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RADIATION INJURIES AND TIME LIMITATIONS IN WORKMEN'S COMPENSATION CASES†

*Samuel D. Estep** and *Walter R. Allan***

I. INTRODUCTION

THE increasing use of radioactive materials and radiation-producing devices in industry and elsewhere makes it clear that injuries from exposure to radiation must be anticipated. It becomes relevant, therefore, to inquire into the extent to which the present workmen's compensation statutes will be able to cope with the injuries which may arise from the use of this new source of energy.

Perhaps the many rules relating to the compensability of a particular claim can be summed up in a single sentence: an employee has a compensable claim if he suffers disability or loss of earning capacity from an injury or occupational disease which arises out of and in the course of employment. The various aspects of this seemingly simple test have fathered much litigation. Moreover, the applicability of the traditional rules to radiation injuries and diseases is not clear. These problems have been discussed to some extent elsewhere.¹ One problem which has not received sufficient attention, however, is that raised under limitation provisions found in all compensation acts. Even if a claim meets the required tests of compensability, an employee still must act according to the requirements of the period of limitations section of the statute. The present discussion will focus upon these requirements.²

The period of limitations sections of workmen's compensation statutes generally set up requirements of notice of the injury to the employer and of filing a claim for compensation with the workmen's compensation agency within a certain time. Notice to the employer is usually required "as soon as practicable" or within a set period of time. Similarly, the claim must be filed with some state agency within a defined period of time. The general nature of the limitations problems raised by radiation-induced conditions is apparent when their singular character is considered. Dr. G. Failla

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¹ STASON, ESTEP & PIERCE, *ATOMS AND THE LAW* 783-845 (1959) [hereinafter cited as *ATOMS AND THE LAW*].

² A less extensive discussion may also be found in *ATOMS AND THE LAW* 830-45.

of Columbia University has described the delayed biological effects of radiation:

"It is the latent period which makes the problem of protection extremely complicated, because the worst effects may not appear until twenty-five or thirty years later. To predict the dose today that would produce effects, or rather would not produce effects, twenty-five years later is quite a problem. . . ."³

But the peculiar problems raised by radiation-induced conditions cannot really be appreciated without an understanding of the operation of present workmen's compensation systems. Each state, of course, has its own workmen's compensation act and no two acts are exactly alike. Nevertheless, certain general principles pervade the field; hence, an examination of these principles, followed by a more detailed examination of the various periods of limitations, is essential.

Compensation coverage generally is provided for "accidental injury" and "occupational disease." These terms have received most intensive consideration with respect to the question of precisely what conditions may be compensable.⁴ Theoretically, coverage can be separated from limitations periods, but this terminology is often carried over into the period of limitations sections of the acts and it seems desirable to make a few preliminary remarks about the use of these terms. Some jurisdictions require that an "accident" be an identifiable event which is unexpected and easily located in time. Others require only that the result to the employee be unusual. In some states occupational diseases are listed on schedules and a particular disease is compensable only if it appears on the list. If provision is made for general coverage of occupational diseases, inclusion of particular diseases has been left to the agencies and to the judiciary.

The categorization of certain radiation-induced conditions as either "accident" or "disease" may create two critical problems. First, the categorization itself may be difficult. For example, exposure to radiation may result in the deterioration of bone tissue.⁵ In a jurisdiction which requires that there be a sudden event for an "accident," such an injury would seem not compensable under

³ Failla, *Biological Effects of Radiation*, AEC, TID-388, March 12, 1951, pp. 65-66.

⁴ See 1 LARSON, *WORKMEN'S COMPENSATION* ch. VII (1952) [hereinafter cited as LARSON].

⁵ Specific injuries which may result from exposure to radiation are listed in *ATOMS AND THE LAW* 26-35.

this category. Whether or not a court would be able or willing to classify it as a disease remains to be determined. Often it will not fit neatly into either category. Second, in regard to the period of limitations, different rules have developed governing the periods for "accident" and for "disease." It should be kept in mind that these rules, which are discussed below, are applied *after* the court makes its initial decision as to categorization. Hence, the category chosen may well determine if the employee has met the period of limitations and thus whether or not compensation will be granted.

A preliminary word is also in order about the requirement, if any, that the employee know of his condition before the statute will start to run. The courts and commentators are often not entirely clear on this subject, yet it is a critical consideration in cases of latent and slow-developing injuries. In many states, statutes have been framed requiring varying degrees of employee knowledge.⁶ In the absence of such statutory language, the courts seem to have formulated three different tests. First, some say that the statute will run from the date of the event or events which produced the condition for which compensation is claimed.⁷ Under this test, of course, there is no requirement of knowledge of any sort. Second, a number of courts have spoken of the statute running from the date upon which the employee became disabled or could have recovered compensation.⁸ Again, no employee knowledge is required, since it is entirely conceivable that a latent injury or disease could prevent an employee from working without making him aware of the fact that the employment induced the condition. Third, many courts have stated that the statute will not run until the employee is unable to work and is, or reasonably should be, aware of the causal relation of his condition to his employment.⁹ This approach provides the most complete protection to the employee.

Unfortunately, many opinions do not make it clear precisely what approach the court is taking. Often the courts seem to be fol-

⁶ See Part II(A)(2)(d) *infra*.

⁷ *E.g.*, *Lewis v. Carnegie-Illinois Steel Corp.*, 159 Pa. Super. 226, 48 A.2d 120 (1946), discussed in text accompanying note 17 *infra*.

⁸ *E.g.*, *Free v. Associated Indem. Corp.*, 78 Ga. App. 839, 844-45, 52 S.E.2d 325, 329-30 (1949); *Gagne v. Weintraub's Silk & Fabric Shops, Inc.*, 80 R.I. 498, 500, 98 A.2d 854, 855 (1953).

⁹ *E.g.*, *Marsh v. Industrial Comm'n*, 217 Cal. 338, 351, 18 P.2d 933, 938 (1933); *Burcham v. Carbon & Carbide Chems. Corp.*, 188 Tenn. 592, 603, 221 S.W.2d 888, 892 (1949). A subsidiary, but not unimportant, problem is whether the employee must be aware of the relation to a *particular* employment or only to employment in general. This does not seem to have received much consideration. See *Bucuk v. Edward A. Zusi Brass Foundry*, 49 N.J. Super. 187, 139 A.2d 436 (1958), discussed in text accompanying note 82 *infra*.

lowing a fourth test by declaring that the statute runs from the date upon which an employee has knowledge of his "condition."¹⁰ This "test" is ambiguous and actually must be one of the last two mentioned. On the one hand, it may require only that an employee have knowledge of the fact that he is not able to work. Naturally if the employee is not working he will be aware of that fact, yet he may not be aware of the causal connection to employment. On the other hand, it may require that the employee also know that his condition is causally related to his employment. If the reference is made to knowledge of a "compensable" condition, it would seem that an employee must be aware of the causal relation to employment to know that the condition is compensable. Nonetheless, it is possible to interpret this phrase to mean only that the employee must be aware of a condition which is in fact compensable, with no requirement that he know that it is compensable.¹¹

Care must be used in determining what degree of knowledge a court requires. The context of the statement may be of assistance in determining the exact meaning of the words used.¹² In any event, courts and commentators should be urged to use more precise terminology.

The following discussion of specific limitations problems will be seen in better perspective if these two matters of categorization and employee knowledge are kept constantly in mind. Three prob-

¹⁰ *E.g.*, *Wheeler v. Missouri Pac. R.R.*, 328 Mo. 888, 894, 42 S.W.2d 579, 581 (1931); *Anderson v. Contract Trucking Co.*, 48 N.M. 158, 163, 146 P.2d 837, 876 (1944); *Roschak v. Vulcan Iron Works*, 157 Pa. Super. 227, 234-35, 42 A.2d 280, 283 (1945).

¹¹ *E.g.*, *Ingalls Shipbuilding Corp. v. Byrd*, 215 Miss. 235, 247-48, 60 So. 2d 645, 650-51 (1952). See 2 LARSON § 78.42(a), at 263, in which it is stated: "Under the 'injury' type of statute, there is now almost complete judicial agreement that the claim period runs from the time compensable injury becomes apparent." In 2 LARSON § 78.41, at 260, the statement is made that "the time for notice or claim does not begin to run until the claimant, as a reasonable man, should recognize the nature, seriousness and probable compensable character of his injury or disease." Larson also states that the period will not start "until by reasonable care and diligence it is discoverable and apparent that a compensable injury has been sustained." *Id.* at 261.

¹² *E.g.*, *Ingalls Shipbuilding Corp. v. Byrd*, *supra* note 11, at 247-48, 60 So. 2d at 650-51 (The court refers to "knowledge of compensable disability"; the actual reference date employed is that of a letter from a doctor containing the "first information that the nature and manner of the work had caused the paralysis."); *Roschak v. Vulcan Iron Works*, 157 Pa. Super. 227, 234-35, 42 A.2d 280, 283 (The court states that the statute runs from the date upon which "the employee is disabled and definitely knows he is disabled by the occupational disease." It then cites extensively from a California decision which set up the date upon which "by exercise of reasonable care and diligence it is discoverable and apparent that a compensable injury was sustained in the performance of the duties of an employee. . . ."). *But see, e.g.*, *Anderson v. Contract Trucking Co.*, 48 N.M. 158, 163, 146 P.2d 873, 876 (1944), in which the court refers to the starting date of the period of limitations as both the date upon which "the disability can be ascertained and the duty to pay compensation arises" and as the date upon which "the employee knows, or by due care and diligence is presumed to know, that he has an occupational disease."

lems will be discussed separately: (1) claim filing requirements, for both accidental injuries and occupational diseases; (2) over-all cut-off provisions, and (3) tolling of the statutory period. However, these problems have some relationship to each other and cannot be analyzed adequately without an appreciation of this interrelationship and of the pervasive character of the problems of categorization and employee knowledge. After these concepts have been discussed in general terms, their specific applicability to radiation injuries will be analyzed and some suggestions will be made about what action should be taken by the states to adapt limitations provisions to the demands of radiation cases.

II. EXISTING STATUTORY SYSTEMS

A. *Claim Filing Requirements*

1. *Accidental Injuries*

In general. Periods for the filing of claims for injury from accident run either from the date of the "accident" or of the "injury." In cases of latent conditions which develop long after exposure to an injurious source, recovery is generally dependent upon which of the two provisions is in effect. "Accident" statutes have been given narrow interpretations, while those utilizing "injury" have been read more broadly.

The broad interpretation generally given to "injury" is illustrated by *Hartford Acc. & Indem. Co. v. Industrial Comm'n.*¹³ In that case the employee had been struck on the lip in 1931 and a cyst developed which was removed the following year. In 1933, a cancerous growth developed and was removed. The employee then filed a claim for disfigurement. The Arizona statute required that a claim be filed "within one year after the day upon which the injury occurred."¹⁴ The court said:

"We . . . hold that the claim must be filed within one year after the date of the injury if the injury is of sufficient magnitude to be compensable. But, if it is slight or trivial at the time and noncompensable and later develops unexpected results for which the employee could not have been expected to make a claim and receive compensation, then the statute runs, not from the date of the accident, but from the date the results of the injury become manifest and compensable."¹⁵

¹³ 43 Ariz. 50, 29 P.2d 142 (1934).

¹⁴ The present Arizona statute provides the same period. ARIZ. REV. STAT. ANN. § 23-1061(D) (1956). See also discussion in text accompanying note 123 *infra*.

¹⁵ 43 Ariz. 50, 55-56, 29 P.2d 142, 143-44 (1934).

Among the twenty-two states which utilize the date of the "accident," however, all but one have given the term an interpretation which makes recovery for latent conditions seem doubtful.¹⁶ The Pennsylvania case of *Lewis v. Carnegie-Illinois Steel Corp.*¹⁷ illustrates this problem. Muriatic acid had splashed in the employee's eye while he was working for the employer in 1933, but blindness attributable to the acid did not develop until 1938. Regardless of the fact that the employee had suffered no compensable condition on which to base his claim, the court held that the date of the accident was in 1933 and that the claim was therefore barred by the one-year statute of limitations. The court felt that "the statutory limitations in § 315 [applied] to the cause of action (the splashing of the muriatic acid into the left eye), and not to the extent of the injury (the loss of sight of that eye)."¹⁸

In framing provisions dating from the time of the "accident," legislatures probably had in mind an identifiable event causing an identifiable injury which the employee could easily report. But two other situations are possible. As in the *Lewis* case, the employee may suffer an "accident" which apparently is not serious but which later gives rise to a compensable condition. In such a case, compensation will generally be denied in "accident" jurisdictions if the latent condition emerges after expiration of the statutory period, which will run from the date of the event which gave rise to the condition.¹⁹ On the other hand, if the employee does not even know that there has been an "accident," it is not clear what approach will be taken. The Kentucky court has indicated that compensation should be granted in such a case.²⁰ However, it should be noted here that the United States Supreme Court, interpreting the "injury" provisions of the Longshoremen and Harbor Workers Act narrowly to mean "accidental event," expressly reserved judgment on the question of latent conditions arising from an unidentifiable event.²¹ Although the Oklahoma court also interprets the "injury" statute narrowly, it did approve holdings in earlier cases which

¹⁶ See 2 LARSON § 78.42.

¹⁷ 159 Pa. Super. 226, 48 A.2d 120 (1946).

¹⁸ *Id.* at 228, 48 A.2d at 122 (parenthetical explanation by the court).

¹⁹ *E.g.*, *Central Locomotive & Car Works v. Industrial Comm'n*, 290 Ill. 436, 125 N.E. 369 (1919); *Fiorella v. Clark*, 298 Ky. 817, 184 S.W.2d 208 (1944); *Whitted v. Palmer-Bee Co.*, 228 N.C. 447, 46 S.E.2d 109 (1948); *Lewis v. Carnegie-Illinois Steel Corp.*, 159 Pa. Super. 226, 48 A.2d 120 (1946).

²⁰ *Turner Co. v. Morris*, 267 Ky. 217, 101 S.W.2d 921 (1937); *Crutcher Dental Depot v. Miller*, 251 Ky. 201, 64 S.W.2d 466 (1933).

