STATE MEDICAL SOCIETY
OCCUPATIONAL MEDICINE SEMINAR
MEDICAL/FACTUAL CAUSATION

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It is of course possible to raise the objection that, while extending the chain of causality into an ever more complex network may be logically valid, it has no practical significance. To talk of planetary influences on a game of tennis is obviously far-fetched. In one sense this objection is true, but the analysis does show what can be expected when causality is pushed to its limit. Moreover, when more complex and subtle systems than tennis games are investigated then the very fine-tuned effects may turn out to be more and more important and quite novel forms of behavior may begin to emerge. . . . Physicist F. David Peat

I. The Department's Three WC-16-B Causation Questions:

A. Direct Accident Injury Theory (Question 11)

> 11. In your opinion, is it probable that the event in Item 4 directly caused the disability?
>
> ☐ Yes ☐ No

(Emphasis added.)

B. Aggravation Accident Injury Theory (Question 12)

> 12. If not directly, is it probable that the event described in Item 4 caused the disability by precipitation, aggravation and acceleration of a pre-existing progressively deteriorating or degenerative condition beyond normal progression?
>
> ☐ Yes ☐ No

(Emphasis added.)

C. Occupational "Disease" Gradual Injury Theory (Question 13)

> 13. If the patient suffers from a condition caused by an appreciable period of work place exposure (from Item 4), was the exposure either the sole cause of the condition, or at least a material contributory causative factor in the condition's onset or progression?
>
> If yes, give date disability from work began:
> _____

☐ Yes ☐ No

(Emphasis added.)

II. The Source in Law of these Theories from the Courts

A. "Event" Means "Accident"

B. "Accident" Defined by the Courts and the Commission

1. Wisconsin Supreme Court 1971 Semons Case
(Questions 11 and 12)

An "accident" under the Workmen's Compensation Act is a fortuitous event, unexpected and unforeseen by the injured person. An accidental injury is one that results from a definite mishap. (Emphasis added.)

2. Wisconsin Supreme Court 1969 Kohler Co. Case
(Questions 11 and 12)

An industrial injury or accident is an event, fixed as to time and place. There may be dispute as to the fact of such injury, place of injury, extent of injury or consequences of injury. But the focus is on a particular occurrence at a certain place and definite time. (Emphasis added.)

3. Wisconsin Supreme Court 1968 Lewellyn Case
(Questions 11 and 12)

From the preceding cases and others dealing with preexisting degenerative conditions, the following we feel represent an accurate appraisal of the factual situations which should determine whether or not the particular condition is recoverable:

(1) If there is a definite "breakage" (a letting go, a structural change etc., as described by Professor Larson) while the employee is engaged in usual or normal activity on the job, and there is a relationship between the breakage and the effort exerted or motion involved, the injury is compensable regardless of whether or not the employee's condition was preexisting and regardless of whether or not there is evidence of prior trouble.

(2) If the employee is engaged in normal exertive activity but there is not

definite "breakage" or demonstrable physical change occurring at that time but only a manifestation of a definitely preexisting condition of a progressively deteriorating nature,[4] recovery should be denied even if the manifestation or symptomization of the condition became apparent during normal employment activity.

(3) If the work activity precipitates, aggravates and accelerates beyond normal progression, a progressively deteriorating or degenerative condition, it is an accident causing injury or disease and the employee should recover even if there is no definite "breakage."

* * *

Footnote 4: We are not here concerned with an occupational disease.

* * *

It might be noted that the concept of "breakage" by no means presents a clear-cut standard. As Professor Larson notes in sec. 38.73 of his works, *supra:*

"The gravest criticism that must be made of the attempt to draw a distinction . . . is that neither as a matter of medical theory nor as a matter of common sense can a line be drawn between internal failures which consist of something breaking and those which are 'generalized.' True, in a cerebral hemorrhage, a ruptured aorta or a 'slipped disc,' something breaks or lets go, and a mechanical structural change can be identified. But the commonest 'heart failure' case, that of coronary thrombosis, is also mechanical in that it consists of a 'plugging-up' action by a blood clot, an action which can be identified in space and time and which produces a structural change which can be observed. If one looks close enough in the 'generalized' cases, one will probably find some kind of disintegration or 'breaking,' although the pieces may be smaller than in cerebral hemorrhage or ruptured aorta; for example, in thrombosis there may be evidence of some hemorrhaging on a much more inconspicuous scale preceding the thrombosis. . . ."

C. Occupational Disease Defined by the Courts

1. Wisconsin Supreme Court 1978 Universal Foundry Case (Question 13)

The findings in this case are not in the exact words requested by the plaintiffs, but the findings show that D.I.L.H.R. determined that silicosis was a factor in the applicant's injury. D.I.L.H.R. need not have found that silicosis was the main or only factor in the applicant's injury.

* * *

A D.I.L.H.R. finding that silicosis was the cause of an applicant's disability will not be disturbed if there is credible medical evidence that the silicosis was a material factor in the development of the pulmonary disease which resulted in the applicant's disability. (Emphasis added.)

