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COMPENSABILITY OF NON-TRAUMATIC ULCER

Carl L. Stern*

Titles can be misleading. So, lest the writer be accused of unfair legal merchandising, I must declare at the outset that the non-traumatic ulcer is not compensable, given the present state of the law. I cannot claim that the non-traumatic ulcer has never been held compensable. I can only asseverate that no such holding was uncovered in the course of extended examination of workmen's compensation disputes which have reached courts of review.

While the traumatic ulcer—the production of gastrointestinal (peptic) ulceration by a sudden, violent injury or the aggravation or acceleration of a pre-existing ulcer by unusual work-connected stress or strain—has long been deemed compensable, there is evidence that most ulcers stem from the "life situation" rather than a single traumatic moment, or extreme physical stress. One large-scale medical study, undertaken in 1952, placed the figure at eighty-six per cent, and indicated many of the remaining fourteen per cent might also be so classified, but were not where causation could not be clearly established.¹

It is estimated that five to twelve per cent of the American population becomes afflicted, at one time or another, with peptic ulcer.² One medical source sets the statistic as high as nineteen per cent.³ It is impossible to fix upon any figure with certainty. It has been suggested that only one individual in four with peptic ulcer will have his symptoms studied and diagnosed.⁴ Another researcher has set the figure at one in five, or one in ten.⁵

In 1959, the Rand Corporation completed a comprehensive study of the ulcer problem. It placed the cost of peptic ulcer to the American economy at $525,000,000 annually.⁶ It estimated

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¹ Moritz & Helberg, Trauma and Disease, 800 (1959).
² Harrison, et al., Principles of Internal Medicine, 1445 (1950).
³ 1 Bockus, Gastroenterology, 318 (1944).
⁴ 7 Cantor, Traumatic Medicine and Surgery for the Attorney, 346 (1962).
⁶ Ibid at iii.
that three-million Americans each year are troubled with ulcerative disorders, that two hundred thousand persons a year are totally disabled for more than one week due to ulcer, and that ten thousand deaths annually (one per cent of the total) are caused by ulcer, possibly twice that number if related disorders, such as gastritis, duodenitis, enteritis and colitis, are included.\textsuperscript{7} Another author has determined the direct mortality at 25,000 deaths per year, due largely to perforations, post-surgical deaths and deaths following massive gastro-intestinal hemorrhage, and lists other disorders upon which the superimposition of ulcer may bring about a fatal issue.\textsuperscript{8}

Although less than ten per cent of ulcer experiences result in total disability exceeding one week, the average duration of those that do was calculated at 8.7 weeks.\textsuperscript{9} The Rand study estimated annual lost income due to disability from peptic ulcer at nearly $100,000,000.\textsuperscript{10} Nowhere do the statistics reflect employer losses due to employee absence or the reduced efficiency or productivity of the vast majority of ulcer victims who are driven to return to work prematurely or refuse to absent themselves. As for those who must be absent, the United States Public Health Service, in 1960, set their number at 49,000 a day.\textsuperscript{11}

Moreover, the incidence of ulcer is increasing. A 1936 national health survey placed the active disabling occurrence of peptic ulcer at any given moment at 2.6 cases per thousand persons; a similar study, undertaken in California in 1955, suggested the number had risen to 13.2 per thousand.\textsuperscript{12} Ulcer is a civilization disorder and as the complexities of life increase, one may anticipate an ever greater incidence of peptic ulcer.\textsuperscript{13} This relationship has been linked to the increase in occurrence of ulcer in women,\textsuperscript{14} as they take a more active role outside the home, and Negroes.\textsuperscript{15}

\textsuperscript{7} Ibid.
\textsuperscript{8} Supra n. 4 at 347.
\textsuperscript{9} Supra n. 5 at 18 and 23.
\textsuperscript{10} Supra n. 5 at 18.
\textsuperscript{12} Supra n. 5 at 18.
\textsuperscript{13} Supra n. 3 at 339.
\textsuperscript{14} Supra n. 4 at 346.
\textsuperscript{15} Palmer, Clinical Gastroenterology, 205 (2d ed., 1963).
By modern definition, ulcer is described as a general body disorder involving disturbances of the emotions, endocrinal balances, nervous regulations and vascular responses. The ulcer crater is just one of the manifestations. It is not the ulcer that makes a person sick; he has an ulcer because he is sick.\textsuperscript{16} It was once believed that only major trauma or emotional-nervous disorders could touch off peptic ulceration,\textsuperscript{17} but causative definitions have been expanded:

Gastrointestinal tract ulcerations may be caused by burns, central nervous system trauma, corticoid therapy, fractures, extensive abdominal therapy, multiple sclerosis, poliomyelitis, cerebrovascular accidents, spinal cord transections, adrenalectomy, etc. In the experimental animal the list may be extended to include low oxygen tension, intense solar radiation, and exposure to x-rays. It is only one step further to include in the susceptible patient such minor stressful incidents as a head cold, emotional flare-up, overwork, etc., the common precipitating factors in ordinary peptic ulcer occurrences.\textsuperscript{18}

Gastric secretion of hydrochloric acid and uropepsin secretion into the urine have been carefully charted in a plethora of experimental situations designed to relate emotional stress to ulceration. Ph.D. candidates, undergoing examination, demonstrated a marked increase in uropepsin excretion.\textsuperscript{19} Increases in gastric acid and pepsin have been observed in the course of psychoanalysis when various forms of emotional stress, such as resentment, anger, guilt, obsequiousness and desperation were induced.\textsuperscript{20} In a study of a varsity racing crew, elevated uropepsin excretion, and a reversal of the usual day to night ratio, was observed as early as 13 days prior to a major race.\textsuperscript{21}