²¹ *Pillsbury v. United Eng'r Co.*, 342 U.S. 197 (1952).

stated that the statute did not run until a compensable condition arose from an unidentifiable event.²²

If no identifiable event occurs and the employee is to be barred for not filing notice and claim, he is faced with an impossible task if the condition remains latent. If a seemingly trivial event occurs the situation is not really much different. Even if the employee morbidly considered all contingencies, it is doubtful that he could file an anticipatory claim and avoid the bar of the statute.²³ It has been pointed out by a leading commentator that "accident" provisions as interpreted are not true statutes of limitations but more like conditions precedent to substantive statutory rights.²⁴ A statute of limitations is designed to block "stale" claims. Yet, a claim based on a condition which develops after the statute has expired cannot be deemed stale. Any argument for cutting off claims for manifested injuries must be based on considerations of fairness to the employer. As the time lapse increases, the possibility of intervening cause and the difficulties of proof increase. But the employee, too, deserves to be treated fairly and, as pointed out above, a great deal of time may elapse between exposure to radiation and the development of a compensable condition.

In any event, Nebraska alone has adopted the view that "accident" may be read as the time at which the employee suffers the compensable condition.²⁵ The legislative trend, for some reason, has been to replace the broader "injury" provisions with those referring to "accident."²⁶ In one state, the change was effected judicially.²⁷

The Indiana legislature has recognized accidental conditions induced by radiation as a special category. The statute provides:

"The right to compensation . . . shall be forever barred unless within two years after the occurrence of the accident . . . a claim for compensation thereunder shall be filed with the Industrial Board: Provided, however, That in all cases wherein an accident or death results from the exposure to radiation a

²² *Tulsa Hotel v. Spaks*, 200 Okla. 636, 198 P.2d 652 (1948), reversing *Brown & Root v. Dunkelberger*, 196 Okla. 116, 162 P.2d 1018 (1945), and approving *Bartlett-Collins Co. v. Roach*, 180 Okla. 521, 71 P.2d 489 (1937) and *Swift & Co. v. State Industrial Comm'n*, 161 Okla. 132, 17 P.2d 435 (1932).

²³ There seems to be no authority on the point—probably because it has never been attempted. Most statutes refer to filing claims for compensation, and if no compensation is due, it seems doubtful that an anticipatory claim could be filed. See 2 LARSON § 78.44.

²⁴ SCHNEIDER, WORKMEN'S COMPENSATION § 2355 (1960) [hereinafter cited as SCHNEIDER].

²⁵ *E.g.*, *Keenan v. Consumers Pub. Power Dist.*, 152 Neb. 54, 40 N.W.2d 261 (1949).

²⁶ California, Connecticut, Illinois, Indiana, Louisiana, Maine, and Utah.

²⁷ Oklahoma. See note 22 *supra* and accompanying text.

claim for compensation shall be filed with the Industrial Board within two years from the date on which the employee had knowledge of his injury or by exercise of reasonable diligence should have known of the existence of such injury and its causal relationship to his employment."²⁸

This statute, if coupled with similar provisions for diseases caused by exposure to radiation, would seem to provide fairly adequate periods for the filing of claims for radiation-induced conditions.²⁹

Other jurisdictions have special provisions for some latent injuries.³⁰ The chief objections to these statutes are (1) failure to provide adequate coverage³¹ and (2) failure to provide an adequate period.³²

Massachusetts and Texas have broad provisions allowing excuse for late filing on a showing of "good cause." In Massachusetts, a failure to discover work connection was deemed "good cause"³³ and a delay of seven years was held not to prejudice the employer.³⁴

Coverage of Disease Under "Accidental Injury" Statutes. The question of whether or not a disease may be considered an "accidental injury" has been discussed in detail in other works.³⁵ For purposes of applying limitations provisions, however, it is important to remember that some jurisdictions require that an "accidental injury" be caused by a sudden or traumatic event, while others will treat a slowly developing disease as an accidental injury in various circumstances. Treatment of diseases under the period of limitations section of the statutes seems largely dependent upon whether a jurisdiction employs "accident" or "injury" provisions.

As noted before, under "injury" statutes the general tendency has been for courts to interpret the time period as running from the date upon which the condition develops. This view has also been followed when recovery is permitted for diseases under accidental injury provisions. Typically the employee must be able to discern

²⁸ IND. ANN. STAT. § 40-1224 (Supp. 1963).

²⁹ The Indiana statute relating to radiation-induced conditions is of questionable workability. See statute and text discussion at note 97 *infra*.

³⁰ See LA. REV. STAT. § 23:1209 (1950); N.Y. WORKMEN'S COMP. LAW § 28. These statutes are set out and discussed in ATOMS AND THE LAW 835-36.

³¹ The New York statute covers only "bone, blood or lung changes or malignancies." N.Y. WORKMEN'S COMP. LAW § 28.

³² The Louisiana statute requires filing within two years.

³³ MASS. LAWS ANN. ch. 152, § 49 (1957). See *Wheaton's Case*, 310 Mass. 504, 38 N.E.2d 617 (1941).

³⁴ *Morris Gaffer's Case*, 279 Mass. 566, 181 N.E. 763 (1932).

³⁵ 1 LARSON §§ 39-40; ATOMS AND THE LAW 786-90.

to some degree the nature of his condition,³⁶ although to what extent realization of "work-connection" is required is not clear.³⁷

Some interesting problems which are likely to occur under "accident" provisions are illustrated in the Alabama decision in *Birmingham Elec. Co. v. Meacham*,³⁸ because Alabama provides no coverage for radiation-induced diseases as such.³⁹ The employee in this case developed a tubercular condition caused by exposure in employment to methyl chloride gas from early March to July 27, 1928. He did not become aware of the nature of his condition until July 25, 1929, and then filed a claim for compensation. The court first categorized the employee's condition as an uncompensable occupational disease. It then proceeded in dictum to declare that any "injuries" which the employee might have received before July 25, 1928, would in any event be barred by the one year statute of limitations. In Alabama, therefore, it would seem that even if a radiation-induced disease could be deemed the result of an accident, the statute of limitations would run on each individual exposure that the employee may have suffered. If the disease manifested itself after the expiration of the statute on all exposures there would, of course, be no recovery. And, in the case of disease due to cumulative exposures,⁴⁰ the employee would face the virtually impossible task of proving what portion, if any, of the disease was compensable.

Such results, with varying degrees of harshness,⁴¹ seem likely in those jurisdictions in which the statute runs from the date of the condition-inducing event. In regard to "gradually developing injuries," Professor Larson has suggested that the period should begin to run on the date upon which the "disability manifests itself."⁴² Such a result would seem possible in an "accident" jurisdiction only if a strict view of accident is abandoned insofar as the statute of limitations section of the act is concerned. Since numerous courts have found an "accident" in the culmination or manifestation of

³⁶ See cases cited at 2 LARSON § 78.41 n.25.

³⁷ Larson speaks of reasonable recognition of the "nature, seriousness and probable compensable character of his injury or diseases." 2 LARSON § 78.41, at 260.

³⁸ 27 Ala. App. 471, 175 So. 316, *cert. denied*, 234 Ala. 506, 175 So. 322 (1937).

³⁹ At the time of this case Alabama provided no coverage for occupational diseases as such. Presently, the Alabama act lists only "occupational pneumoconiosis" as a compensable disease. ALA. CODE tit. 26, §§ 313(1)-313(16) (1958).

⁴⁰ If a number of exposures were required to cause a single condition, then that condition might not be compensable. If a number of exposures merely added to the seriousness of the condition, then part of that condition might be compensable.

⁴¹ Qualification is necessary for those jurisdictions which may find an "accident" in, for example, a sudden unexpected exposure to the disease-causing source. See generally 1 LARSON §§ 39-40.

⁴² 1 LARSON § 39.50.

a condition for purposes of coverage,⁴³ there seems no logical reason why this interpretation could not be extended to the period of limitations usage of the term "accident."

2. *Occupational Disease*

Provisions relating to notice and claim for occupational diseases are not as easily categorized as are those pertaining to injury by accident. Nevertheless, although statutory language varies widely, judicial interpretation has resulted in the development of some fairly consistent patterns of coverage. Expressly by statute or by judicial decision in a number of states, the statute runs from the date upon which the employee became disabled and knew, or should have known, the causal relation to his employment. In other states, the statute runs from the date of disability, it being not clear whether knowledge of causal relation is necessary. Still other states utilize the time of last exposure or the date of termination of the employment in which the employee was exposed. Often the statutes list alternative dates on which the statute may start to run. A number of states have, in addition to other provisions, an over-all cutoff date requiring that the disease emerge or a claim be filed within a certain period of time, typically measured from the date of last exposure or termination of employment in which the employee was exposed. In addition to periods for "ordinary" occupational diseases, a number of states in recent years have passed special provisions covering radiation diseases and sometimes other diseases of a latent character.

a. *Statute Runs From "Disablement" or "Disability"*

The right to compensation generally arises when the employee suffers a disabling condition as defined by the statute.⁴⁴ With these provisions in mind, many legislatures have provided that the period of limitations will begin to run when an employee suffers "disability,"⁴⁵ "disablement,"⁴⁶ or becomes "disabled."⁴⁷ This eliminates the possibility that the statutory period may run while the condition is still latent, but it leaves open the question of whether or not the employee must in fact be aware of the cause of his condition.

⁴³ See 1 LARSON §§ 39-40.

⁴⁴ See 2 LARSON § 57.00.

⁴⁵ Colorado, Maryland, Nevada, North Carolina, Ohio, Pennsylvania, and Rhode Island.

⁴⁶ Arizona, Illinois, Indiana, New Mexico, North Carolina, South Carolina, South Dakota, and Vermont.

⁴⁷ Oregon.

Most courts which have faced the question say that he must be. The Maryland statute provides:

"If no claim for disability or death from an occupational disease be filed with the Workmen's Compensation Commission within one (1) year from the date of disablement or death, as the case may be, the right to compensation for such disease shall be forever barred. . . ." ⁴⁸

The Maryland court has given this statute a broad reading. In *Consolidation Coal Co. v. Porter*⁴⁹ an employee quit his job in 1944. He had been continually exposed to sand dust and suffered from chest pains, cough, sputum, loss of appetite, and slight loss of weight. In 1947 his condition was diagnosed as silicosis and he filed claim for compensation. He had been unable to carry on a remunerative occupation since 1945. In upholding the claim, the court said:

"[L]imitations as to notice to the employer, and as to the time of filing the claim, . . . started to run in this occupational disease case from the time the employee or someone in his behalf knew or had reason to believe that he was suffering from an occupational disease and that there was a causal connection between his disability and occupation." ⁵⁰

This case is of particular interest because of the analogy it provides for radiation cases. The employee quit work because of illness, he suffered a number of symptoms of disease, and he was unable to work for a long period of time. Yet, the court held that the statute did not run until the employee "had reason to believe" that he had an occupational disease and that it was related to the employment. Apparently the facts present were not sufficient to give the employee such notice.

Similar results have been achieved in other jurisdictions which utilize the date of the occurrence of a disabling condition to start the statute. When faced directly with the problem, most courts have adopted a liberal approach to the question of employee knowledge, although the lack of precision of language noted above has been present in some opinions.⁵¹ The Ohio Supreme Court, however, has expressed open disagreement with the interpretation that the employee must have some degree of knowledge. That court declared in dictum that the question of a claimant's delay in filing a

⁴⁸ MD. ANN. CODE art. 101, § 26(a) (1957).

⁴⁹ 192 Md. 494, 64 A.2d 715 (1948).

⁵⁰ *Id.* at 506, 64 A.2d at 721.

⁵¹ See cases cited notes 11 & 12 *supra*.

claim is "a matter about which this court is not informed nor permitted to concern itself."⁵² And the Illinois court, in fixing the date upon which the period of limitations began to run, defined "disablement" strictly as "the event of becoming disabled from earning full wages in the employment which exposed the employee to the occupational disease, or from earning wages at other employment," although the question of employee knowledge was not squarely before the court.⁵³

Three other states have adopted language similar to that referring to a disabling condition. The Tennessee and Maine statutes run from the date of "incapacity"⁵⁴ and that of Utah from the time at which "the cause of action arises."⁵⁵ The courts of Tennessee and Utah have indicated their acceptance of a broad interpretation similar to that applied by the Maryland court.⁵⁶

In North Carolina, judicial interpretation has brought about some variations in the application of the general provisions. The statute is similar to that of Maryland, which provides that "the right to compensation for occupational disease shall be barred unless a claim be filed with the Industrial Commission within one year after death, disability or disablement as the case may be."⁵⁷

The North Carolina court has held that this claim provision must be read together with that for notice to the employer which provides: "The time of notice of an occupational disease shall run from the date that the employee has been advised by competent medical authority that he has same."⁵⁸ The court has stated that "disablement" in the claim provision is also to be read as the date upon which the employee was informed by "a competent medical authority" that he has an occupational disease.⁵⁹ Such a reading provides a more definite date upon which to base the filing of the claim. It should also be noted that the court has not been inclined to second-guess claimants on what amounts to reasonable notice from a medical authority of the existence of such disease.⁶⁰

⁵² *State ex rel. Raymond v. Industrial Comm'n*, 140 Ohio St. 233, 235, 42 N.E.2d 992, 993 (1942). The Ohio Court of Appeals has squarely held this to be the law. *State ex rel. Willis v. Industrial Comm'n*, 105 Ohio App. 187, 152 N.E.2d 440 (1958).

⁵³ *Carnegie-Illinois Steel Corp. v. Industrial Comm'n*, 401 Ill. 382, 386, 82 N.E.2d 449, 450 (1948).

⁵⁴ ME. REV. STAT. ANN. ch. 31, § 63 (1954); TENN. CODE ANN. § 50-1108 (1955). The Maine statute provides an alternative based on knowledge.

⁵⁵ UTAH CODE ANN. § 35-2-48 (1953).

⁵⁶ *Whitehead v. Holston Defense Corp.*, 205 Tenn. 326, 326 S.W.2d 482 (1959); *State Ins. Fund v. Industrial Comm'n*, 116 Utah 279, 209 P.2d 558 (1949).

⁵⁷ N.C. GEN. STAT. § 97-58(c) (1958).

⁵⁸ N.C. GEN. STAT. § 97-58(b) (1958).

⁵⁹ *Duncan v. Carpenter*, 233 N.C. 422, 64 S.E.2d 410 (1951).

