THIRD ANNUAL
GOVERNOR'S CONFERENCE
ON
WORKMEN'S COMPENSATION

Hon. Robert B. Meyner
Governor
State of New Jersey

Hon. Raymond F. Male
Commissioner
Department of Labor and Industry

Thomas L. Franklin
Acting Director
Division of Workmen's Compensation

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Foreword

The Governor's Conference on Workmen's Compensation is designed to improve mutual understanding among those concerned with Workmen's Compensation. It provides a public forum for the expression and consideration of the responsibilities, duties and benefits involved in the proper administration of the law as it concerns the injured workman, the employer, the State of New Jersey and the representatives of each.

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JUDGE ACKERMAN: Distinguished Guests, Ladies and Gentlemen. It is my privilege to initiate the Third Governor's Conference on Workmen's Compensation.

Since the end of World War II, interest in the heart case in the field of Workmen's Compensation has increased tremendously. This trend continues unabated. Because of this development, the Governor, the Commissioner of Labor and Industry and this Division felt it appropriate to devote an entire program to a consideration of the legal, medical and rehabilitative aspects of work and its effect on the heart.

One conference cannot provide conclusive answers to all questions raised by this highly litigious problem. We believe, however, that a forum such as this can provide an audience with a clearer appreciation of the areas of agreement and legitimate disagreement.

Mr. Justice Holmes once said, "The life of the Law has not been logic; it has been experience." Dean Roscoe Pound, in a recent address, stated, "What Holmes had in mind was learning by observation of the results in action, how far legal precepts achieve practical results." It is our fondest wish that our audience today will in some measure benefit from this experience so as to aid them in their labors.

I take great pleasure in introducing the gentleman who conceived this particular Conference and who has given much time in coordinating the Committee's efforts, the Honorable Thomas L. Franklin, the Acting Director of the Division of Workmen's Compensation.

(Applause.)

DIRECTOR FRANKLIN: Mr. Chairman, distinguished Guests and Ladies and Gentlemen: On behalf of the Governor, I extend to you a most cordial welcome to the Third Annual Governor's Conference on Workmen's Compensation in the State of New Jersey. I regret very much that Governor Meyner cannot be with us this morning. However, if you have been reading the newspapers, I am sure you are aware of the demanding schedule that he has been faced with during the period of transition. I have in mind particularly the negotiations in connection with WNTA.

I might note also that Governor-elect Hughes sent word to us yesterday that although he had hoped very much to be with us, other developments and commitments interfered to make that impossible.

Our assigned topic today, as you can see by the program, is "The Heart in Work." Whereas in the two-day conferences of prior years, we ranged far and wide in the field of Workmen's Compensation, this year we will confine our deliberations to a single problem area. We will explore, in some depths, I trust, the relationships between heart disease, employment and Workmen's Compensation. This, of course, is not the only problem in the field of Workmen's Compensation, but it is one which is entitled to our attention and concern.

Most of you are aware of the 1957 landmark decision in the Ciuba case, abolishing the "unusual strain" doctrine in heart cases; and in several other cases, Court decisions which comprise the sequel to Ciuba.

In no sense are my remarks to be taken as criticism of these decisions. However, we would be closing our eyes if we refused to recognize two very practical results which have occurred. The first is the greater emphasis on the issue of causal relationship. It has assumed more importance and it is raised more often and more vigorously than ever before. In the Division it has added significantly to the time accorded to the fully litigated matters.

Part of the inquiries today will be this question of causal relationship, both from the legal and medical aspects, with an assist from the pathologists.

The second practical problem coming to the fore as the results of Ciuba are the effects which the decisions may have on the hiring or re-employing of cardiacs. The work evaluation and Second Injury panels this afternoon will be dealing with this problem - namely, the challenge of rehabilitating those who suffer with heart disease.

Is a broad Second Injury Fund what is needed to encourage the employment of these handicapped individuals?

Are there other alternative workable solutions? Certainly in this Country we will not revert, I am sure, to one alternative which has been suggested, and that is the thoroughly discredited waiver system.

There are some who assume that the so-called borderline heart cases are widespread and constitute a major financial drain on the Workmen's Compensation system. Dr. Cheit, of the University of California, in his new book, "Injury and Recovery in the Course of Employment", which was published just two weeks ago, states that the evidence is to the contrary. For example, he cites New York State as a state where Court interpretations began the trend to liberalization. There the heart cases account for only 4% of all Compensation benefits. In New Jersey our experience is only half that percentage. The main problem is not financial but, rather, one of increased controversy and the adverse effects on rehabilitation and on employers' hiring policies. According to Dr. Cheit, if controversies could be substantially reduced and rehabilitation inducements provided, then the most serious aspects of the problem would be eliminated. With this, I believe we all can agree.

It is my hope that today's proceedings will provide us with some of the insights needed to enable us to work cooperatively for a solution.

Permit me at this time to take the opportunity to thank Judge Ackerman and each member of the Conference Committee for the extraordinarily fine effort in the planning and arranging for the Conference. And thanks to you for subscribing overwhelmingly to the endeavor.

Thank you very much.

(Applause.)

JUDGE ACKERMAN: It is now my privilege to introduce to this audience our Program Chairman, who will, so to speak, lay out the ground rules of today's program, Supervising Judge Maurice A. Kaltz.

(Applause.)

JUDGE KALTZ: Good morning, Ladies and Gentlemen. I was feeling very good when I came in here until Tom mentioned this Ciuba case, and that's where I got reversed. However, it wasn't the first time and it probably won't be the last.

Just getting down to basic issues, the presentations by each of the panelists will be about fifteen or twenty minutes, after which there will be a Question-and-Answer period of twenty minutes. There is a microphone in the center of the hall which can be carried to wherever the inquirer may be. You are asked to give your name and your representation - in other words, whether you represent a union, whether you are an attorney, or whether you are an insurance adjuster or an insurance lawyer, whatever the case might be. That's for the purpose of keeping our records rather complete.

The entire proceedings are being reported and transcribed by the offices of William C. O'Brien and the North Jersey Reporting Service. Anyone desiring to receive a copy of the same may purchase it through these sources.

That about covers the basic things which we are asking your cooperation.

One other thing, of course, is, make your questions concise; do not make them personal because the Moderator may very well rule them out of order.

So, with that, we are about to introduce our first panel.

Ladies and Gentlemen, may I introduce the Moderator of our first panel, who will take it from here. Supervising Judge Roger W. Kelly.

(Applause.)

JUDGE KELLY: The first panel today is concerned with the compensability of heart disease, and these panelists will discuss the legal aspect of that.

The first speaker will be Benjamin Marcus, who is a practising lawyer in Michigan. He is the head of the firm of Marcus, McCroskey, Finucan & Libner, with offices in Muskegon and Grand Rapids, Michigan. He specializes in Workmen's Compensation, negligence and related medical-legal problems. He is a member of the American Bar Association, Michigan State Bar Association and Muskegon County Bar Association. He is co-founder and first president of the National Association of Claimants' Counsel of America. He is the NAACA representative to the International Association of Industrial Accident Boards and Commissions, and has been the author of a number of works on Workmen's Compensation and legal medicine, and a lecturer on those matters. He is also a member of the Board of Directors of the Michigan Rehabilitation Association.

I give you Mr. Benjamin Marcus.

(Applause.)

MR. MARCUS: Thank you.

Mr. Chairman, honored Guests, Ladies and Gentlemen, including my many friends. I hope I depart with many more friends.

Five years ago in Charleston, South Carolina, my friend, Mr. Summerfield, and I discussed this problem of compensability in heart disease and heart injury cases before the administrators of the workmen's compensation laws of the United States and Canada. Today again, we present our respective views, as before, conditioned by our respective roles in advocating the rights of an industrial society and its members in the litigious field of workmen's compensation.

At that time, either a previously unsuspected gift of prophecy or my inherent faith in the administrative and judicial process, convinced me that we could expect decisional progress in heart disease cases and others toward the uncomplicated and logical proposition that all disabilities and deaths causally contributed to by the occupational hazards of the employment should be fully compensated. In that former treatise, I made particular reference to the development of the law of compensable liability in this great State of New Jersey, hoping then for it, as I had previously hoped for my own State of Michigan, that your State would sweep the cobwebs of confusion from a law intended to be simple in meaning and administration, extensive in scope, and certain as to benefits. In 1958, Arthur Larson said:

> "Of course, legislation is only part of the process of amelioration. Judicial decision contributes a large part toward helping the acts carry out their real purpose with increasing effectiveness. It is gratifying to watch the steady rounding-out of case law on such issues as the aggressor defense, hotel-fire injuries, heart attacks caused by normal exertion, and dozens of other similar developing doctrines. Now and then, in place of this measured advance, we see a display of dazzling decisional progress--as in the case of Michigan recently.[2]" (emphasis supplied)

May I now paraphrase this last clause to include New Jersey with Michigan.

I do not wish to be misunderstood or misquoted--or that Professor Larson be--. Let me repeat the phrase "helping the acts carry out their real purpose with increasing effectiveness." Neither state had advanced beyond any frontier of reason or justice. Similar decisional progress is likewise being made or had been made in the majority of the other jurisdictions.

This apparently new development in American law really represents a return to the earlier English law, which we in this country first followed in our earlier compensation decisions. Our own compensation acts were largely modeled upon the English compensation law, and the interpretations thereof were largely followed for obvious reasons. Two English cases which were especially influential in molding American law were Fenton v. Thorley, (1903)[3] and Hughes v. Clover Clayton, (1910)[4]. Both cases explored fully and resolved in satisfactory fashion the accidental injury versus personal injury problem; the logic and the result of these cases had our courts started on the right track.

Typically, the Michigan Court in 1916 accepted the broad concept of personal injury in the case of LaVeck v. Parke Davis, (1916)[5], citing with approval the authority of both Fenton and Hughes.

Soon thereafter, the erosion of these concepts of liability for injuries, cardiac as well as other types, commenced. Case by case the definition of personal injury was narrowed, an inevitable consequence of the unilateral advocacy of the employers' viewpoint and interest. The term "unilateral" is fairly descriptive, for the injured worker was seldom competently represented in workmen's compensation. He believed what he was told: that the remedy was a simple one, and that he had no need for a lawyer. The carriers and employers were not so naive. Their skilled and experienced counsel made substantial inroads into the basic principles of workmen's compensation especially in regard to the definition of personal or accidental injury, thereby sharply limiting the scope of the legislative and sociological intent of the workmen's compensation laws.

As recently as 1954, despite legislative directive to the contrary, the Michigan Court[6] denied liability for vascular injury which was contributed to by the heavy although usual work performed by the claimant.

This decision, later overruled in the Sheppard case (1957)[7], prompted Dean Pound to characterize our Court as follows:

> "Michigan has attained a bad eminence in narrow interpretation and application of the workmen's compensation act".[8]

One year later, in 1955, Mr. Justice Talbot Smith dissented in the Wieda case (a heart case)[9], protesting the continuation of such "bad eminence".

Six months prior to the South Carolina meeting in 1956, my office had presented to our Supreme Court the Sheppard case, in which we proposed a reexamination of the accident concept. In June of 1957, Justice Smith's dissent in the Wieda became the controlling law of Sheppard and its companion Coombe (1957)[10] (a stroke case). These decisions determined that from then on the early established fundamental principles of liability for work-connected injuries would not be denied by the Court; that liability would attach regardless of a preexisting pathological condition; that accidental injury, in effect, meant injury caused or contributed to by the employment; that causal relation would be found irrespective of whether the exertion involved was usual or unusual, so long as the work produced a furtherance of the disease or its symptoms--even though the preexisting pathology might ultimately under other and non-occupational circumstances, have resulted in the same disability or death through normal progression.

The Serbonian bog decried by Mr. Justice Cardozo in referring to the accident concept was thereby drained of its much and mire.[11]

Let me mention but a few more Michigan cases, since they parallel your own.

In Mottonen v. Calument & Hecla, Inc. (1960)[12], the employee died of a heart attack while doing his regular hard physical labor, usual for both Mottonen and his co-employers. All of the Justices agreed that the death was compensable, four of them on the basis that Sheppard and

Coombe had eliminated the requirement of injury by accident, and that only proof of injury arising out of and during the course of employment was required. The other four Justices affirmed on the basis of the occupational disease section of our statute, holding that the hard work, although normal for the occupation involved was a "disease....characteristic of and peculiar to the business of the employer."

While not a heart case, Carter v. General Motors Corporation (1960)[12] held a psychosis compensable when it was contracted by a predisposed employee, who could not adequately cope with the usual requirements of his routine job.

In parallel fashion, your administrators and courts follow almost the same pattern as did Michigan. In Bernstein v. Kelly[14] (1935), New Jersey followed its earlier and English decisions and granted compensation where the employee suffered a rupture of an already diseased aorta while he was doing his regular but heavy work.

The Court brushed aside the defense of aggravation of preexisting condition, but its dictum did indicate its preference for some evidence of "unusual strain". However, it seemed to me in reviewing New Jersey's immediately subsequent decisions, that the strain was as often semantically as actually, unusual.

The designation of the critical activity as "unusual" exertion was continued by New Jersey as dictum in many cases subsequent to Bernstein but not actually required as a condition of liability until Lohndorf v. Pepper Bros. Paint Company (1946)[15].

There the Court decided that the strain must be unusual, not caused by regular work, and evolved a judicial presumption that cardiac cases are the result of natural causes and are not due to work connected injuries, absent the element of unusual strain or incident. Mr. Justice Heher, while concurring, advocated continuation of the simple test of causality.

It would appear that the narrowness of the court decisions, New Jersey's as well as Michigan's, particularly as to heart cases, was based, in the main, upon the court's twofold reluctance either to be guided by the decisions of fact of the Workmen's Compensation Department, causally relating the occupation to the disease, or to interpret the Workmen's Compensation Act as what some derisively called a "health insurance scheme". In reference to the former, the problem was largely one of causation and its proof, since heart disease is so common and often not caused by exertion or accident. As Arthur Larson said, harsher rules on heart cases are used because of the difficulty in proving that heart injuries "arose out of the employment." He further stated:

"The principal reason given by both New Jersey and New York for drawing a distinction between 'heart cases' and all others for the purposes of the usual-exertion test, gives the key to the real nature of the current problem:

> 'The "heart cases" where is usually required to show some special effort as to a precipitating cause of the attack, stand in a class by themselves, but they do so because their generalized nature makes it difficult factually to attribute the attack to the work. (Kayser v. Erie, 92 NY S 2d 612 (1949))
>
> '...these (heart) cases establish the requirement of proof of unusual strain or exertion in heart disease cases, grounded upon the judicially declared presumption that death from heart disease is originally the result of natural physiological causes rather than trauma or particular effort...' (Neylon v. Ford Motor Company, (N.J.S.) 80 A 2d 235, 236, (1951))

"It is at once apparent that neither of these statements bears the slightest relationship to the nature of 'accidental' injury. They related exclusively to causation. In short, they tell us that the special rule on 'accident' is employed in heart cases because of the difficulty of proving that heart deaths 'arise out of employment'.

"Holmes statement that the life of the law has been not logic, but experience is probably truer in compensation law than in any other field. For while most of the law built up around the 'accident' requirement, for example, has been based on false premises and embroidered with irrelevant distinctions, there has been a utilitarian purpose behind it all which cannot be disregarded when all the logical criticisms have been exhausted. That practical con-

> sideration is the fear that the heart cases and related types of injury and death will get out of control unless some kind of arbitrary boundaries are set, and will become compensable whenever they take place within the time and space limits of employment. Most states have chosen to press the 'accident' concept into service as one kind of arbitrary boundary, but with, a few exceptions, one gets the distinct impression that what is behind it all is not so much as insistence on accidental quality for its own sake as the provision of an added assurance that compensation will not be awarded for deaths not really caused in any substantial degree by the employment.[16]"

But such court-imposed barriers as the presumption against causality are not necessary, since valid distinctions may be made between injuries occurring merely during employment and those arising out of employment.

In 1939 in the Bollinger case[17], the New Jersey Court said:

> "...we think that the requirement that the injury or death arises by accident, under our statute is satisfied if the claimant discharges the burden of proving that the condition complained of, i.e., the injury or death is related to or affected by the employment, that is to say, if but for the employment it would not have occurred. Death from disease alone during the employment will not suffice, but injury or death which on proofs that are sufficient and persuasive, would not have occurred but for the services rendered in the employment, amount to injury by accident." (emphasis supplied)

In the Marman case (1934)[18] the Michigan Court said:

> "Personal injury implies something more than changes in the human system incident to the general process of nature or existing disease or weakened physical condition. The term, as employed in the compensation act, contemplates some intervention which either produces a direct injury or so operates upon an existing physical condition as to cause an injurious result, reasonably traceable thereto."

