

**MYRTLE McALLISTER, Petitioner,**  
**v.**  
**WORKMEN'S COMPENSATION APPEALS BOARD and CITY AND COUNTY OF SAN FRANCISCO, Respondents.**

**Supreme Court of California.**

Oct. 4, 1968.

Tormey, Cotchett & Lev, Tormey & Cotchett and Joseph W. Cotchett for Petitioner.

Werchick & Werchick and Arne Werchick as Amici Curiae on behalf of Petitioner.

Everett A. Corten, Marcel L. Gunther, Thomas M. O'Connor, City Attorney, and Raymond E. Agosti, Deputy City Attorney, for Respondents.

TOBRINER, J.

Petitioner seeks review of the appeals board's decision after reconsideration in which the board held that the death of petitioner's husband did not arise out of his employment. [1a] We conclude that, since the board's decision lacks the support of substantial evidence and involves errors of law, it cannot stand.

Petitioner's husband, Arthur McAllister, worked for the San Francisco Fire Department for 32 years beginning in 1934. On October 31, 1966, Mr. McAllister died of lung cancer. Subsequently Mrs. McAllister filed this application for death benefits and burial expenses, alleging that smoke inhalation during the course of decedent's employment had caused his death.

At the hearing before a trial referee, petitioner testified that the decedent had worked as a fireman during the period in question, that he had suffered terrible coughing spells, and that he had complained about the smoke that he had inhaled at the fires. Petitioner called as her witness one Jerome Mahoney, a fireman who had worked with decedent; Mahoney testified as to the frequency and nature of the fires which decedent and he had fought together. Mahoney further stated that he had seen decedent affected by smoke many times and that he had observed him being carried out of a burning building in a semiconscious condition. Dr. Mortimer Benioff, also called by petitioner, stated that the referee could reasonably assume that the fire smoke which the decedent had inhaled had caused his death. Respondent offered no evidence.

The referee found in favor of petitioner. Subsequently the respondent City and County of San Francisco filed a petition for reconsideration with the appeals board. The board granted the petition and annulled the referee's award on the ground that the evidence had not shown that decedent's illness arose out of and in the course of his employment. The board concluded that the record did not disclose sufficient evidence as to \*412 the toxicity of the smoke inhaled or as to the amount of decedent's exposure to smoke, that a letter written by Dr. Benioff failed to support petitioner's contentions, and that petitioner had not adduced a satisfactory and detailed showing of the manner in which smoke inhalation may cause lung cancer.

We hold that the uncontradicted evidence in this case compelled the board to rule in petitioner's favor as to both toxicity and exposure, that Dr. Benioff's letter did possess evidentiary value, and that the exact mechanism of industrial causation need not be shown. We reject, as inconsistent with our statements on contributory causes, respondents' contention that the application must be denied because decedent smoked cigarettes.

1. Petitioner's uncontradicted evidence established the toxicity of the smoke.

[2] The board based its conclusion in large part on the alleged inadmissibility, or ineffectuality, of Dr. Benioff's belief in a statistical correlation between lung cancer <sup>[fn. 1]</sup> and the specific pollutants which firemen would normally inhale. The board noted Dr. Benioff's expert testimony as to the statistical correlation between air pollution (or cigarette smoke) and lung disease. The board reasoned, however, that petitioner had introduced no "convincing" evidence to show that the

smoke that firemen commonly inhale contains the same substances as those in cigarette smoke or in polluted air. It therefore concluded that Dr. Benioff's expert opinion as to the industrial causation depended upon facts not established in the record.

413 The record did contain evidence that the smoke that firemen inhale contains the same substances as in air pollution or cigarette smoke. Dr. Benioff testified that smoke from burning tar or creosote "may well" contain the same type of carcinogen found in cigarette smoke, and petitioner introduced testimony by Fireman Mahoney that the fires which decedent fought involved creosote. Similarly, petitioner introduced expert opinion by a Dr. Prindle to demonstrate that many of the carcinogens found in "air pollution" are "produced by almost any type of incomplete combustion of almost any \*413 product." [fn. 2] Respondent City and County of San Francisco, on the other hand, introduced no evidence whatever to suggest that the smoke inhaled by firemen is always or usually benign.

