naticchioni v. Felter, 54 Ohio App. 180, 6 N.E.2d 764 (1936) (after death).

ever, if the applicable "death act" is of the type which merely enlarges the decedent's claim to include damages for death, the limitation period would logically start at the time decedent was injured, *i.e.*, when his cause of action for personal injuries accrued.[123] Limitation provisions specifically governing only a wrongful death action are usually not tolled by circumstances which would suspend general statutes of limitations.[124]

The limitation period for bringing a wrongful death action will not create any unique problems in radiation cases so long as those for whose benefit the right of action is given know that the decedent was irradiated and can thus press their claim against a known defendant. When the actual cause of death is unknown, however, the relatively short statutory period, usually one or two years, will probably preclude recovery for a defendant's wrongful overexposure of the decedent. There is no authority for the proposition that a limitation governing an action to recover for death will start to run only after the cause of death is determined.[125] The more significant question is what effect the fact that decedent's claim for personal injuries was barred will have upon the new cause of action in favor of his beneficiaries.

2. *Effect of Decedent's Action Being Barred*

There is general agreement that most defenses which would have barred the decedent's claim for personal injuries will defeat an action founded on his death resulting from those injuries.[126] Although the opposite conclusion might have been expected, since "death acts" typically create a new cause of action for the benefit of designated survivors, the prevailing view is usually supported on the theory that a right is created only in the event that defendant's wrongful conduct would have entitled the decedent to maintain an action if death had not ensued.[127] Even a prior judgment in a suit by the decedent for his personal injuries or a release of his claim will generally operate as a bar to a later wrongful death action.[128] On the other hand, several courts have held that a wrong-

123 *E.g.*, Gardner v. Beck, 195 Iowa 62, 189 N.W. 962 (1922). *But see* Thompson v. New Orleans Ry. & Light Co., 145 La. 805, 83 So. 19 (1919).

124 *E.g.*, Frazee v. Partney, 314 S.W.2d 915 (Mo. 1958). See generally 35 N.D.L. REV. 171 (1959).

125 *But cf.* McGhee v. Chesapeake & O.R.R., 173 F. Supp. 587 (W.D. Mich. 1959) (decedent's claim for personal injuries did not accrue until there was reason to discover that he had an occupational disease, which was not until the autopsy).

126 See PROSSER, *op. cit. supra* note 114, at 716-18.

127 See text accompanying note 117 *supra*.

128 *E.g.*, Perry's Adm'x v. Louisville & N.R.R., 199 Ky. 396, 251 S.W. 202 (1923) (judg-

ful death action can still be maintained even though the limitation had run against decedent's claim while he was living.[129]

In support of the conclusion that decedent's action being barred has no effect on a suit for his death, the principal argument frequently focuses upon the independent nature of the wrongful death action. The qualifying statutory language to the effect that decedent must have been able to maintain an action if death had not ensued, merely relates to the nature of the defendant's conduct; he must have committed an actionable tort. As further proof of the independence of the wrongful death action, emphasis is occasionally placed on the difference in the measure of damages between decedent's claim for personal injuries and the survivors' damages resulting from his death.[130] In the former, the person injured sues for physical harm, mental suffering, and impairment of earning power up to the time of trial and in the future; the latter action compensates the beneficiaries of his estate for the destruction of his ability to earn income with which to support them subsequent to the time of death. Furthermore, reliance may be placed upon the fact that death is a necessary condition for the accrual of this right of action, and therefore suit should not be barred before the claim arises.[131] Cases holding that an earlier judgment for or against the deceased or a release of his claim bars a subsequent wrongful death action are usually distinguished on the ground that either of those events extinguishes the cause of action, while statutes of limitations are considered as only barring the remedy and as not affecting the right.[132] When the statutory language suggests that the action is for the death, rather than for the tort causing the death, additional support is given to the view that a limitations bar against decedent's action does not defeat the claim for the benefit of the designated survivors.[133] However, those courts refusing to entertain suits founded on the death if decedent's action had been barred frequently emphasize the statutory requirement that the decedent must have been able to maintain an

ment for decedent); Libera v. Whitaker, Clark & Daniels, 20 N.J. Super. 292, 89 A.2d 734 (Essex County Ct. 1952) (release). *But see* De Hart, Adm'r v. Ohio Fuel Gas Co., 84 Ohio App. 62, 85 N.E.2d 586 (1948) (dictum).

129 See PROSSER, *op. cit. supra* note 114, at 718, where it is said that a majority of courts so hold. See generally 42 ILL. L. REV. 688 (1947); Annot., 167 A.L.R. 894 (1947).

130 *E.g.*, Louisville & N.R.R. v. Simrall's Adm'r, 127 Ky. 55, 104 S.W. 1011 (1907).

131 *E.g.*, Wilson v. Jackson Hill Coal & Coke, 48 Ind. App. 150, 95 N.E. 589 (1911).