The Courts definition of occupational disease preceded by decades the physicians acceptance of a proper legal definition. It is pleasant to read a most recent medical definition consistent with the Courts legal definition of stress and strain.

> "Discussion of these problems necessitates definition of the terms 'work', 'effort', and 'stress and strain.' Occupational duties require work, effort, or exertion--that is, the expenditure of energy or power, either physical or mental (emotional). Work, then, suggests 'toiling to achieve a desired goal.' The term 'stress and strain', however, suggests 'stretching beyond the limits of normal.' 'Work' implies a normal physiologic process or activity; excessive effort or 'stress and strain' suggests there is an abnormal response to this effort, an 'injury'.[19]

These early cases clearly showed the way to clear thinking without crutches in the form of special prescriptions for these cases. What a pity that both your Court and my own stumbled and fell along the way!

In 1958, your court reviewed its own position of so called "eminence". In Ciuba v. Irvington Varnish & Insulator Co.[20] the Court, speaking through Mr. Justice Heher, who eight years before had been a reluctant non-dissenter in Lohndorf, held in a most scholarly and ably reasoned opinion that the employee's death was compensable even though there was no proof that the strain involved was unusual. Justice Heher placed cardiovascular injuries back in the same position as all other injuries similarly caused. The relationship between employment and the death was founded upon reasonable probability and based upon rational inference. The proposed requirement of certainty of proof was ignored as food for the scavengers. Probable cause and that alone was reestablished as the criterion of compensability.

Ciuba has been the controlling decision here ever since. In Mergel v. N. J. Conveyers Corp. (1954)[21], liability was affirmed, although among all of the Justices three different opinions were written. Mr. Justice Oliphant, in writing the majority opinion, described the work involved as unusual, though not unexpected or unplanned.

Mr. Justice Brennan, now domiciled in Washington, D. C., concurred:

> "because (I regard) as wholly illusory
> the distinction between usual and unusual
> strain or exertions which...has been the
> test of compensability in heart cases."

I believe the reasoning of the Court in the case of Loew v. Borough of Union Beach (1959)[22], further clarifies New Jersey judicial thinking in heart cases. The Court, while holding that unusual strain is no longer a requirement for liability, held, nevertheless, that the presence or absence of such strain still has probative value. This is quite consistent with the Court's pronouncement in the Bollinger case, (1939) supra, that proof of death or injury merely during employment is not enough.

A few months ago, your Court decided Burkley v. Atlantic City (1961)[23]. After reviewing its most recent decisions, it held that where the normal duties of an employee aggravate a previously diseased cardiovascular condition, liability attaches.

It is interesting to note that the Court rejected the medical opinion that "effort and trauma are not causally related to coronary occlusion". Nor was the fact that the decedent's death might have occurred (but did not) in the normal process of non-occupational activity, a barrier to liability as long as the actual exertion on the job could reasonably have aggravated or precipitated the pathological condition which lead to the worker's death.

I note that you have recently recognized the causal relationship between emotional and mental stress and strain and cardiovascular injury.[24] This is an area in which you have not been surpassed by any other jurisdiction.

Much of the difficulty which has confronted the courts historically was caused by the statutory language "injury by accident" or "accidental injury".[25] The Courts found it difficult to deviate from old common law concepts and insisted upon the sudden or unusual factor as a cause for injury.

With the passage of time, the legislatures of our states became impatient with this judically created confusion and ultimately passed occupational disease amendments to the compensation acts whose sweeping terms and inclusive definitions were designed to avoid the generations of uncertainty and hardships experienced under the earlier acts.

In 1943, the Michigan Legislature adopted an all-inclusive occupational disease amendment. In pertinent part it defined occupational disease as follows:

> "The term 'personal injury' shall include a disease or disability which is due to causes and conditions which are characteristic of and peculiar to the business of the employer and which arises out of and in the course of the employment. Ordinary diseases of life to which the public is generally exposed outside of the employment shall not be compensable."[26]

It should be noted that your own statute while substantially similar has a far more inclusive definition:

> "For the purposes of this article, the phrase 'compensable occupational disease' shall include all diseases arising out of and in the course of employment, which are due to causes and conditions which are or were characteristic of or peculiar to

> a particular trade, occupation, process or employment, *or which diseases are due to the exposure of any employee to a cause thereof arising out of and in the course of employment.*"[27] (emphasis supplied)

It is the last portion of that sentence which represents the prominent distinction between the Michigan and New Jersey acts, since your law by express terminology directly relates to simple causality and to that alone.

My own jurisdiction, even with its narrower statutory basis, has accepted simple causality as the proper yardstick for injuries due to strain under the occupational disease law.

In *Mills v. Detroit Tuberculosis Sanitarium* (1948)[28] the Court disposed of the attempt to limit the scope of occupational disease liability by the statutory phrase "ordinary diseases of life."

> "Construing the provisions above quoted together and in the light of the general purpose of the act, we think it was the intention of the legislature to allow compensation for disability resulting from a disease contracted in the course of the employment and the conditions under which it was carried on...Rather the provisions, hereinbefore quoted, authorizing compensation for disability due to a disease contracted in the course of the employment, and resulting from the nature thereof, are applicable."

Tuberculosis was thereby compensable, even though it was a disease affecting the population at large, and, as such, an "ordinary disease of life" and even though absolute certainty of relationship to the occupation could not be proven.

In Underwood v. National Motor Castings (1951)[29] a woman suffered a back injury due to the heavy foundry work she was regularly performing. No single incident was involved. In affirming an award for compensation as an occupational disease, the Court found such work compensable as a disease when it resulted in back strain and injury. In the Mottonen case, previously discussed, one-half of our Court, relying upon the Mills and Underwood cases supra, compensated death as an occupational disease of employment due to heart strain from doing regular work. The other four Justices did not rely upon this occupational disease basis for liability, but opined that Sheppard and Coombe established simple causality as a basis for liability under the so called "accidental" section of our statute. They therefore found it unnecessary to apply or even discuss the broader basis for liability furnished by the occupational disease amendment.[30]

The definition of occupational disease as found in your statute is far more extensive in phraseology than ours. It needs no decisional progress for its applicability to cardiovascular injuries caused by strain, usual or unusual. I am pleased to note agreement with Mr. Rodes, who, in an excellent article in the Rutgers Law Review (1956)[31] stated:

> "All this learning on heart cases, however, should have been made obsolete by the 1949 amendment to N. J. Rev. Stat. 34-15-31, defining a compensable occupational disease to include:
>
> > '...all diseases arising out of and in the course of employment, which are due to causes and conditions which are or were characteristic of or peculiar to a particular...employment, or which diseases are due to the exposure of any employee to a cause thereof arising out of and in the course of his employment.'
>
> This is the clearest possible abandonment of the old rule that a disease to be occupational had to inhere qua disease in the employment. Thus, recent cases have quite correctly held that a disease caught from a fellow-employee, and an aggravation of a pre-existing condition by an otherwise harmless industrial process are both compensable occupational diseases under the quoted legislation. Under the old conception of an occupational disease as one which inhered in the occupation, there could be gaps between compensable accident and compensable occupational disease, whereby some injuries causally related to the employment went uncompensated. But a proper interpretation of the quoted provision would seem to require that accident and compensable occupational disease beheld between them to exhaust the class of employment-connected injuries. This would seem particularly true of the heart cases.
>
> "Assuming that a given heart attack is shown by competent medical testimony to be due to exertion on the job, the particular exertion would seem necessarily to be either an unusual one or one characteristic of or peculiar to the employment. The Courts have been willing to find an unusual strain whenever anything out of the ordinary occurs; it remains only to bring the usual within the language of N. J. Rev. Stat. 34:15-31, a

> result that should be inescapable under the broad language of that section. Since the compensation for an accidental injury, there would seem to be no need to decide which of the two a particular claim is, once it is established that it must be one or the other. Thus, if N. J. Rev. Stat. 34:15-31, the occupational disease section, is properly presented to the Court, we hope to hear no more of the heart cases."

In commenting on this phase of liability, Dean Harold F. McNiece, in his newly published volume, "Heart Disease and the Law", states that "none of the adjudicated cardiac cases (N.J.) have passed on the question."[32]

I believe your Court will be pleased to discard all further contemplation of invidious distinctions and grant compensation in heart cases either as an accident or as an occupational disease, as I believe your statute fully requires.

It would appear that denial of compensation benefits for cardiovascular injuries caused or contributed to by the employment has no statutory or other legal basis. The difficulty which confronts the claimants, their attorneys, the administrators and the courts is the evaluation of medical testimony adduced in the particular claim.

The New Jersey decisions previously discussed, give, in my opinion, proper evaluation to the role the medical experts and their testimony play in the compensation field. I believe with Dean Roscoe Pound that the application of the law to specific cases belongs in the hands of the administrators and Courts. In an address made before a special committee of A.M.A. Council of Industrial Health, he said:

> "I don't believe you can possibly refer them to even the most competent medical experts, because they are not medical questions...They, the physician, the surgeon, can give us facts that we must accept as the wisdom of those who understand the subject and then we have to consider the application of those to the body of law that the legislature has enacted for us."

Despite these words of wisdom, an interested segment of the medical profession continues its half-century old opposition to the basic principles of workmen's compensation.

It may be noted that about 400 millions of dollars, roughly one-third of all yearly compensation benefits are paid by the employers for medical and hospital service.[33] It is not surprising therefore, that doctors likely to be sympathetic to the employer's point of view are selected not only for their scientific ability but for their agility on the witness stand or in their published treatises. This is true whether their fees and honorariums are paid directly by the employers through grants from employer-controlled charitable foundations or by governmental agencies. Moreover, many physicians refuse to accept the legal basis for compensation liability, particularly where a disability or disease is only contributed to, precipitated or aggravated by the occupational incident or condition and is not the sole or primary cause of the disablement.[34] Add to this the natural conservatism of the medical profession, and you will find that the employer finds willing allies in his continuing effort to obstruct and dilute the purposes and aims of the workmen's compensation laws.

This unholy alliance was one of the factors which lead to the abolition of the private enterprise system of workmen's compensation in England under the Beveridge Plan. William A. Robson, Professor of Public Administration in the University of London, wrote in part as follows:[35]

> "Money, time and professional skill were squandered for more than half a century in a scandalously wasteful manner in settling these claims. The fundamental reason was that, instead of a claim for compensation being determined on the grounds of public interest, it was opposed and obstructed at every stage by the adverse interest of the employer or his insurance company. The resources of numerous legal and medical practitioners were devoted to resisting the payment of compensation to an injured workman or the dependants of one who had been killed regardless of the human and social issues involved.
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> These were the considerations which led me to conclude in 1932, that 'the system of workmen's compensation' as it now exists is indefensible; and such it will remain until the adverse interest of the employer or his insurance company or mutual trade association is removed and the determination of the claim carried out by an administrative tribunal or commission having regard only to

> the public interest in the injured
> man or his dependants." (emphasis supplied)

Professor Robson's words are indeed prophetic for they presage the abolition in the United States, as was done in England of the present system of workmen's compensation and its eventual integration into a comprehensive social security system. I do not welcome or relish this change, for the rigid minds of bureaucratic administrators can lead to matching evils.[36] Yet I warn the carriers that they should not kill the goose that lays the golden egg that has made them so prosperous an industry.

The medical advocates for industry have persistently recommended for adoption the panel system of "impartial medical testimony." May I suggest that the term be altered to "predetermined medical testimony". That's exactly what it became in Michigan in 1937. Only when we became convinced that the opinions of the panel members were subject to the infirmities of their economic and social interests and views, did we ask our court to declare the panel system unconstitutional, which it did.[37]

We should note that it would be, in theory, to the injured claimant's interest if, with little or no cost, he could obtain qualified expert opinion in aid of his just claim for benefits. But we likewise note that the furtherance of this scheme of impartial medical testimony is led by a clique of industrial physicians - many of whom have never or seldom appeared as a witness for a claimant. The plaintiff's bar, for whom I can only unofficially speak, is almost unanimously opposed to the abridgment of the right to try a compensation claim in the same manner as are all other casualty or contract claims, i.e., by adversary proceedings.

We observe that this panel system does not have the official approval of the American Medical Association. Mr. C. Joseph Stetler, counsel for the American Medical Association, in a speech before the American Railroad Meeting in 1960, stated:

> "First the American Medical Association as an organization has not formally endorsed them (impartial medical panels) unqualifiedly."

He thereafter expressed serious doubts as to the merits of the plan.

It is my firm belief that many of the industrial doctors wish to overrule the decisions of the highest courts of almost all of the jurisdictions that strain, physical, mental or emotional, can, under proper circumstances, accelerate or aggravate a preexisting disease. I would suggest that doctors practice medicine and leave the application of facts and law to properly designated administrators and courts.

Dean McNiece in his new volume summarizes the Court's decisions on exertion as follows:

> "GENERAL UNANIMITY THAT PHYSICAL STRAIN CAN CAUSE CARDIAC INJURY:
> A review of the decisional law of the fifty states, the District of Columbia, and Puerto Rico indicates that courts and compensation commissions almost unanimously accept the proposition that physical strain, in a given case, can 'cause' cardiac disability or death, which as has been previously noted, really means accelerate or aggravate a pre-existing diseased condition."

I have noted no valid defense at law to the compensability of claims for injuries resulting in death or disability by cardiovascular disease. The carriers do, however, propagandise the public, the legislature and the press with a pitiful cry of bankruptcy - due to the high cost of such "unjust" heart claims.

Dr. Earl F. Cheit, of the University of California, in his just published book "Injury and Recovery in the Course of Employment" ably discusses the cost problem. He states:

> "available evidence suggests that the problem of borderline cases is not a major drain on the system, as is often contended in popular discussions. For example, a study in New York, one of the states where court interpretations began the trend toward liberalization, found that workmen's compensation payments to heart disease cases amounted to only about 4 per cent of compensation benefits. Moreover two California Heart Association studies concluded that '...heart disease claims filed (1948-1951)

> were not very great in comparison to the size of the Stat's population and to the number of deaths caused by heart disease; heart claims constituted 1.7 per cent of all claims decided by the Industrial Accident Commission during this period...It may also be pointed out the allegation that "every heart claim gets an award" has not been substantiated.'
>
> A more recent analysis of California cases strongly supports this contention that heart cases are not a significant element in overall compensation experience."[38]

Another proposed remedy is the relief of liability by the creation of a Second Injury Fund which places the bulk of liability in aggravation cases upon the public through taxation, or upon industry as a whole. It should be borne in mind that most cardiac injuries would not qualify under the majority of Second Injury Fund laws. The more serious incidents often occur to employees with long seniority, who have experienced the wear and tear of aging and effort which finally precipitates a cardiac episode, but who have had no known prior cardiac difficulty, and therefore would not have been registered in advance as a candidate for Second Injury Fund benefits.

The experience of the Second Injury Fund in New York, a liberal one, shows that in a year only 35 claims (10%) involved heart injuries and only 21 of them received benefits.[39] I believe that the New Jersey experience is quite similar and that only a negligible number of heart claims are filed with its Second Injury Fund.

Nevertheless, in demanding such a Fund, the employer claims that it will aid in the employment and rehabilitation of the known cardiac. This claim is not borne out by the study of Second Injury Funds made in New Jersey and Iowa and reported in 1960 by your most able Director of Workmen's Compensation, Thomas C. Franklin.[40] In the previous year, 1959, investigation showed a similar experience for the State of New York.[41]

Throughout the land there is a cry that workmen's compensation benefits are becoming too liberal, that decisional progress means less profits and even loss for industry. Let us look at the facts. The United States Department of Health, Education and Welfare, in its last report indicated that there had been an 10.3% increase in workmen's compensation benefits throughout the country from 1958 to 1959. The increase in Michigan was 10.7%, an increase which called for editorials denouncing our extravagant court. In New Jersey, the increase was only 6.9%, about one-third less than the national average. And, despite these increases in dollar amounts, the cost of compensation, including medical care and profits for the carrier, has with slight yearly fluctuations, remained for years less than 1% of the covered payroll dollar.[42]

When we compare this insignificant 1% with the 9%

of the covered payroll dollar paid for other security and fringe benefits, we become convinced the workmen's compensation has without sane reason become a bloody battle ground upon which many die or become disabled without payment of adequate compensation benefits.

I have an abiding faith that this State of New Jersey will not be deterred in its progress and will not be lead down the path of confusion, to the despair of its citizens, its workers and its employers alike.

(Applause.)