We examine this evidence in the light of our holding that the applicant need only establish the reasonable probability of industrial causation. [fn. 3] (Bethlehem Steel Co. v. Industrial Acc. Com. (1943) 21 Cal.2d 742, 745 [135 P.2d 153]; Pacific Emp. Ins. Co. v. Industrial Acc. Com. (1942) 19 Cal.2d 622, 629 [122 P.2d 570, 141 A.L.R. 798].)

This case presents the problem of how to apply the well established "substantial evidence rule" to a case in which the prevailing party has introduced no evidence. We recognize that self-consistent testimony introduced by one party alone can raise factual questions: (a) Is the testimony and other evidence introduced to be believed? (b) What did the person whose statements or writings are introduced intend as their meanings? (c) What are the proper inferences of fact to be drawn from the testimony and other evidence? We believe the policy basis of the substantial evidence rule implies that we should resolve these questions in favor of the board wherever there is a substantial reason for doing so. Of course, as indicated in Wilhelm v. Workmen's Comp. App. Bd. (1967) 255 Cal.App.2d 30, 33 [62 Cal.Rptr. 829], the board must accept as true the intended meaning of testimony both uncontradicted and unimpeached.

414 In this case, however, even the indulgence of the substantial evidence rule will not permit us to uphold the board's decision. We note at the outset that no effort was ever made--either by way of allegation or evidence--to question the honesty or competence of any of petitioner's witnesses. [fn. 4] Accordingly we, as the board, in view of the City's failure to introduce any contradictory evidence, must assume the accuracy of the testimony. Likewise, the meaning of the testimony, and the inferences to be drawn from it, cannot be disputed. \*414

Dr. Benioff stated in writing that it was "probable" that the smoke inhaled contained carcinogens, and he testified that the carcinogens in cigarette smoke "may well" be in tar or creosote, which Fireman Mahoney's undisputed testimony established as being in most buildings. [fn. 5] We cannot conjure up a plausible reason to believe the degree of likelihood intended by "probable" and "may well" is less than that in the requirement of "reasonable probability," especially in view of Dr. Benioff's testimony that an inference of industrial causation would be a reasonable one.

The absence of testimony as to whether the smoke which firemen inhale contains incompletely oxidized materials does not lessen the import of Dr. Prindle's views. Especially in the absence of conflicting testimony, we think that the petitioner's offered evidence that firemen inhale smoke sufficed. [3] Matters of scientific certainty are subject to judicial notice. (Witkin, Cal. Evidence (1966) 177; McBaine, Cal. Evidence Manual (1960) 6.) Thus, in Coughlin v. Great Western Power Co. (1920) 183 Cal. 548, 551 [191 P. 920], we took judicial notice of the fact that a wire carrying excessive voltage will jump one inch to a grounded wire or 12 inches to a grounded metal beam rather than jump 22 inches to a workman's hand. (To the same effect: people v. Brotherton (1966) 239 Cal.App.2d 195, 205 [48 Cal.Rptr. 513]; Agnew v. City of Los Angeles (1950) 97 Cal.App.2d 557 [218 P.2d 66]; Cantrell v. Board of Supervisors (1948) 87 Cal.App.2d 471, 477 [197 P.2d 218]; Truck Ins. Exchange v. Industrial Acc. Com. (1946) 77 Cal.App.2d 461 [175 P.2d 884]; Markulics v. Maico Co., Inc. (1946) 74 Cal.App.2d 66, 69 [168 P.2d 35].)