132 *E.g.*, Childers v. Eagle Picher Lead Co., 35 F. Supp. 702 (W.D. Mo. 1940); see 2 HARPER & JAMES, TORTS 1297 (1956).

133 *E.g.*, Parker v. Fies & Sons, 243 Ala. 348, 10 So. 2d 13 (1942); see Annot., 167 A.L.R. 894, 906 (1947).

action if death had not ensued.[134] Clearly, the deceased could not have sustained his claim if the statute of limitations had run. Occasionally the argument is advanced that the wrongful death action is "derivative," and therefore dependent upon the continued existence of a right of action in the injured party.[135] This argument would seem to be especially persuasive in those situations in which the decedent's cause of action was statutorily created and the limitation provision specifically governed the right, for such a limitation is usually considered to be a condition which extinguishes the right rather than merely bars the remedy. In addition, reliance may be placed upon decisions in which a wrongful death action was barred because decedent's claim was not maintainable on the merits or had been released. It may be argued that these defenses to decedent's claim are indistinguishable from the statute of limitations, since any of them would have to have been affirmatively pleaded by the defendant.[136] Furthermore, if the survivors are allowed to prosecute a claim for defendant's wrongful conduct in the distant past, there is judicial concern about undermining the policies behind limitations statutes.[137] Finally, it seems apparent that if the "death act" upon which the claim is based merely enlarges the decedent's cause of action, the claim for death will be barred when the limitation has run on the action for personal injuries.

In those jurisdictions in which a statutory bar of decedent's claim will not preclude the survivors' action for his death, defendants will be less likely to escape all liability for radiation injuries. Although the radiation victim will not benefit directly, such an approach will alleviate some of the harsh effects resulting from the usual interpretation of the accrual of an action for delayed-manifestation injuries. At least the survivors, who probably will have also suffered the impact of the expensive care for illnesses such as cancer or leukemia, will obtain some recompense for loss of income from the decedent's early death. But in states in which the decedent's claim must have been maintainable in order to sustain an action for the death, the beneficiaries must bear the entire financial burden of both a costly injury and the loss of income after death, while the person whose wrongful conduct caused the decedent to be irradiated is free from any legally enforceable

134 *E.g.*, Piukkula v. Pillsbury Astoria Flouring Mills, 150 Ore. 304, 42 P.2d 921 (1935); Street v. Consumers Mining Corp., 185 Va. 561, 39 S.E.2d 271 (1946).

135 *E.g.*, Flynn v. N.Y., N.H. & H.R.R., 283 U.S. 53 (1931); see 2 HARPER & JAMES, *op. cit. supra* note 132, at 1297.

136 See, *e.g.*, FED. R. CIV. P. 8(c).

137 See 42 ILL. L. REV. 688, 690-91 (1947).

liability. This consequence cannot be fairly rationalized by saying that there are always a few hard cases when certainty is sought, for virtually all radiation cases will create hardship for plaintiffs under most existing statutes of limitations.

D. *Which Limitation Governs*

In selecting the applicable limitation provision, problems of choice of the appropriate statute may arise in three different contexts. First, if the cause of action arose in a jurisdiction other than the forum, selection of the applicable statute will be governed by conflict of laws principles. The choice of law in this context is usually decided on the basis of whether the statute of limitations is to be characterized as procedural or substantive. Secondly, since no jurisdiction has only one limitation period for all actions, after the decision has been made as to which state's law shall control, the applicable limitation provision in that state must be determined. Generally, the choice in this context will be governed by the characterization of the plaintiff's claim, either in terms of the nature of the injury or the common-law form of action. Finally, when an action is brought in federal district court, with jurisdiction based on diversity of citizenship, the problem to be resolved is whether federal or state law should control, including the question of which conflicts rules are to be applied. Again, as in the first context, the choice is now governed by characterizing the statute of limitations as either procedural or substantive. However, a limitation statute is usually characterized as procedural in the former and as substantive in the latter context.

Undoubtedly, questions regarding the applicable limitation statute will frequently arise in radiation cases. Accidents during shipment of radioactive materials or improper disposal of waste products would very likely involve parties from different states. Moreover, the increased mobility of the population will probably result in numerous instances of injured persons having moved to another state between the time they were exposed and when they first experience any significant injuries. Thus, it seems especially appropriate to examine existing choice of law principles in each of the above-mentioned contexts, since they are likely to be relevant in many radiation damage suits.