* * * * * *

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(2) Ohio State Law Journal, Vol. 19, Autumn 1958, No. 4, p. 539.
(3) Fenton v. Thorley, 1903 A.C. 443.
(4) Hughes v. Clover Clayton, 2 BW C.C.A.C. 242, (1910).
(5) LaVeck v. Parke Davis Company, 190 Mich. 604 (1916).
(6) Nichols v. Central Crate & Box Co., 340 Mich. 232 (1954).
(7) Sheppard v. Michigan National Bank, 348 Mich. 577 (1957).
(8) 15 NACCA Law Journal p. 54; Sheppard, supra, p. 578.
(9) Wieda v. American Box Board Co., 343 Mich. 182 (1955).
(10) Coombe v. Penegor, 348 Mich. 635 (1957).
(11) "The attempted distinction between accidental results and accidental means will plunge this branch of the law into a Serbonian bog." Landress v. Phoenix Mutual Life Insurance Co., 291 US 491, 499 (54 S Ct. 461, 78 L ed 934, 90 ALR 1382).
(12) Mottonen v. Calument & Hecla, Inc., 360 Mich. 659 (1960).
(13) Carter v. General Motors Corporation, 361 Mich. 577 (1960).
(14) 114 NJL 500, 177 At. 554 (1935), Berstein v. Kelly.
(15) Lohndorf v. Pepper Brothers Paint Co., 134 N.J.L. 156, 46 A 2nd 439 (1946).

(16) Larson's Workmen's Compensation Law, Vol. 1, p. 560-561.
(17) *Bollinger v. Wagaraw Building Supply Co.*, 122 N.J.L. 512, 6 A. 2d, 396 (1959).
(18) *Marman v. Detroit*, 268 Mich. 166 (1934).
(19) Annals of Internal Medicine, February 1961, Occupation, Trauma, and Cardiovascular Disease, by Julien H. Isaacs, M.D.
(20) *Ciuba v. Irvington Varnish & Insulator Co.*, 27 N.J. 127, 144 A. 2d 761 (1958).
(21) *Mergel v. N. J. Conveyers Corp.*, 14 N.J. 609, 103 A. 2d, 594 (Sup. Ct. 1954).
(22) *Loew v. Borough of Union Beach*, 56 N. J. Super. 93, 151 A. 2d 568 (Super. Ct. 1959).
(23) *Burkley v. Atlantic City*, 68 N.J. Super. 160, 172 A. 2d 1 (1961).
(24) *McClain v. Board of Education*, 39 N.J. 567, 154 A. 2d 569 (1959). *Joy v. Florence Pipe Foundry Co.*, 64 N. J. Super 13, 165 A. 2d 191 (1960).
(25) Professor Bohlen, 25 Harvard Law Review 328.
(26) CL 417.1; Michigan Statutes Annotated 17.220 Sec. c.
(27) New Jersey Revised Statutes 1937, 34:15-31.
(28) *Mills v. Detroit Tuberculosis Sanitarium*, 323 Mich. 200, 212-213 (1948).
(29) *Underwood v. National Motor Castings*, 329 Mich. 273 (1951).
(30) *Hargrove v. Ford Motor Co.*, 313 Mich. 199, 203 (1945).
(31) 11 Rutgers Law Review 140 (1956).
(32) McNiece, Harold; Heart Disease and the Law, (Prentice Hall, 1961) p. 390.
(33) Social Security Bulletin, January 1961, Vol. 24, No. 1, p. 21.
(34) Preparation and Presentation of Medical Testimony by Benjamin Marcus, The Insurance Law Journal, July, 1961; Small, "Gaffing at A Thing Called Cause: Medico-Legal Conflicts in the Concept of Causation", Texas Law Review, Vol. 31, No. 6, June 1953.
(35) JUSTICE AND ADMINISTRATIVE LAW, A study of the British Constitution, June 1961, pp. 210-212.
(36) Larson, The Myth of Administrative Generosity, ABA Journal, March 1954, p. 195.
(37) *Dation v. Ford Motor Company*, 314 Mich. 152 (1946).
(38) Cheit, Earl F., Injury and Recovery in the Course of Employment (John Wiley & Sons, 1961) pp. 329-330.
(40) IAIABC Proceedings, Report of Subcommittee on Subsequent Injury Funds, p. 197, Bulletin 229, U. S. Dept. of Labor, Workmen's Compensation Problems.
(41) Journal of Rehabilitation, November, December, 1959, Policy and Practice in Hiring Impaired Workers, Irving Barship, p. 23.
(42) Social Security Bulletin, January 1961, Vol. 24, No. 1, p. 21.

JUDGE KELLY: Thank you very much, Mr. Marcus, for your exciting and thought-provoking address.

I might add that I am looking over in the wings and Harold Ackerman and Maurice Kaltz were over there going like this (indicating). Now, I don't know whether they were going to cut my head off or Mr. Marcus'.

A VOICE: Can't hear you.

JUDGE KELLY: It's just as well.

The next address, the next speaker, will be Mr. Vincent P. Sumerfield, who has practiced law in Pennsylvania. He is a member of the Pennsylvania Bar and the Philadelphia Bar Association. He presently is Assistant Secretary of the Lumbermen's Mutual Casualty Company and American Motorists Insurance Company. He has had twenty-two years' experience in the Compensation field. He has worked as an investigator, supervisor, Compensation Claims Manager, trial attorney for Compensation cases and has been a supervising examiner for the Eastern Department of these companies prior to his present role.

I now give you Mr. Vincent P. Sumerfield.

(Applause.)

MR. SUMERFIELD: Thank you, Judge Kelly. I find it a little difficult to follow Mr. Marcus as a straight man, but I will endeavor to do the best I can.

Several decades ago, when I received my baptism in the Compensation field, life was a bit easier than it is today. Perhaps this is evidence of my advancing age, for I would like to look down the road of old age and security in the hope that I would have some comfort attending that maturity.

When I began in this business, terms such as "ruptured disc" were lost in the miasma of myositis, sciatica and lumbago, while "whiplash" had not jangled the cash registers in the merry fashion that it does today. Herniae still had "five points". So, also, the traumatic heart episode was relatively unknown to the point where we claims men were amazed when anyone had the temerity to suggest that a given heart case had any causal connection to employment. How times have changed, - as has been very ably presented to you by Mr. Marcus.

Arthur Leibold, in a recent article in "The Shingle", which is a publication of the Philadelphia Bar Association, of which I am a member, took a poke at some of the medicolegalist theories in a rather facetious fashion, but I think it makes a point and I would like to present it here: In writing "The Gauntlet is Down", he says perhaps the medicolegalist is missing an opportunity in failing to explore the possibility of the common cold. He joshes both the medical and legal professions, indicating that many lawyers are years ahead of their medical counterparts in the practice of healing arts and states that the "new frontier" theme could well be applied to the area of the common cold in Compensation, as well as to politics.

Postulates Mr. Leibold, "If virtually every other malady can be caused by trauma, why not the common cold? Consider these possibilities: A trial where the plaintiff's allegation is that he has a series of nose colds, head colds and chest colds, which was caused by tripping over a block of ice negligently and carelessly left by defendant on the sidewalk in front of his house in broad daylight." Concerning the proof of damages, Leibold postulates:

> "1. The plaintiff's expert medical witness will testify that the condition can be expected to recur again and again, and perhaps turn into pneumonia.
>
> 2. An impartial witness can testify that he can't be certain that the plaintiff's condition wasn't caused when he struck his ear on the block of ice -- after all, he hasn't the faintest idea of what causes the common cold.
>
> 3. A defense witness can testify he walked home with the plaintiff three days before the accident and heard him sneezing -- attacking his credibility.
>
> 4. Defense attorney will request withdrawal of a juror; one whom he spied during a recess dosing himself with anahist.
>
> 5. Plaintiff's attorney calls on the jury to rely on their 'common sense and experience', and compensate plaintiff for his sneezing, coughing and post-nasal drip.
>
> 6. Trial judge happens to cough during

> his charging of the jury but refuses to withdraw a juror at the defense attorney's request -- obvious grounds for appeal, based upon prejudice."

Those who are skeptical about all of this should review the Buck Rogers comic strips of thirty years ago and contemplate how science has caught up with the cartoonist's whimsy and returned to haunt us in the form of Mr. Krushchev's intercontinental rockets and atomic bombs.

Far-fetched though this flight of fancy may be, it does highlight the fact, that in the brief span of my experience in Compensation claims, the "heart attack" has come from a rare bird, to one of the most common and difficult claims that we have.

New Jersey provides for Compensation for personal injuries "by accident". How the courts interpreted this in connection with heart cases, Mr. Marcus has laid out and I will not repeat it at length except to briefly resumé in this fashion:

Lohndorf in '46 set the pattern for heart disease, holding it presumably due to natural causes. Seiken, three years later, established the unusual strain exception in heart cases. Specifically over-ruling the Seiken case in '58, Ciuba came down, holding what seems to be the law today: "It is presumed that injury or death from heart disease is the result of natural physiological causes and the onus is upon the claimant to prove by a preponderance of the probabilities that the employment is a contributing cause of the injury or death". As Mr. Marcus has pointed out, the test of causality, naked and unashamed.

Ciuba pointed out that there isn't any sound reason for differentiating between heart cases and other cases. While this may be debatable medically, it is the present state of the New Jersey Law.

In '58 Yeomans followed in a situation where an ambulance driver was carrying a heavy patient down a narrow, winding stairway. In May, Loew, which was one of my own company's cases, was held to be non-compensable where a man lifted a 100-pound bag of lime on a hot day, on the theory that the plaintiff did not bear the burden of causality. In June, Jacobs came down, a situation where a woman apartment attendant in a dentist's office was carrying small amounts of coal and subsequently suffered a heart attack after she had gone upstairs to mop the floor. The Court there held the woman didn't bear the burden upon her to show the presumption of heart attack being of natural cause should not apply. In September, we come full swing in McLain whereby a heart attack was held compensable due to mental strain, where a school superintendant was dealing with a particularly vexatious problem involving racial integration. A year later, DiPetrillo involved a garbage collector who was lifting wares of his trade, reiterated the findings of Ciuba that extra effort was not necessary, but commented that it was of some probative value on causality.

Now, running all through these cases, it seems to me, is the idea that we do not need extra effort or unusual strain, but in so many of the cases the language of the Court suggests that though we might not need it, it is rather comforting to have around.

This talk of heavy patients, small confined quarters, hot cramped situations, lifting over the head or, as in the recent Berkeley case, stretching to wash walls, illustrates the point. If we don't have to worry about extra effort, I wonder why the courts take the occasion to comment on such things.

To the same effect as McLain was Coleman, involving a woman worker who was worried about balancing her accounts. She was held to have borne the burden of establishing that her heart condition was due to the worry and emotional upset in line with the McLain case.

The case of Berkley v. Atlantic City, the fireman case with which you are all familiar, was another instance where the Court commented on the New Jersey situation, on heart cases and effort or strain.

This might be summarized in the words of one of your own judges who, in a recent case involving my own company, said that in New Jersey the unusual strain doctrine was abolished by Ciuba, but because of the presumption that injury from heart disease was ordinarily the result of natural physiological cause, some unclarity existed. But the subsequent cases of DiPetrillo and Dwyer made plain that whether the work involved at the time of any given heart attack was technically unusual or not, was not necessarily material as long as the work, any work of laborious nature, work beyond the ordinary strains of living, existed. In such instances, the statutory requirement of causality was held to have been met. Other cases were cited in the judge's opinion; those of Joy v. Pipe Foundry and Dudley v. Victor Lynn Lines.

It would appear, that there isn't too much of a legal question as to the heart situation today in New Jersey, but very obviously factual and medical questions still obtain. In order to save time I will move along to the idea "What are we going to do about this from a carrier's standpoint?" Since I represent that side, it would seem we are now face to face with whether or not we should impose upon the Compensation system the burden of carrying along cases rooted in disease. Without condescension, Mr. Marcus, I think it is a real problem which we, who are endeavoring to pay the bills in this field, have to worry about. I am not a calamity howler who suggests that if we do compensate heart cases, as the Law now seems to, the pillars of democracy are going to be torn down. But on the other hand, there is a grave question as to how much of a load a willing horse can bear.

So far as this question of cost is concerned, there is a very practical one that has to do with the claimant's interests, surprisingly enough, which is of substantial concern to the carriers, and that is the problem of delayed claim handling in these obtuse cases where one can't tell whether or not the factual situation complies with the law. We, too, are interested from the carrier's standpoint in compensating and do compensate by far the largest percentage of our claimants promptly, after the best investigation we can give, but in view of the confused state of the Law, we have to spend a lot of money and time and effort digging out the facts in order to know whether or not, under the Law as it exists today, we should go ahead and voluntarily compensate a heart case, or perhaps bring a particular one along so there can be yet another recent case in a long line of heart cases in New Jersey, in an effort to find out whether this case will be the one where the Court feels we must call a halt.

So far as what we can do about the situation is concerned, a number of ideas have been put forth. Monroe Berkowitz' book contains a number of them. I would like to mention a few here for your consideration. It seems to me that we can give some thought to the question of occupational disease, as has been done in New Jersey -- of course, I am speaking for other jurisdictions -- to see whether or not that might lend itself to a resolution of the problem, but I am not enthusiastic for this solution. Mr. Berkowitz has said that although a bushel of suggestions have been postulated to solve this problem, he doesn't think that any of these too easily apply; and some of them are just not workable.

Now, on pain of being criticised, my feeling is that if we are at the question of causality, and perhaps under the pain of being called a traitor to my own profession, I am one of the devotees of the impartial medical panel. I realize, according to the old saw, that though all men are created equal, some men are more equal than others; that it is a little difficult to find truly impartial medical men who either have the talent or inclination to lend their efforts and energy and intelligence to resolving these questions. None the less I do feel that in resolving whether or not a given heart condition is the result of a given factual situation, we should very definitely have some sound impartial medical ideas to assist our determination of the issue.

'Professor Rutledge, a proponent of this panel idea, postulates that:

1. We should recognize that there is a relationship between effort and heart attack, but also recognize that

it is medical and not legal in nature.

2. The profession should stay within their own spheres of knowledge and authority -- which is a big order if I ever heard one -- that is, the doctors should be doctors and lawyers should be lawyers and never the twain should meet, but all too often do, unfortunately.

3. Minimum medical criteria should be set up as a guide for the determination of individual cases by those best qualified to perform this service such as outstanding specialists, medical schools, heart associations and the like.

4. State-wide panels of actively practising heart specialists can be established, from which the Commission itself can make a selection to review each heart claim.

5. But where a heart claim is present, the panel should be called upon to give impartial professional opinions.

6. Both sides should have the right to establish the logic of experts' opinion. I do not believe that we can say that just because some impartial medical expert says so, that that necessarily makes for truth. I once read a little article saying that you don't arrive at truth by democratic process of evaluating how many experts espouse one theory over the other and then take a vote and say 4 to 6 -- that is truth -- unfortunately, we still have to have some judicial application to the situation in order to come out with the truth as best we can. I recognize the problem that your

administrators are facing constantly; they must handle these cases on a day-to-day basis and cannot philosophize as to what we ought to be doing. They've got the case here and now and it must be decided with the tools at hand.

I feel that the impartial medical panel does have merit. I know there are others who feel it does not, both in the medical and legal field.

There are a number of other suggestions that I would like to make, and then I will be done.

It was suggested that a second injury fund might be used to solve this problem. The New York Second Injury Fund, limiting employers' liability, has worked well in encouraging employers to hire those who are generally handicapped, as well as cardiac-handicapped. Whether or not our 1% Fund can be adapted to this sort of situation may be problematical. I note from our program that this will be the topic of one of the panels this afternoon, which I will await with intense interest.

Another possible solution is that we split up liability in questionable cases due to disease and pay some portion under Compensation, and pay the balance under another of our Social Insurance Programs. In New York, for instance, it has been suggested their DBL Law take up the slack but, of course, there are aspects of medical benefits and dependants' benefits which would have to be added in order to make possible the equivalent benefit from our T.D.B. source we now get from Compensation.

Going whole hog, it has been advocated that disability due to degenerative diseases should be taken out of the Compensation system entirely. Being one who has given most of his life to the Compensation system, I don't like that idea because I think this is another crack in the pillar which might lead us down the road to do away with Compensation as we know it.

I would like to conclude with an idea of my own, one not particularly startling because it is simply this: We should bring renewed dedication to prompt and thorough investigation of all our cases, but particularly those of obscure etiology which seem to abound in the heart field. This renewed dedication would help investigators, doctors, administrators and claim representatives, for, with all the facts before them, they could arrive at proper decisions in given cases. In view of the liberal tendency in our cases, I know our investigators -- and I'm sure those of other companies -- get a little defeatist about the whole proposition, feeling, "What's the use of it all; the game isn't worth the candle; we can't win anyway; why should we bother digging out the facts". The old saw, "Don't confuse me with facts, my mind is made up", is in point.