⁶⁰ *Singleton v. D. T. Vance Mica Co.*, 235 N.C. 315, 69 S.E.2d 707 (1952).

b. *Statute Runs From the "Manifestation" of Symptoms or Disease*

A few states have provided that the period of limitations will begin to run when the disease, or the symptoms thereof, become manifest.⁶¹ The Connecticut statute provides:

"No proceedings, for compensation under the provisions of this act shall be maintained unless written notice of claim for compensation is given within one year . . . from the first manifestation of a symptom of the occupational disease For the purposes of this section, 'manifestation of a symptom' means its manifestation to the employee claiming compensation, or to some other person standing in such relation to him that the knowledge of such person would be imputed to him, in such manner as is or ought to be recognized by him as symptomatic of the occupational disease for which compensation is claimed."⁶²

This is better than having the statute run from the date upon which the disabling condition occurs because of the possibility that an employee might be disabled yet be unaware of the occupational nature of the cause. As has been pointed out, however, no court has held directly that "disablement" statutes should be interpreted with such literalness.

The Connecticut court has examined the additional question of whether or not the claimant must be aware of the occupational source of his disease before the statute starts to run, and it held that not only must the employee be aware of the symptom itself, but he must also have a reasonable opportunity to know that it is the symptom of a particular occupational disease.⁶³

A recent Kentucky enactment provides that a claim must be filed "within one year after the last injurious exposure to the occupational hazard or after the employee first experiences a distinct manifestation of an occupational disease, . . . whichever shall last occur."⁶⁴ This statute has the commendable feature of not cutting off an employee's claim after an arbitrary period unless he has some degree of knowledge of his condition. On the other hand, apparently the employee who knows both of his condition and its connection with employment could continue working and not file

⁶¹ Connecticut, Kentucky, Louisiana, and Texas.

⁶² Public Act 491, § 16 (1961). This is a re-enactment of the statutory language of repealed CONN. GEN. STAT. ANN. §§ 31-157, 31-168 (1958).

⁶³ *Bremner v. Marc Eidlitz & Son, Inc.*, 118 Conn. 666, 174 Atl. 172 (1934).

⁶⁴ KY. REV. STAT. § 342.316 (1960).

his claim until exposure ceased, as the exposure would thus be "last" to occur. If this is so, it would appear that the Kentucky legislature has gone too far in its reaction to provisions which in some cases were unfair to the employee.

c. *Statute Runs From the Date of Diagnosis or Date on Which the Employee Was Informed by a Physician That He Had an Occupational Disease*

A few states have provided that the statute will run from the date of diagnosis of the disease⁶⁵ or the date upon which the employee is informed by a physician that he has an occupational disease.⁶⁶ All of these states except Washington provide alternative periods.⁶⁷

Washington is the only state in which judicial consideration has been given to these provisions. The Washington statute provides that "claims [for occupational disease] to be valid and compensable must be filed within one year following the date claimant has notice from a physician of his occupational disease."⁶⁸ The court has held that mere notice to the employee that he suffers from a disease is not sufficient; the employee must be informed by the physician that his disease is causally related to employment.⁶⁹ Moreover, the statute will not run until the condition is compensable.⁷⁰ These rules may be unduly considerate of the employee if they are read to require actual notice of causal relation by a physician. It is entirely conceivable, even if not probable, that the doctor would not be aware of the employee's occupation and thus would be unable to inform the employee of the causal relation, but the employee himself would have sufficient information to be aware of the fact that he suffered a work-connected injury. In such a case a reasonable standard seems more desirable.

Although not strictly within this narrow category, two states have attempted novel approaches which, because of the use of similar terminology, may be examined here. A recent Oklahoma enactment provides:

⁶⁵ Virginia. Claim filing requirements were recently removed for cases involving radiation-induced diseases. VA. CODE ANN. § 65-49 (Supp. 1962).

⁶⁶ Ohio, Oregon, and Washington.

⁶⁷ Ohio (disability), Oregon (disability), Virginia (manifestation of symptom).

⁶⁸ WASH. REV. CODE § 51.08.140 (1949). The wording was changed slightly in 1961, but not so as to change the meaning on this point. WASH. REV. CODE § 51.28.055 (1961).

⁶⁹ *Nygaard v. Department of Labor & Indus.*, 51 Wash. 2d 659, 321 P.2d 257 (1958); *Williams v. Department of Labor & Indus.*, 45 Wash. 2d 574, 277 P.2d 338 (1954).

⁷⁰ *Nygaard v. Department of Labor & Indus.*, *supra* note 69.

"The right to claim compensation under this Act shall be forever barred unless within one (1) year after the injury or death, a claim for compensation thereunder shall be filed with the Commission. . . . Provided . . . with respect to radiation disease . . . the right to claim compensation under this Act shall be forever barred unless a claim is filed within one (1) year after the last hazardous exposure or within one (1) year after the disease first becomes manifest by a symptom or condition from which one learned in medicine could with reasonable accuracy diagnose this specific disease."⁷¹

Instead of "reasonableness" on the part of the employee, the test employed is that of a reasonable diagnosis by "one learned in medicine." An employee may become ill but still reasonably not discern the nature of his illness. If he fails to go to a doctor or if his doctor negligently fails to diagnose the disease, then the employee is apparently barred if the claim is filed more than a year after "one learned in medicine" *could* have reasonably diagnosed the disease.⁷² In effect the statute charges the employee with a duty to visit a doctor and to be certain that the doctor is not negligent in his diagnosis. It is perhaps arguable that an employee ought to visit a doctor when he feels ill. It seems less arguable that he ought to be required to double-check the doctor's diagnosis. Even the first proposition seems less tenable if the "symptom" by which the disease becomes "manifest" to "one learned in medicine" is relatively minor.

Vermont, too, has tried a new approach in utilizing a medical person's advice. The Vermont statute requires, in the traditional vein, that a claim must be filed "within six months after the date of injury."⁷³ However, a 1961 amendment to the act defines the date of injury and the date of disablement as:

" . . . the date upon which any physician consulted by the employee and who is licensed to practice medicine in Vermont shall state in writing, upon a form prepared and provided by the commissioner, that in the opinion of such physician the employee then has an occupational disease [as defined by the act] and is disabled thereby."⁷⁴

This provision would seem to remove all doubt as to the date

⁷¹ OKLA. STAT. ANN. tit. 85, § 43 (1962).

⁷² No cases have been decided by the courts so interpreting this language, but the import is fairly clear.

⁷³ VT. STAT. ANN. tit. 21, § 656 (1959).

⁷⁴ VT. STAT. ANN. tit. 21, § 1004 (Supp. 1961).

of the injury. Despite an employee's suspicions, or even his knowledge about his condition, the statute will not run until the required form is filled out by a physician. Presumably, although the statute does not say so, the physician will have to give the form to the employee in order to start the statute since the employee is required to file notice.⁷⁵ Such a statutory scheme has the attractive feature of eliminating a judicial decision as to the employee's capacity to work or as to the reasonableness of the determination that he may be diseased. There is a possible objection that an employer may be prejudiced by the fact that an employee may bring the action at any time he pleases since he is presumably free to visit a physician or not, as he sees fit. This argument is countered by the fact that Vermont also has a requirement that disablement, as above defined, result "within two years after the last injurious exposure."⁷⁶ Such cutoff provisions will be examined in detail below, but it can be noted in passing that many radiation-induced diseases will not become manifest within two years. The new provision requiring a medical diagnosis within two years will eliminate coverage of many latent conditions and it will put the employee and his physician in a difficult position when the diagnosis is uncertain.

d. *Statute Runs From the Employee's Knowledge of His Condition and Its Connection With His Employment*

Fourteen states presently provide that the statute will not run in cases of occupational diseases caused by exposure to radiation until the employee is, or reasonably should be, aware of his condition and its causal relation to his employment.⁷⁷ Six of these provisions are special statutory exceptions applicable generally to "latent" diseases or specifically to radiation-induced diseases.⁷⁸ Five of the states also provide that the disease must emerge within a certain defined time period.⁷⁹

The California statute is of the general type applicable to dis-

⁷⁵ *Ibid.*

⁷⁶ VT. STAT. ANN. tit. 21, § 1006 (1959).

⁷⁷ This total includes states utilizing terminology broader than, but including, "occupational disease." The states and their provisions are: Alaska (disability), California (occupational disease), Delaware (occupational disease), Hawaii (injury or disease), Idaho (occupational disease), Iowa (occupational disease), Kentucky (occupational disease), Maine (occupational disease), Missouri (occupational disease), Montana (occupational disease), New Jersey (occupational disease), New York (pathological changes or malignancies), Rhode Island (injury including disease), Wisconsin (injury).

⁷⁸ Hawaii, Idaho, Iowa, Maine, New York, and Rhode Island.

⁷⁹ Delaware, Iowa, Montana, New Jersey, and Wisconsin.

eases in general. It provides that a claim must be filed within one year of the "date of injury"⁸⁰ and that:

"The date of injury in cases of occupational diseases is that date upon which the employee first suffered disability therefrom and either knew, or in the exercise of reasonable diligence should have known, that said disability was caused by his present or prior employment."⁸¹

The benefit of such a statute to the employee is obvious. It requires first that he be actually disabled and, second, that he reasonably know that his employment caused the condition. There is no possibility that the statute may run while the disease remains latent.

A problem which has received little consideration, but which well may become important with latent injuries and diseases, is whether or not the employee must be aware of the fact that a *particular* employment or just employment in general caused his condition before the statute starts to run. The California statute does not make it clear that between "present and prior employment" the employee must know *which* employment caused the condition.

Faced with an equally ambiguous statute, the New Jersey Superior Court, in a well-reasoned opinion, answered the question in this manner:

"[T]he statutory references to the employee's knowledge 'of the nature of his disability and its relationship to his employment' are to be taken in the first instance as meaning the relation of the disability to his employment with the employer sought to be held accountable in the particular proceeding rather than to his habitual occupation, *per se*. . . . [S]ince our concern is with the employee's knowledge that he has a *compensable* condition, the statute must be interpreted to give relevance to the employee's knowledge or state of mind concerning *every fact* which, as a matter of law, whether in statute or decided case, bears upon the legal responsibility of the employee to the particular employer being proceeded against."⁸²

Another statute of this general type is that of Wisconsin, which combines the concept of "accident" and "disease" in one statute,⁸³ reading:

⁸⁰ CAL. LAB. CODE ANN. § 5405(a) (1953).

⁸¹ CAL. LAB. CODE ANN. § 5412 (1953).

⁸² *Bucuk v. Edward A. Zusi Brass Foundry*, 49 N.J. Super. 187, 200, 139 A.2d 436, 443 (1958).

⁸³ WIS. STAT. ANN. § 102.01(2) (1957).

"No claim for compensation shall be maintained unless, within 30 days after the occurrence of the injury or within 30 days after the employee knew or ought to have known the nature of his disability and its relation to his employment, actual notice was received by the employer . . . regardless of whether notice was received, if . . . no application is filed with the commission within 2 years from the date of the injury or death, or from the date the employee or his dependent knew or ought to have known the nature of his disability and its relation to the employment, the right to compensation therefor shall be barred, except . . . if the employer knew or should have known, within the 2 year period, that the employee had sustained the injury upon which the claim is based."⁸⁴

Under this statute an employee is not required to file a claim if he has only a "suspicion" of disease,⁸⁵ but knowledge of "facts indicating its likelihood" is sufficient to start the statute.⁸⁶ Wisconsin also has a provision stating that the right to compensation "shall not extend beyond 6 years from the date of injury or death."⁸⁷ In 1961, this provision was altered to provide that " . . . in case of injury or death caused by exposure to ionized radiation, the right to proceed hereunder shall not extend beyond 25 years from the date of injury."⁸⁸

The effect of this addition is not entirely clear. In an early case of latent injury by accident, the Wisconsin court held that "injury" was the manifestation of a compensable disability.⁸⁹ If this holding is followed in the case of a radiation injury or disease, an employee would be able to wait twenty-five years from the date of suffering a compensable disability, which itself might be twenty-five years after the last exposure. This would be more than adequate for all cases and now should be modified if so interpreted. The amendment will have its chief effect in cutting off claims filed more than twenty-five years from the date of termination of employment, since "injury" is also so defined under the statute.⁹⁰

The Council of State Governments has suggested a provision

⁸⁴ WIS. STAT. ANN. § 102.12 (1957).

⁸⁵ *Trustees, Middle River Sanitarium v. Industrial Comm'n*, 224 Wis. 536, 272 N.W. 483 (1937).

⁸⁶ *Reinhold v. Industrial Comm'n*, 253 Wis. 606, 34 N.W.2d 814 (1948).

⁸⁷ WIS. STAT. ANN. § 102.17(4) (1957).

⁸⁸ WIS. STAT. ANN. § 102.17(4) (Supp. 1962).

⁸⁹ *Acme Body Works v. Industrial Comm'n*, 204 Wis. 493, 234 N.W. 756 (1931).

⁹⁰ WIS. STAT. ANN. § 102.01(2) (1957); see *Weissgerber v. Industrial Comm'n*, 242 Wis. 181, 7 N.W.2d 415 (1943).

applicable to all "latent" conditions. This provision has been enacted in Rhode Island and reads:

"The time for filing claims shall not begin to run in cases of latent or undiscovered physical or mental impairment due to injury including disease until (1) the person claiming benefits knew, or by the exercise of reasonable diligence should have known, of the existence of such impairment and its (causal) relationship to his employment or (2) after disablement, whichever is later, provided, that in any case in which indemnity benefits have been paid, the claimant's right to compensation is preserved without time limitation."⁹¹

This provision has the advantage of encompassing all radiation-induced conditions as well as other conditions of a latent character. It is notable that a claim need not be filed until the employee knows or should know, both of the existence of the condition and of its relation to employment. If the employee is ill and knows the cause of his illness, but has not yet suffered a compensable disability, the statute will not run until that disability is incurred.

Eleven states have recently amended their laws to provide specifically for radiation-induced conditions.⁹² The Idaho statute provides:

"Unless written notice of the manifestation of an occupational disease shall be given by the workman to the employer within sixty days after the first manifestation thereof, . . . and, unless claim for disability or death be given within one year after the disability, or death, respectively, all rights to compensation for disability or death, from an occupational disease shall be forever barred, *provided* that when disability or death is the result of an exposure to radioactive properties or [*sic*] substances or the source of the ionizing radiation in any occupation involving contact therewith, handling thereof or exposure thereto, written notice may be given any time and claim filed within one year after the date upon which the employee first suffered incapacity, disability or death from such exposure and knew or in the exercise of reasonable dili-

⁹¹ R.I. GEN. LAWS ANN. § 28-35-57 (Supp. 1962).