415 In the case before us we think that both common knowledge and ordinary language support our recognition that smoke is visible, and that, as a matter beyond scientific dispute, smoke is visible precisely because it contains incompletely oxidized materials. Thus Webster's International Dictionary (2d ed.) defines "smoke" as: "The gaseous products of burning organic materials ... when rendered visible by the presence of small particles of carbon. ... Smoke is thus always the result of imperfect combustion." And the Encyclopaedia Britannica comments, "If complete combustion were always attainable no fuel would emit smoke, the final products in \*415 such an ideal case being limited to carbon dioxide, water vapour, and free nitrogen, all quite innocuous, and invisible unless the water vapour condenses to a cloud of steam." (20 Encyclopaedia Britannica (1954) p. 839.) The remote possibility that in an unusual case something other than

incompletely oxidized materials renders the gases from a fire visible does not detract from our reasoning. At best it means that the City would bear the burden of attempting to establish that all the "smoke" which decedent inhaled was of this unusual variety.

2. Petitioner's uncontradicted evidence established decedent's exposure to smoke.

[4] The board suggested as a further reason for denying the application its view that the evidence of decedent's exposure to smoke was "singularly scanty." We find this argument difficult to understand and impossible to uphold.

The board may be suggesting that the fact that a man spent 32 years fighting fires, often without a gas mask, presents no reason to believe that he ever inhaled any smoke. Thus, of the nine-year period from 1944 to 1953 the board said, "There is no specific evidence of exposure whatsoever." Yet we think that proof of 32 years as a firefighter constitutes very weighty evidence of exposure to smoke. We judicially notice that fires cause smoke, that firefighters must stand near or enter burning buildings, and that one standing near or in a burning building would be extremely likely to inhale smoke being produced there.

Fireman Mahoney, who served with the decedent for 13 years, testified as to details of some of the fires they had fought, although in the interest of brevity he did not attempt to cover all fires during that period. Mahoney stated that he had seen decedent affected by smoke on many occasions. The board stressed, however, that he could not recall whether decedent was ever treated at the scene of a fire for smoke inhalation. Further, the board emphasized that the journals of the fire department produced by Mahoney made no mention of decedent's being overcome by smoke; the firemen, however, were not to record severe smoke inhalation in those journals unless the inhalation resulted in hospitalization.

416 The board seems to have thought exposure to smoke not requiring medical assistance unlikely to be dangerous. Such an assumption lacks foundation; indeed, all the evidence supports the opposite conclusion. \*416

Although the City contends that evidence of inhalation should have been more detailed, the City was in the best position readily to secure such information. In such a situation the employer should be encouraged to come forward with all relevant data available to it. Thus in *Merritt v. Northern Pac. S.S. Co.* (1915) 2 I.A.C. 273, applicant's husband had died in a shipwreck. The Industrial Accident Commission held that in such a case the employer was obligated to disclose all information in its possession concerning the decedent, and "at least in some measure, to assume the burden of proof ...." [5] Section 3202 of the Labor Code requires that section 5705, dealing with burdens of proof at board hearings, be so construed as to effectuate "the purpose of extending" the benefits of workmen's compensation "for the protection of persons injured in the course of their employment." Section 3202 and the policies underlying *Merritt* compel our conclusion that in a case such as the one before us the burden of proof should shift to the employer upon a prima facie showing by the petitioner of exposure to the danger involved. petitioner made such a showing here.

3. Dr. Benioff's letter supported petitioner's contentions.

[6] The board further criticized a written opinion of Dr. Benioff dated February 6, 1967, and admitted into evidence. The board asserted that the opinion was in terms of "possibilities," that it stated on its face that further information was "required," and that it was "mere speculation or surmise, or simply a 'guess'." Although we fail to see the importance of this written opinion in view of Dr. Benioff's more explicit testimony at the hearing, we cannot in any event accept the board's criticisms.