Contrary to some accusations against the carriers, I do not feel that winning a given case is necessarily the goal or should be any goal at all. What we should seek is a prompt and thorough factual investigation and analysis of the situation through medical study and proper application of the correct law, in order to come out with a prompt and fair result on the question of compensability.

This would benefit the employee, permitting voluntary acceptance in proper cases, but in those cases deemed non-compensable, it would let him know where he stands promptly. It would benefit the doctors who would thus have available all of the information and data necessary to make a proper medical evaluation. It would benefit our administrative tribunals in making available to them all of the facts and evidence, at least all available, so they could make a fair and prompt disposition. It would benefit petitioner's representatives themselves in that they would be able to evaluate the cases coming into their hand more readily and not be led down blind alleys for want of proper facts.

The need for thorough investigation was highlighted in the recent Bayer case, coming down in October. You will recall, Compensation was disallowed petitioner for failure to prove by a preponderance of the probabilities that his heart condition was due to his work. The Court commented adversely upon the failure of the petitioner to present either the family doctor, who could be presumed to know the medical history, the witnesses who were present when the work episode occurred, and who could verify the incident, or to ask the treating doctor the $64.00 question on whether or not there was causal relationship between the work effort and the heart attack.

From the carrier's standpoint alone, I am sure that many cases go by default for want of investigative effort. From more than one Compensation judge I have heard comment that if we carriers make an effort to supply them with factual data rather than hot air, they would disallow Compensation in proper cases. When we let the matter go by default by failing to investigate the claimant's story, his complete pre-heart attack, medical and personal history, as well as employment history; fail to check out all aspects of this history with previous witnesses and medical men, and then wring our hands in woe when we "surprisingly" don't come out with the decision which we feel we are entitled to, we have only ourselves to blame.

I don't believe any thinking carrier representative objects to a liberal interpretation of our laws in favor of the employee, or to giving him the benefit of the doubt in close cases, but where the factual situation and the medical evidence stretches one's credulity and the decision is apparently based only on emotion and sympathy, we do feel that such decisions are unfair and in the long run will ultimately do harm in the Compensation System as we know it, and contribute one more crack in the pillar leading to the ultimate destruction.

I do not picture the carrier-administrator-employee relationship to be that of belligerence in problems such as that with which we are here dealing. As is the case with so many difficult problems, only a willingness to compromise and a spirit of cooperation on both sides of the picture will result in a satisfactory solution. So long as carrier representatives take the view that all claimants have malevolent designs on company assets, and so long as all company employees take the view the carrier is a personification of evil, there will be no resolution of this or other problems. Without the spirit of cooperation, understanding and compromise on both sides, our Compensation Laws will remain as the state of "bloody Kansas" in our American Civil War, constantly overrun by the border raids of both plaintiss's and defendant's advocates, bringing in their train, the ultimate destruction of our System as we know it. In this enlightened age, certainly constant warfare is not the answer, but that answer might rather be found in intelligent cooperation such as that evidenced in meetings such as those we attend today; cooperation toward a mutually acceptable goal which, if achieved, can result happily for employees and employers, administrators and for the public at large.

Thank you.

(Applause.)

JUDGE KELLY: Thank you very much, Mr. Sumerfield for your very interesting viewpoints as you have expressed.

We now come to the third and final speaker on this panel of the legal aspects of the compensability of heart cases. He is Professor John V. Thornton. He is a member of the firm of Whitman, Ransom & Coulson of New York City. He is Adjunct Professor of Law at New York University School of Law. He has served as Law Assistant to the New York Court of Appeals, and has been for a number of years the co-author with Dean McNiece of the Torts and Workmen's Compensation Section of the Annual Survey of New York Law and of the Annual Survey of American Law, both of which are published by New York University. He is a member of the Workmen's Compensation and Employer's Liability Insurance Committee of the Insurance Negligence on the Workmen's Compensation Section of the American Bar Association. He has served as Associate Director of the Research Project which Dean McNiece directed under grant from the United States Public Health Service on the subject, "The Legal Basis for Awards in Cardiac Cases."

I now present Professor Thornton. (Applause.)

PROFESSOR THORNTON: Mr. Chairman, Ladies and Gentlemen: I suppose I am the member of the panel with the smallest size ax to grind, and perhaps my presentation, therefore, can be the briefest. Although a practicing attorney, my work is largely in the field of corporate law, and, for the most part, accident cases are outside my domain of practice, although I don't turn down a good one when it comes along. My interest in heart cases stems, in the main, from my second capacity as a professor of law at New York University where I specialize in torts and medical jurisprudence.

I propose to discuss the study which has recently been completed on the subject of "The Legal Basis for Awards in Cardiac Cases." This study of which Dean Harold F. McNiece, of St. Johns University School of Law, was director and I was associate director, was commenced in December of 1958. It was supported by a grant from the National Heart Institute of the United States Public Health Service. A number of the panelists on today's program, and some members of our audience, furnished factual data or opinions which were of great assistance to the study.

The basic idea for the research project originated with the American Heart Association's Committee on the effect of strain and trauma on the heart and great vessels. This Committee is headed by Dr. Paul Dudley White, the principal speaker at tonight's dinner session. Dr. White's Committee held the view, to which I am sure many of you subscribe, that there is a great deal of confusion and inconsistency in the decision of cardiac compensation cases.

The report of the study was published about six weeks ago by Prentice Hall Publishing Company under the title, "Heart Disease and the Law." I might point out that this plug for the book helps neither Dean McNiece nor myself since, under the rules of the National Heart Institute, we receive no royalties from it. The published report contains as an Appendix a compilation and analysis on a state-by-state basis of all the leading cardiac workmen's compensation cases which have been decided by the courts of this country--well over a thousand in number.

The chief recommendations which the study has made are the following:

RECOMMENDATION ONE: Abolish both the "unusual strain rule" and the "usual strain rule" in adjudicating cardiac workmen's compensation cases. The approach of the courts, in applying a compensation statute to heart cases, varies a great deal from state-to-state. These varying approaches have produced different judicial attitudes with respect to many questions, as, for example, the question whether the strain of a workman's normal duties will support a compensation award when he suffers a cardiac disability following the performance of such duties.

It may be said that, in general, there are two basic judicial approaches to this question: the "usual strain" rule and its opposite, the "unusual strain" rule. The "usual strain" rule will support a compensation award even though the cardiac incident followed performance of the employee's regular duties while the "unusual strain" rule will require something over and above those normal duties. As Mr. Marcus and Mr. Sumerfield pointed out, New Jersey has, over the years, vaccilated between these two approaches.

The study found that, as a practical matter, the unusual strain approach, when strictly applied, largely ruled out compensation for workers who regularly labor under heavy stress and strain. It penalized the workman who suffered a work-connected cardiac attack without an unusual event or circumstances at which to point. This, it was felt, was unjust to the employee. Moreover, injustice to the employer resulted when unusual circumstances were emphasized as the predicate for a grant of compensation, to the neglect of the basic issue of causality. A worker whose regular duties were light was sometimes awarded compensation when a cardiac incident followed upon a strain or stress which was more than customary for his job and hence "unusual", even though the causal relation between the strain and the incident was dubious. Accordingly, the study suggested abolishing both the unusual and usual strain rules and adopting terminology more reflective of the actual issue which is essentially the issue of causation.

RECOMMENDATION TWO: Encourage the making by medical groups of authoritative statements as to the causative factors in cardiac disease.

A critical issue in most cardiac compensation cases is the question of causality, that is, whether the cardiac incident was caused, within the meaning of the compensation law, by a work-connected event or circumstance, such as shock, worry, strain or trauma. This question of causation is, at root, a legal one. But, courts and commissions, to decide it intelligently, should have the benefit of the fullest scientific knowledge concerning the factors which brought about a cardiac disability or death.

The conflict in medical testimony will not be completely solved by the statements of distinguished cardiologists as to their views on stress, strain and trauma. However, it would appear that medical witnesses would not fail to be influenced by the pronouncements of their colleagues, particularly those who are experienced in cardiology. Especially is this so if the pronouncements are backed by the results of scientific studies.

RECOMMENDATION THREE: Disseminate medical information relating to cardiac cases to the general practitioner on a broader scale.

It is apparent from a review of the cardiac decisions that the first medical man approached by a workman with cardiac symptoms or a cardiac involvement is usually the general practitioner or "family doctor". As a consequence, the general practitioner will most often be the best possible medical witness from the standpoint of personal familiarity with the facts. The better his training and experience in cardiology, the better he will be able to observe and recount these facts. The study believes that the Heart Associations and related groups can be of great help in this process of further education.

RECOMMENDATION FOUR: Educate the medical witness as to his proper role in giving testimony.

This is a problem for both the organized bar and organized medicine. A big part of the problem in medical testimony is the lack of comprehension of legal terminology by the medical experts. The orientation of physicians in terms of causation in the etiological sense and the orientation of attorneys in terms of causation in the legal sense is one of the communication difficulties which cause misunderstanding when a physician is called upon to testify in a cardiac compensation case. For example, a medical man may give a generalized opinion that there was no connection between an incident at work and a heart attack. In his own mind, he may mean thereby that a pre-existing pathological condition was the overwhelming factor in bringing about the attack and that the part played by work was insignificant. But, while it may be found medically to say that the work did not "cause" the attack, it may well be bad law because, in general, existing law treats the slightest factor of aggravation as an adequate "cause."

RECOMMENDATION FIVE: Diminish the stress on the language in which medical opinions is couched.

In a number of states, the study concluded, undue stress is placed on the exact phraseology employed by medical witnesses. Physicians differ in the degree of caution or lack of caution with which they phrase their opinions, and one man's "possibility" may be the equivalent of another's "probability". The study has recommended that, except where the use of the term "possibility", or other words of similar import, is indicative of an over-all speculative viewpoint, the mere employment of such language should not be, as it is in some states, a basis for disregarding the particular physician's testimony. Substance should prevail over form, and the expert's testimony should be examined in its total meaning, rather than word-by-word.

RECOMMENDATION SIX: Encourage wider use of autopsies in cardiac compensation cases.

The subject of autopsies in the compensation field has received uneven treatment. In Utah, for example, autopsies are regularly used in cardiac cases, whereas, in most other states, an opposite policy is paramount. The failure to employ autopsies is due to a complex of factors, which varies from state to state, including simple inertia, bad public relations attendant upon a particular autopsy in the past, lack of clear legislative authorization, and the requirement that the family of the deceased consent to the autopsy.

Nationally, we believe the picture is one of wide spread neglect of the opportunities which an autopsy provides for insignt into the particular form of cardiac involvement which caused the death, if in fact the death was caused by a cardiac episode at all. More pointed medical testimony, we believe, would surely result if autopsies were the rule rather than the exception.

In addition to the foregoing recommendations, the report of the study discusses additional possible aids to a more just and equitable handling of the cardiac problem in compensation cases. I stress the word "possible." The report did not deem it appropriate to make recommendations with respect to the adoption of these additional aids to which I will now refer. For my part, I should also stress that I am merely throwing them out for your consideration. I am not necessarily personally endorsing them except to the extent that I do believe they are worthy of further examination.

Possibility One: Use of impartial physicians, a point to which Mr. Sumerfield has made reference. A recurring criticism throughout the compensation area is that medical testimony is secured and paid for by the litigants. This is no doubt a motivating force behind the various experiments with impartial physicians in the compensation field and in negligence cases, generally.

The proponents of broader use in compensation hearings of impartial medical witnesses or impartial medical panels emphasize the fact that the neutral physician, whatever his defects, is not wedded to one litigant or the other. To this extent the impartial expert begins, it is asserted, with a distinct advantage over his colleague who, honest as he may be, is nevertheless sympathetic with one party or the other.

On the other hand, use of impartial physicians has also been the subject of a great deal of criticism, particularly from claimant's attorneys and mainly on the basis that it represents an unjustifiable inroad on the adversary system of justice. As you may have heard, Mr. Marcus is not exactly an advocate of the idea. Mr. Sumerfield, on the other hand, seems to be. As of now, I, myself, am not prepared to jump either way.

By way of arguing against impartial physicians, it has been urged that the tryer of the facts often uncritically accepts the conclusions of a neutral physician.

Another frequently expressed objection, directed particularly against the impartial panel or board, is that the system tends to make the medical advisers, rather than the Compensation Commission, the final judge of cases. Persons voicing this criticism often add the observation that many members of medical panels do not comprehend their true function and attempt to apply their personal conceptions of what the compensation law is or should be. Such critics argue that impartial physicians often fail to appreciate the distinction between the causes of heart disease in the medical sense and in the legal sense. They urge further that many impartial physicians render purported "medical" decisions which are in reality erroneous legal decisions which ignore such compensation concepts as "aggravation", "lighting up", "taking the employee as one finds him." Correspondence carried on by the study with Compensation Commissioners reveals a definite split in this area. Some of them endorse broader use of impartial physicians while many other subscribe in whole or in part to the criticism above referred to.

Possibility Two: Excluding opinion testimony of the general practitioner. A number of compensation administrators, medical specialists and attorneys have taken the position that the specialized knowledge required of a medical witness in a cardiac case is not possessed by the general practitioner. In their view, the search for the truth as to the causative factors in such cases would be aided if specialists alone were permitted to express an opinion on the issue of causality. Under such an approach, the general practitioner or "family doctor" would be permitted to testify as to facts, for example, as to the symptoms he observed or the treatment he gave and the claimant's past medical history. He would not, however, be allowed to give his opinion as to the causal relation, if any, between the work and the incident. Opinion testimony would be restricted to the specialist, presumably the cardiologist or internist.

This approach has won the support of the compensation administrators in a few states, and especially in Utah. Exclusion of the opinion testimony of general practitioners is regarded by the supporters of the Utah system as one of its significant achievements. The great majority of jurisdictions, of course, do not exclude the opinion testimony of the general practitioner, and there seems no general trend towards such exclusion. On the contrary, the reported cases indicate that much weight is often attached to the views of the treating physician, who is frequently a general practitioner.

Possibility Three: Employment of minimum medical criteria. There has been condemnation and commendation in some quarters of the experiments with minimum medical criteria in Utah and Washington. The commendatory comments have given impetus to the view that the medical question in cardiac cases can best be answered through the establishment of minimum criteria by the medical profession, particularly the cardiologists, on a state-by-state or national basis. Under this approach, medical standards would be drawn up which would be used by the compensation authorities to set a lowest common denominator for determining the existence of a relationship between strain or trauma and heart disease. For example, as with the criteria in use in Utah and one or two other states, time limits would be set for the appearance of cardiac symptoms after a stress or trauma at work. Attempts would be made to define the kinds of strain which would support a finding of causality. If the standards were met, a finding of causality would be possible; if they were not met, the existence of causality would be ruled out, either absolutely or in all but the rarest case.

The proponents of this remedy argue that the adoption of minimum standards would weed out those cardiac claims which are not really work-connected.

The opponents of medical criteria point out, among other things, that the standards established would in all likelihood constitute not truly a scientific test but merely a compromise between opposing views inasmuch as medical opinion in the cardiac field is by no means uniform. The merits of the individual claim, it is argued, would be sacrificed on the altar of uniformity.

Another Possibility: Extension of the second injury law to cardiac claims. Many persons have taken the position that legislation is required if there is to be a proper apportionment of liability for cardiac incidence between the employer and the public at large. They assert that a statute of the second injury type is the most feasible way to obtain such an apportionment. The second injury proposals recommended for use in the cardiac field, I might point out, envision considerable broadening of the concepts underlying existing second injury funds or the possible creation of new funds to deal with the cardiac problem.

Proponents of the second injury approach stress the role of pre-existing disease in the cardiac area and the widespread lack of apportionment of the compensation award on the basis of the proportion attributable to such pre-existing disease. In their view, the individual employer is made to bear a burden which is in part that of the public or at least employers at large when he bears the entire compensation cost in the case of a workman whose pre-existing and non-work-connected pathology comes to a climax through some event at work. Accordingly, they would remove such portion of the liability as is attributable to the pre-existing disease from the shoulders of the employer and place it upon some sort of second injury fund. This, in turn, would be expected to lead to reduced reluctance on the part of employers to hiring those afflicted with cardiac disease.

I do not wish to imply that I personally am wedded to any particular solution of the cardiac problem in the workmen's compensation field. The extension of second injury fund coverage, for instance, has many pitfalls, and the concepts suggested would really be far different from the existing second injury fund.

My feeling is that the report of the study to which I have referred today will be but the beginning of the process of re-evaluating the cardiac cases rather than its end. The report and the other studies which have been made and are now being made will have to be examined by groups such as this, by workmen's compensation commissions, retirement boards, state legislative committees, insurance carriers and others with the objective, through a process of collective thinking, of arriving at a sound public policy approach to the cardiac problem.

(Applause.)

MR. KELLY: Thank you, Mr. Thornton, for telling us about the most interesting results of your research work in the field.