⁹² HAWAII REV. LAWS § 97-52 (Supp. 1961); IDAHO CODE ANN. § 72-1228 (Supp. 1961); IND. ANN. STAT. § 40-2205(e) (Supp. 1963); IOWA CODE ANN. § 85A.12 (Supp. 1962); KAN. STAT. ANN. § 44-5a17 (Supp. 1961); ME. REV. STAT. ANN. ch. 31, § 70-A (Supp. 1961); N.Y. WORKMEN'S COMP. LAWS § 28; OKLA. STAT. ANN. tit. 85, § 43 (Supp. 1962); R.I. GEN. LAWS ANN. §§ 28-34-4, 28-35-57 (Supp. 1962); S.C. CODE § 72-256, as amended, Act 250, Laws of 1963 (reported in CCH ATOM. ENERGY L. REP. ¶ 17449); VA. CODE ANN. § 65-49 (Supp. 1962).

gence should have known that the occupational disease was caused by his present or prior employment."⁹³

Eight statutes covering radiation diseases follow this pattern⁹⁴ and would seem to cover adequately most diseases caused by exposure to radiation, although some question might be raised as to the justification for giving special treatment to radiation-induced conditions. Of course, if "manifestation" and "disability" are read to require reasonable knowledge of the condition and its connection with employment, such a statutory provision is not really necessary except to the degree that a statutory rule is more certain than a judicial one. It might also be noted that these statutes follow the general trend of requiring only "reasonable" knowledge on the part of the employee, although one statute of the general character⁹⁵ and two applicable to both latent and radiation diseases⁹⁶ seem to require that the employee have actual knowledge.

Of the recent amendments pertaining exclusively to radiation diseases, that of Indiana departs from the general scheme. Rather than having the period run strictly from the date of the employee's reasonable knowledge of his condition, the statute provides that:

"[I]n all cases of occupational disease caused by exposure to radiation, no compensation shall be payable unless disablement, as herein defined, occurs within two (2) years from the date on which the employee had knowledge of the nature of his occupational disease or by the exercise of reasonable diligence, should have known of the existence of such disease and its causal relationship to his employment."⁹⁷

This approach seems to be entirely novel. The statute will not operate at all until the employee has, or should have, knowledge of his condition and its relationship to his employment. Then, it requires that disability, as defined, emerge or result within two years of that knowledge. The Indiana legislature apparently has decided to balance the employee's interest in recovery against the employer's difficulty of proof after a two-year period of time from sickness to disability. However, it must be noted again that in cases

⁹³ IDAHO CODE ANN. § 72-1228 (Supp. 1963).

⁹⁴ Hawaii, Idaho, Iowa, Kansas, Maine, New York, Oklahoma, and Rhode Island. The Kansas and Iowa statutes also provide a cutoff date. See Part II(D) *infra*. The Virginia statute removes any requirement of filing a claim.

⁹⁵ ALASKA COMP. LAWS ANN. § 43-3-51 (Supp. 1959).

⁹⁶ HAWAII REV. LAWS § 97.52 (Supp. 1961); N.Y. WORKMEN'S COMP. LAW § 28.

⁹⁷ IND. ANN. STAT. § 40-2205(e) (Supp. 1963). Compare with the provisions for accidental injury set out in text accompanying note 28 *supra*.

of latent radiation diseases, actual disability may not develop until long after the employee actually acquires knowledge that he suffers from a work-connected radiation-induced condition. A case of chronic leukemia could raise this problem.

B. *Over-all Cutoff Provisions—Statutes Requiring the Emergence of the Condition Within a Certain Period of Time, Regardless of Filing*

Twenty-four states have provisions which set up an arbitrary period within which a claim for an occupational disease such as could arise from exposure to radiation must be filed, or within which the compensable condition must occur. These periods generally are dated either from the termination of employment in which the exposure occurred or from the last exposure itself. In effect, under this statutory scheme the disease must emerge within the given period of time and, except in one state which has only this provision,⁹⁸ the employee also must file his claim within a period which will be one of those examined above. Therefore, in spite of proper filing, no claim for compensation can ever be entertained if the disease does not emerge (as defined by statute) within the given period.

The Delaware statute provides:

"All claims for compensation for compensable occupational disease shall be forever barred unless a petition is filed . . . within one year after . . . the employee first acquired such knowledge that the disability was or could have been caused by or had resulted from his employment, provided, however, that all claims must be filed within 5 years after the date on which the employee ceased to be exposed in the course of employment with the employer to such occupational disease."⁹⁹

If the condition does not develop within that five-year period, the employee has no cause of action. An objection may be voiced to this type of provision similar to that which was raised against a strict interpretation of "accident" provisions; this requirement may bar claims before they accrue. In view of the amount of time it may take a radiation-induced condition to develop, such cutoff provisions may be manifestly unfair. However, the cutoff provisions are somewhat different from those for filing claims. They represent a legislative judgment that after a certain length of time, all claims

⁹⁸ West Virginia.

⁹⁹ DEL. CODE ANN. tit. 19, § 2361(c) (Supp. 1961).

will be irrebuttably presumed not to be associated with employment. It is an attempt to provide the employer with some certainty that an employee will not be able to pursue a claim against him for an indefinite period. Such attempts at certainty express a valid purpose. Even accepting the validity of this purpose, a number of statutes presently provide unreasonably short cutoff periods. Therefore, it is not surprising that a number of states with such provisions have altered them insofar as radiation-induced conditions are concerned.

Colorado, Texas, and Virginia have eliminated cutoff provisions completely for radiation diseases. The Colorado statute now runs from the date of "disability."¹⁰⁰ The Virginia statute, with questionable wisdom, removes *all* requirements heretofore applicable to the filing of claims.¹⁰¹ The Texas statute, although it apparently attempted to impose some sort of period, seems entirely inadequate to do so.¹⁰² Among states using the date of the last exposure, Iowa has extended her period from one to two years,¹⁰³ Illinois from one to five years,¹⁰⁴ Oregon from three to seven years,¹⁰⁵ and Ohio from two to eight years.¹⁰⁶ Of states using the date of termination of employment in which exposure was suffered, Kansas has extended the period from one to three years,¹⁰⁷ and Wisconsin from six to twenty-five years.¹⁰⁸

The recently enacted Nevada statute raises some new problems. That statute provides:

"An occupational disease defined in this chapter shall be deemed to arise out of and in the course of employment . . . only when the disease was contracted within 12 months pre-

¹⁰⁰ COLO. REV. STAT. ANN. § 81-18-11 (Supp. 1961).

¹⁰¹ VA. CODE ANN. § 65-49 (Supp. 1962).

¹⁰² TEX. REV. CIV. STAT. ANN. art. 8306, § 25 (1962 Supp.). It must be acknowledged that a court may come up with a different construction. The judgment given, however, seems inescapable from the language of the statute. On first reading, the statute seems to be stating a requirement that either "death or incapacity result within . . . one (1) year" of the following prescribed date. The date given, however, is that upon which "the employee first suffered incapacity therefrom and either knew, or in the exercise of reasonable diligence should have known, that said disease was caused by his present or prior employment." The legislature obviously intended to introduce a reasonable knowledge requirement—but its attempt left a provision which, if strictly read, is impossible to apply.

¹⁰³ IOWA CODE ANN. § 85A.12 (Supp. 1962).

¹⁰⁴ ILL. ANN. STAT. § 172.36(f) (Supp. 1962).

¹⁰⁵ ORE. REV. STAT. § 656.807 (1961).

¹⁰⁶ OHIO REV. CODE § 4123.68 (Anderson Supp. 1962).

¹⁰⁷ KAN. GEN. STAT. ANN. § 44-5a17 (Supp. 1959). But it seems that disablement is still required one year from the last exposure. KAN. GEN. STAT. ANN. § 44-5a01 (Supp. 1961).

¹⁰⁸ WIS. STAT. ANN. § 102.17(4) (Supp. 1962).

vious to the date of disablement, except in cases of disability resulting from radium poisoning or exposure to radioactive properties or [*sic*] substances, or to roentgen rays (X-rays) or ionizing radiation, in which cases the poisoning or illness resulting in disability must have been contracted in the state of Nevada within 4 years prior to the date on which such disability occurred, while the claimant was covered by the provisions of this chapter and not while the claimant was an employee of the . . . United States or any of its contractors or subcontractors.”¹⁰⁹

The statute uses traditional concepts of disability and cutoff. However, the concept of the date upon which a disease was “contracted” is one which Nevada, Louisiana,¹¹⁰ and Minnesota¹¹¹ alone use and only in Minnesota apparently has it received judicial consideration. The supreme court of that state has declared that the date of “contraction” is the date upon which there is the first manifestation of the disease which disables bodily functions to the extent that the employee can no longer substantially perform his work.¹¹² This approach obviously reads a great deal into the statute in order to achieve some clarity. Yet, the court’s interpretation is unsatisfactory, as it leaves the vital question of employee knowledge unanswered.¹¹³

Whether or not the Nevada court will adopt the Minnesota court’s approach to the localization of the date of “contraction” remains to be seen. The statutory phrase itself seems inept since localization is a prerequisite. It is often difficult, if not impossible, to localize the time at which a disease was “contracted,” particularly so in the case of a disease such as some of those induced by radiation.

¹⁰⁹ NEV. REV. STAT. § 617.440 (1961).

¹¹⁰ LA. REV. STAT. ANN. § 23:1031.1(D) (Supp. 1962) reads: “All claims for disablement arising from an occupational disease are forever barred unless the employee files a claim . . . within four months of the date of his contraction of the disease or within four months of the date that the disease first manifested itself.”

¹¹¹ MINN. STAT. ANN. § 176.66 (Supp. 1962). See also S.C. CODE § 72-256 (1952), which employs similar language but is essentially different from the above provisions in that it requires “contraction” within one year after exposure. Thus, the date of “contraction” would seem to refer to the date upon which the disease emerged or, in the generally used language, became “manifest,” rather than when it was acquired.

¹¹² *Anderson v. City of Minneapolis*, 258 Minn. 221, 103 N.W.2d 397 (1960); *Kellerman v. City of St. Paul*, 211 Minn. 351, 1 N.W.2d 378 (1941).

¹¹³ The court may have recognized this problem in *Anderson v. City of Minneapolis*, *supra* note 13, at 225, 103 N.W.2d 397 at 400, in which it stated: “The difficulty in applying this rule arises with respect to the degree of interference with bodily functions necessary before it can be said that the disease is contracted.” It found, on the facts of the case, that the claim was timely when the employee became unable to perform “substantially all the functions he had done prior thereto.” Needless to say, this leaves the knowledge question an open one.

In such cases the total exposure may be received over a long period of time and, in addition, the condition may not manifest itself until long after the last exposure. These facts make the date of "contraction" most uncertain.

Even if the date of contraction can be localized, the statute requires that disability result within four years from that date. The possible insufficiency of this period has been discussed adequately above. Although essentially a problem of coverage, it should be noted also that the requirement that contraction occur in Nevada and while not working for the federal government may create problems for the claimant who may have been exposed to different sources of radiation in various states. He would face a difficult and often impossible task if required to prove under which exposure or exposures he "contracted" the disease.

C. *Tolling the Statute*

Various statutory provisions are made for tolling or suspending the notice and claim provisions. The notice provisions may be tolled in a number of states if the employer has actual knowledge of the injury or is not prejudiced by failure of notice.¹¹⁴ Claim requirements may be lifted for a number of statutory reasons, such as "good cause," payment of compensation by the employer, minority, and incompetency.¹¹⁵ These provisions vary widely and, aside from those relating to good cause which are discussed above,¹¹⁶ generally do not raise any problems peculiar to radiation cases.

One provision which exists in a few jurisdictions may be of interest in this area. Some statutes toll the claim provisions in the absence of a report by an employer who has notice of the employee's injury.¹¹⁷ The Michigan provision reads:

"[I]n all cases in which the employer has been given notice or knowledge of happening of said accident, within 3 months after the happening of same, and fails, neglects, or refuses to report said injury to the compensation commission as required by these provisions of this act, the statute of limitations shall not run against the claim of an injured employee . . . until a report of said injury shall have been filed with the compensation commission."¹¹⁸

¹¹⁴ See 2 LARSON § 78.30.

¹¹⁵ See 2 LARSON § 78.45.

¹¹⁶ See discussion in text accompanying notes 33 & 34 *supra*.

¹¹⁷ See SCHNEIDER § 2370.

¹¹⁸ MICH. STAT. ANN. § 17.165 (1960).

Under this provision a question can be raised as to what constitutes "happening of the injury." The Michigan court has provided some guides here. If the employer has actual notice of the "fact and occurrence" of injury, he must file his report.¹¹⁹ However, under these provisions, if the injury is of a latent character, the employer is not deemed to have notice until such injury becomes manifest and he is aware of the manifestation.¹²⁰ Hence, it would seem that if an employee were irradiated and the employer knew of the event, this alone would not prevent the statute from running. The employer also would have to know that the employee suffered a compensable disability because of the exposure.

It seems desirable to allow discretion in the courts and commissions to provide relief in cases in which a claimant justifiably does not or is not able to file notice or claim. In general, however, the periods of limitations ought to be framed in such fashion as to avoid the necessity of looking for an excuse for failure to file. The tolling provisions may be used to avoid the strictures of the statutory period,¹²¹ but such avoidance ought not to be necessary.

III. RADIATION-INDUCED CONDITIONS AND THE STATUTE OF LIMITATIONS

A. *Categorization*

The problem of categorizing a particular condition as an "accidental injury" or as an "occupational disease" is one which arises in various contexts in the workmen's compensation field. If a condition does not fit either category it will not be compensable in most states. Once it is categorized, the categorization given may dictate the result. This situation is easily illustrated by considering the principles laid out in the sections above as applied to a hypothetical case.

An employee could contract leukemia from prolonged exposure to radioactive sources but the condition usually would not become manifest until four to eight years after exposure, which may be after the employee ceases to work for the employer whose radiation source exposed the worker. The period could be as high as fifteen years. The statutory provisions of two states demonstrate the different determinations which might result because of categorization. In Arizona, if leukemia is treated as a disease, this hypothetical

¹¹⁹ *Dewitt v. Grand Rapids Fuel Co.*, 346 Mich. 209, 77 N.W.2d 759 (1956).