1. *Characterization for the Conflict of Laws*

If suit is barred by the forum's statute of limitations, an action generally cannot be maintained even though it could still be

brought in the state in which the right accrued.[138] Conversely, an action may be maintainable in the forum although it is barred where the cause of action arose.[139] This "forum rule" stems from the theory that general statutes of limitations, affecting only the remedy and not the right, are procedural rather than rules of substance. Moreover, they reflect a determination by the forum's legislature as to the period of time, following the occurrence of the events giving rise to a plaintiff's claim, after which its courts no longer can operate effectively and render a fair judgment.[140] The *lex fori* also determines when the cause of action accrued,[141] which of the forum's statutes is applicable[142] and whether the limitation period was tolled.[143]

Exceptions to this "forum rule" have been created by both courts and legislatures. Limitations which bar a specific statutory claim, especially one not recognized at common law, are usually construed as extinguishing the right rather than merely barring the remedy.[144] Therefore, a forum will not entertain such a foreign cause of action which is barred by the *lex loci,* even though the forum's legislature has created a similar right which would not be barred, because the foreign limitation is deemed to be substantive and thus an integral part of the right itself.[145] Of course, interpretative problems may arise in attempting to determine whether the foreign limitation is actually a condition of the right.[146]

However, when the situation is reversed, *i.e.*, when the statutory claim would be barred by the forum's statute of limitations

138 RESTATEMENT, CONFLICT OF LAWS § 603 (1934). See generally 3 BEALE, CONFLICT OF LAWS § 604.1 (1935); GOODRICH, CONFLICT OF LAWS § 85 (3d ed. 1949); HANCOCK, TORTS IN THE CONFLICT OF LAWS 133-37 (1942); Ailes, *Limitation of Actions and the Conflict of Laws,* 31 MICH. L. REV. 474 (1933); Comment, *The Statute of Limitations and the Conflict of Laws,* 28 YALE L.J. 492 (1919).

139 RESTATEMENT, *op. cit. supra* note 138, § 604.

140 See *Developments in the Law—Statutes of Limitations,* 63 HARV. L. REV. 1177, 1260 (1950).

141 *E.g.*, Thomas Iron Co. v. Ensign-Bickford Co., 131 Conn. 665, 42 A.2d 145 (1945).

142 *E.g.*, Alropa Corp. v. Rossee, 86 F.2d 118 (5th Cir. 1936).

143 *E.g.*, Western Coal & Mining Co. v. Hilvert, 63 Ariz. 171, 160 P.2d 331 (1945).

144 *E.g.*, Davis v. Mills, 194 U.S. 451 (1904); The Harrisburg, 119 U.S. 199 (1886).

145 See RESTATEMENT, *op. cit. supra* note 138, § 605; *Developments in the Law, supra* note 140, at 1261.

146 In Bournias v. Atlantic Maritime Co., 220 F.2d 152 (2d Cir. 1955), the court discussed various tests which have been applied in deciding whether the foreign limitation is procedural or substantive. Illustratively, if the limitation provision is directed to the statutory claim so *specifically* as to warrant concluding that it qualifies the right, then the foreign statute will be regarded as substantive. See Davis v. Mills, 194 U.S. 451 (1904). See also Maki v. George R. Cooke Co., 124 F.2d 663 (6th Cir. 1942), where the "specificity" test was found to be satisfied by a separate statute limiting all statutory rights. *Cf.* Myers v. Stevenson, 125 Cal. App. 2d 399, 270 P.2d 885 (1954).

but not by the *lex loci*, the decisions are split.[147] If the *lex fori* is applied in these circumstances, the result is often supported on the grounds that a foreign statutory claim should not be treated more favorably than a common-law right, and that the forum's policy has been established by the legislature and should be followed in adjudicating such statutory claims, whether foreign or local.[148] On the other hand, when a court applies the longer foreign limitation, it frequently emphasizes that comity should prevail over local policy in these circumstances. In addition, it has been suggested that the forum's legislature, in creating a similar statutory right, intended that the forum limitation should govern only local actions and should not be applied to like claims arising in another state.[149] If state legislatures decide to enact special legislation establishing grounds for liability for exposing third persons to radiation, and a new limitation period is adopted to apply to such a statutory cause of action, the decision as to which state's statute of limitations will apply could be decisive in a given case. Undoubtedly there will be significant differences in the time periods finally enacted once legislatures do attempt some resolution of the complex problems arising from widespread commercial use of radioactive materials.[150]

The general "forum rule" has also been substantially modified in at least forty states by legislation which is commonly referred to as "borrowing" statutes.[151] If the forum's limitation has not run on a foreign claim,[152] then the "borrowing" provision directs the courts to look to some foreign law, usually either the *lex loci* or

147 *Compare* Zellmer v. Acme Brewing Co., 184 F.2d 940 (9th Cir. 1950), *with* Theroux v. Northern Pac. R.R., 64 F. 84 (8th Cir. 1894). See generally STUMBERG, PRINCIPLES OF CONFLICT OF LAWS 144-45 (1937); RESTATEMENT, *op. cit. supra* note 138, § 397, comment *b*; Annot., 68 A.L.R. 217 (1930).

148 The full faith and credit clause (U.S. CONST. art. IV, § 1) does not require the forum to apply the longer foreign limitation, even though it applies specifically to the statutory right. Wells v. Simonds Abrasive Co., 345 U.S. 514 (1953).

149 See HANCOCK, *op. cit. supra* note 138, at 134-35.

150 A Model Nuclear Facilities Liability Act, including a statute of limitations provision, has been adopted by the Conference on Uniform State Laws. See NAT'L CONFERENCE OF COMM'RS ON UNIFORM STATE LAWS, HANDBOOK 228 (1961).