Now, in an effort to save some time, the question period is being limited to fifteen minutes. Whoever wishes to ask a question will kindly think about it right now so we can proceed. I would suggest you raise your hand, and we'll try to pick one out, and then proceed out to the center aisle here. There's a question back there.

MR. PIPER: My name is Martin Piper, an attorney. In attempting to arrive at a degree or percentage of permanent disability in these type of cases, is overlapping a serious current problem with regard to inter-relationship of the physical aspects of heart cases with the psyconeurosis which may be precipitated by these heart attacks?

JUDGE KELLY: Well, to whom are you addressing the question?

MR. PIPER: Any of the gentlemen. Perhaps Mr. Marcus has some experience--

JUDGE KELLY: Mr. Marcus, would you care to take that? Do you want the question repeated?

MR. MARCUS: I think that I understood the question. Two cases did cite the relationship between the functional overlay or functional stimuli to heart disease. It's seldom that you have a heart case in which you do not have either death or substantially total disability. I come from a wage-loss state--and, by the way, which I prefer--where we don't evaluate the two per cent loss of function. Either a man is disabled, or he is not disabled, in essence. So, I don't know whether that answers your question. The question is, what wage loss does he have, what impairment in function does he have, depending on whether you're in a wage-loss state or impairment-of-function state, regardless of cause.

JUDGE KELLY: Any other questions? There's a question back there. Will you proceed to the center aisle and identify yourself and direct your question to one of the gentlemen that you have in mind?

DR. BAKER: Dr. Baker, a physician. I would sometimes like to think that the physician can read between a lawyer's lines, so I shall speak to Mr. Marcus. He has brought us up through the unusual, the usual, down to simple cause. As he progressed, we found the cause is not so simple, and eventually even the cause itself seemed to be tenuous. I suspect that he has an ideal that he's not mentioned, and that this ideal is that even a cause be eliminated, and we get down to the point where anything occurs to an employee in his employer's house or when working for his employer is compensable. I would like him to go on record as to whether this is true or not.

JUDGE KELLY: I exercise my prerogative to preclude that that question is not within the ground rules set down at the opening by Judge Kaltz for questions. It is of a personal nature, goes beyond his talk, and is a little bit far afield from what we are dealing with here.

Are there any other questions? Here's a gentleman over here. Would you come out in the center aisle?

MR. ZASHIN: My name is Gerald Zashin, and I represent a respondent carrier. I would like to direct my question to the Professor, if I may. The question is raised by your remark that the medical societies should better educate us in their thoughts as to causation or the medical facts concerning heart disease. Originally, there was placed before us these pamphlets concerning heart disease by the American Heart Association; and the original question there was, can effort be causally related to a heart attack, and in this pamphlet it says most authorities agree that it is not related. What I would like to know is, is it your opinion that we are medically ill-advised at the present time?

PROFESSOR THORNTON: I don't think it's quite a question of being medically ill-advised. I think the real problem is when these general statements are made that effort will not cause heart disease and so on. These statements are made in an overall medical contention and not necessarily in terms of causation in the sense that causation is used in the compensation law, which includes concepts of aggravation and lighting up. That is what I was really suggesting, and I think the American Heart Association is doing a great deal in that regard. I didn't mean to criticize it or any other association. I was really suggesting that the reports of various studies which are going on all the time with respect to studying large groups of people in industry, and so on, and which are endeavoring to find out all the causative factors, that these studies should be disseminated as broadly as possible to the general practitioner with a view of giving him whatever information is now known. I don't think anybody is prepared at this stage to state categorically what are the causative factors or to state categorically that effort is never a causative factor. I was merely calling for whatever information is known to be made widely available.

MR. ZASHIN: Thank you.

JUDGE KELLY: Mr. Balk, do you have a question?

MR. BALK: My name is Jacob L. Balk. I'm an attorney, and I don't represent insurance carriers. I'd like to get the record straight on the question that was asked by Mr. Zashin. He represented this pamphlet as indicating that effort does not affect heart disease. That's exactly what the pamphlet says, but that is speaking of the underlying heart disease of arteriosclerosis. It has no reference as to whether or not effort may cause a heart attack.

JUDGE KELLY: I take it, this isn't any question?

MR. BALK: No. It's not a question. It's a statement and clarification.

JUDGE KELLY: We only have time for questions. We don't have time for speeches.

There's a lady in the back.

MISS RABSTEIN: I'm Ruth Rabstein. I'm a petitioner's compensation practitioner who happens to spend a good deal of time in the compensation court. I want to ask

Mr. Sumerfield, is it not a fact that under our present procedure or treatment of heart cases at the trial level today, whether we don't get into a theoretical fight rather than a fight as to causation? Isn't it a fact that what happens is the petitioners will produce a doctor--I'm talking from South Jersey--someone from Penn, and the respondent will produce a doctor from Jefferson; and the petitioner's doctor will say that there is causal relationship between stress, physical or mental, and a coronary thrombosis or some kind of coronary infarction, and the respondent's doctor will say no, because he does not believe that stress of any kind can affect the heart. It was something that would have happened in a normal course of events. So that it isn't a dispute of causality in the sense that there is a legal question to determine, but a theoretical one.

JUDGE KELLY: Do you have the question?

MR. SUMERFIELD: Well, about six of the pages I cut out of my speech in the interest of time, commented on this fact, and it's one of the reasons why I personally favor the impartial panel. I quite agree that all we do is bring in the proponements of the "I'm for it," and proponements of "I'm agin' it" and leave the poor administrator just where he was when he started--"I wonder what's cooking."

Now, I feel that admitting all the difficulties and the opposition of some sound reasoning to the impartial--

I'm not saying that the impartial doctor should decide the case; I'm saying he should bring to it his best skills so that they would know whether or not, as far as medical science has gone, the opinion in this case is that such and such is the case, leaving it up to the Commissioner then to decide, "Well, do I accept that, or don't I?" I quite agree that in the adversary situation of the hearing room all we do is go through the routine, and we bring in Dr. Zilch to say "yes" and Dr. Jones to say "no", and then the Commissioner has to make up his mind. I don't think that's too happy or realistic a situation, although it's a very practical one, I understand.

JUDGE KELLY: There's a gentleman--I believe it's Dr. Plain there in the middle of the aisle.

DR. PLAIN: I am Dr. Plain. I'm a physician. I address this to the panel: Has anyone ever successfully defined that improbable figment of imagination--"the impartial medical witness"?

(Applause.)

JUDGE KELLY: Mr. Marcus will--

MR. MARCUS: I unnecessarily took so much time in developing the history of the law. I didn't know there was such terrific agreement between the three of us. I had a good section of my talk devoted to--and I should have, of course--to impartial medical testimony. Let me say this, that there is no such thing as an impartial medical witness. There is a predetermined medical panel, and you can have chosen--and I've seen it to be working out in Michigan--you can have chosen just as precisely the decision that this impartial panel makes by its choice of its members; and in 1940, in the case of Dation v. Ford, after seeing how the companies manipulated impartial panels in Michigan composed of professors of medicine at the University of Michigan, I asked our court to declare the law unconstitutional. And so I would say that you aren't going to have any impartial medical testimony; and one of the great reasons that I think was most ably discussed by Professor Thornton is that they do not understand, and refuse to understand, the legal meaning of causation. They are merely talking of substantial causation, and not of contributing cause; and this has been shown time and time and time again. So, from my viewpoint, the word "impartial" has no meaning. I prefer the term of "advocacy", where we can hammer out the truth in medicine as we do in every other type of science.

(Applause.)

JUDGE KELLY: The other gentlemen on the panel do not wish to express any opinion in answer to your question, Doctor. So, we'll proceed to the next question.

We only have a few minutes now. If you have anything on your mind, here's your opportunity to get the answer.

MR. JENNINGS: My name is Charles Jennings. I represent the City of Newark. Mr. Marcus mentioned an unholy alliance between respondent's lawyers and doctors, and I can presume he means the same unholy alliance between petitioner's lawyers and doctors. He's against that sort of thing, and he's against the panel. How would you establish causation?

MR. MARCUS: I said that simply to establish causation as you do in any other adversary proceedings, you produce your witnesses on each side, and as Dean Pound said in his address to the Council of Industrial American Health of the Medical Association; this is the finest system of determining the truth. And we don't need doctors to determine the law or the truth for us. That's all we want, is their opinions and their facts.

(Applause.)

JUDGE KELLY: I think that this is the last call now--the last question. Anyone having anything in mind?

All right. Then we will consider that this panel is closed.

(Applause.)

JUDGE KALTZ: Ladies and Gentlemen, we will move right along - we are a little bit behind schedule.

One more announcement that I want to make. Immediately following this next panel, we will have lunch in the main ballroom and we will resume promptly at 2:00 o'clock.

If there is a Mr. Robert Frederick in the room, he is to call his office.

This next panel - and I am sure we enjoyed the first one as was demonstrated by your applause and reception of the speakers - will be moderated by Judge George Neutze, and I will now ask George Neutze to take over.

(Applause.)

JUDGE NEUTZE: Thank you, Mr. Chairman.

Distinguished Guests, Ladies and Gentlemen. The subject of the second panel for the morning session is the medical aspects of the heart problem in Workmen's Compensation. We are indeed most fortunate to have present here today on this panel two doctors who have had wide experience in the field of cardiology. I bid Dr. Parent and Dr. Warshaw the most cordial and hearty welcome to this Conference.

So that this generous audience may fully appreciate the messages of these speakers, I am going to be very brief in my introductory remarks.

The heart problem in Workmen's Compensation in the State of New Jersey really at times summons all our imagination. Not only the Judges in the Division, but those at the Appellate level of our Courts struggle with this question of causal relationship. We have it daily - that is, cardiac disease as it is related with the stress or strain in employment. In fact, there are times when I wonder if merely giving a man a job is not doing him a disservice, from some of the testimony I hear.

We in the Division - and I feel I can speak for my colleagues - can truthfully state that the greater portion, or 80% of the cases, are fully litigated and a record prepared for appeal. But because the medical causation is the real touchstone in these appeals, I feel that we have two men here who can help us on this question.

The first speaker on the panel is Dr. Saul Parent. Dr. Parent is a graduate in 1928 of Bellevue Medical College. He is a Diplomat of the American Board of Internal Medicine - 1944. He is a Fellow of the American College of Physicians and the American College of Cardiology. He is a member and past officer of the Academy of Medicine of the State of New Jersey. He is Past President of the Essex County Heart Association; presently Chairman of the General Standards Committee for Cardiac Clinics, New Jersey State Heart Association; Chairman of the Committee to Study the Problems of Cardiac in Industry of the New Jersey State Heart Association. He is Director of Work Classification Clinics for Cardiac in

Industry, St. Michael's Hospital. He was formerly associated with Dr. Leonard Goldwater in the Unit Classification Clinics for Cardiac in Industry, Bellevue Medical Center.

It is now my privilege to introduce to you Dr. Saul Parent of Newark.

(Applause.)

DR. PARENT: Thank you, Judge Neutze.

Honored Guests, Ladies and Gentlemen. A few preliminary remarks before we get into the meat of the situation.

The subject for consideration is the relation of Workmen's Compensation and heart disease. The topic is always timely, sometimes controversial and, as you saw so far today, never uninteresting.

We physicians have had very little to do with the formulation of the existing laws and may believe that some are imperfect and even unwise, but that it is not our present concern. It is expected that we should offer intelligent and honest opinions as to the medical problems involved, leaving it to the Judiciary to interpret the law in the light of these facts and opinions.

From the medical-legal standpoint, we must decide the four following basic issues. I will first name them, then I will try to elaborate on them, and leave the rest to questions and answers.

1. Does the person making the claim have heart

trouble? And if he does, what kind of heart trouble?

2. Could that particular heart trouble be caused by, or aggravated by, or accelerated by an injury or by strain or effort or emotion?

3. If so, was there such injury or such strain?

4. And lastly, was such injury or strain actually responsible for the heart trouble under discussion in this particular individual, and to what degree?

You already know that there is no blueprint for the answers to these questions. And I feel that if we make one rule-of-thumb, it should be that each individual case should be decided on its own merits. I think in that way we will avoid many of the pitfalls which have grown out of this particular problem. If time permits during the question-and-answer period, I would like to make some comment on the discussions of the previous panel.

Suppose we first get a little bird's-eye view of the remarkable organ, the heart, a proper understanding of its anatomy, the functional capacity, the tremendous reserve, and of some of the things that can happen to this remarkable organ that will cause a diminution in the cardiac reserve and therefore create in this particular person a disability based on his heart function.

The heart is an organ that lies in the chest, as you know, in the anterior mid-portion of the chest, and it is a muscular organ whose main function is to receive venous blood from various parts of the body, to propel it through the lungs to pick up oxygen, which is an absolute necessity to life, and without which we could not exist for even minutes; and then have the oxygenated blood propelled through its main chamber of the left ventricle throughout the various parts of the body that need blood supply.

How does this muscle, which works day and night, unremittingly, get its own blood supply? Through two coronary arteries which branch out and, if one is fortunate, meets somewhere in what we call the anastomosis, so that blocking off of one, or a part of one vessel may not be immediately fatal. And this is one problem that we have no way of judging until now, with recent developments with cine angiography or actual visualization of the coronary circulation, with which we may now be able to get some better idea of the structural and anatomical features of these coronaries.

How does the blood go through the coronary arteries? It cannot go through systolically, which is the portion of the heart action when the heart contracts and pushes out the blood from its chambers. The openings to the coronaries are just beyond the aortic valve in the first portion of the aorta; and as the heart relaxes in what we call diastolically, the aortic valves close, and the pressure within the aorta propels blood through the coronary arteries.

There is one important thing to know, and that is that when we increase the heart rate up to a certain point, we are increasing efficiency; but beyond a certain level, we run the risk of getting a diminished supply of blood through the coronary arteries because we are cutting down on the diastolic filling period, when we increase rate. And so we can conceive of the circumstance in which the heart becomes rapid - regular or irregular, it doesn't matter - the diastolic filling time is diminished, and under these conditions we get a diminished blood supply to the heart muscle which is working at this increased rate. And we have coronary insufficiency without any structural change. This will be alluded to a little bit later.

So that now we are confronted with making a diagnosis of heart disease in the individual claimant under discussion.

The history is important. Perhaps this individual had rheumatic fever and developed rheumatic heart disease, valvular disease. He may have been born with a congenital defect. But the most prevalent, by far, the largest majority of cases that we are confronted with in this problem are those of hypertensive and arteriosclerotic heart disease - I put the two together; at times they complement each other - but arteriosclerotic heart disease is by far the greatest problem, with, of course, atheromatous changes in the coronary blood vessels. This constitutes well over 80% of our problem.

In order to make the diagnosis, we take a history to determine the reserve that this individual has. Does he have anginal pain? How frequent? What activity brings it on? Was it present right along before the incident in question? When did it occur in relation to the effort in question? To what degree has it been prolonged, or has it been intermittent in its manifestation? Is there shortness of breath associated with it? We follow this by objective evidence of cardiac enlargement. Cardiac enlargement is always an indication of heart disease. And I use the term "disease" in its all-inclusive meaning. We do an electrocardiogram. It may prove to be perfectly normal under normal conditions of activity. We then may follow it up, if the patient has symptoms of angina with a normal electrocardiogram, of doing what we call an exercise tolerance test. With exercise the heart rate increases, the blood pressure is elevated to a certain degree, the respiration increases, there is increased utilization of oxygen, and all of these factors go back to normal within a limited space of time which we have determined by experience.

Under these conditions there will also be a change in the electrocardiographic pattern if the individual has true coronary insufficiency.

If there is structural damage in coronary thrombosis with myocardial infarction, we will get further changes in the electrocardiogram, and we can determine with a certain degree of accuracy as to whether or not this injury is merely an injury of part of the heart muscles, such as subendocardial ischemia, meaning the lack of blood supply to the area, or whether it's a through-and-through infarct with the death of tissue, and in which case we will get deep "Q" waves and other changes which we can recognize as a relationship.

If we have established the diagnosis, then we are confronted with the hypothetical question as to whether or not stress, strain, physical activity, emotional tensions can affect a heart. We will take the normal heart first. Most medical authorities are agreed that the normal heart which, as I mentioned before, is a remarkable organ, is not materially influenced from the standpoint of disease by these factors mentioned. However, Dr. Yeada, in a report which was mentioned in Dr. Isaacs' report in the Annals of Internal Medicine, in a review of about 900 cases of myocardial infarction in the Army, found that between 2 and 4% of these individuals - these are autopsy findings of myocardial infarction - had no demonstrable coronary thrombosis and no demonstrable coronary artery disease.