¹²⁰ *Paridee v. Great A & P Tea Co.*, 278 Mich. 191, 270 N.W. 263 (1936).

¹²¹ See cases cited in notes 33 & 34 *supra*.

case would probably be deemed uncompensable because disability did not occur, as required by the statute, within 120 days of the last day of employment.¹²² If, on the other hand, it can be treated as an accidental injury, the condition would seem compensable under the statute which provides that a claim is to be filed within one year of the date of the "injury."¹²³

If the same situation arose in California, the opposite result would flow from the same categorizations. If the condition is deemed an accidental injury, the claim would be barred by the requirement that it be filed within one year of the date of the "accident."¹²⁴ If leukemia is classified as a disease, however, the employee need not file until he suffers a "disability" and knows or reasonably should know of the causal relation to employment.¹²⁵

The artificiality of these results is apparent. The "accidental injury"- "occupational disease" dichotomy is itself the product of historical development, not necessity.¹²⁶ In general, legislative intent has been to broaden coverage of occupation-induced conditions by the addition of the occupational disease concept. However, this addition left some holes in coverage and, moreover, raised the question about which section of the act is applicable in a particular instance. In apparent recognition of this difficulty, some states have attempted to deal with both accident and disease under the broad heading of "injury."¹²⁷ Generically, "injury" certainly is broad enough to include all forms of bodily hurt.¹²⁸ Nonetheless, "injury" is widely associated with the term "accidental" and some courts have not been able to resist reading this into the statute,¹²⁹ even after a legislature has carefully excised it.¹³⁰

¹²² ARIZ. REV. STAT. ANN. § 23-1107(2) (1956).

¹²³ ARIZ. REV. STAT. ANN. § 23-1061(D) (1956). See *English v. Industrial Comm'n*, 73 Ariz. 86, 237 P.2d 815 (1951); *Hartford Acc. & Indem. Co. v. Industrial Comm'n*, 43 Ariz. 50, 29 P.2d 142 (1934), discussed in text accompanying note 13 *supra*.

¹²⁴ CAL. LAB. CODE ANN. § 5411 (1953). See *Johnson v. Industrial Acc. Comm'n*, 157 Cal. App. 2d 838, 321 P.2d 856 (1958) (statute runs despite employee's reasonable ignorance of his condition).

¹²⁵ CAL. LAB. CODE ANN. § 5412 (1953).

¹²⁶ See 1 LARSON § 40.60.

¹²⁷ *E.g.*, WIS. STAT. ANN. §§ 102.01(2), 102.12 (1957) discussed in text accompanying notes 83 & 84 *supra*.

¹²⁸ "[I]njury . . . is the general term for hurt of any sort, whether suffered by a person . . . or a thing." WEBSTER'S NEW INTERNATIONAL DICTIONARY (2d ed. 1957).

¹²⁹ *Middleton v. Texas Power & Light Co.*, 108 Tex. 96, 185 S.W. 556 (1916). The holding of this case is qualified in *Texas Employer's Ins. Ass'n v. Mincey*, 255 S.W.2d 262 (Tex. Civ. App. 1953). *Martin v. State Compensation Comm'r*, 107 W. Va. 583, 149 S.E. 824 (1929); *In re Scroggum*, 52 Wyo. 232, 73 P.2d 300 (1937). The statutes of these states make reference to "accidental injury." The statute of Ohio makes no such references; nevertheless, "accident" was read into the coverage provisions. *Malone v. Industrial Comm'n*, 140 Ohio St. 292, 43 N.E.2d 266 (1942).

¹³⁰ The Michigan legislature reduced the number of references to "accident" from

The goal to be achieved is a statute which covers all disabling and compensable conditions resulting from employment conditions, whether associated with accident, disease, or otherwise. Because of the limitations of language, it is improbable that usage of terms associated with old concepts can be escaped entirely. Nevertheless, it does seem possible and desirable to define such terms so that no court can escape their meaning.¹³¹

B. *Time Limitations*

1. *Claim Filing*

The claim filing provisions embody two different requirements: (1) the date from which the period runs and (2) the length of the period. The length of the period chosen is obviously the secondary consideration because a fair length depends largely upon the starting date. It is clear from the above review that, despite a widely varying statutory pattern, most courts, whenever possible, have interpreted statutory provisions as requiring reasonable knowledge on the part of employees. In most instances in which this has not been done, the reason has been that the legislature provided carefully drafted language which made such a reading virtually impossible. It is to be noted that the only statutory language which has not been subject to this interpretation has been that which substitutes, in some manner, a medical person's actions for those of the employee.¹³² There is authority to read all other types of statutory provisions as requiring that the employee have reasonable knowledge.

In any event, the reasonable knowledge provision seems the fairest one to utilize. The statute is designed to provide a period in which the employee must file his claim and he should not be required to file such a claim when he does not or cannot reasonably know of his right to compensation. Such a requirement is patently unreasonable. There may well be reasons for providing some final date beyond which no claims may be filed,¹³³ but such a provision should be independent of that limiting the filing of claims. It might be possible to incorporate other standards as alternatives, but the

fifty-four to five. The court held nevertheless that "injury" meant "accidental injury." *Arnold v. Ogle Constr. Co.*, 333 Mich. 652, 53 N.W.2d 655 (1952). The holding of this case has been questioned in later opinions. See, e.g., *Coombe v. Penegor*, 348 Mich. 635, 656, 83 N.W.2d 603, 610 (1957).

¹³¹ E.g., WIS. STAT. ANN. § 102.01(2) (1957). "[I]njury is mental or physical harm to an employee caused by accident or disease"

¹³² See Part II(C) *supra*.

¹³³ See discussion in text accompanying notes 137-45 *infra*.

requirement that the statute run only when the employee knows, or should know, of his condition and its relation to employment seems fairest over-all. This means that the statute ought not to run until the employee is aware (1) that he suffers from a compensable condition and (2) that the compensable condition is related to a particular employment.

In considering radiation-induced conditions, a different date for filing claims may also be advanced, *i.e.*, the date of actual notice of exposure to a potentially disabling source. If such a provision were adopted, however, one situation would not need to be included. Under some coverage provisions in workmen's compensation statutes, exposure alone may give rise to a compensable condition. For example, exposure to a certain dosage of radiation may entitle the employee to receive retraining for an occupation which does not involve risk of further exposure.¹³⁴ It would not be necessary that any physical manifestation result from the exposure. Therefore, a provision requiring filing of a claim upon actual notice of exposure would not be necessary for this type of condition. If an exposure is sufficient to create a right to retraining, a compensable condition exists and actual notice of exposure would be equivalent to reasonably prudent knowledge of a compensable condition. For delayed effects of known exposures, however, it would be possible to require an immediate filing of notice of exposure even though it will not be possible to determine for perhaps many years whether or not a compensable condition actually will arise.

Such a filing upon the date of actual notice of exposure rather than the date of manifestation of the compensable condition would make it possible to establish a record of exposures and potential claimants as well as facilitate proof of exposure amounts. Both these purposes might seem to provide sufficient reason for requiring such advance claim filing. However, effectiveness of such a provision in large part would depend upon other provisions of the statute which must be considered at this point.

To assure an accurate record of potential claims, the employee must have some effective incentive, either positive or negative, to file his claim. On the negative side, the statute could be framed to bar all claims for injuries developing from any exposure of which the employee had notice. For example:

"A claim for compensation must be filed within one year of the date upon which the employee knew, or in the exercise

¹³⁴ See *ATOMS AND THE LAW* 829-30.

of reasonable diligence should have known, of the existence of a compensable condition and its relation to employment. *Provided*: if the employee has actual notice of exposure to a potentially disabling source, he must file a claim within one year of that actual notice for all injuries which may arise from this exposure."

This certainly would provide an excellent negative incentive to file claims on actual notice of exposure. If there is good reason for such advance filing, it is better to make it mandatory rather than permissive, but the latter type of incentive could be provided by changing the proviso to read: "a claim *may* be filed upon actual notice of exposure to a potentially disabling source." In either case, the basic question is whether or not the difficulties raised by advance filing provisions are outweighed by the advantages achieved.

Problems of proof undoubtedly will arise. The employee may have received exposures of which he was not aware, in addition to that of which he had notice. Often it will be difficult, if not impossible, to prove which exposure or exposures caused the condition. In addition, the spectre of numerous frivolous and unjustified claims by employees arises. Unless some exposure level line is drawn, the well-advised employee will file an advance claim whenever he has the slightest reason to suspect an exposure has occurred. By barring any claim arising from a known exposure unless notice is filed, the statutory provisions here suggested are in the nature of a penalty. Even if the positive inducement provision were used, there would still be every reason to file a claim for every exposure, no matter how small, because some inducement such as keeping open all claims once filed undoubtedly would be used. In addition, this type of provision keeps the period open indefinitely, a highly questionable policy. Although this point will be discussed in more detail below in relation to the cutoff period,¹⁸⁵ it should be pointed out here that keeping the period so open largely removes the definiteness sought to be attained by imposing the cutoff period in the first place.

In spite of these difficulties, however, a very good reason for advance filing relating to proof problems does exist. There probably is little reason for immediate notice of exposure from the standpoint of medical treatment. Nevertheless, in proving whether or not exposure occurred and, if so, in what amounts, it may be very important to know immediately of any alleged accident so that it

¹⁸⁵ See discussion in text accompanying notes 136-44 *infra*.

can be reconstructed and the dosimetry determined as accurately as possible.¹³⁶ A related advantage of immediate notice of exposure is that some latent diseases which can arise from exposure will not do so short of a minimum latency period.¹³⁷ If we are to use existing rules of proving causal connection between the irradiation and the disease in question, advantage should be taken of existing scientific knowledge. An employer should not be charged for diseases which scientists know cannot have resulted from the exposure in question. For these reasons it is essential that advance filing of notice of known exposures be required.

A solution does exist for one of the most serious disadvantages of advance filing, *i.e.*, that every minute exposure will be filed and this will become an administrative nuisance. On the basis of present scientific knowledge, and so long as the existing proof of causation rules are used, a very good case can be made for limiting recovery for occupation exposures to those in which the acute dose is larger than 35 r, because below that level the increased chance of having the disease is so small as to be *de minimis*.¹³⁸ Even the total chance

¹³⁶ This is particularly true in the case of criticality excursions where a mock-up of the "incident" might be required or where blood sodium-24 determinations are useful in calculating neutron exposure. See Union Carbide Nuclear Company Report Y-1234, Accidental Radiation Excursion at the Y-12 plant, Final Report 5-23 (1958). See also Hurst & Ritchie, *Radiation Accidents: Dosimetric Aspects of Neutron and Gamma-Ray Exposures*, Part A 1-16, 19-22 (Oak Ridge Nat'l Lab. 2748) (1959).

¹³⁷ This will allow exclusion of certain cases in which the onset of the disease is before the minimum latent period. For the leukemias the latent period is from two to fifteen years with the peak incidence occurring between the fourth and seventh years. There is no documented evidence of an increased number of cases of leukemia in the first fifteen months after exposure in any of the series of studies of exposed individuals. See National Academy of Sciences-National Research Council, *Effects of Ionizing Radiation on the Human Hemapactic System* 5-7 (Publication 875) (1961). See also U.N. GEN. ASS. OFF. REC., 17th Sess., Supp. No. 16, 145-47 (A/5216) (1962).

¹³⁸ If it is assumed (1) that radiation has a linear dose-effect relationship with regard to leukemogenesis down to zero dose, (2) that the average natural incidence of leukemia is about 7 per 100,000 population at risk per year, and (3) that there is a probability of radiation-induced leukemia of bone marrow origin of two cases per rad per 1,000,000 population at risk per year, 35 rads will give the exposed individual a probability of developing leukemia from a given exposure nearly equal to his probability of developing it from natural causes (35×2 or 70 out of one million or 7 out of one hundred thousand). This assumes that radiation induces all varieties of leukemia, that radiation leukemogenesis is not sex, age, or dose-rate dependent and that the radiation has a lifetime rather than a limited (two to fifteen years) leukemogenic effect. It further assumes that the natural incidence of all leukemias does not vary with age or sex and that the probability of radiation-induced leukemia is not reduced because of deaths from other causes than leukemia. All of these are conservative assumptions in favor of the potential victim. See Lewis, *Leukemia and Ionizing Radiation*, 125 SCIENCE 965-72 (1957). For an opposing view, see Brues, *Critique of the Linear Theory of Carcinogenesis*, 128 SCIENCE 693-99 (1958). See general discussion of scientific facts and their application to the contingent injury fund idea in Estep, *Radiation Injuries and Statistics: The Need for a New Approach to Injury Litigation*, 59 MICH. L. REV. 259 (1960).

of contracting the disease, including natural incidence possibilities, is very small in such cases. If this floor is accepted most of the administrative nuisance difficulty inherent in an advance filing requirement is obviated.

If, as suggested earlier by one of the present writers,¹³⁹ a contingent injury fund alternative were accepted as a solution to the proof of causal connection problem, then advance filing would be required in every case and an immediate determination would be made of the amount of exposure and the increased chances of the disease caused by the particular source of radiation. The recommendations made here, however, are for changes which should be made in existing rules in which causation must be proved by the claimant to have "more probably than not" been connected with defendant's source.

Whether or not advance filing as outlined above is required, so long as the filing period is based upon the employee's knowledge of exposure and work connection, as it should be, provision must be made for terminating the employee's filing right at some period after the notice. In any event, there is no need for a long period because by hypothesis the employee has knowledge of the vital facts. Many statutes allow one year, which certainly is long enough if our recommendations are accepted. A strong case could be made, however, for making it considerably shorter, such as six or even three months. The shorter period would better meet the needs for proof of the fact and level of exposure, as suggested above.