151 *E.g.*, DEL. CODE ANN. tit. 10, § 8120 (1953). For a recent discussion of these statutes, see Comment, 47 VA. L. REV. 299 (1961). Enactment of "borrowing" statutes was prompted by the decreased frequency with which the bar of the forum's limitation could be invoked because of the practically universal (all but Louisiana) existence of tolling provisions suspending the operation of statutes of limitations during the nonresidence or, in a few jurisdictions, even the temporary absence of the defendant. Note, *Legislation Governing the Applicability of Foreign Statutes of Limitation*, 35 COLUM. L. REV. 762, 762-64 (1935).

152 With the exception of Kentucky, the "borrowing" provisions are applied only when the forum statute has not run; otherwise the foreign legislation is disregarded and the general *lex fori* rule is applied. Annot., 75 A.L.R. 203, 231 (1931).

that of the residence of one or both of the parties,[153] to determine whether or not the action would have been barred if brought there. In applying the foreign statute, the decisions of that sister state will be followed in deciding, for example, when the right of action accrued, whether the action was tolled, and which of the foreign statutes is applicable.[154] Both the judicial exception for foreign statutory claims and the widespread enactment of "borrowing" statutes have significantly affected the impact of the "forum rule" and consequently reduced the incentive for plaintiffs to forum-shop when their claims are stale and would be barred by the *lex loci*. Thus, even though a party suffering a radiation-induced injury may find a forum in which the defendant can be served with process, and analogous judicial authority which supports the argument that his action did not accrue until he knew of his injury,[155] he may be defeated by the limitation where the claim arose. In effect, whenever multiple jurisdictions have a contact with the parties and the cause of action, the plaintiff will usually be barred if one of those states would preclude him from bringing an action.

2. *Characterization of the Plaintiff's Claim*

Typically, states have established one general limitation period to cover actions for any injury to the person or rights of another not arising from contract and not otherwise enumerated.[156] Suits to recover for malpractice of physicians and others rending medical treatment,[157] as well as for trespass to the person,[158] are frequently prescribed by a specific limitation. However, a few states have retained the common-law action on the case to designate the provisions applicable to personal injury claims,[159] while some others include such claims under a blanket section covering all actions not otherwise specifically provided for.[160] Other statutory classifica-

153 See N.Y. Law Revision Comm'n, *N.Y. Legis. Doc. No. 65 (F)* 58-59 (1943). Frequently "borrowing" statutes except actions brought by resident plaintiffs. *E.g.*, DEL. CODE ANN. tit. 10, § 8120 (1953). Such a provision is not repugnant to the privileges and immunities clause in U.S. CONST. art. IV, § 2. Canadian No. Ry. v. Eggen, 252 U.S. 553 (1920).

154 See Annot., *supra* note 152, at 227; Note, 35 COLUM. L. REV. 762, 770 (1935).

155 See discussion in Part A *supra*.

156 *E.g.*, MINN. STAT. ANN. § 541.05 (1962).

157 *E.g.*, MO. ANN. STAT. § 516.140 (1949).

158 *E.g.*, ALA. CODE tit. 7, § 21 (1958).

159 ARK. STAT. ANN. § 37-206 (1962); COLO. REV. STAT. ANN. § 87-1-11 (1953); MD. ANN. CODE art. 57, § 1 (1957).

160 FLA. STAT. ANN. § 95.11(4) (1960); ME. REV. STAT. ANN. ch. 112, § 90 (Supp. 1959); MISS. CODE ANN. § 722 (1956); UTAH CODE ANN. § 78-12-25(2) (1953).

tions which might be relevant to litigation involving nuclear mishaps include general limitation provisions which apply to liabilities created by statute where no particular limitation specifically conditions the statutory right,[161] and the separate categories applicable to actions for injury to property, both real and personal.[162] Because there are substantial variations in the limitation periods governing different types of actions or injuries, characterization of the plaintiff's claim may be determinative in a given case.

Illustratively, in *Schmidt v. Merchants Despatch Transp. Co.*[163] an action was brought by an employee to recover for personal injuries caused by the prolonged inhalation of silica dust. While the counts based on the defendant's negligence were barred, the court entertained suit on the last count, which charged the employer with failure to provide safeguards required by New York's Labor Law.[164] That statute was construed as placing a duty on the defendant not measured by the usual standard of the reasonably prudent man; rather, it imposed an absolute duty to provide adequate and proper safeguards. Although the court characterized the action as one for recovery upon a liability created by statute and thus applied the longer limitation period[165] to the last count, it qualified the holding as follows:

> "We may assume that a 'liability' is not 'created' by statute in every case where the statute imposes a new duty or standard of care different from that required by custom and common law. The statute may be general in character and the statutory duty may be imposed for the general welfare rather than for benefit of a person or group of persons. A statute 'creates' no liability unless it discloses an intention express or implied that from disregard of a statutory command a liability for resultant damages shall arise 'which would not exist but for the statute.' "[166]

Obviously this qualification is significant; moreover, contrary authority exists even though the higher statutory standards were enacted for the protection of a special class.[167] Nevertheless, because

161 *E.g.*, ORE. REV. STAT. § 12.080 (1961).