It is clear, however, that these responses will precipitate ulceration more readily in persons who are "ulcer-prone." The typical ulcer patient has been described as tense, possessing unusual drive and seeming always to be in a hurry. Usually the

\textsuperscript{16} Supra n. 15 at 202.
\textsuperscript{17} Brahdy & Kahn, Trauma and Disease, 183 (2d ed., 1941).
\textsuperscript{18} Griffin, Lawson Moore in a paper delivered before the 57th annual meeting of the American Gastroenterological Association; 32 Gastroenterology, 405 (1956).
\textsuperscript{19} Gray, Ramsey, Villarreal and Krakaver, Adrenal Influences Upon the Stomach and the Gastric Response to Stress, contained in Selye & Heuser, 5th Annual Report on Stress, 152 (1956).
\textsuperscript{20} Id. at 153.
\textsuperscript{21} Id.
ulcer victim is not psychoneurotic, but often he is hypersensitive even though he presents no external manifestation of mental agitation.\textsuperscript{22}

In psychoanalysis the personality or behavior pattern common to ulcer patients has been seen as repressed oral-receptive tendencies:

In most cases the typical conflict situation can be described as the rejection of strong oral-receptive tendencies on account of their incompatibility with aspiration of the ego for independence and activity. In these patients the conscious attitude could best be verbalized as follows: 'I am efficient, active, productive; or I give to everybody, help people, assume responsibility, like to have people depend on me, like to be the effective leader and the self-sufficient active or even aggressive personality.' At the same time we find in the unconscious exactly the opposite attitude, an extreme and violent craving for love and the need for dependence and help.\textsuperscript{23}

This is the commonly accepted view of the ulcer personality—strong infantile wishes to be loved, and cared for along with repudiation of these wishes by the adult ego as expressed in overt, measured self-reliance—there is no end, apparently, to psychiatric hypothecation. A recent theory has been advanced linking ulceration to distasteful subconscious recollections of mother. It suggested that, when confronted with a frustration, the person may tend to regress psychologically to a level of organization more typical of infancy in which food and feeding are equated with mother and maternal care. But because of certain pre-disposing conditions in the mother-child relation in these individuals, food and eating are equated not with the good, loving mother but with a bad, damaging or depriving mother. Even though the person wants food, he finds it psychologically intolerable. Through psycho-physiologic mechanisms, the upper gastro-intestinal tract now tends to respond to food as if it were spoiled or poison.\textsuperscript{24}

It is commonly suggested that the vulnerable individual lives in a large city and is employed in industry in one of the so-called "tension jobs."\textsuperscript{25} It is clear that heredity may be a factor, pos-

\textsuperscript{22} Supra n. 3 at 339.
\textsuperscript{23} Id. at 338.
\textsuperscript{24} Garma, Peptic Ulcer and Psychoanalysis, Nervous and Mental Disease Monographs No. 85 (1958).
\textsuperscript{25} Wells & Kyle, Peptic Ulceration, 9 (1960).
sibly doubling the probability of contracting an ulcer. Ulcer patients are found in interestingly higher proportion among persons of blood group "O," with an inability to secrete ABO substances in body fluid. It is also known that ulcer trouble hits its peak in January, and diminishes during the summer, reaches a maximum on Friday and a minimum on Sunday, and on those Fridays is most likely to end in ulcer perforation between four and six p.m. Ulcer studies by geographical region and race have been conducted exhaustively, including an analysis of the peptic ulcer rate among urban Zulus, as distinguished, I assume, from rural Zulus.

But, despite all the studies, the question of causation and human emotional behavior is not always resolved into uniform answers. A British study involving six-thousand men and women in 20 occupational groups, conducted in 1951, concluded predictably with a finding of highest ulcer incidence among doctors, foremen, business executives and unskilled workers in sheltered employment; a similar study in northeast Scotland in 1961 found ulcers to be most prevalent among fishermen, agricultural workers and heavy manual workers, and less common among the managerial and professional classes.

Much has been written about "air raid ulcers." Immediately following bombardment during World War Two, large numbers of persons would appear at hospitals in Europe with bleeding gastric or duodenal ulcers which had developed virtually overnight and which could not be traced to other physical injury. If "the abdomen is the sounding board of the emotions," this is certainly understandable. But European medical records show a plateau in the occurrence of ulcers following the cessation of hostilities, then, shortly thereafter, an increased rate almost equal to that observed during the war.
Other inquiries have produced challenging contradictions. Manpower loss because of ulcer is very much less in volunteer armies than it is among drafted personnel. That would seem to make sense. But the ulcer rate is considerably higher among military units during easy periods of garrison duty than during periods of combat.

Nonetheless, other findings of major importance to this discussion remain uncontradicted. For example, work itself—the actual labor (which compensation boards examine so passionately in seeking to establish unusual stress or strain)—is rarely the cause of ulcer and emotional illness. In one study of 91 patients, only seven had symptoms directly attributed to work itself; the illness of 49 was traced to disagreements or other abrasive circumstances in meeting the demands of an immediate supervisor.

A 1956 study by the United States Department of Health, Education and Welfare assailed the belief that the home, i.e., domestic conflict with spouse and children, is a major partner with employment in the production of peptic ulcer. It found the greatest number of ulcers among divorced persons, a high rate among widowed and single persons, and the least incidence among married persons.