We can deviate a moment and say that this may have been a mechanism or physiological failure. In other words, it is possible that under certain types of emotional strain, we get a very rapid heart rate due to the fact that there may be more adrenalin thrown into the system; the blood pressure rises. We know that under certain conditions of emotion we will get an increase in coaguability of the blood and increased viscosity of the blood. These are research items that have been shown to be present under certain conditions, and it is reasonable to assume that in these instances of Dr. Yeada's, that actually mechanism failure took place with myocardial infarction without any demonstrable disease, and we assume, therefore, it was a normal heart to begin with. But this is a small percentage of cases. Most of the instances occur on an already diseased heart, on a person with arteriosclerotic disease of his coronaries.

Can the same factors prevail in aggravating the condition that existed? In other words, we have an individual with heart disease, but he has apparently compensated. And under certain conditions of stress, both physical and emotional - and I stress the "emotional" to a great degree because they are very important - conditions can prevail which will create a situation in which the coronary blood vessels become blocked, in which there may be hemorrhage in the little capillaries that arise from the coronary artery itself, and on which thrombus may form; a change in hemodynamics due to this condition, plus due to the nervous control of these blood vessels; that an aggravation of a pre-existing heart condition is certainly possible. And there again I want to remind you, each individual patient must be discussed on his own merits.

So that if we have an individual who has heart disease, if we have in this individual the fact that the strain and effort and emotional tension can produce aggravation of a pre-existing disease in a heart, we will put these together and say, "In this particular individual, did the conditions prevail so that the injury, the effort, the stress, the emotional tension played a role in what has happened to this individual, a myocardial infarction, coronary thrombosis?" And there again, there is no blueprint. I cannot give you an answer categorically. I am therefore not in favor of minimum criteria or standards. We have had standards for diagnosis of heart disease for many years, since 1926. And today, many years later, there is a discrepancy, as many of the doctors can attest to, in the functional classification of one individual and in another, given the same anatomical findings. So I geel that each case should be adjudicated on its own merits. I shouldn't use the word "adjudicated" - should be judged medically by the doctor on its own merits, and he should render his medical opinion and leave other factors to the judiciary and to non-medical witnesses.

I also feel that the general practitioner is in a position to give very pertinent testimony as to the condition of the individual before, as to the present condition, as to some of the historical factors in the background which may be important in arriving at a complete medical evaluation. That we hand into the laps of the judiciary. I think under these conditions, there should be no conflict. The physician and his testimony certainly have a place and, of course, the final judgment is not in his hands.

To finish and leave everything else open to the question-and-answer period, I merely want to point out that although there is much discrepancy in the final phase, which is the degree of disability, we can go by certain physiologic standards, as it were, not mathematically correct, without mathematical precision, but with a fair degree of accuracy in our own minds, such as the extent to which damage was done initially in this myocardial infarction. Were there only "T-wave" changes on the cardiogram? Were there deep "Q's" which persisted? Is there still a persistent change in the "S-T" segment or in the "Q" waves? Is there a residual dilatation of the injured heart muscle wall or an aneurysmal condition which naturally would create a great deal of difficulty? How much symptoms does this individual have? What are his restrictions in his daily activities of living? Does he get short of breath? Does he get anginal pain more often or less often? These are guide lines. They are not absolute by any means, but they are helpful. And then to what extent does he have residual ability -- and this is something that I would like very much to stress, because in the ultimate we are interested in the rehabilitation of this individual. What are his residual abilities to return to gainful employment, preferably in his old job, if it can be done? And lastly - and I pose this as a question - should there be added a certain number of percentile points to this disability, to the degree of it, by virtue of the fact that the existing law structure penalizes this man against getting a job in industry because of the fact that he had his heart attack?

Thank you.

(Applause.)

JUDGE NEUTZE: As you can readily see, Ladies and Gentlemen, I have this panel well under control as to the time limit.

The second speaker of this panel is Dr. Leon J. Warshaw. Dr. Warshaw is a graduate of Columbia College of New York City, Columbia University College of Physicians and Surgeons in 1942. In 1952 he was a specialist in rating of internal medicine and cardiology, New York State Workmen's Compensation Board; 1953 a Diplomate of the American Board of Internal Medicine.

Dr. Warshaw presently has hospital affiliations with Bellevue Hospital, Beth Israel Hospital, Hospital for Joint Diseases and French Hospital, all of New York City. He has conducted considerable research activities, particularly in aviation medicine and respiratory physiology, from

1939 to 1942 under the auspices of the Department of Medicine, Columbia College of Physicians and Surgeons and clinical cardiology, 1944 to date, where he has been a member of a group in doing research and evaluation of new drugs, performed under the auspices of the Department of Pharmacology, Cornell Medical College and cardiovascular research, unit of Beth Israel Hospital.

Dr. Warshaw has had considerable cancer research from 1946 to 1952. His many past medical activities have included affiliations with the National Broadcasting Company, the American Broadcasting Company, and he is presently medical director of Paramount Pictures Corporation and United Artists Corporation. He is consultant to counsel on occupational health of the American Medical Association.

Among his many memberships, he is a member of the New York Academy of Sciences, New York Academy of Medicine, a Fellow of the American College of Cardiology and American College of Physicians.

In addition to other publications, he has had published by Hoeber in 1960 a book entitled, "The Heart in Industry." In addition thereto, he has prepared and written more than sixty articles for medical journals.

It is also with great privilege that I introduce to you Dr. Leon J. Warshaw. Dr. Warshaw.

(Applause.)

DR. WARSHAW: Judge Neutze, Ladies and Gentlemen, it is a real privilege for me to be here today. I was thinking, as the Judge read from this misbegotten transcript, all these things that the people in the audience might think, that such a wagonload of affiliations and so on, certainly needs the sizable dray horse that you see before you.

(Laughter.)

I would like to thank the Program Chairman who organized this conference for his great liberality in allowing me complete freedom and range in the remarks that I am going to make.

On the basis of my experience with attorneys, Compensation experts on both sides of the table, I have learned that most of them know a good deal more about heart disease than I do. Certainly, they are more familiar with the fine points of medical literature than I am and can quote them much more accurately and precisely.

I think one of the basic problems, as we have heard indicated in the earlier panel and I'm sure always comes up at these conferences, is that by and large they are approached from the standpoint of a pre-conceived point of view or preconceived objective.

Incidentally, I would like to insert my own definition of the question that was raised at the earlier panel -- "What is an impartial witness?" I have my own very good definition to which I commend all of you -- the truly impartial witness is the fellow who agrees with me.

(Applause.)

Now, in the brief time that I plan to take, I would like to broaden your approach and consider what is usually the forgotten aspect of Workmen's Compensation and conferences of this kind; namely, the man whose heart disease is the subject of the litigation, and it is from that point of view that I wish to speak to you.

Obviously, in the fatal cases, these are rather strictly problems for decision in the courts. The patient, the man with heart disease, he is out of it. My concern is with the living, those who survive, and it is to this group that I am going to point all my remarks.

Now, in every cardiac case for which a claim for Workmen's Compensation Benefits has been made, -- and this is true in every kind of case -- the physician is called to answer three primary questions:

1. Has an illness or injury occurred or, in other words, what is the diagnosis?

2. Is it causally related to the events or circumstances allegedly responsible for it?

3. What is the extent of the disability?

Now, the first question is usually, but far from always, not too difficult to answer, and any of you who have attended medical meetings will certainly attest to the vigor and enthusiasm with which my colleagues and I may wrangle over the fine points in diagnosis. In the end, however, our differences are almost invariably ironed out by the weight of evidence and experience. Once in a while, to be sure, it is the power of voice, or the weight of the authority conferred by title or seniority that prevails but, in any case, a diagnosis is established. Since any further discussion of this question might expose more of my professional "secrets" I shall, with your indulgence, abandon it here.

The second question of causal relationship, I now disqualify myself to talk about it, because we have just heard this is eventually a legal problem about which we doctors know nothing.

It is the third question, the evaluation of disability, to which I would like to devote my time.

Let me pause for a moment to observe how unfortunately, and occasionally even tragically, defeating is the focus of this question. I say this with full deference to my friends in the legal profession whose need for the answer I can fully appreciate.

Listen to it again: "What is the extent of the disability?"

Now, recall the message delivered in so many ways just a short time ago and mentioned in some of the pamphlets that you have when we celebrated another "Employ the Handicapped" week. You will probably hear it again today when rehabilitation is discussed: "It's ability that counts. A worker should be considered on the basis of not what he can't do, but rather on the basis of what he can do."

This aspect of Workmen's Compensation that has led a noted New Jersey physician, well known to most of you, to pungently characterize it as "nursing at the breast of employer's liability" and deriving its "strength from the milk of dependancy". Others have criticized Compensation for being a system for rewarding sickness and incapacity.

Although this point is applicable to every kind of Compensation case, I know of none in which it is more fundamental than in those involving coronary disease and myocardial infarction. In every kind of injury or disease, as long as the victim survives with enough brain power, emotional factors play a role. Involvement in Compensation proceedings adds to their influence, and being the subject of litigation amplifies them further. Their influence may be sizable, but as a rule it does not exceed that of the organic involvement. In contrast, in most heart cases, even those with no question of compensability, the extent of disability depends far more on emotional factors than on the amount of actual damage to the heart.

Every cardiologist can present patients with extensive heart damage who perform strenuous and even arduous tasks with no apparent difficulty. On the other hand, you have all heard of the patient with a perfectly normal heart who has been reduced to invalidism by his fear of a heart attack or who has been totally disabled by symptoms such as chest pain, palpitation and shortness of breath arising entirely from anxiety or, to quote a popular lay diagnosis, "Nerves".

Thanks to improvements to instrumentation and advances in our knowledge of the chemistry and physiology of the heart -- some of the things that Dr. Parent referred to -- the presence of cardiac impairment can usually be verified. Measuring its extent is frequently much more difficult. Symptoms are not always helpful. For example, take the patient with a coronary insufficiency who was halted by anginal pain whenever he climbs a few stairs. After he recovered from a myocardial infarction, however, he's able to sustain strenuous physical activity without the slightest indication of difficulty. Now, one could scarcely claim that his impairment was diminished by the replacement of part of his heart muscle by scar tissue.

The electrocardiogram, regarded by many as the ultimate answer, may be completely misleading. An individual with a small, clinically inconsequential infarct may retain a markedly abnormal pattern, while another who had survived multiple infarctions, will display a tracing that has reverted all the way back to its original normal pattern. It is an axiom in electrocardiography that there is no consistent correlation between the degree of abnormality in the tracing and the amount of the myocardial damage.

The size of the heart is a more helpful index. Cardiac hypertrophy and dilatation indicate, respectively, an attempt to compensate for an impairment and the failure of that compensatory mechanism. Consequently, an enlarged heart may be said to be more impaired than one that has remained normal in size. Yet, without a series of earlier X-rays for comparison, one cannot be certain whether the enlargement observed following a particular cardiac episode reflects the damage sustained at that time or some cardiac impairment that had been present prior to the attack in question.

Arrhythmias -- abnormal beating of the heart - and indications of congestive heart failure admittedly indicate cardiac impairment, but their onset at a particular juncture may reflect a lapse in a previously successful regimen of maintenance therapy, the effects of fluid and electrolyte -- primarily salt -- imbalance of non-cardiac origin, or even a toxicity produced by drugs that the patient had been taking for his heart disease.

Now, even when impairment can be measured, however, it is not necessarily equivalent to disability. That point must be hammered home -- impairment is not equivalent to disability. This is true even when we eliminate emotional factors. When they are included, as they always must be, for we cannot deal with the patient except as a total human, the disparity between degree of impairment and extent of disability may become tremendous.

From the standpoint of trying to answer our question -- what is the extent of the disability -- this wouldn't be too serious if we could measure the extent of disability attributable to these emotional factors. Unfortunately, we cannot, except in the crudest manner and often, not at all. To be sure, a discerning observer can usually detect their presence and confirm their influence. Unfortunately, many physicians -- and others -- seem to have mental barricades against even acknowledging that emotional factors do exist. Now, sometimes, with more experience and greater sophistication in psychiatric problems, the emotional factors can even be traced back to their sources in the previous experiences of that patient.

Unfortunately, however, there is no yardstick, no system of measurement that satisfactorily and reliably assesses the emotional component in cardiac disability with the precision required for equitable Compensation decisions. We look at them in stereotyped and largely subjective terms, and tend to equate their intensity with such outward manifestations as irritability, nervousness and the like.

Sir William Osler captured this point most aptly in his lecture on angina pectoris, delivered way back in 1896, when he said of a certain patient, "Thus in Mr. Sumner's case, a sudden turn in his easy chair, while quietly reading at night, would start up the most tearing agony, while at other times an exciting speech in the Senate, accompanied with the most forcible and muscular gesticulations, would not create even the suggestion of the pain."

There is another analogy much more familiar to many here. Consider the emotional stress involved in a trial in which two attorneys are vehemently battling each other in examining and cross examining a cardiologist testifying as an expert witness. Each attorney is certainly under stress as he ardently pursues his advocacy, to say nothing of the physical energy involved in leaping to his feet and voicing his objections. The witness in the chair, struggling to establish and defend his testimony, is certainly under stress -- so much sometimes that many of my colleagues, fearing to risk this kind of exposure, refuse to make courtroom appearances. Actually, however, if it could only be measured the emotional stress might be greatest in the Judge who sits benignly and impassively on the bench. He might be seething inwardly as he tries simultaneously to retain his composure, monitor the attorney's gymnastics, remember everything that is being said, and smother the "indigestion" aroused by the message from his wife just passed to him informing him that her mother had arrived for a week's stay in their home.

Now, what about the emotional impact of such proceedings on the man whose cardiac impairment is the basis of the action?

First, obviously, he has much at stake. He has a just claim, or so he believes, but the opposing attorney is trying to deprive him of the award due him and, it seems to him, the Judge and the jury are not at all sympathetic to his plight. No wonder he has to take pill after pill of nitroglycerin, more or less ostentatiously, depending on his awareness of its effect on the jury.

Secondly, and this is the point I would stress, consider the effect on him of the testimony. Good and necessary as it may be for his case, it can scarcely be considered good therapy to steep him in his symptoms with the conscious or unconscious implication that the more symptoms he has, the greater is his disability and the larger the award he may win.

We have noted that anxiety about his heart may cause much more of a man's disability than the actual damage this organ has sustained. Is a patient's anxiety likely to be relieved by hearing eminent authorities proclaim apparently without contradiction that his heart has been irrevocably damaged, that his disability will be life-long, that his life expectancy will be shortened and, by implication if not directly, that having had one attack, he is now liable to drop dead at any moment with another?

In teaching medicine on the wards, we warn our students never to utter a single word within earshot of the patient without considering how he might be affected by it, in or out of context. In contrast to attorneys to whom the meaning of a word as it appears in a brief or transcript is most important, we in medicine are far less concerned with the words or even how they are used than with what the patient thinks they mean. If physicians sometimes flounder in court because they cannot distinguish between the actual patient and the synthetic albeit more or less similar case described in the hypothetical question, should we be surprised if the patient identifies himself and is affected by the more morbid aspects of that narration?

In training students to take medical histories, we stress the avoidance of leading questions. We urge them to pursue the most searching and thorough inquiry about symptoms, but never to derive satisfaction from the array that a patient is able to present. Contrast this with the way some claimants appear to have been drilled in the recital of their cardiac symptoms -- and sometimes even in what symptoms they ought to have -- and the almost loving approbation they earn by their performance.

In papers and in lectures, I have often proclaimed the importance of an intimate knowledge of the patient and his attitudes in trying to assess his capacity to function and as a guide to the relative importance of items in the therapeutic regimen. The dramatic response of some patients to placebo medications, the frequency with which the success of cardiac surgery is determined more by the patient's attitude than by what the surgeon was able to accomplish, and, on the other side of the coin, the lasting damage that may be produced in a susceptible patient by even suggesting a cardiac diagnosis, these offer ample affirmation of the influence of his thoughts on the patient's well-being and the extent of his disability.

MacIver has described the dilemma of the physician confronted by a patient with a cardiac neurosis in whom he finds some evidence of organic heart disease. The cardiac neurosis demands reassurance while minimizing or even ignoring the heart lesion. This exposes the physician to the risk of being accused of incompetence for having "missed" the diagnosis, or of negligence or disinterest for having failed to caution the patient against things that might aggravate it. Yet, any attention to the heart lesion may cause fixation of that cardiac neurosis and lead to a life of unnecessary invalidism.

In resolving this dilemma, we expect the physician to be guided by what is best for the patient and not necessarily by what is best or safest for him. Is it too much to ask the lawyer, a member of an equally dedicated profession, to be aware of this kind of individual and, when he encounters one, to be guided in his efforts by what is best for that patient even if it is not necessarily what is best for his client?