162 For example, distinctions are usually made between actions to recover for injury to real property and those for damages resulting from nuisance. See, *e.g.*, Robertson v. Cincinnati, N.O. & Tex. Pac. Ry., 339 S.W.2d 6 (Tenn. 1960), 28 TENN. L. REV. 433 (1961).

163 270 N.Y. 287, 200 N.E. 824 (1936).

164 N.Y. LABOR LAW § 299.

165 N.Y. CIV. PRAC. ACT § 213 (six years).

166 270 N.Y. 287, 304-05, 200 N.E. at 829.

167 *E.g.*, Shelton v. Paris, 199 Ore. 365, 261 P.2d 856 (1953). See generally Annot., 104 A.L.R. 462 (1936).

of the numerous statutes and regulations imposing special standards of care on operators of nuclear facilities, the argument could still be made that a statutory liability is created when injury results from the violation of any such rules. Although such regulatory legislation will usually be of the type intended to protect the general public, a court might be willing to apply the longer limitation period governing statutory claims without accepting the exact analysis of the *Schmidt* decision.

Radiation damage to real estate may create another situation in which the characterization of plaintiff's claim will determine the applicable limitation period. Historically, the distinction between trespass and an action on the case for invasion of land depended on whether the invasion was direct or indirect. Trespass is usually defined as interference with the owner's exclusive possession of land, while nuisance is regarded as an interference with the use and enjoyment of real property. Unless an actor is engaged in an extrahazardous activity, an unintentional and nonnegligent invasion of another's land usually does not subject him to liability to the possessor, despite the fact that harm results.[168] Courts generally require an intrusion of real property in some palpable form before it will be deemed a trespass.[169] The Oregon Supreme Court, however, declined to make such a qualification. In *Martin v. Reynolds Metals Co.*[170] fluoride compounds in gaseous form, not visible to the naked eye, escaped from defendant's plant and were carried onto plaintiff's land during a period of about five years. Plaintiff's cattle were poisoned from ingesting the fluorides, which had contaminated the forage and water on the land. Defendant contended that the invasion was a nuisance, trying to limit recovery to damages resulting during the two years prior to suit, the statutory period for such an action.[171] The court rejected defendant's theory, saying:

> "If, then, we must look to the character of the instrumentality which is used in making an intrusion upon another's land we prefer to emphasize the object's energy or force rather than its size. Viewed in this way we may define trespass as any intrusion which invades the possessor's protected interest in exclusive possession, whether that intrusion is by visible or

168 RESTATEMENT, TORTS § 166 (1934).
169 35 WASH. L. REV. 474 (1960).
170 221 Ore. 86, 342 P.2d 790 (1960).
171 ORE. REV. STAT. § 12.110 (1961); *cf.* Riblet v. Spokane-Portland Cement Co., 41 Wash. 2d 249, 248 P.2d 380 (1952).

> invisible pieces of matter or by energy which can be measured only by the mathematical language of the physicist."[172]

Holding that the defendant's conduct which caused chemical substances to be deposited upon the plaintiff's land fulfilled all of the requirements under the law of trespass, the court applied the six-year limitation for trespass to land[173] in lieu of the two-year limit on an action for nuisance. Obviously, such a decision provides direct authority for a radiation case.

3. *Characterization in Federal Courts*

Since Congress has never enacted general statutes of limitations for actions brought in federal courts based on state-created rights, state limitations have always been applied in such cases, and the Rules of Decision Act[174] provided the authority for so doing.[175] If the suit was one to enforce a common-law right, the federal courts followed the "forum rule," applying the limitations of the state in which they were sitting.[176] However, when the cause of action was based upon statutory liability, and the statute contained a special limitation conditioning the right, the entire state act was enforced, even though the claim arose in a state other than that in which the federal court was sitting.[177] In applying the states' limitations, federal courts also followed state decisions in interpreting the statutes.[178]

Since *Erie R.R. v. Tompkins*,[179] only a few significant changes have occurred in the manner in which federal courts handle problems of time limitations. There have been some important developments with respect to actions for equitable relief, it being now well settled that state limitations shall be applied whenever juris-

172 221 Ore. at 94, 342 P.2d at 794.

173 ORE. REV. STAT. § 12.080 (1961).

174 "[T]he laws of the several states, except where the constitution, treaties or statutes of the United States shall otherwise require or provide, shall be regarded as rules of decision in trials at common law in the courts of the United States in cases where they apply." Federal Judiciary Act § 34, 1 Stat. 92 (1789). The current act is in 28 U.S.C. § 1652 (1958).