The board erroneously described Dr. Benioff's written opinion. Dr. Benioff stated that it was "probable" that the smoke inhaled contained carcinogens, and that it was "reasonable" that decedent's prolonged occupational exposure could lead to lung cancer. We have held "reasonable" or "probable" causal connection will suffice; it is to be distinguished from the merely "possible." (*Travelers Ins. Co. v. Industrial Acc. Com.* (1949) 33 Cal.2d 685, 687 [203 P.2d 747].) As we stated in *Travelers Ins. Co.*, intellectual candor may at times require expert testimony in terms of mere probability. (See also *Bethlehem Steel Co. v. Industrial Acc. Com.*, supra, 21 Cal.2d 742, 747; *Pacific Emp. Ins. Co. v. Industrial Acc. Com.*, supra, 19 Cal.2d 622, 627, 629.) For that reason alone we cannot demand that experts be more certain, particularly \*417 when industrial causation itself need not be certain, but only "reasonably probable." Similarly it would be a rare case in which further information would not be of value to the expert; to limit expert testimony to such unique situations would be virtually to abolish it.

4. The causal mechanism need not be proved in detail.

[7] Finally, the board expressed concern because petitioner did not produce a more detailed account of the alleged

industrial causation, the exact amount of each type of smoke inhaled, and the precise danger to decedent from such inhalation. Of course, such a detailed account would have been desirable, but it was not a prerequisite to recovery. Such a burden on applicants would often be unbearable. The exact amount and kinds of pollutants inhaled by decedent could only be known if a chemist had gone with him to each fire over his 32 years as a fireman. The precise toxicity of each type of pollutant, alone or in combination with others, is still not known.

In order to cover such unavoidable uncertainties, we require applicants to establish no more than that industrial causation is reasonably probable. Thus the commission allowed recovery in early cancer cases when our understanding of the disease was even less complete than it is now. (Santa Ana Sugar Co. v. Industrial Acc. Com. (1917) 35 Cal.App. 652 [170 P. 630]; Kelly v. Emporium & State Comp. Ins. Fund (1924) 11 I.A.C. 184; Carroll v. State Comp. Ins. Fund (1919) 6 I.A.C. 191; <sup>[fn. 6]</sup> Royal Indem. Co. v. Becker (1917) 4 I.A.C. 148; <sup>[fn. 7]</sup> Rose v. City of Los Angeles (1915) 2 I.A.C. 551.)

Similar problems arose in Reeves v. Diamond Match Co. (1918) 5 I.A.C. 236, and Industrial Indem. Exchange v. Industrial Acc. Com. (1948) 87 Cal.App.2d 465 [197 P.2d 75]. In Reeves applicant had contracted a skin disease. The commission noted that although some of applicant's fellow employees had contracted the disease, the evidence did not establish with certainty whether the disease arose from chemicals or from chemical fumes or from working in dust.

418 Nonetheless the commission ordered an award, stating: "We do not \*418 understand that the burden of proof resting upon applicant to make good his claim requires that he account scientifically for the source of contagion or the cause of the disease, but only that he establish by a preponderance of likelihood the fact that his disability arose out of and happened in the course of employment."

In Industrial the applicant contended that her deceased husband had contracted silicosis while working at a copper mine. Although applicant introduced evidence that the mines were dusty and contained silica, she offered no evidence as to the approximate number of hours of exposure, or as to the amount of exposure needed to increase materially the danger of injury. Nonetheless the commission upheld the referee's award and the reviewing court affirmed. The court there correctly regarded such detail as not essential to meeting applicant's burden of proof under section 5705. Reasonable probability can be established without such detail, and if such detail is available but not introduced by applicant, the employer itself can always do so.

5. Decedent's smoking does not bar recovery.

[8] Respondents urge us to deny the application in view of decedent's history as a smoker. They note that decedent smoked about a pack of cigarettes a day for some 42 years, although they admit that during at least part of that period he did not inhale. Respondents further point out the statistical correlation between smoking and lung cancer. The board, however, although well aware of these facts, declined to rely upon them as the basis of its decision.