In closing, I would like to offer the following suggestion for adoption as a regular procedure in hearings or trials involving heart cases. Whenever any doctor is testifying about the amount of damage a man's heart has sustained, the ways in which that damage could have been caused, or by implication could now be aggravated, the extent of his disability, or the prognosis with regard to residual disability and life expectancy, the patient in question should be required to leave the room. All these are usually important issues in the case and should be established, but it has never seemed necessary to me for the patient to have to listen to their discussion especially when, as I have tried to indicate, this may have a singularly adverse effect on his future health.

In talking to a patient, I take great pains to be sure that he grasps the concepts I want him to hold. In writing for publication, I try to polish my words and phrases to make sure that misinterpretations are unlikely. When I testify, however, I am talking to the Court or to the Referee while the patient is, in effect, nothing more than an eavesdropper. I can give no heed to how he interprets my testimony, nor can I be guided in my answers to specific questions by thought of what effect they may have upon him. The only way to protect him, therefore, is to eliminate this exposure by asking that he be requested to leave the chamber. My friends in the law have assured me that his absence during this part of the proceedings should not affect the case of either of the parties involved. Consequently, I urge its adoption in heart cases if not as a matter of routine procedure, at least as a tactic to be employed by the attorney dedicated to serve the best interests of that patient.

In summary, I have tried to re-direct your attention from the primary object, primary cause of concern. After all, what are we trying to establish in Workmen's Compensation? It is the man at issue, the man with the heart disease whom we try to help. I think if we keep that point ever in mind and conduct ourselves in his presence and in his behalf with his own long-range interest always foremost, I think that many of our problems will be considerably eased.

Thank you.

(Applause.)

JUDGE NEUTZE: Ladies and Gentlemen, both Dr. Parent and Dr. Warshaw have kept their speeches brief. They have told me that they welcome, and keenly welcome, any questions from the audience. They would like to discuss this problem with the members present. Anyone who has a question, please raise your hand; I will recognize you. I would like you to give your name and to whom the question is addressed.

(No response.)

JUDGE NEUTZE: No one wishing to ask any questions of either doctor?

(No response.)

JUDGE NEUTZE: It appears the doctors have covered the subject well.

In behalf of the Division and all of the members present, I wish to take this opportunity of again thanking Dr. Parent and Dr. Warshaw for coming here today. The meeting will not stand adjourned until 2:00 o'clock when we will re-convene.

(Whereupon, the meeting is adjourned.)

AFTERNOON SESSION

JUDGE KALTZ: Ladies and Gentlemen, let us get this afternoon's session underway.

I am sure that all or about most of us, at least, had something out of the discussions this morning and I am equally certain this afternoon we will be enlightened to a still greater degree on this all important subject.

There are three panel discussions this afternoon, as your program indicates. We will begin with the one scheduled for two o'clock and the moderator for this session is one of our well-known judges, Alfred Napier.

Judge Napier. (Applause.)

JUDGE ALFRED J. NAPIER: Thank you, Mr. Chairman.

This morning we had the benefit of hearing the comments of men who were distinguished lawyers and physicians. They reviewed some of the problems in connection with the legal involvements of a workman who suffers a coronary attack and some of the medical aspects of the anatomy function, both normal and abnormal, of the heart.

But lest we forget that the heart is simply an organ within the human body and that in the case of every heart failure, there is a human element. What of the cardiac victim? What of his future? How may we restore him as a self-sufficient, functioning, productive member of society?

Thus the subject matter of the first panel for this afternoon: Evaluation of work potential of cardiacs.

Our two speakers are preeminently qualified to discuss this problem. On my right is a physician who is a heart specialist in the City of Philadelphia. He has a distinguished list of qualifications, sufficient to say that he is a Certified Fellow in the American College of Cardiologists as well as the American College of Chest Physicians. He is on the faculty of the graduate school of the University of Pennsylvania Medical Department as a cardiologist.

As well as being a distinguished cardiologist, he has spent a good part of his life and occupies a prominent role in the problem of rehabilitating a cardiac. In this capacity he serves as consultant to the American Heart Association. He is a consultant cardiologist to discuss the problems of heart failure in cases involving many of the twenty-eight thousand city employees of the City of Philadelphia. He advises the Retirement Board as to the heart angles of the cases that come before him.

Dr. Gelfand, whom I am about to present, is one of the active participants and consultants in the vast programs of the Heart Association.

Without further delay, I am proud to present Dr. Gelfand. (Applause.)

DR. DAVID B. GELFAND: Thank you, Mr. Moderator, Ladies and Gentlemen: This afternoon--and I feel that I am quite fortunate in sticking to my own field of medicine and not being concerned with causality and the legal profession here--we are going to discuss what a person with heart disease can do as far as gainful employment is concerned and we are going to limit our remarks principally to a form of heart disease that most of you are concerned with; namely, the person who is in a working age group and has heart disease or develops heart disease while he is on the job.

Of course, this brings out numberwise the important problem of hypertension, hypertensive heart disease and arteriosclerotic heart disease. Arteriosclerotic heart disease also encompasses coronary artery disease, coronary occlusion, myocardial infarctions.

The first thing we want to make clear is that four out of five people who have their initial myocardial infarction recover. This leaves us with a great group of people who potentially can and should go back to work.

The problem of whether they go back to work or do not go back to work sometimes will depend on company policy, the type of individual he was or is, the skills that he has, the abilities that he has, and, believe it or not and least of all, physical impairment as far as his heart is concerned. This may be a surprise to you, but actually we will show you later on that the physical aspects of heart disease as far as gainful employment is concerned plays a minor role in whether or not a person does or does not go back to work.

Now, we are speaking about functional capacity, and what does that mean? It simply means what does the heart let a person do? In other words, what can he do without aggravating his cardiac condition? This does not mean that he may not develop additional symptoms in doing certain physical activities, but these will not be related to further deterioration or aggravation of his heart disease.

We take as a norm the physical activities connected with daily living: Self-care; getting up in the morning; going to the bathroom; shaving; washing; taking a shower; eating; getting down to the bus; going down to work and going back; and what you do at night as far as recreational activity. I am not going to include sexual activity in that, although some consider it simply that, recreational, but we won't go into that as a factor or as a physical stress.

We divide our patients in a number of classes as with regard to these particular physical activities I just discussed. In other words, if a person with a cardiac impairment, with organic heart disease, either hypertensive heart disease, arteriosclerotic heart disease, post-coronary, post-myocardial infarction heart disease, can do these physical activities without developing symptoms, then we classify this person as a Class-1 cardiac.

If a person does develop symptoms, does develop shortness of breath and some fatigue, some chest pain, during the course of some of these ordinary physical activities--however, he does not have any real need for any increased amount of rest, that is, he can finish out a full eight hour work day--then we would put this man in Class-2.

If a man has symptoms on less than ordinary activity as I detailed them a moment ago, and this man possibly at the end of the work day has to quit a little earlier and when he comes home goes to bed right after supper, and on the week end instead of going out and doing some work in the garden stays in bed, then we would put this man in Class-3.

Class-4 is reserved for the type of individual who even less than ordinary activities bring on significant symptoms: Shortness of breath, fatigue, palpatation, pains in the chest.

There is no question about Classes 1 and 4. 4 cannot work and 1 can work, it is as simple as that. The great question comes up in Class-2 and Class-3.

Symptoms mean different things to different people. In other words, given exactly the same type of organic heart disease in two individuals, pain in the chest and some shortness of breath would mean one thing to one individual and another to another, so we come back to the question of what makes one person tick as opposed to another? Again you must appreciate we are not dealing with people who happen to have a certain form of heart disease, we are dealing with people; people who have problems possibly on the job, who have problems of a social or economic nature, who have problems of an emotional nature. They have personality problems.

As I indicated to you, the great majority of patients or people that we see, there is no problem. They recover from their acute episode of heart disease, whether it be a myocardial infarction or even heart failure as a result of hypertensive heart disease. After an appropriate period of convalescence, they go back to work with the approval of their family physician, with the approval of the industrial physician, and there is no question about whether or not these people can or cannot go back to work; they usually can.

The work that they do, I might point out to you, the greatest physical energy requirements of most industries do not exceed some of the things we do every day when we get up in the morning. For example, it takes about four and a half calories per minute of energy consumption to take a shower in the morning. It takes about three and a half calories per minute to shave because your arms are above your shoulders and you are working on your face. It takes about four calories per minute to walk to the bus. Most industries range between three and a half--I am talking about light industry, the desk jobs. They only go about one and a half to two calories per minute. Lathe turning, a machine tool, operating or assembling is only two or three calories per minute. They do not range above four and a half to five calories per minute.

Actually, all these people who are in Class-1, 2, or even some of those that are in 3, can have their jobs modified so that some of the more stressful physical activities that might bring on symptoms are modified, and with these people we have no problem in getting them back to work.

However, there is a significant number of people in whom there is a great question as to whether or not such people can or will go back to work, and where does the question arise? Well, it arises in a number of areas. Many times it can arise with the patient himself. Many times, unfortunately, because of uninformed physicians, it arises as a result of a physician. We have a great deal of physician-induced disability. Many times, or sometimes, it devolves in management policy. The policy of the company says "We can not hire or rehire or reemploy these individuals because of a particular job they will come back to may aggravate their heart condition."

How are we going to resolve all these areas of difference? The American Heart Association for the past twelve years has sponsored what we call cardiac work evaluation units. These consist of a team of specialists. The team consists of an internist or cardiologist, of a vocational counsellor, of a medical social worker, and of a psychiatrist or, in some areas where psychiatrists are scarce, of a psychologist.

When you take an individual and examine all of the areas which we just outlined, from these various persons, then we can come up with many meaningful evaluations in any particular case.

In a unit in which Mr. Hagen and I served for the Heart Association of Southeastern Pennsylvania over a period of eight years, we saw some 665 patients. Of these it was recommended that 92 per cent go back to work. This meant in some instances that they went back to full time work without restrictions; in some instances with full time work with some restrictions. In some instances the job was modified, as I indicated, certain stressful situations which Mr. Hagen will detail for you, so that this person could be gainfully employed, usually at his old occupation.

Did work hurt these individuals when they went back to work? No. Reexamination of these individuals showed that some 23 per cent were actually better after they had returned to work, and this represented possibly some recommendations for treatment or following cardiac surgery where it was indicated and actually these people were better even though they were working.

Some 66 per cent were actually the same. Their physical conditions were no worse after their return to work.

In the remaining 11 per cent whose physical condition was found to have deteriorated, it was the judgment of the team that this was not as a result of the work but was as the result of the natural progression of the cardiac condition.

These statistics are beautiful and they are not unique because we have some fifty-three classification units over the country and they all have the same statistics, that is, within four or five per cent.

Because 88 and 92 per cent of these people that these work evaluation units see can go back to work. You must remember the patients that the work evaluation units see are problem cases; they are not the ordinary run-of-the-mill patient of which I told you. Four out of five recover and don't have any problem getting back to work. This is a beautiful statistic, but it was very interesting that on re-examination of a number of these patients we found that some 28 per cent of these people did not go back to work, although it had been recommended that they could go back to work.

Now, what was the problem there? Was it a medical problem, was it a vocational problem, or did it lie in the social and emotional sphere? We studied a number of these patients whom we called unsuccessfully vocationally adjusted. The definition for unsuccessful vocational adjustment was people who were not working although they could physically go back to work, or (2) people who were working but not working up to the recommended level, in other words, they were over-restricting themselves, and (3) people who were working beyond the recommended level with aggravation of their heart disease. These people were judged to be unsuccessfully vocationally adjusted.

We contrasted these people with a group of people whom we considered to be successfully vocationally adjusted and these people were, by definition, people who were working although they had heart disease, significant heart disease, and even though they had symptoms while at work, but that these symptoms were judged to be symptoms that would be present even if they were not working and were working without aggravation of their heart disease. These people were judged to be successfully vocationally adjusted.

And what did we find? Well, we went over all the medical factors in these two groups and we matched these patients as far as what we call therapeutic and functional classification. We had just as many people in one or the other classification. We had 2-Cs, 2-Bs and we even had some 3-Cs in both. It wasn't what our judgment was as to their therapeutic and functional classification that meant any difference. These people sought medical advise. The unsuccessfully adjusted patients possibly were hospitalized a little more, but we felt that this was not a physical factor but rather represented their overconcern about themselves.

I won't go into the vocational end of it because I want to save something for Mr. Hagen who is sitting here worrying whether I am going to leave him anything.

It was only when we came to the social and emotional spheres that we find that there was any significant difference between these two groups. This is very interesting because the unsuccessful group was made up of a group of individuals that had a particular type of personality. These people were uniformly dependent. These people needed very much to be loved. These people didn't know what to do with their hostility, they couldn't express their hostility. Oh, they were perfectly normal on the surface. They were hard working, they were conscientious, but they could not release the tensions which built up inside of them.

These are a peculiar breed of people because in this group we found a number of people who had a significant hypertensive heart disease and significant coronary artery disease at young ages, at the beginning of their economic life, twenty-five, thirty, thirty-five years of age. These people were felled with myocardial infarctions or significant hypertensive disease at these young ages and almost uniformly they fell into this group. They were young people.

What characterizes these people? These people don't know how to handle hostility. To give you an example, we had an individual, a thirty-seven year old, who developed a myocardial infarction three or four months before we saw him and now it was time for him to go back to work but he didn't want to go back to work. Why? Well, this fellow was going back to a different type of a job, one that involved more responsibility, and this is what he had always avoided.

Our social worker told us that when he was in the Army he refused a commission because he did not want the responsibility of an officer. When he got out of the Service, he refused to manage his father's jewelry store and now he was faced with a situation of coming back to a job where he would have less physical effort, less strenuous effort, but now he would be in a managerial position with more responsibility and this is something he couldn't handle.

This fellow showed it in his life. He came in with his wife. His wife was forty-one years of age; she was grey-haired. He was very dapper; sport jacket, pipe, black hair. She was his mother, no question about it. She was hovering over him seeing that he was comfortable and she did one other thing that most of these peoples' wives do: She went out to work. She became the bread winner.

Now, you will say that there are twenty-three million women that work in the United States. That is all right, but 100 per cent of these fellows' wives work because something peculiar happens to these individuals: They reverse the role with their wives, they come the homemakers. The funny part about it is, and any woman knows this, wives expend a great deal more energy than these fellows would on a job.

Thank you very much.

(Applause.)

JUDGE NAPIER: Thank you, Dr. Gelfand.

Our remaining panelist is not speaking here as a lawyer nor as a physician, but rather a man who has directed his effort and study in the field of personnel vocational rehabilitation and job work evaluation. In this capacity he has served with the Pennsylvania Bureau of Rehabilitation. There he served with particular emphasis and study in cardiac cases. He is now currently a consultant in this field of personnel and job evaluation to the Rehabilitation Section of the Heart Association. This man grapples with the problem that we are discussing daily. He is qualified and one of the leaders in this particular field of which so little is known and in which so much must be done.

Our panelist is Mr. John A. Hagen. (Applause.)

MR. JOHN A. HAGEN: Mr. Moderator, distinguished Guests, Ladies and Gentlemen: I am a bit breathless at being the leader in a field where so few know so little about so little.

I am, however, very much honored to have been asked to speak before you this afternoon. Yet, this excellent assembly indicates the great interest you have in this topic and I must confess I have been looking forward to this occasion for the last several weeks. I don't believe that any one of you thinks that you are going to get all the answers today, but I do hope that all of us would have learned something as a result of the exchange of ideas.

For some time I have been attempting to discover a more suitable term than "cardiac" to describe a person who is disabled by cardiovascular disease. It seems to me that this is a misnomer, and an excellent example of the disservice we do ourselves by attempting to wrap up complex concepts in a single word. It is a medical term and, as such, is properly used to modify or describe an anatomic structure. Unfortunately, when used to describe a man, it depersonalizes him. He becomes a medical condition: a coronary occlusion, a mitral stenosis, a hypertensive. He loses the attributes of a man behind the faceless, soulless concept of a medical term. He becomes identified not as a man, not as an individual with his proper quota of wisdom, skill, experience, and knowledge who has some limitations due to a cardiovascular disease, but he becomes a defect, a limitation, an inefficient organ.

It is important to tear away the anonymity of an impersonal medical term if we are to consider each disabled person is an individual rather than as a defective heart muscle or coronary artery. We must return him to the human race. We must consider him as one of us, not as someone who is somehow outside the community.

When we look at ourselves we notice certain familiar things. We enjoy our work, our family, our friends. We have likes and dislikes. We take trips, we golf, we bowl, we play cards. We think we have certain confidences. Does this anonymous medical term also do these things, or have we so depersonalized him that we have lost all realization that he, too, is human?