175 See Blume & George, *Limitations and the Federal Courts*, 49 MICH. L. REV. 937, 940 (1951).

176 Townsend v. Jemison, 50 U.S. (9 How.) 407 (1850); McElmoyle v. Cohen, 38 U.S. (13 Pet.) 312 (1839).

177 Davis v. Mills, 194 U.S. 451 (1904).

178 See Bauserman v. Blunt, 147 U.S. 647 (1893); Blume & George, *supra* note 175, at 941.

179 304 U.S. 64 (1938). The adoption of the Federal Rules of Civil Procedure did not affect the application of state time limitations. See Blume & George, *supra* note 175, at 948.

diction is based on diversity of citizenship.[180] However, if a federally-created right is involved, for which the sole remedy is in equity, the state's statute does not control, and a federal court is free to apply its own conception of the doctrine of laches.[181] Indeed, federal law will always prevail when Congress has created a statutory liability which is prescribed by a specific time limitation in the federal act.[182] Three years after the *Erie* decision, the Supreme Court decided that federal courts must also follow the forum state's conflict of laws rules.[183] Thus, in deciding which limitation it must apply in a diversity case, a federal court will first characterize the statute as "substantive" for purposes of the *Erie* doctrine, and then characterize it as "procedural" for purposes of conflict of laws.

When a federally-created claim is involved, but no time limitation has been enacted specifically controlling the statutory right, state limitations are usually applied.[184] Uniformity is lacking in the decisions, however, as to whether federal or state law should govern statutory interpretation under these circumstances. On the one hand, the Supreme Court has stated that the decision as to when the cause of action "accrued" is a federal question;[185] however, when the Court was confronted with a case which called for an interpretation of where the claim "arose" to determine which state statute was applicable according to the forum state's "borrowing" provision, the Court looked to state law in deciding the issue.[186] But in suits involving state-created rights, problems of statutory construction are to be resolved in accordance with state court decisions.[187]

It would seem, therefore, that no difference in result can be expected when an action to recover for radiation-induced injuries is filed in federal district court, jurisdiction being based on diversity of citizenship. However, when the forum state's courts have not specifically decided the issue of when a cause of action accrues for a delayed manifestation injury, a federal court might be more

180 Guaranty Trust Co. v. York, 326 U.S. 99 (1945), 44 MICH. L. REV. 477 (1945).

181 Holmberg v. Armbrecht, 327 U.S. 392 (1946); *cf.* Cope v. Anderson, 331 U.S. 461 (1947).

182 Engel v. Davenport, 271 U.S. 33 (1926).

183 Klaxon Co. v. Stentor Elec. Mfg. Co., 313 U.S. 487 (1941).

184 State limitations are applied since it seems unlikely that Congress intended to create a class of perpetual rights. See *Developments in the Law, supra* note 140, at 1266.

185 Rawlings v. Ray, 312 U.S. 96 (1941).

186 Cope v. Anderson, 331 U.S. 461 (1947).

187 West v. American Tel. & Tel. Co., 311 U.S. 223 (1940); Pickett v. Aglinski, 110 F.2d 628 (4th Cir. 1940).

willing to look to federal cases, such as *Urie v. Thompson*,[188] for analogies in deciding the question in a radiation case.[189]

CONCLUSION AND RECOMMENDATIONS

The purpose of the foregoing discussion is to demonstrate the need for a better solution to the problem of the effect of statutes of limitations in tort cases involving radiation injuries. Application of existing statutory periods and the usual interpretation of when a cause of action accrues will make it difficult, if not impossible, to recover on many meritorious claims arising from delayed manifestation injuries. Even in those states in which the judiciary has employed the concept of notice of an injury to the claimant as a prerequisite for accrual, the solution is not entirely adequate. Not only is there a lack of uniformity in the decisions as to what constitutes sufficient notice, but such a doctrine ignores the unfairness to defendants in failing to establish an over-all maximum period within which an action must be brought. Moreover, statutory tolling provisions and judicially-created rules suspending the limitation period can be invoked only in particular situations and cannot be relied upon to achieve a just solution in many radiation cases. Since time limitations for commencing actions at law are entirely statutory, the only logical solution is legislative reform.

Assuming that some change is desirable, decisions must be made as to whether action should be taken at the federal or state level and what basic ideas should be recommended. One writer has proposed that a federal limitation be enacted in conjunction with an act creating a federal cause of action based upon strict liability.[190] On the other hand, it has been suggested that uniform state legislation would be the better solution, although a recommendation of congressional action was also indicated.[191] A single federal statute would certainly offer the advantage of immediate uniformity throughout the country and thus avoid the possibility of continuing disparateness in limitation periods and interpretations of when the statutory period starts to run. The current congressional attitude, however, seems to favor state regulation of tort liability for radiation injuries. Moreover, some radiation

188 337 U.S. 163 (1949); see text accompanying note 52 *supra*.

189 See, *e.g.*, Sylvania Elec. Prods. v. Barker, 228 F.2d 842 (1st Cir. 1955). *But cf.* Dincher v. Marlin Firearms Co., 198 F.2d 821 (2d Cir. 1952).