2. *Over-All Cutoff Dates*

A claim-filing requirement which is based on the employee's reasonable knowledge of his physical condition would of itself allow the employee to file at any time the condition developed. This would be so regardless of the length of time which may have elapsed from the exposure to the manifestation of the condition or from the termination of employment with the employer in whose service the injurious exposure occurred. Such a provision potentially extends the employer's liability to the life of the employee, assuming, of course, that compensation of some sort¹⁴⁰ is still available under the statute. Problems of proof are obvious difficulties in such a situation and the employer may thus be forced to keep extensive records on present and past employees. Considerations of this nature have

¹³⁹ *Ibid.*

¹⁴⁰ For example, medical and hospital expenses.

prompted many states to enact the provisions, reviewed above,¹⁴¹ which terminate the right to make a claim after a certain period regardless of what may be the terms of the claim-filing provisions. Other legislatures have enacted no such legislation, presumably reasoning that if the condition is related to employment and can be so proved, it ought to be compensable, since it is no fault of the employee that the condition is delayed.¹⁴²

There is merit in both views. Cutoff dates provide, in effect, an irrebuttable presumption that the condition is not causally related to employment. The employer is thus given some guarantee that beyond a set date a particular employee cannot pursue any claim. The difficulty is, of course, that we know that a given condition may indeed be related to employment in spite of the legislative presumption that it is not. In short, the cutoff period provides a balancing of interests and, as such, is not satisfactory in every instance. It is the view of the present writers that if such a period is provided, it should be carefully shaped to deal fairly with the difficulties inherent in the nature of radiation-induced conditions. These difficulties will now be examined.

The Date From Which the Period Runs. The traditional cutoff periods have required that either the condition emerge or that a claim be filed within a certain time from either the date of last exposure in employment or from the last day of the employment in which the injurious exposure was suffered.¹⁴³ There have been few deviations from this pattern—none of which bears review at this point.¹⁴⁴ Of the generally used dates, that of the last day of employment provides the most certainty. However, exposure to an actually or potentially injurious source may well cease long before employment with that employer ends. Undoubtedly this is the reason that the majority of states have chosen the date of the last injurious exposure.¹⁴⁵ Although the facts of any given case may vary, generally this date will be much more uncertain than the date of last employment. In cases of exposure to radiation, the uncertainty will probably be even greater. For that reason it is recommended that the statute utilize the last day of *possible* exposure to a *potentially* injurious source. Use of this date would avoid holding the

¹⁴¹ See discussion in text accompanying notes 97-113 *supra*.

¹⁴² This is the view apparently advanced in 2 Larson §§ 78.42(b)-42(c) and to a lesser degree in SCHNEIDER § 2358. However, neither commentator distinguishes clearly between the claim filing requirements and the cutoff type of provision.

¹⁴³ See discussion in text accompanying notes 97-113 *supra* and Appendix A.

¹⁴⁴ These are discussed in the text accompanying notes 110-14 *supra*.

¹⁴⁵ See Appendix A.

period open from the possibly long removed termination of employment. At the same time, it would give the employee the benefit of keeping the period open from the last possibility of injurious exposure. It should be noted that such a provision would have no effect on the employee's burden of proving causation. The proof section of the statute would exist separately from this section and its requirements would have to met separately. The only effect of the suggested provision would be to allow the cutoff provision to run from the date of exposure most favorable to the employee regardless of which exposure or exposures may be proved to have caused the condition. At the same time it would not postpone starting the period until a time often unrelated to the potential injury, *i.e.*, the last date of employment.

Effect of the Period. The general effect of the cutoff period is, of course, to bar all claims which develop after a certain date. However, three variations within this general pattern may be provided. First, the period may be used to bar only those claims, including potential claims, which have not been filed. This effect presumes the utilization of some system of recording potential claims, the desirability of which was discussed above.¹⁴⁶ Even if such a system is employed, it is suggested that the cutoff provisions should work against potential claims also, requiring not only that a filing of the claim but also that the condition itself develop within the given period. To provide otherwise would be to sacrifice a great deal of the certainty sought to be achieved by the cutoff. Thus, the second alternative would be to require that the condition emerge within the given period *and* that compensation be available only for that period. An employee could receive compensation only for that portion of his condition which occurred before the cutoff date. A third alternative would be to block compensation for conditions emerging after the cutoff date, but to allow full compensation for conditions emerging before the date even though they continued beyond it. Of the last two possibilities, the third is that which has received greatest support in the statutes and case law.¹⁴⁷ It is suggested, therefore, that this approach be incorporated in the radiation sections of the workmen's compensation acts.

Length of the Period. Existing statutes employ cutoff periods

¹⁴⁶ See discussion in text accompanying notes 133-35 *supra*.

¹⁴⁷ Unfortunately, the subject has not been explored by the commentators and writers. However, most statutes are framed on the lines of the New Jersey statute which is discussed in the text accompanying note 99 *supra*. Such provisions explicitly require only that a claim be filed.

which vary from 120 days to twenty-five years.¹⁴⁸ In view of the fact that manifestation of many radiation-induced conditions may be long delayed, a fairly long period, from twenty-five to thirty years, should be provided. Such a period would allow coverage of most radiation-induced conditions, while at the same time providing the desired cutoff.

C. Employer Knowledge of Exposure and the Statute of Limitations

Among the essentially novel problems raised by radiation exposure is that of the employer's knowledge of exposure suffered by the employee. The traditionally conceived compensable conditions are accidental injuries and occupational diseases of which, by their very nature, the employee is likely to have first notice. Of course, numerous radiation-induced conditions will fit this pattern. If they do, there is no reason to treat them as different from "ordinary" accidental injuries or occupational diseases. However, in numerous circumstances exposure to an actually or potentially disabling source of radiation may occur and the employee would not necessarily have knowledge of this exposure. The employer, on the other hand, will probably know of the exposure, at least if he follows good radiation safety procedures. The obvious problem is whether or not to require that the employer report this exposure. Although this question is not directly related to the statute of limitations provisions, the effect of the employer's failure to report, should such a duty be imposed, may be so related. Therefore, the problem merits full consideration here.

Basis for the Requirement. If the employer is required to report even nondisabling exposures, there is a strong possibility of inducing unreasoned fear in the employee, with a resulting filing of frivolous claims, or possibly actual disablement caused solely by psychological reactions. Nonetheless, it is suggested that a report of exposure to radiation above certain prescribed minimum safety levels should be required. In the first place, the exposure may be of such an extent as immediately to entitle the employee to compensation.¹⁴⁹ An employer who knows of the exposure knows that the employee is entitled to compensation. In fairness, he should be required to communicate this information to the employee. Similarly, if an employee is allowed or required to file a claim for potential

¹⁴⁸ See Appendix A.

¹⁴⁹ For example, retraining expenses. See *ATOMS AND THE LAW* 829-30.

injuries,¹⁵⁰ employer knowledge of the exposure is knowledge that the employee could file a claim. This information, too, ought to be given to the employee. The serious difficulty arises when an employee suffers relatively slight overexposures which do not give rise to an immediately compensable condition or do not allow the employee to file a claim immediately. Such exposure to potentially disabling radiation places the employee in a dangerous position. If he is unaware of the exposure suffered, he may unwittingly subject himself to further exposure in subsequent employment or during medical treatment, which would be extremely hazardous in view of the prior exposure. Hence, when exposure exceeds certain levels, the employer should be required to report it.

Relation to the Statute of Limitations. To be fully effective, a provision requiring reporting of exposure must be implemented by enforcement provisions. Two possibilities may be utilized. An obvious one would be to provide a monetary fine. An alternative, however, would be a provision which in some manner suspended the statute of limitations. The use of such a scheme should depend upon the type of limitation provisions in effect. If the reasonable knowledge standard is employed, there is no reason to suspend this section unless it is determined that the employer should be penalized for his failure to report. The reason for this conclusion is apparent. The reasonable knowledge system requires that the employee file only when he has, or should have, knowledge. The employer's failure to communicate this knowledge to the employee, although it may prejudice him insofar as subsequent exposures are concerned,¹⁵¹ will not prejudice him insofar as the claim-filing requirements are concerned. The cutoff section of the statute, however, presents a different problem. If the exposure suffered gives rise to a compensable condition or if potential claims are allowed and they are not affected by the cutoff period provision, then the employer's failure to give notice clearly prejudices the employee whose right to compensation will be terminated if no claim is filed within the period. Clearly the employer ought not to be allowed to so benefit from his willful or negligent failure to fulfill his legal duty; hence, under these circumstances, the cutoff period ought to be suspended. Of course, if potential claims are allowed but the cutoff operates on them, there is no need to suspend the statute of

¹⁵⁰ See discussion in text accompanying notes 133-35 *supra*.

¹⁵¹ If the employee does in fact suffer because of the employer's negligent or willful failure to give notice, a separate provision for a monetary fine or perhaps even allowing an action at law might well be in order.

limitations since a filing for a condition which developed after the period would be irrelevant.

The above suggestions would put the employee in the position he would have been in had the employer fulfilled his legal duty. The employee gains nothing other than the presumption that he would have filed a claim had he been given the relevant information. Any further suspension of the statutory period would be, in effect, a penalty to the employer and an unjustified windfall to the employee. Although a monetary fine might be appropriate for an employer who disregards the statute, there seems no reason to benefit the employee unnecessarily in these cases.

Relevant Existing Statutory Provisions. Two types of existing statutory provisions are relevant to this problem. First are the long existent provisions requiring, generally, that the employer report to the workmen's compensation agency all accidental injuries and sometimes occupational diseases of which he has actual knowledge or is given notice by the employee.¹⁵² The purpose of these provisions seems to be to assure that the employer is following through on the employee's right to compensation. It is to be emphasized that these provisions require that the employer *actually know* that the employee has, or claims to have, suffered a *disabling or compensable* condition. The employer's knowledge that an event has occurred which *could* give rise to such a condition is not sufficient to necessitate a report to the agency.¹⁵³

These provisions are relevant here because five states provide that the statute of limitations will, in some manner, be suspended until the employer files his report.¹⁵⁴ In most cases such a provision is an outright gift to the employee, for he too has knowledge of his condition. The fact that the employer has or has not filed his report will not affect that knowledge in any way. Hence, suspension of the statute of limitations in these circumstances seems to be a questionable remedy. Most states provide only a nominal monetary fine,¹⁵⁵ while a few couple this with an alternative jail sentence.¹⁵⁶

The applicability of these provisions to radiation problems is somewhat unclear. Of course, if the radiation-induced condition is similar to an "ordinary" injury, the provisions will operate in the

¹⁵² See Appendix B.

¹⁵³ The statutory language makes this point clear; two cases underscore it. See *Sanchez v. Bernadilli County*, 57 N.M. 217, 257 P.2d 909 (1953); *Pardee v. Great A & P Tea Co.*, 278 Mich. 191, 270 N.W. 263 (1936).

¹⁵⁴ See Appendix B.

¹⁵⁵ *Ibid.*

¹⁵⁶ *Ibid.*

ordinary manner. However, the question arises whether or not such statutes could be read to require that the employer report every slight overexposure of which he has knowledge. First, it is to be noted that no statute specifically embodies the notion of report of such exposures to a potentially disabling source. Therefore, their applicability to radiation-induced conditions depends on (1) the phrasing of the present statutes and (2) the coverage provided for radiation-induced conditions. If the exposure itself may be deemed to give rise to a compensable condition,¹⁵⁷ then notice to the agency from the employer probably could be required under some existing statutes.¹⁵⁸ However, the phrasing of other statutes would block coverage of this sort of condition even if it were deemed compensable.¹⁵⁹

It is therefore apparent that under some circumstances the employer notice provisions may be applicable to radiation-induced conditions. Such a conclusion is, however, only half a step. The most important point is that it is equally apparent that such provisions simply were not designed to deal with relatively small exposures to a potentially disabling radiation source. If mere exposure does not give rise to a compensable condition, none of the statutes would require reporting. But if it is a compensable condition, it may differ from "ordinary" injuries in that often *only the employer* will know of it. Notice to the employee should be required and the statute of limitations should be suspended until such notice is given. Heretofore, those provisions lifting the statute have provided a rather harsh and unnecessary penalty. In these circumstances, they would only put the employee in the position in which he would have been had the employer fulfilled his legal duty.

The second type of provision relevant to this question is that sometimes included in the recently enacted radiation "industry safety" laws.¹⁶⁰ Typical form of the notice requirements included therein is section 8(b) of the Model Act for State Radiation Control,¹⁶¹ which provides:

¹⁵⁷ For example, it may entitle the employee to retraining expenses.

¹⁵⁸ E.g., N.M. STAT. ANN. § 59-10-27 (1959) ("compensable accidental injuries"); WIS. STAT. ANN. § 102.37 (1957) ("death or disability").

¹⁵⁹ E.g., R.I. GEN. LAWS ANN. § 28-32-1 (1956) requires report of personal injury only if fatal, incapacitating for three days, or requiring medical assistance.

¹⁶⁰ See CCH ATOM. ENERGY L. REP. at 23021-23.

¹⁶¹ State Radiation Control Act, Council of State Governments, Suggested State Legislation—Program for 1961. Somewhat different language from an earlier version of the Model Act has been incorporated into a number of existing statutes. See CCH ATOM. ENERGY L. REP. ¶ 170311.

"The (agencies or cite appropriate agency) shall require each person who possesses or uses a source of ionizing radiation to maintain appropriate records showing the radiation exposure of all individuals for whom personnel monitoring is required by rules and regulations of the (agencies or agency). Copies of these records . . . shall be submitted to the (agencies or agency) on request. Any person possessing or using a source of ionizing radiation shall furnish to each employee for whom personnel monitoring is required a copy of such employee's personal exposure record annually, at any time such employee has received excessive exposure, and upon termination of employment."¹⁶²

Penalties provided for violation of the section are monetary. These provisions are *not* a part of the workmen's compensation system of the respective states. Nevertheless, their relation to that system is apparent. Unless otherwise provided, radiation exposure records could be used by the employee as evidence to support a claim for compensation as well as for his personal well-being. It is suggested that states employing such provisions ought to consider the effect of employer failure to give notice upon the statute of limitations section of the workmen's compensation act. One suggestion is to create a conclusive presumption of causal connection if notice intentionally is not given; if unintentionally, perhaps it would be enough to toll filing requirements.

Summary. The present workmen's compensation systems have not given adequate consideration to the problem of employer knowledge of exposure of an employee. Existing statutes suspending the statute of limitations are of dubious wisdom as presently conceived and are wholly inadequate to deal with the problem presented by exposure to radiation. Nonetheless, the concept of requiring the employer to give notice or make a report is not new. The present systems provide a structure upon which adequate provisions can be framed. The industrial safety laws provisions relating to the use of radiation are of themselves adequate in their requirements of notice to the employee, but their relation to the workmen's compensation acts must be clarified by legislative action.