The medical discipline has long recognized the direct functional causal chain between the emotional injury and its gastrointestinal symptom. It does not look for idle distinctions between the psychosomatic and the somatic, but treats the patient. Compensation boards and legislatures which draft and apply compensability definitions, might do well to heed the finding of one researcher, quoted approvingly in a number of medical texts, that 88 per cent of the industrial accidents he studied were "personal" accidents, meaning that the presence of psychological or personal problems played a significant part in causing the accident.

35 Supra n. 15 at 206.
36 Ibid.
37 Smith, Occupational Stress and Emotional Illness, Moritz & Helberg, supra n. 1 at 66.
38 Supra n. 25 at 8.
39 Fetterman, Neuropsychiatric Aspects of Industrial Accidents, 15 Industrial Medicine, 96 (1946); also, "Cleveland Mental Health Association Sets the Figure at 75%," Cleveland Plain Dealer, May 3, 1965 at p. 40.
The Pathologic Etiology of Ulcer

It may be of value to further define the "nuts and bolts" etiology of ulcer. A peptic ulcer is a small, localized defect or erosion in the lining membrane of either the stomach or the duodenum (the first portion of the small intestine which emerges from the stomach), resulting from emotional or physical stress, or both, producing a localized decrease in resistance of the wall of the stomach or duodenum and an increase in the production of acid and digestive ferments by the stomach.40

The erosion commonly penetrates the entire thickness of the mucous membrane down through a layer known as muscularis mucosae and, in approximately forty-five per cent of ulcer experiences, penetrates the glandular layer containing blood vessels, leading to bleeding.41 Further erosion may result in complete perforation of the organ (approximately twelve per cent of cases studied), or produce scarring and cicatrical obstruction (about six per cent of total experiences).42

The digestive action of acid-pepsin is the most important ulcer promoting factor, and appears to be of nervous or hormonal origin depending on the type of ulcer. Acid secretion is excessive in patients with duodenal ulcers, as the result of increased stimulation to gastric secretion or parietal cell (the cells in the stomach wall which produce acid) proliferation or both; this stimulation, stemming from the central nervous system and transmitted to the stomach by means of the vagus nerves, produces excessive gastric secretion in the empty stomach and the rapid passing of this juice into the less resistant duodenum.43 On the other hand, it is believed that gastric ulcer is produced by the humoral agent "gastrin" which is liberated from the mucosa of the pyloric antrum (the lower portion of the stomach) causing hypersecretion of gastric juice which, in prolonged contact with the stomach wall, brings about ulceration.44

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41 McHardy, Current Gastroenterology, 315 (1962). (A study of one thousand men admitted with ulcers, 1953-59, at Brooke General Hospital, Ft. Sam Houston, Texas.)
42 Ibid.
43 Supra n. 4 at 326-7.
44 Ibid; also Dragstedt, Physiology of the Gastric Antrum and Its Relation to Surgery, 4 Amer. Jnl. of Digestive Diseases, (11) 844 (1959) (as applied to 80 per cent of gastric ulcers; the remaining 20 per cent occurring in patients with pre-existent duodenal ulcer causing pyloric stenosis).
The process of hypersecretion has been traced to the emotional center of the brain and the hypothalamus at the base of the brain through these two major "pathways." Stimulation of the central nervous system initiates a response along the vagus nerves increasing secretion of gastric juice, while the sympathetic nerves of the spinal cord transmit impulses disturbing the normal rhythm of the smooth muscles of the stomach. Section of the vagus nerves in patients with duodenal ulcers reduces the secretion of acid to essentially normal levels.

Nonetheless, section of the vagus nerves does not appear to completely inhibit formation of gastric ulcers. That is why proponents of the hormone theory argue that physical or emotional stress operates also by way of the hypothalamus and the anterior pituitary gland with circulating ACTH being responsible for the altered physiology accompanying stress. The adrenal hormones, secreted in response to corticotrophin (a hormone of the anterior pituitary gland that specifically stimulates the adrenal cortex) seem to operate upon the parietal cells (producing increased hydrochloric acid) and the peptic glands (producing increased pepsin). While the hormone theory is not uniformly accepted, it has been established that hypercortisonism is capable of reacting upon the gastric mucosa with resultant ulcer formation.

With the exception of solitary comment that the emotional effect upon gastric secretion is trivial in comparison with that obtained by stimulation from food, there is a direct line of medical research establishing gastro-intestinal dysfunction resulting from stress. This is seen in both increased gastric secretion and reduced defenses to it.

Selye, the elucidator of the so-called "stress phenomenon," has conducted inflammatory pouch tests on rats demonstrating that inflammatory barricades will normally form in ulcer craters and prevent further erosion. But these barricades become weak-

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45 Supra, n. 33 at 40; Dunbar, Mind and Body; Psychosomatic Medicine, 164 (1954).
46 Supra n. 4 at 327.
47 Id. at 328.
48 Supra n. 33 at 42.
49 Ibid.
50 James, The Physiology of Gastric Digestion, Physiological Society Monograph No. 4, 119-120 (1957).
51 Supra n. 32 at 180.
ened, leading to damaging ulceration, when the animals are subjected to a frustrating immobilization test. He concluded that gastric ulcer formation is a chronic condition of man, normally well under control by the establishment of inflammatory barricades, but that under stress, an excess of anti-inflammatory stimuli (adrenal hormones) breaks down the resistance of such barricades.