190 Seavey, *Torts and Atoms*, 46 CALIF. L. REV. 3, 12 (1956).

191 McNeal, Bloom, Christovich, Cope, Cull, & DeJarnette, *The Statute of Limitations Problem in Relation to Atomic Energy Liability*, 26 INS. COUNSEL J. 347, 360 (1959).

sources might not come within Congress' power to regulate.[192] Consequently, the proposals suggested below are directed to state legislators with the hope that some uniformity can be achieved with regard to certain basic principles, realizing that exact limitation periods will probably vary from state to state.

To be reasonable, a limitation statute applicable to radiation injuries should provide an over-all period of thirty years from the date of exposure. The Commissioners for Uniform State Laws have proposed a model statute prescribing an over-all limitation of ten years from the exposure date,[193] but this is unrealistic in view of current scientific knowledge of the delayed biological effects of nuclear radiation. Even if the limitation period is extended, the issue of when the statute commences to run remains unsettled unless the traditional language of accrual is replaced by a more specific event to mark the beginning of the period. Therefore, the over-all limitation period should be measured from the date of exposure or, if there is a succession of exposures, from the date of the last exposure which contributed to the damage suffered by the claimant.

Merely lengthening the limitation period would be a substantial benefit to potential plaintiffs, but it creates an undue burden upon defendants who might be amenable to suits for an extended time without knowledge of the number or amounts of possible claims. Some writers have suggested an alternative limitation measured from the date when the injured party knows, or should know in the exercise of ordinary care, the nature of his injury and the source of the radiation, with a time limit of one or two years.[194] It would appear, however, that such a provision would apply only after a physical manifestation of injury and hence does not necessarily protect the defendant in that situation in which the plaintiff knew he was exposed but suffered no actual injury for several years. On the other hand, "injury" could be interpreted to include the mere exposure to harmful amounts of radiation; thus a claim would be barred if suit were not filed within two years after knowledge of exposure. Such an interpretation places a potential claimant in the same precarious position as under present limitations statutes, forcing him to prove future damages which may be highly

192 ATOMS AND THE LAW 574. See also Estep & Adelman, *State Control of Radiation Hazards: An Intergovernmental Relations Problem*, 60 MICH. L. REV. 41 (1961).

193 UNIFORM NUCLEAR FACILITIES LIABILITY ACT § 5. For a discussion of statutes and conventions adopted in Europe to govern limitation periods for radiation cases, see Comment, 13 STAN. L. REV. 865, 869 (1961).

194 *E.g.*, McNeal, Bloom, Christovich, Cope, Cull, & DeJarnette, *supra* note 191, at 360.

speculative, if no physical effect is manifested shortly after he is exposed. Therefore, it is assumed that the former interpretation of "injury," *i.e.*, a physical manifestation of compensable damage, would or at least should be adopted.

In order to protect defendants adequately, potential claimants who have been exposed to radiation should be required to give as early notice as possible even if there are no observable physical manifestations. Both parties may benefit substantially from such a notice requirement. The potential plaintiff could be advised as to precautions which he should take against further exposure and possibly could receive medical treatment from radiation specialists provided or recommended by the potential defendant. Advantages accruing to the prospective defendant include the opportunity to mitigate damages by providing medical care or periodic examinations to ascertain diseases at the incipient stage and the opportunity to preserve evidence of the incident which allegedly resulted in the claimant's exposure. To enforce the notice requirement, the recommended statute would include an alternate limitation period of six months or one year after the injured party knows or, in the exercise of ordinary care, should know that he was exposed to nuclear radiation and the source of the radiation. If the claimant does not comply with the statutory procedure for giving notice within the specified time, and the potential defendant is not aware that this particular person was exposed, any cause of action arising from such exposure would be barred.

As a counterpart to a provision for notice to the defendant, it is recommended that some provision be made to inform persons who have been exposed to radiation. This should take the form of filing a report with the appropriate regulatory agency of all incidents which could possibly endanger persons or property not associated with the ownership and operation of the radiation source. In addition, if only a limited area or group of persons was exposed, personal notice should be given to the victims either by the party responsible for the incident or by the agency. Disclosure of incidents involving possible exposure of a substantial area or segment of the population probably should be handled by public officials.

Although it is contrary to our traditional adversary system to require a party to give notice of a possible claim against himself to those he may have injured, the peculiar nature of nuclear radiation and its delayed effects makes it imperative that some new procedures be adopted. To effectuate the requirement that notice be

given by the potential defendant, the statute of limitations should provide that the period will not begin until the defendant has complied with the specified notice filing procedure if he knows or, in the exercise of ordinary care, should know of the incident causing the alleged injury. As a consequence of the two notice provisions, much of the hesitancy to adopt a thirty-year over-all limitation period should be alleviated.