D. *Specific Injuries and the Statute of Limitations*

Probably the vast majority of radiation-induced conditions will create disability as traditionally conceived. However, some

¹⁶² State Radiation Control Act § 16.

such conditions will be of a unique character which may itself create problems with the statute of limitations section of the act. It may be seriously questioned whether the sundry injuries examined at this point should even be compensable. However, that question is not within the scope of this inquiry,¹⁶³ and the discussion proceeds on the assumption that coverage is provided. The problem examined is whether, assuming coverage, special statute of limitations provisions are necessary or desirable for the particular injuries discussed.

Occupational Diseases Requiring Retraining. This possibly compensable condition has been discussed extensively in the foregoing text and it will therefore be necessary only to recall the main points of that discussion. If the condition is deemed compensable, exposure to certain prescribed levels of radiation may entitle the employee to retraining for an occupation which does not involve further risk of exposure. The exposure itself should be defined as a "compensable condition" for purposes of retraining and therefore no special statute of limitation provision would be required because knowledge of exposure would be equivalent to knowledge of a compensable condition.

Shortened Life Span. The same reasoning as was applicable to retraining rights should be applicable to shortened life span. Upon a certain exposure, the employee's life span is predictably reduced. The coverage section should prescribe the levels of exposure and the damages to be awarded. If it is to be treated as a compensable disability, there would again be no need of any special statutory limitations provisions other than the regular ones since the condition is suffered on exposure.

Increased Susceptibility to Disease. The same approach might be taken here because an employee's increased susceptibility theoretically is predictable upon a given exposure. However, in this instance physical manifestations will occur later if the employee has actually suffered the injury. Therefore it is arguable that there should be some delay in order to determine whether or not the employee has indeed been injured and, if so, the extent of that injury. On the other hand, probably in this limited field a provision for potential injury claims should be adopted. The reasonably prudent man standard is not readily applicable since it may be uncertain when a person becomes reasonably aware that he suffers from increased susceptibility. Hence, it is suggested that

¹⁶³ See general discussion in *ATOMS AND THE LAW* 199-360.

filing of a claim should be required upon actual notice of exposure or upon actual knowledge of the condition, whichever *first* occurs. Recovery of damages, however, should be deferred until there is some physical manifestation.

The incorporation of an actual knowledge provision may be deemed objectionable by some. Its use is suggested because of the difficulty of applying the reasonable standards to such injuries. In most cases it will be the employer's failure to report exposure which will necessitate reliance on another date. There seems good cause not to put the employee at a disadvantage because of the employer's failure.

Damage to Offspring. Once more there is statistical probability but there is even more reason to deny recovery until an affected offspring is born, for only then will the injury definitely be ascertainable. A provision similar to that employed for increased susceptibility should be employed but the reasonable standard should be used here.

IV. CONCLUSION AND RECOMMENDATIONS

From the foregoing review and discussion it is clear that existing statutory systems are inadequate to cope with many difficulties which may be raised by radiation-induced conditions. The inadequacy may be of two types. First, some statutes are inadequate as applied to even "ordinary" conditions. They will necessarily be inadequate to deal with radiation-induced conditions. What is needed is a general reform of the statute in the particular area of difficulty. A good example of this would be the adoption of a reasonably-prudent-man knowledge standard applicable to all claim filing requirements. There is no reason why this standard should be applied only to radiation-induced conditions. Second, there are particular problems of inadequacy caused by the nature of radiation injuries. The key to dealing with these is to recognize the problems and to enact special provisions to cope with them. A hit-or-miss treatment of radiation-induced conditions simply because they are "different" makes no sense at all.¹⁶⁴ In most cases, these conditions are not so different as to require exceptional treatment, and when they are, such treatment can be provided. Hence, we recommend the following:

¹⁶⁴ The Virginia provision removing *all* requirements for the filing of claims for radiation-induced occupational disease is an example of an amendment which has little, if any, reasonable basis. See VA. CODE ANN. § 65-49 (Supp. 1962).

1. Maintenance of the present statute of limitation sections to apply to radiation-induced conditions;
2. Elimination of the "accidental injury"-“occupational disease” dichotomy and provision that all work-connected disabilities (“injuries”) be compensable;
3. Provision that *all* claim filing (with one or two minor exceptions) be subject to a reasonable knowledge standard;
4. Elimination, or revamping along the lines discussed above, of cutoff provisions for radiation-induced conditions;
5. Special provisions for “unique” radiation-induced conditions along the lines suggested.

Although these recommendations will not solve all the problems which may arise, they will go a good distance in providing an adequate basis upon which the agencies and courts may intelligently proceed.

APPENDIX A
EXISTING STATUTE OF LIMITATION PROVISIONS APPLICABLE TO RADIATION-INDUCED CONDITIONS

Explanation:

1. "Regular or special": "R" indicates that radiation-induced conditions are covered under the provisions for all conditions. "S" indicates special coverage for "latent" and for radiation-induced conditions.
2. "T": indicates a split coverage—in general, regular coverage for filing requirements and special coverage for "cutoff" dates.
3. "X": indicates a lack of a provision or inapplicability of the category to the particular state law involved.

JURISDICTION	OCCUPATIONAL DISEASE PROVISIONS			ACCIDENT OR INJURY PROVISIONS		
	Regular or Special [R] [S]	Filing	Cutoff	Regular or Special [R] [S]	"Accident" or "Injury" and Time Period	Cutoff
Alabama Code	X	Only "occupational pneumoconiosis" covered. tit. 26, §§ 313(1)-313(16) (1958)		R	Accident—1 yr. tit. 26, § 296 (1958)	Same
Alaska Comp. Laws	R	2 yrs. from knowledge. § 43-3-41(9) (Supp. 1959)	None	R	Same as for occupational disease. § 43-3-41(9) (Supp. 1959)	None
Arizona Rev. Stat.	R	60 days from disablement. § 23-1224(2) (1956)	Total disability within 120 days from last day of employment. § 23-1107(2) (1956)	R	Injury—1 yr. § 23-1061 (1956)	None
Arkansas Stat.	R	2 yrs. from last injurious exposure. § 81-1318 (1960)	Disablement within 1 yr. of last injurious exposure. § 81-1314(7) (1960)	R	Injury—60 days. ["Notice" to commission.] § 81-1317 (1960)	Accident—2 yrs. § 81-1318 (1960)
California Lab. Code	R	1 yr. from knowledge. § 5412 (1953); § 5405 (1953)	None	R	Accident—1 yr. §§ 5405, 5411 (1953)	Same
Colorado Rev. Stat.	S	3 yrs. from disability. § 81-18-11 (Supp. 1961)	None	R	Injury—10 days. § 81-13-5 (1953)	Accident—5 yrs. § 81-13-6 (1953)
Connecticut Stat. Ann.	R	1 yr. from manifestation of symptom. § 31-294 (Supp. 1961)	None	R	Accident—1 yr. § 31-294 (Supp. 1961)	Same
Delaware Code Ann.	R	1 yr. from knowledge. tit. 19, § 2361(c) (Supp. 1960)	(Claim filed) 5 yrs. from last exposure in employment. tit. 19, § 2361(c) (Supp. 1960)	R	Accident—2 yrs. tit. 19, § 2361(a) (Supp. 1960)	Same
Florida Stat. Ann.	R	2 yrs. from "injury." § 440.151 (1952); § 440.19 (Supp. 1961)	None	R	Injury—2 yrs. § 440.19 (Supp. 1961)	Same
Georgia Code Ann.	R	1 yr. from "accident" (which is read here as "injury"). § 114-810; § 114-305 (1956). See 52 S.E.2d 325 (1949).	Disablement within 1 yr. of last exposure. § 114-801 (1956)	R	Accident—1 yr. § 114-305 (1956)	Same

Hawaii Rev. Laws	S	2 yrs. from knowledge. § 97-52, Act 115 (1961)	None	S	Same as for occupational disease. § 97-52 (1961)	
Idaho Code	S	1 yr. from disability and knowledge. § 72-1228 (Supp. 1961)	None	R	Accident—1 yr. § 72-402 (1949)	Same
Illinois Ann. Stat.	T	1 yr. from disablement [R]. tit. 48, § 172.41(c) (Supp. 1961)	5 yrs. from last exposure (emergence) [S]. tit. 48, § 172.36(f) (Supp. 1961)	R	Accident—6 mos. tit. 48, § 161 (1950)	Same
Indiana Stat. Ann.	T	2 yrs. from disablement [R]. § 40-2225 (Supp. 1962)	Disablement within 2 yrs. of knowledge [S]. § 40- 2205(e) (Supp. 1962)	S	Knowledge—2 yrs. § 40- 1224 (Supp. 1962)	None
Iowa Code Ann.	S	90 days from knowledge. § 85A.12 (Supp. 1962)	Condition must emerge 2 yrs. from last exposure. § 85A.12 (Supp. 1962)	R	Injury—2 yrs. § 85.26 (1949)	None
Kansas ¹ Gen. Stat. Ann.	S	3 yrs. from last day of employment. § 44-5a17 (Supp. 1961)	Disablement within 1 yr. from last exposure. ² § 44- 5a01 (Supp. 1961) No claim 3 yrs. after event. § 44-5a17 (Supp. 1961)	R	Accident—180 days [to em- ployer]. § 44-520a (Supp. 1961)	Same
Kentucky Rev. Stat.	R	1 yr. after last exposure or after knowledge—whichever <i>last</i> occurs. § 342.316 (1962)	None	R	Accident—1 yr. § 342.185 (1962)	Same
Louisiana Rev. Stat.	R	4 mos. of contraction or manifestation [to employ- er]. § 23:1031.1 (D) (Supp. 1962)	None ³	R	Accident—1 yr.; if latent, two yrs. from accident. § 23:1209 (1950)	Same
Maine Rev. Stat.	S	1 yr. from incapacity or knowledge—whichever <i>lat-</i> <i>er</i> . ch. 31, § 63 (1954) ch. 31, § 70-A (Supp. 1962)	None	R	Accident—1 yr. (may be extended to 2 yrs. if "mis- take of fact"). ch. 31, § 33 (Supp. 1962)	Same
Maryland Ann. Code	R	1 yr. of disability. art. 101, § 26 (1957)	Disablement within 1 yr. after last injurious ex- posure. art. 101, § 23 (1957)	R	Accident—60 days unless "sufficient cause." art. 101, § 39 (1962)	Accident—2 yrs. art. 101, § 39 (1962)
Massachusetts Ann. Laws	R	6 mos. from "injury." ch. 152, § 41 (1957)	None	R	Same as for occupational disease. ch. 152 §§ 1(7A), 41 (1957)	None
Michigan Stat. Ann.	R & S	(Same as accident). § 17- .165 (1960)	None	R & S	Injury—6 mos. This may be extended to 3 yrs. if employer is given notice of accident within 3 mos. and condition is latent. § 17.165 (1960)	None

APPENDIX A (Continued)

JURISDICTION	OCCUPATIONAL DISEASE PROVISIONS			ACCIDENT OR INJURY PROVISIONS		
	Regular [R] or Special [S]	Filing	Cutoff	Regular [R] or Special [S]	"Accident" or "Injury" and Time Period	Cutoff
Minnesota Stat. Ann.	R	6 yrs. from disablement. § 176.66(1) (1945); § 176.151(1) (Supp. 1961); § 176.011(16) (Supp. 1961)	Disease must have been "contracted" within 12 mos. of disablement. § 176.66(3) (Supp. 1961)	R	Accident—6 yrs. § 176.151 (1) (Supp. 1961)	Same
Mississippi Code Ann.	X	No provision for occupational disease		R	Injury—30 days (to R). § 6998-18 (1942)	None
Missouri Ann. Stat.	R	1 yr. from knowledge. § 287.063(6) (1925)	None	R	Injury—1 yr. § 287.430 (1949)	None
Montana Rev. Code	R	30 days from notice to employer; notice due 30 days from knowledge. § 92- 1312, § 92-1313 (Supp. 1961)	Total disability within 120 days of last day of employment; may be ex- tended to 1 yr. for "good cause." §§ 92-1311(2), 92-1313 (Supp. 1961)	R	Accident—12 mos. § 92- 601 (1947)	Same
Nebraska Rev. Stat.	R	6 mos. from "injury." § 48-133 (1943)	1 yr. from "accident." [Note Nebraska's liberal construction reads "acci- dent" as "injury."] § 48-137 (1943)	R	Same as for occupational disease. §§ 48-133,-137 (1943)	
Nevada Rev. Stat.	T	4 mos. after disability [R]. § 617.330 (1961)	Disease must have been contracted in Nevada within 4 yrs. of dis- ability [S]. § 617.440 (1961)	R	Accident—90 days. "Suf- ficient reason" may excuse. §§ 616.500(1), 616.500(6) (a) (1961)	Same
New Hampshire Rev. Stat.	R	Only notice to employer required 90 days from first date of treatment by li- censed physician. §§ 281: 16-17 (Supp. 1961)	None	R	Only notice to employer 90 days after accident. § 281: 16 (Supp. 1961)	Same
New Jersey Stat. Ann.	R	2 yrs. after exposure ceases or 1 yr. after knowledge— whichever later. § 34:15-34 (1959)	5 yrs. from last exposure. § 34:15-34 (1959)	R	Accident—2 yrs. § 34:15-51 (1959)	Same
New Mexico Stat. Ann.	R	60 days from disablement. § 59-11-30(b) (1953)	Disablement within 120 days of last day of em- ployment. § 59-11-10(2) (1953)	R	Notice required to employ- er 60 days from accident. § 59-10-13.4(A) (1953). Claim required 1 yr. after employer's failure to pay timely claim. § 59-10-13-6 (A) (1953)	Same