Other studies, by the neurologist Wolff, of a patient with a gastric fistula, resulted in the observation that during periods of prolonged emotional conflict involving hostility and resentment on the part of the patient, the lining of the stomach seemed to weaken, became engorged with blood and eventually began to bleed through minute erosions which formed on the surface.52 The research of Gray further confirmed Selye's theory that hormones released during stress weaken the resistance of the inflammatory barricade and, simultaneously, increase the attacking influence of digestive juices as stress hormones stimulate the production of peptic enzymes.53

It must be remembered, therefore, that ulcer etiology is a matter of balancing aggressive factors, such as hydrochloric acid and pepsin, against mucosal defense.54 This is clear in Selye's theory. Of even greater interest, it has recently been suggested that gastric ulcers form frequently along relatively dry areas of the stomach wall, not those portions most heavily bathed in gastric juice.55

**Ulcer Ramifications**

For some perplexing reason we have elevated the ulcer to the realm of topical humor, somewhat akin to TV dinners and finding a parking space downtown. Little wonder then that compensation boards, which are now grappling conscientiously with other emotion-connected illnesses such as cardiovascular disorders and nervous breakdown, decline to take the ulcer seriously.

There is nothing humorous about it. Among ulcer victims, it has been estimated that nearly one per cent will die; seven-

52 Id. at 181.
53 Id. at 181-182; Gray, Ramsey, Reifenstein & Benson, Hormonal Factors in Cases of Peptic Ulcer, 25 Gastroenterology, 156 (1953).
55 Supra n. 16 at 203.
teen per cent will require surgical management.\textsuperscript{54} The annual economic loss due to the death of ulcer patients in our nation was set at three hundred ten million dollars is the 1959 Rand study.\textsuperscript{57} The cost of ulcer treatment: ninety-two million dollars, or an average of 486 dollars per case.\textsuperscript{58}

While medical treatment may bring relief of symptoms within 15 days and healing of the ulcer crater within 60 days,\textsuperscript{59} the incidence of recurrences during the first six months following a "medical cure" varies between 10 and 36 per cent.\textsuperscript{60} Fifty to ninety per cent of patients with gastric ulcer can be expected to have a recurrence during a follow-up period of five to ten years;\textsuperscript{61} one study revealed recurrences in as many as ninety-three per cent of patients within a five year period.\textsuperscript{62}

Ulcer complications must also be considered. Thirty per cent of ulcer patients develop complications, and surgical treatment will be required in approximately fifty per cent of these persons.\textsuperscript{63} In three to thirteen per cent of ulceration experiences, acute free perforation will result in penetration into the biliary tract, liver, spleen, pancreas, colon, anterior abdominal wall, retroperitoneal space, and even the heart,\textsuperscript{64} although biliary tract penetration is by far the most common.\textsuperscript{65} Perforated ulcer has led to jaundice, pneumothorax, liver abscess, sub-phrenic abscess and rupture of the heart; exsanguination (anemia due to loss of blood) is a familiar cause of ulcer mortality, as is peritonitis induced by septic gastroenteric contents escaping into the greater peritoneal space, and fibrous adhesion or confined perforation may produce obstruction and other problems.\textsuperscript{66} While there is little agreement on the subject, it has been suggested

\textsuperscript{56} Supra n. 41 at 315.
\textsuperscript{57} Supra n. 5 at 20.
\textsuperscript{58} Id. at 22.
\textsuperscript{59} Id. at 29.
\textsuperscript{60} Supra n. 4 at 332.
\textsuperscript{61} Id.
\textsuperscript{62} Id. at 333.
\textsuperscript{63} Id.
\textsuperscript{64} Haubrich, Roth & Bockus, The Clinical Significance of Penetration and Confined Perforation in Peptic Ulcer Disease, 25 Gastroenterology, 174 (1953).
\textsuperscript{65} Supra n. 15 at 220.
\textsuperscript{66} Supra n. 64.
that five to ten per cent of occurrences of gastric ulcer may develop into cancer of the stomach.\textsuperscript{67}

Ulcer is also a disabling condition, although rarely identified in the public mind as such. In one study, sixty-six per cent of ulcer patients examined complained of back pain.\textsuperscript{68} Twenty-three per cent experienced nocturnal distress.\textsuperscript{69} Other symptoms, which may remain for a lifetime, include gas, cramps, nausea, sporadic vomiting, belching, distention and fullness after meals, and many ulcer victims report epigastric pain (a burning or gnawing sensation) about two hours after meals.\textsuperscript{70} Owing to the symptoms of the disease, both before and after treatment, persons with peptic ulcers have restricted occupational openings, particularly in jobs demanding irregular meals and imposing severe stress.\textsuperscript{71}

Restricted diet and mental and physical activity is often required. Slight psychic trauma, such as business crisis, domestic discord, or even illness in a dear friend may cause ulcer aggravation or recurrence.\textsuperscript{72} Prolonged periods of stress, without rest, are not advisable. In one laboratory experiment, in which peptic ulcers and other lesions of the stomach were produced in monkeys subjected to psychological stress, highest levels of blood pepsinogen and adrenal cortical steroids (ulcer-forming agents) were observed following and not during periods of stress. The researchers concluded that the duration of alternating periods of stress and rest is more important as a factor in ulcer formation than the severity of the stress.\textsuperscript{73}

\textbf{Out of the Medical Frying Pan and Into the Legal Fire}

Like many creatures of statute, workmen's compensation boards tend to view statutory definitions as some \textit{ne plus ultra} of rationality. And the judiciary is loath to disagree. Absurd conclusions do not seem to bother anybody.

\textsuperscript{67} \textit{Supra} n. 5 at 29.
\textsuperscript{68} \textit{Supra} n. 64 at 199.
\textsuperscript{69} \textit{Id.} at 193.
\textsuperscript{70} \textit{Supra} n. 15.
\textsuperscript{71} \textit{Supra} n. 4 at 326.
\textsuperscript{72} 3 Trauma 6, 50 (1962).
This is, for example, a recent Ohio case\textsuperscript{74} in which an employee slipped and injured his back when once-molten aluminum spillage, which he was trying to pry loose from the floor, gave way suddenly and broke free. This was not an "accidental injury," said the Court of Appeals. "It is not an accident that it came loose more quickly or suddenly than he anticipated . . . he succeeded in doing the very thing he was trying to do . . . it was no accident that he accomplished his purpose."