2. Wisconsin Supreme Court 1969 Kohler Co. Case (Question 13)

An occupational disease is a process, usually extending over a considerable span of time. It has a beginning, relevant on the issue of causation. It has a progression but this can vary in individual cases. There can be a steady deterioration, swift or slow but uninterrupted. There can be improvement and relapse. There can be recovery and reoccurrence. There can be recovery, period. On a claim for benefits for permanent disability, most important is the question, When did the occupational disease ripen into a disabling affliction? (Emphasis added.)

3. Wisconsin Court of Appeals 1982 Shelby Mutual Case (Question 13)

We have not discovered Wisconsin cases which explicitly permit or forbid repeated back injuries as being treated as occupational diseases for worker's compensation purposes. Our supreme court has always recognized the "natural and logical distinction" between occupational disease and industrial accident in worker's compensation legislation. An occupational disease is "acquired as the result and an incident of working in an industry over an extended period of time." An accidental injury is "an injury that results from a definite mishap," "a fortuitous event, unexpected and unforeseen by the injured person." As Professor Larson notes, however, "this contrast between accident and occupational disease is gradually losing its importance, and awards are frequently made without specifying which category the injury falls in." 1B A. Larson, *The Law of Workmen's Compensation* § 41.31, at 7-357 (J. Duke ed. 1980).

D. Occupational Disease Defined by the Labor and Industry Review Commission (LIRC)

1. Majority opinion in Wayne Woelffer (Deceased) vs. Kohler Co. (February 3, 2000)

Under Wis. Stat. § 102.01 injury means mental or physical harm to an employee caused by accident or disease. Therefore, the issue in this case is whether the worker's occupational exposure to silica was at least a material contributory causative factor in the onset or progression of his lung cancer and if so, then the lung cancer meets the definition of an injury under the statute and the evidence indicates that the lung cancer

caused the worker's death and therefore his death would be a proximate result of his injury.

* * *

Dr. Martin further stated that tobacco was clearly the major cause of the worker's lung cancer, and stated in terms of attributable risk 95 percent or more of the lung cancer risk should be attributed to tobacco use and 5 percent or less attributed to silica exposure.

Although Dr. Martin's opinion could have been stated more clearly, the commission finds that Dr. Martin did determine that Mr. Woelffer's exposure to silica was a material contributory causative factor in the onset or progression of his lung cancer. Dr. Martin stated that to a reasonable degree of medical certainty the worker's silica exposure materially contributed to his risk of developing lunch cancer. (Emphases added.)

2. Dissenting Opinion in Wayne Woelffer (Deceased) vs. Kohler Co. (February 3, 2000)

I believe it is fair to say that Dr. Martin really is saying that no more than 2 1/2% of his risk was from his exposure to silica.

* * *

I do not believe that the silica exposure was a material contributing factor to the applicant's development of cancer. I believe that the 2 1/2% increase in risk or at the maximum of less than 5% is not enough to be a material factor. Therefore, I would dismiss the complaint. (Emphasis added.)

III. The Source in Law of these Theories from the Legislature

A. Section 102.01 reads:

102.01 Definitions. (1) This chapter may be referred to as the "Worker's Compensation Act" and allowances, recoveries and liabilities under this chapter constitute "Worker's Compensation".

(2) In this Chapter:

* * *

(c) "Injury" means mental or physical harm to an employe caused by accident or disease, and also means damage to or destruction of artificial members, dental appliances, teeth, hearing aids and eyeglasses, but, in the case of hearing aids or eyeglasses, only if such damage or destruction resulted from accident which also caused personal injury entitling the employe to compensation therefor either for

disability or treatment.

* * *

(g) Except as provided in s. 102.555 with respect to occupational deafness, "time of injury", "occurrence of injury", or "date of injury" means:

1. In the case of accidental injury, the date of the accident which caused the injury.

2. In the case of disease, the date of disability or, if that date occurs after the cessation of all employment that contributed to the disability, the last day of work for the last employer whose employment caused disability. (Emphasis added.)

IV. Accident First; Occupational Disease Second

A. C. J. Otjen in The Legal History of the Occupational Disease Law in Wisconsin at 22 Marquette Law Review 113, 114 (1938) stated:

This state has had a workmen's compensation act since 1911. The law was based upon the theory that compensation for industrial accidents should be a part of the cost of production.

* * *

In 1919 the act was amended to provide for occupational disease.

* * *

The amendment therefore was accomplished by adding a new section at the end of the then existing law as follows: "The provisions of sections 2394-1 to 2394-31 both inclusive, are extended so as to include, in addition to accidental injuries, all other injuries including occupational diseases, growing out of and incidental to the employment." (Emphasis added.)