New York W.C. Law	S	90 days from disablement & knowledge. § 28	None	R & S	Accident—2 yrs., but same provision as for occupa- tional disease available for certain "latent" conditions. § 28	Same
North Carolina Gen. Stat.	R	1 yr. from disability. § 97- 58 (1958)	None	R	Accident—2 yrs. § 97-24 (1958)	Same
North Dakota Cent. Code	R	60 days from "injury." § 65-05-01; § 65-01-02(8) (1960)	None	R	Injury—60 days. § 65-05-01 (1960)	None
Ohio Rev. Code Ann.	T	2 yrs. from disability, or 6 mos. from diagnosis, or 6 mos. from knowledge of diagnosis [R]. § 4123.85 (Supp. 1962)	Disability within 8 yrs. after last injurious ex- posure [S]. § 4123.68 (Supp. 1962)	R	Injury—2 yrs. § 4123.84 (Supp. 1962)	None
Oklahoma Stat. Ann.	S	1 yr. after manifestation to one learned in medicine or last hazardous exposure, ^a tit. 85, § 43 (Supp. 1962)	None	R	Injury—1 yr. tit. 85, § 43 (Supp. 1962)	None
Oregon Rev. Stat.	T	180 days from date E was disabled or information from physician. § 656.807 (1961)	Claim must be filed 7 yrs. from last exposure [S]. § 656.807 (1961)	R	Accident—3 mos., may be extended to 1 yr. on "suf- ficient cause." § 656.274 (1961)	Same
Pennsylvania Stat. Ann.	R	16 mos. from disability. tit. 77, § 1415 (Supp. 1961)	None	R	Accident—16 mos. tit. 77, § 602 (Supp. 1962)	Same
Rhode Island Gen. Laws	R & S	24 mos. from disability but "latent" conditions have 2 yrs. from knowl- edge or disability, which- ever later. § 28-54-4; § 28- 35-57 (Supp. 1961)	None	R & S	Injury (strict)—2 yrs. But for "latent" conditions 2 yrs. from knowledge or disablement whichever la- ter. § 28-35-57 (Supp. 1961)	Same
South Carolina Code	1963 amend- ment not available for analysis.	Not available	Not available	Not available	Not available	Not available
South Dakota Code	R	1 yr. from disablement. § 64.0805(21) (Supp. 1960)	Disablement within 1 yr. from last injurious ex- posure. § 64.0807(1) (Supp. 1960)	R	Injury—1 yr. § 64.0611 (1939)	None
Tennessee Code Ann.	R	1 yr. from incapacity. § 50- 1108 (1952)	None	R	Accident—1 yr. § 50-1003 (1952)	None
Texas Rev. Civ. Stat.	T	6 mos. from manifestation [R]. art. 8307, § 4a (1956)	Statute purports to re- quire "incapacity" with- in a certain period; in- effective. art. 8306, § 25 (Supp. 1962)	R	Injury—6 mos. art. 8307, § 3 (1956)	None

APPENDIX A (Continued)

JURISDICTION	OCCUPATIONAL DISEASE PROVISIONS			ACCIDENT OR INJURY PROVISIONS		
	Regular [R] or Special [S]	Filing	Cutoff	Regular [R] or Special [S]	"Accident" or "Injury" and Time Period	Cutoff
Utah Code Ann.	R	60 days from day upon which cause of action arises. § 35-2-48(6) (1953)	Total disability within 120 days from last day of event. § 35-2-13(2) (1953)	R	Accident—3 yrs. § 35-1-99 (1953)	Same
Vermont Stat. Ann.	R	1 yr. from disablement (defined as medical apt.), tit. 21, § 1013; § 1004 (Supp. 1961)	Disablement within 3 yrs. after last injurious exposure. tit. 21, § 1006	R	Injury (defined as medical apt.)—6 mos. tit. 21, § 656 (1959); § 1004 (Supp. 1961)	None
Virginia Code	S	None ⁴ § 65-49 (Supp. 1962)	None	R	Accident—1 yr. § 65-84 (1950)	Same
Washington Rev. Code	R	1 yr. from date of notice from physician. § 51.28- .055 (1961)	None	R	Injury (strict)—1 yr. § 51- .28.050, § 51.08.100 (1961)	Same
West Virginia Code	R	2 yrs. from last exposure. § 2540 (1961)	Same § 2540 (1961)	R	Injury—1 yr. § 2540 (1961)	None
Wisconsin Stat. Ann.	R & S	2 yrs. from injury or knowledge [R]. § 102.12 (1957)	25 years from injury ⁵ [S]. § 102.17(4) (Supp. 1962)	R & S	Injury—2 yrs. [R] § 102.12 (1957)	25 yrs. from injury [S]. § 102.17(4) (Supp. 1962)
Wyoming Stat. Ann.	—	No occupational disease coverage		—	Injury—1 yr. Latent in- jury—1 yr. after knowl- edge. § 27.105 (Supp. 1961)	None

¹ KAN. GEN. STAT. ANN. § 44-5a17 (Supp. 1961) provides that the time limits "of this section" shall not be applicable to radiation-induced diseases. It is unclear whether "this section" means only § 45-5a17 or refers to the entire occupational disease act as a "section." Therefore, the applicability of § 44-5a01 is uncertain.

² The sole requirement of the statute seems to be notice to the employer. There is no clear indication of time limits on either a claim to the commission or emergence of the condition. This is also the conclusion of a Note, 15 LA. L. REV. 870 (1955).

³ The statute contains no indication whether or not one of the alternative periods may control the other.

⁴ See note 101 *supra* and accompanying text.

⁵ The probable loose construction of "injury" in Wisconsin has been noted. See notes 88-90 *supra* and accompanying text.

APPENDIX B
EXISTING STATUTES REQUIRING THE EMPLOYER TO REPORT THE EMPLOYEE'S CONDITION

JURISDICTION	PENALTY			
	Notice Required (on Knowledge of—)	Monetary	Effect on Employee Statute of Limitations	Other Provisions
Alabama Code	All injuries. tit. 26, § 266 (1958)	12 mos. or not more than \$500. tit. 26, § 324 (1958)	—	—
Alaska Comp. Laws	Injury or death. § 43-3-67(1) (Supp. 1959)	Not more than \$500. § 43-3- 67(5) (Supp. 1959)	If employer has knowledge, s/1 does not run until report filed. § 43-3-67(6) (Supp. 1959)	Report cannot be used in evi- dence. § 43-3-67(3) (Supp. 1959)
Arizona Rev. Stat.	None [Report may be required by commission. § 23-908 (1956)]	—	—	—
Arkansas Stat.	Injury or death. § 81-1334 (Supp. 1951)	Not more than \$100. § 81-1334 (Supp. 1951)	—	Report cannot be used in evi- dence. § 81-1334 (Supp. 1951)
California	—	—	—	—
Colorado Rev. Stat.	Injuries, fatal or otherwise. § 81- 6-1 (1953). Disease apparently covered. § 81-18-5 (1953)	Not more than \$100. § 81-14-26 (1953)	—	Report is confidential. § 81-6-3 (1953)
Connecticut Stat. Ann.	Injury resulting in incapacity. § 31-316 (Supp. 1962)	Not more than \$250. § 31-288 (Supp. 1962)	—	—
Delaware Code Ann.	Accident resulting in injury. tit. 19, § 2313(a) (Supp. 1960)	\$10 to \$50. tit. 19, § 2313(c) (Supp. 1960)	—	Report is not evidence. tit. 19, § 2313(d) (Supp. 1960)
Florida Stat. Ann.	Injury or death. § 44036 (Supp. 1961)	Not more than \$100. § 44036 (Supp. 1961)	—	Report is not evidence. § 44036 (Supp. 1961)
Georgia	—	—	—	—
Hawaii Rev. Laws	All injuries. § 97-80 (Supp. 1960)	Not more than \$100 or 90 days. § 97-80 (Supp. 1960)	—	—
Idaho Code	All injuries causing 1 day's absence. § 72-1001 (1947) Ap- parently applicable to disease. § 72-1202 (1947)	Not more than \$500. § 72-1001 (1947)	—	—
Illinois Ann. Stat.	All accidental injuries, tit. 48, § 167 (1950), and occupational disease, tit. 48, § 172.41 (Supp. 1961)	\$10 to \$500. tit. 48, § 172.55 (Supp. 1961)	—	—
Indiana Stat. Ann.	Injuries causing 1 day's absence. § 40-1517 (Supp. 1962)	Not less than \$50 nor more than \$500. § 40-1517 (Supp. 1962)	—	—
Iowa Code Ann.	Permanent injury or incapacity lasting 7 days. § 86.11 (1949)	\$50. § 86.12 (1949)	—	—

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APPENDIX B (Continued)

JURISDICTION	PENALTY			
	Notice Required (on Knowledge of—)	Monetary	Effect on Employee Statute of Limitations	Other Provisions
Kansas Gen. Stat. Ann.	Any accident, § 44-557 (Supp. 1961), or occupational disease, § 44-5a01 (Supp. 1961)	Not more than \$500. § 44-557 (Supp. 1961)	No limits run until employer files report <i>if</i> employee has given him notice. <i>But</i> no action can be brought 1 yr. after accident. § 44-557 (Supp. 1961)	Reports cannot be used in evidence against employer. § 44-557 (Supp. 1961)
Kentucky	—	—	—	—
Louisiana	—	—	—	—
Maine Rev. Stat.	Injury by accident causing loss of 1 day's work or requiring services of physician. ch. 31, § 44 (Supp. 1961)	Not more than \$100. ch. 31, § 44 (Supp. 1961)	—	—
Maryland Ann. Code	Accident causing disability of more than 3 days. art. 101, § 38(b) (1937)	Not more than \$50. art. 101, § 38(d) (Supp. 1962)	S/1 will not run until filing by employer. art. 101, § 38(c) (Supp. 1962)	—
Massachusetts Ann. Laws	All injuries. ch. 152, § 19 (1957)	Cost of proceedings caused by failure to report. ch. 152, § 19 (1957)	—	—
Michigan Stat. Ann.	Injury. § 17.165 (1960)	—	Employer must have notice of <i>injury</i> within 3 mos. of accident. If so, s/1 will not run until he files. § 17.165 (1960)	—
Minnesota Stat. Ann.	Death or serious injury. § 176-.231 (Supp. 1962)	\$50. § 176.231 (Supp. 1962)	—	(1) Not public. § 176.231 (Supp. 1961); (2) Commission to notify employee. § 176.235 (Supp. 1961)
Mississippi Code Ann.	Fatal injury or injury causing loss of work time. § 6998-34 (1942)	Not more than \$100. § 6998-34 (1942)	—	—
Missouri Ann. Stat.	Personal injury by accident. § 287.380(1) (1949)	Not less than \$50 nor more than \$500 <i>or</i> not less than 1 week nor more than 1 yr. <i>or</i> both. § 287.380(4) (1949)	—	Report is confidential. § 287-.380(3) (1949)
Montana Rev. Code	Accident resulting in fatality or injury as required by commission. § 92-808 (1947)	—	—	Report is confidential. § 92-809 (1947)
Nebraska Rev. Stat.	Accident as required by commission. § 48-144 (1943)	—	—	—
Nevada	—	—	—	—

New Hampshire Rev. Stat.	Injury. § 281:46 (1955)	Not more than \$25. § 281:46 (1955)	—	—
New Jersey Stat. Ann.	Occurrence of accident or occupational disease. § 34:15-96 (1959)	\$10 to \$50. § 34-15-101 (1959)	Repealed (1931)	Reports not public and may not be used against employer <i>at law</i> . § 34-15-99 (1959)
New Mexico Stat. Ann.	Compensable accidental injuries. § 59-10-27 (1959)	Not less than \$25 nor more than \$100. § 59-10-30 (1959)	If employer has actual notice, s/1 lifted until 30 days after he files. § 59-10-38 (1959)	—
New York W.C. Law	All injuries causing loss of a day, a shift, or requiring medical treatment. § 110 (1946)	Not more than \$500.	—	—
North Carolina Gen. Stat.	Injury causing more than 1 day's absence. § 97-92(a) (1958)	Not less than \$5 nor more than \$25. § 97-92(e) (1958)	—	Report is confidential. § 97-92(b) (1958)
North Dakota Cent. Code	Accident resulting in injury. § 65-01-07 (1960)	Not more than \$500. § 65-01-07 (1960)	—	Report is confidential. § 65-04-15 (1960)
Ohio Rev. Code Ann.	All injuries or occupational diseases. § 4123.28 (Supp. 1962)	Not more than \$500. § 4123.99-(B) (Supp. 1962)	—	—
Oklahoma Stat. Ann.	Accident resulting in injury. tit. 85, § 102 (1951)	Not more than \$500. tit. 85, § 102 (1951)	—	—
Oregon Rev. Stat.	Accident and resulting injury. § 656.422 (1961)	\$100. § 656.422 (1961)	—	—
Pennsylvania	—	—	—	—
Rhode Island Gen. Laws	Personal injury if fatal, incapacitating for 3 days, or requiring medical assistance. § 28-32-1 (1956)	Not more than \$50. § 28-32-2 (1956)	—	Report cannot be used in evidence. § 28-32-4 (1956)
South Carolina Code	Injury causing absence of more than 7 days. § 72-501 (Supp. 1960)	Not less than \$5 nor more than \$25. § 72-503 (1952)	—	Report is not public. § 72-504 (1952)
South Dakota Code	Accident resulting in personal injury. § 64.0505 (1939). Apparently applicable to disease. § 64.0802 (Supp. 1960)	Not more than \$25. § 64.9901 (1939)	—	—
Tennessee	—	—	—	—
Texas Rev. Civ. Stat.	Accident resulting in injury causing absence of more than 1 day or notification by employee of disease. art. 8307, § 7 (1956)	Not more than \$1000. art. 8307, § 7 (1956)	—	—
Utah Code Ann.	Accident resulting in personal injury. § 35-1-97 (1953)	Not more than \$500. § 35-1-97 (1953)	—	—

APPENDIX B (Continued)

JURISDICTION	Notice Required (on Knowledge of—)	PENALTY		
		Monetary	Effect on Employee Statute of Limitations	Other Provisions
Vermont Stat. Ann.	Injury causing 1 day's absence or necessitating medical attend- ance. tit. 21, § 701 (1959)	Not more than \$25. tit. 21, § 702 (1959)	—	—
Virginia Code	All injuries, fatal or otherwise. § 65-115 (1962). Applicable to disease. § 65-46 (1949)	Not more than \$25. § 65-118 (1949)	—	Report not available to public. § 65-119 (1949)
Washington	—	—	—	—
West Virginia Code	Injury. § 2540 (1961)	Not more than \$2500. § 2509 (1961)	—	—
Wisconsin Stat. Ann.	Death or disability. § 102.37 (1957)	Not less than \$10 nor more than \$100. § 102.35 (1957)	—	Report cannot be used in evi- dence. § 102.40 (1957)
Wyoming Stat. Ann.	Accident. § 27-107 (1957)	Not more than \$500. § 27-108 (1957)	—	—