There is little doubt that the courts will permit compensation awards where injury or disability results from a sudden physical accident or trauma incurred in the course of employment. This has been true where a city employee suffered gastric ulcer as a result of sewer gas poisoning;\textsuperscript{75} where an employee of a power company ruptured a pre-existing ulcer of the cecum (intestine) while unloading a utility pole, which fell against him;\textsuperscript{76} where a carpenter was struck in the chest by a piece of timber, breaking several ribs and leading to ruptured ulcer of the duodenum;\textsuperscript{77} and where a lumber yard employee suffered a ruptured gastric ulcer, peritonitis and death as a result of severe physical strain.\textsuperscript{78} An early Ohio case similarly sustained an award for rupture of the duodenum and death, brought on by the effort of cranking an automobile engine.\textsuperscript{79}

But it is quite a different matter where emotional impact or strain has produced the physical injury, i.e., the ulcer and its consequences. In the case of a North Dakota ulcer victim,\textsuperscript{80} the Supreme Court of that state was careful to point out that it considered an ulcer an ordinary disease of life and not a physical injury. In a 1942 Ohio case,\textsuperscript{81} in which a restaurant supervisor died as the result of perforated gastric ulcer, the Ohio Supreme Court denied compensability, despite apparent acceptance of evi-

\textsuperscript{74} Rice v. Olin Mathieson Chemical Corp., 91 Ohio L. Abs. 601, 193 N. E. 2d 192 (1962).
\textsuperscript{75} Dauber v. City of Phoenix, 59 Ariz. 489, 130 P. 2d 56 (1942).
\textsuperscript{78} Herron Lumber Co. v. Neal, 205 Ark. 1093, 172 S. W. 2d 252 (1943).
\textsuperscript{79} Industrial Comm. v. Wilson, 34 Ohio App. 36, 170 N. E. 37 (1929).
\textsuperscript{80} Wobbe v. Workmen's Compensation Bureau, 73 N. D. 256, 13 N. W. 2d 712 (1944).
\textsuperscript{81} Shea v. Youngstown Sheet & Tube Co., 139 Ohio St. 407, 40 N. E. 2d 669 (1942).
dence that the ulcer was brought on by high nervous tension resulting from the victim's crossing a union picket line in compliance with orders from his employer. Said the court, it could find no physical or traumatic injury.

A more general statement, summarizing the position of American courts, is found in Schneider's Workmen's Compensation, in which the author bases the fundamental issue of compensability on whether the ulcer resulted from an accidental trauma or was aggravated into causing disability because of an accident or increased internal bodily pressure. It is this arbitrary distinction between physical and emotional injury which confounds any re-thinking on the subject of non-traumatic ulcer. Another authority on workmen's compensation, Dean Larson, has written, 83

Certainly modern medical opinion would support this view (that there is no valid distinction between physical and "nervous" injury), and insist that it is no longer realistic to draw a line between what is "nervous" and what is "physical." It is an old story, in the history of law, to observe legal theory constantly adapting itself to accommodate new advances and knowledge in medical theory. Perhaps, in earlier years, when much less was known about mental and nervous injuries and their relation to "physical" symptoms and behavior, there was an excuse on grounds of evidentiary difficulties, for ruling out recoveries based on such injuries, both in tort and in workmen's compensation. But the excuse no longer exists.

It has recently been observed that lawyers criticize psychiatry for not having advanced to the point that it can provide legally sufficient answers as to emotional injury, and psychiatrists, in turn, assail the workmen's compensation statutes as irrelevant to existing scientific knowledge.84 The debate is pointless if neither side will make concessions. The scientific brotherhood can do nothing but advocate and protect medical truth.

83 1 Larson, Law of Workmen's Compensation (Cum. Supp.) § 42.23 at 618 (1964). See also 19 Ohio St. L. J., 538 (1958), in which Larson writes: "When the original acts were passed, mental and nervous injury were too elusive to be easily handled as a subject of liability. We still have much to learn, but we know enough by now to test work-connection in most cases, and we have little excuse for continued slighting of this peculiarly tragic kind of disability."
84 Render, Mental Illness As An Industrial Accident, 31 Tenn. L. Rev. 299 (1964).
And the legal profession often is at a loss to place these not-so-self-evident truths in traditional compensation concepts.\(^8^5\)

This sense of exasperation was expressed during a medical symposium by a physician who decried the distinction made between physical and emotional-nervous injury, and the use of the term "bodily disease" as if to imply the existence of some other kind of disease: \(^8^6\)

Why do we say "psychosomatic" instead of "neurogastric," for example. I suspect that the difference rests simply upon our current inability to describe accurately the external events responsible for these internal changes. When we can define them very accurately, we do not call the relationship psychosomatic. If we know that the response of the human being to low temperatures causes a somatic change such as shivering, we are satisfied with that level of explanation; but if a man loses his job and develops stomach ulcers, then, for some mysterious reason, we are suddenly dealing with something that is psychosomatic.

Is It An Accidental Injury in the Course of Employment?