V. A Stated Element/Factor of One of the Causation Question May Be an Unstated Element/Factor of Another

A. Question 11 Direct Accident Injury Theory According to Workers' Attorneys Requires Only that the Accident be One Cause (substantial or material factor) and Needs Not be the Only Cause

1. Wisconsin Court of Appeals 1997 Lange case

Todd Lange appeals an order of the circuit court affirming a decision of the Labor and Review Commission (LIRC). In its decision, LIRC barred Lange from further recovery of worker's compensation benefits after he incurred a non-work-related accident subsequent to a compensable work-related accident, and rejected his claim for loss of earnings

capacity benefits. Lange contends that LIRC erred by barring worker's compensation because its determination that his work-related injury was not a substantial factor in his non-work related injury is not supported by substantial and credible evidence, and because its determination that his conduct prior to the re-injury constituted an intervening cause lacked a reasonable basis. Because we agree with both of Lange's contentions, we reverse LIRC's decision and remand.

* * *

A work-related injury that plays any part in a second, non-work-related injury is properly considered a substantial factor in the re-injury. It will not be a substantial factor, however, where the second injury alone would have caused the damages. For LIRC to conclude that a work-related injury is not a substantial factor in a second, related injury, it must find that the claimant would have suffered the same injury, to the same extent, despite the existence of the work-related injury. In all other cases where the two injuries are related, however, the re-injury will be compensable. (Emphasis added.)

B. Question 12 Aggravation Accident Injury Theory According to Workers' Attorneys Requires Only that the Accident be One Cause (substantial or material factor) and needs not be the Only Cause

1. Wisconsin Court of Appeals 1997 Lange case

We conclude that LIRC's factual finding that the slip and fall alone was responsible for the worsening of Lange's back condition is not supported by substantial and credible evidence. By definition an ***aggravation*** of a pre-existing condition links the two injuries. Lange's work-related injury was a disc herniation at L4-L5, and all the evidence demonstrates that this back condition was made worse by his second fall so as to create a further herniation. (Original emphasis.)

C. Question 13 Occupational Disease Theory also has an Unstated Aggravation Element/Factor

1. Professor Larson in his treatise at 1B Larson, The Law of Workmen's Compensation, sec. 41.63, at 7-610-11 stated:

. . . the line between occupational disease and aggravation of pre-existing disease or weakness has become blurred. The ultimate working rule that seems to emerge is simply that a disability which would be held to rise out of employment under the test of increased risk and aggravation of a pre-existing condition will be treated as occupational disease.

2. Wisconsin Court of Appeals 1982 Shelby Mutual Occupational Disease case

> Finally, we are persuaded that the facts satisfy the standards for recovery set forth in *Lewellyn v. Department of Industry, Labor & Human Relations,* 38 Wis. 2d 43, 58-59, 155 N.W.2d 678, 686-87 (1968). There, our supreme court set forth three guides to compensable injury. The case before us fits into the third:
>
> If the work activity precipitates, aggravates and accelerates beyond normal progression, a progressively deteriorating or degenerative condition, it is an accident causing injury or disease and the employee should recover even it there is no definite "breakage." [Citations omitted.]
>
> The evidence was sufficient to show that this criterion was met. We reject appellants' argument that, because there *was* a "breakage" here, the third criterion is inapplicable. The language of that guide clearly allows for instances of "breakages" as well as the lack of them.
>
> We affirm the determination that the repeated injuries Mosser suffered in the course of his employment constituted an occupational disease.

VI. General Scientific Causation Theory

A. Louis Pasteur and the Germ Theory

1. According to Legend, Pasteur stated on his death bed:

> "The microbe is nothing, the soil is everything." The point being that the germ is a cause (material factors) and not the only cause in the onset of most illnesses that result from a specific agent or germ.

B. Jacob Bronowski, The Common Sense of Science (Harvard University Press 1951) pp. 22, 25, 30, 130-131:

> This ability to order things into likes and unlikes is, I think, the foundation of human thought. And it is a human ability; we trace and to some extent inject the likeness, which is by no means planted there by nature for all to see.
>
> * * *
>
> The Scientific Revolution was a change from a world of things ordered according to their ideal nature, to a world of events running in a steady mechanism of before and after.
>
> * * *
>
> In order to act in a scientific manner, in order to act in a human manner at all, two things are necessary: fact and thought. Science does not

consist only of finding the facts; nor is it enough only to think, however rationally. The processes of science are characteristic of human action in that they move by the union of empirical fact and rational thought, in a way which cannot be disentangled.

* * *

We make a judgment when we prefer one theory to another even in science, since there is always an endless number of theories which can account for all the known facts.

C. Umbiguity and Uncertainty

1. Barbara Lovett Cline, Men Who Made a New Physics: Physicists and the Quantum Theory (The University of Chicago Press 1987) pp. xi, 126:

In his Novel, *The Search*, C. P. Snow describes the reaction of a student in class to hearing the physics professor say he is not sure whether some of the subject matter in the course is right. This indication of disagreement among those inside physics comes as a surprise to the student; he has heard of past scientific controversies, but the current science which he is studying had seemed to lack them altogether, as if scientist-authorities backed it by unanimous vote. "Science," writes Snow, ". . . . had seemed to be without people or contradictions."

The knowledge that physics is not as unanimous or bloodless as it may appear from the outside came as a surprise to me also.

* * *

Often the ordering of thought, in the attempt to present a logical case—or to refute the other person's–will bring enlightenment. Robert Oppenheimer has called this sort of talk "explaining to each other what we don't know."