The modifications already suggested should provide for those cases in which all physical manifestations are long delayed. Two other types of cases must be considered, however, in which an unconditional blanket thirty-year extension of the limitations period would be unfair. If injurious and compensable injuries occur at any time during the thirty-year period, suit should be brought immediately, just as for nonradiation injuries. Whatever the period generally applicable—six months, a year, or two years—the same limitation should apply to radiation injuries once the plaintiff knows, or in the exercise of reasonable care should know, of the nature of the injury, causal connection to a particular radiation source, and the identity of the potential defendant. Establishment of the thirty-year period should not permit such a person any additional time for bringing suit.

Creation of a thirty-year over-all period necessitates special provision for a second category of cases. Some actionable manifestations of overexposure to radiation may appear long before the thirty-year period, but other equally actionable consequences from the same overexposure may be delayed for many years. Under the typical judicial approach in tort cases a cause of action may not be split, hence all damages for future injuries must be sought when first seeking any recovery. This dilemma is difficult enough in some nonradiation cases and will present almost impossible complications when radiation injuries are involved. The difficulties created by application of existing case law have been discussed in detail elsewhere, and a new contingent injury fund approach to many radiation injury cases has been suggested.[195] Until a significantly different solution is adopted, however, limitations provisions under normal tort rules must be modified to take care of the case in which some perhaps unknown, or at least uncertain-to-happen manifestations may arise long after suit could have been brought for the first clearly actionable manifestation. One solution would

195 Estep, *Radiation Injuries and Statistics: The Need for a New Approach to Injury Litigation*, 59 MICH. L. REV. 259 (1960). See also Estep & Forgotson, *Legal Liability for Genetic Injuries From Radiation*, 24 LA. L. REV. 1 (1963).

be simply to permit complete splitting of causes of action in all such cases. Certainly this is preferable to either allowing juries or judges to speculate about the possibilities of future effects or denying recovery altogether unless the chances are better than fifty percent.[196] In most cases, however, this drastic splitting solution will cause unnecessary duplication in trial of such cases. Instead, a modified splitting of future and uncertain injuries from those presently actionable should be permitted. Rather than an action for these uncertain later manifestations, suit should be permitted after actual manifestation of a specific new injury, provided it is brought within the usual short time after manifestation and knowledge of causal connection to defendant's radiation source, and, in any event, within the over-all thirty-year period. This solution will unsettle somewhat the present doctrines of finality in tort cases, but the existing rules clearly are unsatisfactory for future injuries, particularly in radiation cases. The French have been able to live with a similar kind of uncertainty,[197] and surely we can do so when it is so important to justice in radiation cases. The details of such a plan probably should be worked out on a case-by-case basis. Nevertheless, the statutory modifications of limitations provisions should specifically direct the judiciary to change the common-law rule. The statutory amendment should also direct the courts to work out satisfactory rules as to the finality of that part of the earlier trial which would be the same for all injuries caused by the radiation overexposure. Use of some existing concepts of res judicata and collateral estoppel might provide a solution in some jurisdictions, but this should not be left to chance. When amending the rules by statute as here suggested, specific direction should be given to the courts to make as much of the earlier trial as possible conclusive in subsequent trials, and to permit only that evidence which would show the extent and causal connection to radiation of the new injurious manifestations.

A few additional problems remain to be considered. The question of liability for genetic injuries has been considered elsewhere.[198] Whether or not a cause of action is recognized, the limitation statute recommended above should be applied with the period commencing on the date of the exposure of the ancestor. It should be specified that the over-all limitation period cannot be tolled or suspended for any reason other than the failure of the defendant

196 *Ibid.* See also ATOMS AND THE LAW 465-527.
197 ATOMS AND THE LAW 527-32.
198 See Estep & Forgotson, *supra* note 195.

to file the required report of a nuclear incident. This should not, however, preclude a contract between parties providing for payment in the event an injury develops beyond the statutory period. The amendment, however, should specifically preclude an action against an unknown tort-feasor which would suspend the running of the statute. Finally, it is recommended that all suits based upon death acts be specifically barred within the over-all period of thirty years following the exposure of the decedent.

Any proposal to extend substantially the statute of limitations governing actions for personal injury damage may create an illusion that the responsible party in every case will now be amenable to suit for thirty years. During such a period many potential defendants will have moved or disappeared and some corporations will have been dissolved and liquidated.[199] But these problems cannot be solved by a limitations provision; it is better not to foreclose a remedy in every case merely because a few radiation victims may fail to recover because of the disappearance of the responsible party.[200]

Some steps must be taken to provide a realistic limitation period for radiation injuries, keeping in mind the interests of both parties involved in litigation and the public policy of proscribing stale and fraudulent claims. The changes suggested here should correct the most important defects of existing statutes. They should be considered and adopted by each jurisdiction.

199 Determining liability of directors and stockholders upon liquidation is sometimes complicated but if properly carried out there would be no continuing liability after liquidation. See LATTIN, CORPORATIONS ch. 12, § 11 (1959).

200 If the contingent injury fund suggested elsewhere were used this problem would also be solved because contributions would be made immediately for increased possibilities of future injuries. See material cited in notes 195, 196 *supra*.