Presuming then, that the emotional-nervous disorder of the employee is equally as physical a reality as the ulcer by which it becomes manifest, the next immediate problem is to match that reality to statutory definitions of a compensable injury or accident. In 1959, the Ohio legislature revised\(^8^7\) this state's definition:

Injury includes any injury, whether caused by external accidental means or accidental in character and result, received in the course of, arising out of, the injured employee's employment.\(^8^8\)

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\(^8^5\) The classic test would seem to be sufficient to include emotional-nervous injuries: "... a personal injury to a human being includes whatever lesion or change in any part of the system produces harm or pain or a lessened facility of the natural use of any bodily activity or capability." (In Re Burns, 218 Mass. 8, 105 N. E. 601 (1914).) But the significant breakthrough came in Bailey v. American Gen. Ins. Co., 154 Tex. 430, 279 S. W. 2d 315 (1955) in which the Supreme Court of Texas reversed the Court of Civil Appeal (268 S. W. 2d 528) and awarded compensation to an iron worker, who suffered a neurosis solely as the result of seeing a co-worker fall to his death when their scaffold collapsed, and despite a Texas statute which defines "injury" as "damage or harm to a physical structure of the body."

\(^8^6\) Dr. Frank A. Beach (New Haven, Conn.), Life Stress & Bodily Disease, Association for Research in 29 Nervous and Mental Disorders, 674 (1950).

\(^8^7\) Substitute H. B. 470, effective Nov. 2, 1959.

\(^8^8\) Ohio Rev. Code § 4123.01.
This revision was intended to negate the rule in the *Dripps* case which had restricted compensable injury to "physical or traumatic damage or harm, accidental in character, resulting from external, accidental means in the sense of being the result of a sudden mishap, occurring by chance, unexpectedly, and not in the usual course of events, at a particular time and place." Clearly, the *Dripps* case rule precluded any discussion of the compensability of non-traumatic ulcer.

But the revised statutory language did not. The injury, said the lawmakers, need not be causally linked to a single, violent traumatic moment. Recognizing the evidentiary difficulties of such a standard, and lest an otherwise legitimate injury go uncompensated, the legislature had provided an alternative—an injury in character and result.

Unfortunately, no ulcer litigation has reached courts of review since the law was changed. Forecasting possible results of the revision, Dean Oliver Schroeder of the Western Reserve University Law School wrote, "the 1959 General Assembly has provided a new pattern—unusual stress or strain, physical or mental, directly caused by the employment experience will now be important actors." But hopes for a greatly liberalized view of injury were short-lived. The Ohio courts have reaffirmed the position that mere exertion or great effort, or even extraordinary strain, is insufficient to meet the test of compensability in the absence of a sudden, unusual and unexpected occurrence or mishap.

In many respects, this is an unwelcome taking-in of the legal belt. The broad objective of workmen's compensation laws is to compensate workers for injuries arising from the increased risks of modern industrial working conditions, and this objective cannot be effectively carried out if the courts insist upon such arbitrary tests in determining compensability. It is settled in Ohio, as elsewhere, that the workmen's compensation act, in view of its remedial character, is to be construed to favor the injured worker.

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80 Schroeder, Legislative Amendment to Ohio's Workmen's Compensation in 1959, 20 Ohio St. L. J. 605 (1959).
83 Bowling Green v. Industrial Comm., 145 Ohio St. 23, 60 N. E. 2d 479 (1945).
Last summer, at the annual meeting of the Section on Insurance, Negligence and Compensation Law of the American Bar Association meeting in New York City, it was pointed out that the only relevant standard is causal relationship, not the traumatic moment.\(^{94}\) The discussion centered about cardiovascular injuries but is equally applicable to a consideration of non-traumatic ulcer:

...whether the cardiovascular injury is occasioned by a multiple event or by a single event, whether it is designated as an accidental injury or as an occupational disease, or whether the stress and strain was usual or unusual to the employment, the weight of authority strongly suggests that the real test of compensability is whether the claimant can reasonably demonstrate that there was a likely causal relationship between the employment and the precipitation or aggravation of the cardiovascular disease.\(^{95}\)

This line of battle was most clearly drawn in a California case a decade ago.\(^{96}\) The port manager of the San Francisco Waterfront Employer’s Association, age 65, had suffered a cerebral vascular injury (stroke) which resulted in partial paralysis of his right side. The evidence disclosed that he had worked as much as 11-hours a day during a 65-day period in an atmosphere of strain and tension attempting to conclude contract negotiations with certain labor unions. Said the majority in upholding compensability,\(^{97}\)

... in the development of a stroke, some point exists where without further strain or tension resulting from the employment, the stroke will result ... Separately one day’s strain may be slight, but when added to the strains which have preceded, it becomes a destructive force. Consequently, in deciding the responsibility for the stroke, it cannot be said that any one particular exposure to strain and tension was responsible. It can only be said ... that the stroke was the result of one continuous, cumulative injury rather than a series of injuries.

The minority assailed this viewpoint as one which would inevitably lead to absurd results.\(^{98}\)

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\(^{95}\) Id. at 525.


\(^{97}\) Id. at 150.

\(^{98}\) Id. at 151.
In a similar case three years later, Mr. Justice Smith of the Michigan Supreme Court observed:

It takes the workman as it finds him. What is overexertion for one is underexertion for another. What is stress and strain for one is relative peace and quiet for a third . . . The exertion test leads to equally untenable results if we apply the test to measure the exertion usually required by the employee’s job . . . Is the injury the unexpected result of ordinary work or is it the ordinary result of unexpected work? This question is nothing more or less than a verbal puzzle. As long as compensation is made to turn on it, we will have constant litigation and distinctions will multiply beyond all hopes of reconciliation.

Such tests are mere efforts to find a safe causal port in the stormy sea of modern, medical concept of disease and injury. The legal profession feels secure in traditional tort concepts of proximate cause, neatly screened of independent, intervening causes. This is manifest in the borrowing of “impact” theory from the law of torts, the search for physical contact or trauma. Or the use of “but-for” or “aggravated injury” rules.