We cannot doubt that the more smoke decedent inhaled--from whatever source--the greater the danger of his contracting lung cancer. His smoking increased that danger, just as did his employment. Given the present state of medical knowledge, we cannot say whether it was the employment or the cigarettes which "actually" caused the disease; we can only recognize that both contributed substantially to the likelihood of his contracting lung cancer. As we noted, however, in Employers etc. Ins. Co. v. Industrial Acc. Com. (1953) 41 Cal.2d 676, 680 [263 P.2d 4], the decedent's employment need only be a "contributing cause" of his injury. And in Bethlehem Steel Co. v. Industrial Acc. Com., supra, 21 Cal.2d 742, 744, we pointed out a particular instance of this principle when we stated that it was enough that "the employee's risk of contracting the disease by virtue of the employment must be materially greater than that of the general public." Thus \*419 in Bethlehem we allowed an award to an employee who contracted a contagious eye disease, since he had shown that the disease was more common at his place of employment than among the public.

419 Although decedent's smoking may have been inadvisable, respondents offer no reason to believe that the likelihood of contracting lung cancer from the smoking was so great that the danger could not have been materially increased by exposure to the smoke produced by burning buildings.

Conclusion

[1b] In deciding this case we obviously do not hold that all firemen contracting lung cancer can obtain compensation benefits from their employers. In the case before us respondent City elected to introduce no evidence of its own; we

conclude that no substantial evidence supports a finding that there is not a reasonable probability that decedent's illness arose out of his employment.

Future scientific developments will tell us more about lung cancer. Ultimately it may be possible to pinpoint with certainty the cause of each case of the disease. But the Legislature did not contemplate years of *damnum absque injuria* pending such scientific certainty. [9] Accordingly, we and the Workmen's Compensation Appeals Board are bound to uphold a claim in which the proof of industrial causation is reasonably probable, although not certain or "convincing." We must do so even though the exact causal mechanism is unclear or even unknown.

The decision of the Workmen's Compensation Appeals Board is annulled and the cause is remanded to that board for further proceedings consistent with the views herein expressed.

Traynor, C. J., Peters, J., Mosk. J., Burke, J., and Sullivan, J., concurred.

McCOMB, J.

I dissent. I would affirm the decision of the Workmen's Compensation Appeals Board.

[fn. 1] 1. The concluding paragraph of its discussion of Dr. Benioff's testimony, which is also the last full paragraph before the board's order, reads: "Absent Dr. Benioff's opinion, which, as indicated, cannot be considered as evidence since it assumes facts not proven, there is no support for the referee's finding of industrial causation. Our decision (After Reconsideration) will accordingly issue." The board made no such conclusory pronouncement with regard to the other evidentiary problems it noted.

[fn. 2] 2. Dr. Benioff testified that he "would accept" this published statement of Dr. Prindle. Respondent City and County of San Francisco objects to this as hearsay, but hearsay is clearly admissible in compensation hearings. (Lab. Code, 5708; Independence Indem Co. v. Industrial Acc. Com. (1935) 2 Cal.2d 397, 410 [41 P.2d 320]; London Guar. & Acc. Co., Ltd. v. Industrial Acc. Com. (1927) 203 Cal. 12, 14 [263 P. 196].)

[fn. 3] 3. The board seems to have believed that petitioner could prevail only if her proof of industrial causation was "convincing" instead of merely reasonably probable. If such was the standard employed by the board then it erred as a matter of law.

[fn. 4] 4. The City did question Mahoney's competence to describe smoke as toxic, but Mahoney conceded at the hearing that he lacked any such competence.

[fn. 5] 5. Although Dr. Benioff indicated that the disease resulted from exposure before 1963, Mahoney only testified as to the details of particular fires after that date. Mahoney's testimony, however, is indicative of the construction of buildings and of the nature of fires throughout Mr. McAllister's career as a fireman.

[fn. 6] 6. The commission allowed recovery while stating, "It is impossible in the present state of scientific information" to know with certainty whether an injury at work or an unrelated accident some 16 years earlier had caused the cancer.

[fn. 7] 7. The commission held that the constant bumping of decedent's hip against a ledge had caused the cancer, although applicant offered no proof as to the number of bumps suffered or the number necessary to cause a cancer.

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