But in the consideration of ulcer claims (or cardiovascular, psychoneurotic, et al), we are dealing with both the vulnerability of the individual and the nature and duration of the stresses bearing upon him. Medical “proximate cause” concepts may not coincide with legal efforts to find the traumatic moment. For example, consider an assertion in the Lawyer’s Medical Cyclopedia that “heavy work and physical exertion may endanger the heart, but worry, tension pressure and emotional strain in association with such work may cause much greater damage.” In the absence of a sudden, violent trauma or its stress equivalent, could this view be accepted in Ohio?

Clearly tort concepts—seeking some causal connection with a single employment event—permit injustice and frequently will be of little value.

100 The application of traditional tort principles of proximate cause is specifically prescribed in Ohio; see 58 Ohio Jur. 2d 175-178 at § 59.
103 McMillan v. West. Pac. R.R. Co., 9 Cal. Rptr. 361, 357 P. 2d 449 (1960). In upholding an action by a train dispatcher who had suffered nervous collapse in the performance of his regular duties, the California Supreme Court said he had been subjected to working conditions of unusual responsibility (stress and tensions negligently imposed).
A New Line of Cases

Rather than eliminate tort concepts of causality, and plunge into the legal unknown, it appears both desirable and practical simply to expand these concepts consistent with the principle that workmen's compensation statutes are to be liberally construed.\(^{104}\) Several highly industrial states have recently pioneered such expansion.

In 1960, in *Carter v. General Motors*,\(^ {105}\) the Supreme Court of Michigan extended compensation to an assembly line production worker who suffered a psychosis (paranoid schizophrenia) largely as the result of emotional pressure encountered in his daily work—the same type of work which others were performing, presumably without untoward result.

In testimony, a psychiatric specialist detailed the dilemma: \(^ {106}\)

We frequently see a situation of this type where a person feels himself trapped in a situation that has no solution, at least to them, precipitating a schizophrenic breakdown... I think that he has had the personality predisposition towards the development of this illness for a number of years. This is what usually happens, but then this is the straw that breaks the camel's back, and they develop the actual psychosis in which they are out of touch with reality. Now, we have no reason to believe that he was before out of touch with reality.

Two dissenters argued strenuously that the claimant's disability was not due to causes and conditions peculiar to his employment, but had arisen out of his mental condition.\(^ {107}\) But the decision stands.\(^ {108}\)

In 1961 came the case of *Klimas v. Trans-Caribbean Airways*,\(^ {109}\) in which death from a heart attack, occasioned by mental disturbances and emotional strain resulting from employment, was held compensable. Said the court,\(^ {110}\)

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\(^{104}\) Ohio, see Ohio Rev. Code § 4123.95.

\(^{105}\) 361 Mich. 577, 106 N. W. 2d 105 (1960).

\(^{106}\) Id., Dr. Laurence P. Tourkow, at 109.

\(^{107}\) Id. at 121.

\(^{108}\) For a sample of contra comment in another state, see Martin v. Porcelain Metals Corp., 358 S. W. 2d 485 (Ky., 1962).


\(^{110}\) Id. at 716.
We think it may not be gainsaid that undue anxiety, strain and mental stress from work are frequently more devastating than mere physical injury, and the courts have taken cognizance of this fact in sustaining awards where no physical impact was present. (The court then cites seven such cases at length.) Upon the facts developed in this record, the common sense viewpoint of the average man would, in our opinion, be in accord with the board that this was an industrial accident. 111

Chief Justice Desmond in the dissent (it was a 4-3 decision) stated, 112

We have gone far in other heart cases . . . in sustaining compensation awards where there was proof of definite physical stress and exertion at an ascertainable time, but if we are to go beyond that point and allow compensation to be awarded simply for psychic or nervous strains we will be doing what Judge Finch warned us of in 1938 in Goldberg v. 954 Marcy Corp., 274 N. Y. 313, 12 N. E. 2d 311; we will make workmen's compensation the equivalent of life and health insurance.

But Klimas has proved to be a durable holding, leaving adequate room for the weighing of causal evidence. It has been used to support and award where a claimant suffered a myocardial infarction due to emotional stress stemming from a union hearing on charges that he disobeyed a directive to desist from participating in an unauthorized work stoppage; 113 where a referee for the state workmen's compensation board, with a prior history of ulcers and hypertension, was subjected to a situation of emotional tension while taking over the "calendar" of an absent referee, incurred a stroke and partial paralysis; 114 where an elevator operator, who remained at his post for several hours in a smoke-filled building, suffered psychic and emotional strain which set off massive hemorrhage of an ulcer; 115 where

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111 It should be noted that in Masse v. James H. Robinson Co., 301 N. Y. 34, 92 N. E. 2d 56 (1950), the New York Court of Appeals adopted the rule that "whether a particular event was an industrial accident is to be determined not by any legal definition, but by the common-sense viewpoint of the average man."

112 Supra n. 109 at 718.


a clothing store employee fell victim to a myocardial infarction while arguing with his supervisor about overtime pay; and where an employee became disabled due to a coronary attack following a near-collision while driving an automobile on company business.

Yet these same New York courts have disallowed compensation, upon a review of the evidence, where a policeman died of an acute massive coronary while directing traffic at the scene of an accident ("no evidence of nervous excitement or emotional stress"); where a civil engineer suffered a paralyzing stroke after an hour-long altercation with one of his supervisors over a radio-telephone ("no evidence of an aggravated and prolonged situation of emotional tension"); and where an office manager died of myocardial infarction while making a bank deposit on his employer's behalf ("no evidence of friction in the office or greater exertion than the ordinary wear and tear of life").

A similarly liberalized view took root in the courts of New Jersey in 1962. In *Dwyer v. Ford Motor Co.*, compensation benefits were granted where a pre-existing cardiovascular disease was aggravated into a state of acuteness by the stress of routine work performance. New Jersey had previously scuttled the "unusual strain" test. Other courts have recently held differently.

In short, the New Jersey courts have rejected the theory that the claimant must sustain the burden of proof that the injury was not the result of natural causes.

The ulcer shares too much in common with cardiovascular and mental-emotional ailments, as symptoms of the injury being

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NON-TRAUMATIC ULCER

incurred, to belabor comparisons. Interestingly enough, severe emotional strain, in the course of ordinary work, leading to suicide, was recognized as compensable many years ago. This new line of decisions, to some extent, is built upon cases in which pre-existing disease is aggravated; unlike cardiovascular disorders, in which diet may play an important role, or psychoneurotic potential, which allegedly starts with the embryo, peptic ulceration is more readily and independently, at its formative stage, traced to the stresses of present activity. It would appear even better suited to causal investigation and determination. While these cases do not yet represent a majority view, they represent valuable opposition to the formula that, when in doubt, deem it an ordinary disease of life and deny compensation.

Conclusion

Workmen's compensation statutes, by their number and nature, do not lend themselves to generalization but, if there is a majority view or consensus to be sought, Ohio's position seems somewhere in the center of the varying extremes. As stated earlier, the Ohio legislature acted to broaden the statute to include both readily identifiable accidents causing injury, and accidents in character and result which are not so readily traced. But the courts and workmen's compensation boards continue to insist upon evidence of a sudden, unusual or unexpected occurrence or mishap.

Some years ago Ohio claimed to be the pioneer in working out and reducing to a working basis the most advanced theories of workmen's compensation. This is no longer true. Impairment of physical condition accruing gradually from constant and continuous labor, no matter how heavy or arduous it may be, is not compensable as an injury in Ohio. Nor is worry, anxiety or excitement, such as may result in a cerebral hemorrhage or coronary thrombosis. The injury may not occur in the usual course of events of employment, nor unless the activity, conditions, environment or requirements of employment subject the

126 See annotation, 58 Ohio Jur. 2d 236, Workmen's Compensation, § 102.
127 Id. at 235, § 101.
employee to a greater hazard than that encountered by the general public.\textsuperscript{128}

Only one exception can be found; a 1940 Common Pleas Court award in which a female employee who was severely reprimanded by her foreman and subjected to "constant and violent shouting and nagging," had fallen victim to intense hysteria and hysterical paralysis.\textsuperscript{129}

While Ohio will award compensation where a single, unusual stress has produced a symptom or injury deemed accidental in character and result, somehow it is not considered accidental when the injury is produced by cumulative stresses. This gradual process, which may result in equally destructive injury, is suddenly viewed as the ordinary wear and tear of life, even though its etiological relation to employment may be established. This is neither good logic, nor good law. It defies medical definition of the character of injury.

Here too we fly in the face of modern medical knowledge. If 75 to 88 per cent of industrial accidents are, in fact, of psycho-neurotic origin,\textsuperscript{130} why compensate a worker who shatters his thumb with a hammer but not the production supervisor who shatters his gastro-intestinal processes under, quite often, far more aggravated working conditions?

These present notions, I suggest, are inconsistent with the policies underlying workmen's compensation statutes. The humanitarian purpose which engendered these statutes sought to shift the risk to the one who could best bear and distribute the cost, i.e., the employer. The fact that the employer may not have been foreseeably negligent, or that the employee's own conduct or pre-existing condition contributed to the injury, was categorically rejected.

The dilemma is not basically legal in origin. Workmen's compensation statutes are the product of state legislatures, many of which are under considerable pressure from commerce and industry to confine loss experiences. Others are influenced by what could be called the "humane" threat, such as that recently displayed at a legal institute at the University of Arkansas: \textsuperscript{131}

\begin{footnotes}
\textsuperscript{128} Id. at 172, § 58, and 182-183, § 61.
\textsuperscript{130} Supra n. 39.
\textsuperscript{131} Putman, Relationship of Effort or Stress to Coronary Heart Disease, 17 Ark. L. Rev. 39 (Winter 1962-63).
\end{footnotes}
the liberalization of the workmen's compensation laws, instead of accomplishing the desirable social result which was intended, has instead operated to the social and economic disadvantage of workers with a history of heart disease or whose age, blood pressure, weight or family history suggests that they are candidates for heart trouble. Employers, whose workmen's compensation rates depend on loss experience, are becoming increasingly reluctant to hire a man or keep one on the payroll whose physical examination suggests that, while performing his usual job, or perhaps while at home after work, he may expose them to a claim for industrial injury because a heart attack made inevitable by the condition of his arteries happened to occur while in their employment.

Non-traumatic ulcer? There is no such thing. The predisposition of ulcer, as viewed medically, is no different than the predisposition to many compensable injuries. Its result, as an employment connected injury, certainly is no different. Its status as a non-compensable injury is appalling. As the English philosopher Bertrand Russell has written,\textsuperscript{132}

Not only will men of science have to grapple with the sciences that deal with man, but—and this is a far more difficult matter—they will have to persuade the world to listen to what they have discovered. If they cannot succeed in this difficult enterprise, man will eventually destroy himself by his halfway cleverness.

\textsuperscript{132} Quoted in Selye, supra n. 32, at title page.