It becomes obvious that if we are going to evaluate the disabled individual's potential for work, we are going to have to take into account those very same assets and liabilities we consider in ourselves. The major factors in our potential for employment are found in the physical, social, economic, psychologic and vocational areas of our lives. Evaluation of these areas in individuals suffering from the cardiovascular disease should advise us just as accurately of their potential for work.

Most physicians and most clinics are concerned primarily with diagnosis and definitive treatment. Yet, most of them recognize that adequate physical capacity is not sufficient to ensure successful vocational rehabilitation. Studies in Work Evaluation Units in Philadelphia, Cleveland, Washington and in many other of the larger cities point out the importance of the emotions in the ultimate adjustment of the disabled individual. Reports from these units indicated that between 25 and 40 per cent of those judged able to work did not return to employment for emotional reasons.

The reports of one investigator after the other in this field testified to the fact that the man with the heart condition in almost every case can return to the work which he formerly did, but not everyone does and it is in the investigation of reasons for such, that we begin to appreciate how important are the non-physical factors.

It becomes increasingly apparent, therefore, that, at least for the problem cases, more than an evaluation of physical capacity is necessary in order to arrive at an accurate evaluation of work potential. It becomes evident, too, that if an adequate investigation of the social and emotional climate is to be undertaken, it should be done by a sophisticated, skillful professional person. Since the average physician has neither the training nor the inclination to pursue these areas, then skilled social workers should be called into the picture. Moreover, an adequate vocational evaluation will call for the services of a trained vocational counselor. This multi-disciplined approach has the advantage of a professional, total approach to the occupational potential of the patient. It gives the broadest understanding possible of the impact of heart disease and of the resources which the patient has to draw on.

This is not to minimize the role of the physician or the need for accurate physical evaluation. The very concept of disability sets the afflicted person apart as one who is a special situation, having special needs and problems. Obviously, only a qualified individual can give the diagnosis and prognosis of disability. Only through his evaluation can an adequate estimate be made of the individual's physical capacity for work. Clearly, if the person has not the minimal physical capacity necessary for otherwise suitable jobs, there is no potential for work.

Just as the physician makes his diagnosis, prognosis and prescription for physical restoration on the basis of presenting symptoms and objective tests, so do the other professionals gather factual information and analyze and synthesize and prescribe a course of action designed to ameliorate or relieve the barriers to work. Their evaluations and recommendations, together with those of the physician, give the clearest possible picture of the individual with all his assets and liabilities for work. Their aim throughout is to discover that which is advantageous, that which is handicapping and to present these items as objectively as possible, for the total team evaluation.

A trained vocational counselor, for example, is able to identify aptitude, interests, abilities, training and experience and relate them to job demands. He considers not only the employment market, but the patient's mobility, age, family circumstances, emotional maturity and most important of all, his motivation for work. In evaluating the jobs held in the past, he considers their physical and experiential demands, considers how the patient has reacted to them and what his capacity and desire has been for filling them. He evaluates the reasons for job changes to discover the possibility of personality problems that would make job adjustment difficult in the future. He recognizes and is prepared to handle the insecurity and fear of the patient who has reached the stage of considering return to work. He looks for the validity of the patient's understanding of the effect heart disease has had on his work capacity so that psychosomatic problems will be kept at a minimum. He acts as a source of support, reassuring the individual in terms that he understands. On the other hand, he represents the exact situation to the employer so that he knows what to expect.

Perhaps the most difficult area to evaluate is the social emotional climate in which we find the patient and family after the onset of heart disease. The anxiety bred in the individual by heart attack with its vise-like grip of pain, its nausea and terrible premonition of impending doom, finds its reflection in the anxiety of the family. Ignorant of what the attack has actually done to its loved one, the members are afraid to be responsible in any way for activity which might pose a threat to his life. We see it in the harried look of the parent whose child has suffered an attack of rheumatic fever; in the mother who learns that her infant has a congenital heart condition; in the wife who sees her husband withered by a stroke. The experienced, trained social worker is invaluable in sizing up these situations, and in helping the family to understand and to accept what has happened. She is the one who can evaluate what adjustment is necessary in the family of a man who must be hospitalized for a long period of time, or who must go to a distant city for rehabilitation services. She can help with economic problems, because she knows community resources. She can advise on what moral and physical resources the patient and the family can draw on for the often long hard pull to rehabilitation.

In other words, the social worker is trained to evaluate the social, economic and emotional impact of heart disease on the patient and family and the resources for sufficient family stability to realize the rehabilitation of the disabled member.

In summary I have attempted to show that the proper evaluation of work potential must take into account not only the individual's physical capacity for work, but the social, emotional and vocational assets and liabilities which go to make up the whole man. (Applause.)

JUDGE NAPIER: We now have some time alloted to us for questions to the panelists. Is there anyone that has a question?

MR. PHILIP BOLSTEIN: I am an attorney.

Mr. Hagen, what has been your experience concerning the acceptance by industry of the Rehabilitation Committees' recommendations for reemployment of the cardiac victim?

MR. HAGEN: The unit which I work with had a very fine reception from industry. Dr. Gelfand has the exact figures, I believe. I can say, if this will answer your question, that to my knowledge the recommendations were accepted in all but one case. I guess it isn't right to crow about that, but they disregarded the recommendations and I had to change them after anyhow, but on the whole the recommendations had been accepted completely.

DR. GELFAND: In the unit to which Mr. Hagen was referring, we had a very good report with industrial medicines. As a matter of fact, 70 per cent of our cases were referred by industry, small and large, in and around Philadelphia, so that we had an in, so to speak, with these people because they were anxious to know whether these people could go back to their particular job.

You must appreciate that when they are so anxious to have a person come back, there is a reason. Don't forget the companies in many instances have spent a great deal of time and money making these people expert in their particular field. They have a very selfish interest in seeing whether or not this person can come back to work. Well over 95 per cent.

JUDGE NAPIER: Are there any other questions?

MR. HERBERT KLOSK: My name is Herbert Klosk. I am an attorney.

I would like to know if you have any statistics on workers who were not special people, who were not referred by industry, who came to any sort of opinion as yours and then were referred to industry and were employed?

JUDGE NAPIER: The question asked was with unskilled workers of whom industry had no particular interest or special interest, are there any statistics on the degree of success attained in those cases?

Perhaps, if I may put a preamble on it, I wonder how the facilities of the Heart Association are made available to people who are in need of those? That may, perhaps, give us a better opportunity to understand how this work was done.

DR. GELFAND: As you can understand, Mr. Klosk, the opportunities, job opportunities, for people who do not have skills, that is unskilled labor, naturally do go down particularly if their heart condition is such where continued physical activity in the particular work that they are able to do, would tend to aggravate the cardiac condition. However, we have no figures as to how many of these people could be absorbed by industry.

Perhaps Mr. Hagen, in his experience from the office of Vocational Rehabilitation, could give you some more inside views on this particular problem.

MR. HAGEN: I would like to speak to this question with perhaps a little bit different fashion from what Mr. Klosk may expect, and that is this:

You phrased your question as though we were considering only a special group who already--at least that is the implication I got--had a very favorable response from industry. Now, I think to a certain extent this might be true. But in our evaluation of the vocational characteristics and the vocational potential of the people who were referred to the Philadelphia Work Unit, we found that the only substantial difference between those who were successfully adjusted and those who were not, was in the emotional and social climate.

Now, this, as far as I was concerned at the time, was practically heresy because I had been taught, and had taught, of this for years, that people who had substantial vocational skills and who were younger were almost necessarily going to get jobs. In our experience this didn't quite follow.

As far as figures, however, are concerned of the people who were not referred by industry, I placed 50 per cent in my function as counselor for the Bureau of Vocational Rehabilitation in Philadelphia.

For your information, of the total number of people who go to Bureaus of Rehabilitation throughout the country--and this is by no means a criticism of them because anyone else in a social welfare field will tell you that their figures are probably quite similar--somewhere between 28 and 32 per cent are rehabilitated. That means approximately 70 per cent are not rehabilitated. In my experience about 50 per cent of the total number who apply are not really ready yet to consider rehabilitation for various reasons, personal and otherwise.

You have to make a distinction here, Mr. Klosk, that people have a certain quality to bring to employment, have a certain salable skill, and whether they are referred by industry or not is of no consequence per se. It is the emotional stability primarily that this man brings.

In our experience one reason that industry was so interested in keeping the people was the fact that these people were, in fact, emotionally stable. The mere fact that a person works for a long period of time in itself is significant of how they attain some kind of acceptance in the plant where they work.

JUDGE NAPIER: Mr. Balk.

MR. JACOB BALK: I am an attorney.

If you were to assume an individual who works with a pick and shovel all day long and that man has an infarction, would you recommend that that man go back to that kind of work again?

DR. GELFAND: It would depend on a number of factors. One would be, of course, the factor of how completely he recovers from his myocardial infarction, the extent of the myocardial infarction, the residual symptoms, etc. It would depend, in part--and now I might point out I am a little more skilled than I was a few years ago--I would first make a sort of half-baked job analysis.

For example, on what kind of ground does he work? What time of the year? Is it exposed? Is it not exposed? Environmental conditions are all factors. All these things would be taken into consideration. It would depend on these individual factors which I just went into: Physical factors, the vocational factors, and, of course, his own individual wishes.

MR. BALK: Thank you, sir.

JUDGE NAPIER: Mr. Edelstein, you have a question?

MR. MORRIS EDELSTEIN: It is partly answered, but my question was, if you placed a longshoreman in your Class-1 classification, would you send him back to longshoring again?

DR. GELFAND: Yes, I would because my definition of

Class-1 is a person with a cardiac impairment, with an impairment, but who has no symptoms.

Now, I will give you a better analogy to that. I happen to be the cardiologist at the Philadelphia General Hospital and we service not only all the non-uniformed personnel but also the uniformed personnel. I mean firemen, park guards and policemen. You may not be aware of it but the highest incidence for workmen's compensation claim for heart disease occurs in firemen all over the country. New York and California particularly.

We do routine physical examinations, electrocardiographic surveys, on all our uniformed personnel. Over the years with time we get certain electrocardiographic changes and we are alerted and we bring them in for physical examination, etc.

Now, given a person with hypertension, significant hypertension, changes on his electrocardiogram, moderate increase in size of the heart, would I put him back on active duty? The answer is, yes.

JUDGE NAPIER: This then concludes the time allotted for this particular panel on behalf of the committee. I should like to thank you, our distinguished panelists, and thank you for your interest.

(Applause.)

JUDGE KALTZ: Ladies and Gentlemen, apparently the last discussion provoked a lot of interest by your conversation, at least, and this is where I am supposed to get into the act.

The subject matter of this next panel is the Compensability of Heart Cases--a pathologist's view.

More often than not, we who are obliged to sit in judgment on these cases where a fatality is involved relating to a coronary thrombosis or infarct, the pet question asked of the doctors is "Of course, doctor, if there was an autopsy here, you would be more sure of your diagnosis?"

The answer is, inevitably, "Yes."

Today we are very fortunate in having two of the outstanding men in their profession as our gests. If I start to read you the biography which Dr. Helpern sent to me, or he sent this office, it would take the twenty minutes which he is allotted.

Suffice it to say, as indicated in the program, he is Chief Medical Examiner of the City of New York. He is president of the American Academy of Compensation Medicine. Since 1940 and up to the present time he has been assistant professor of clinical medicine and lecturer in pathology and legal medicine at Cornell University and Medical College. He is honorary lecturer in forensic medicine of the University of Southern California Medical School.

I am skipping about twenty pages. He is president elect of the Medical Society of the County of New York. He is an honorary member of Phi Beta Kappa. He is an honorary member of the New York Medical-Surgical Society. He is an honorary Fellow of the International College of Surgeons.

He is an honorary member of the Society of Forensic Medicine of Rome, Italy; of the Society of Legal and Criminal Medicine in Sao Paulo, Brazil; the Spanish Association for Forensic Medicine; the New York University School of Medicine, and honorary alumni of 1961.

What more can I say? Dr. Milton Helpern.

(Applause.)

DR. MILTON HELPERN: Judge Kaltz, Mr. Moderator, distinguished panelists and guests, ladies and gentlemen: It is indeed an honor to be invited to participate in this conference today and to present some of the views of the pathologist who occasionally has the opportunity of examining the particular organ and other parts of the body of a person whose death may become a subject for a claim in the compensation court.

I would like to say that I am going to limit my remarks to occlusive coronary artery disease and not go into the other types of heart disease because of the restrictions of time.

I would also like to say, in introducing my remarks, that the pathologist can only provide information and he can not always provide an answer. There is a lot more to the answer than what is revealed at the post-mortem examination. What is found is extremely important, but the same set of findings under the two different sets of circumstances may provide entirely different answers. I think too many people depend upon the pathologist to have all the answers and he doesn't have all the answers, he provides a certain amount of essential information.

With that introductory remark, I am going to read my remarks which are in somewhat of a summary and which I think will keep me within the time allotted to me.

The fact that a person is in apparent good health and previously asymptomatic up to the time of abrupt onset of acute coronary insufficiency, myocardial infarction or sudden death, does not permit the conclusion that there has been a fresh acute occlusive process in previously normal coronary arteries.

Secondly, the pathologist who has had the opportunity to study numerous cases of sudden and unexpected natural death from occlusive coronary artery disease occurring under a great variety of circumstances including rest, emotional stress and physical exertion, becomes impressed with the following findings:

A. The majority of cases involve middle-aged white men between the age of 40 and 60, but also those in younger age groups. I think those who are familiar with the findings in military life and military experience know that these cases are recounted from the early twenties on. Then, of course, in the older age groups in which the death is no longer an unexpected occurrence in the sense that there may have been prior episodes either of coronary insufficiency and/or myocardial infarction.

B. The occurrence of sudden unexpected death in women from this disease is uncommon.

C. The pathological findings in sudden and unexpected deaths from occlusive coronary artery disease are variable in extent of involvement of the coronary arteries and myocardium despite the previously asymptomatic condition of the deceased.

D. There is no characteristic physical habitus. One encounters such cases in thin, average, obese and heavy-set individuals, in the flabby sedentary person and in the person with good muscular so-called athletic build.

The underlying disease is more or less extensive coronary arteriosclerosis with a varying amount of severe segmental narrowing or stenosis of the lumen of the larger branches of the coronary arteries, with or without previous complications of myocardial infarction and fibrosis.

In the younger individuals (up to age 40), it is not uncommon to encounter the segmental occlusive processes in the proximal segment of the left anterior descending coronary artery or in a segment of the right coronary or left circumflex branch. It is remarkable in some of these younger persons how limited in segmental extent the entire disease may be, but the occlusion is severe and in many cases almost maximal or complete.

In older individuals the arteriosclerotic process in the coronary arteries is usually more extensive with involvement of all the main branches and with significant segmental stenosis or obliteration of the lumen of the involved arteries again without or with old myocardial infarction and fibrosis.

In 80 per cent of the autopsied verified cases of sudden and unexpected death from occlusive coronary artery disease.

a) There are no fresh acute occlusive lesions in the previously involved sclerotic coronary arteries.

b) As one examines the old segmental occlusions, one is more and more impressed that these are not just the end stage of a gradually progressing atherosclerotic process in the coronary arteries, but that they may represent and contain evidence of old acute occlusive complications of variable age, such as hemorrhage into atheromatous plaques which have become incorporated into the so-called atheromatous lesions, and that some of these old occlusive lesions represent a combination of old hemorrhage into a plaque and luminal thrombosis.

In many cases it is no longer possible to resolve the precise nature of the old acute occlusive complication in the occluded arterial segment. Some of these have associated old myocardial infarctions that have gone on to myocardial fibrosis. Many other old acute segmental occlusions show no evidence of complication in the form of myocardial infarction. In the 80 per cent of cases with the occlusive coronary artery disease already fully developed and previously asymptomatic, the occlusive process in the coronary arteries was not gradual but punctuated and complicated by episodes of a silent acute occlusion either in the form of hemorrhage into a plaque and/or luminal thrombosis.

The more one studies the old segmental occlusions, the more one is impressed that intimal hemorrhage was a frequent mechanism and in the less remote cases in which blood residues are still discernible in the old acute occlusive lesions, careful study will demonstrate that there is a large component of internal hemorrhage, or that the entire acute occlusive complication was one of hemorrhage into a plaque. Combinations of hemorrhage and luminal thrombosis are also encountered, yet many of the hemorrhagic lesions undergoing incorporation in the atheromatous plaque especially when grossly central in appearance, have been incorrectly designated as organizing or organized thrombi. Many of these are organizing or organized hematomas.

Only 20 per cent of the cases of unexpected death in apparently healthy persons from occlusive coronary artery disease have fresh acute occlusive complications in the coronary arteries. About 80 per cent of these are either occlusive hematomas in the diseased intima or combinations of intimal hemorrhage and luminal thrombi.

In some cases there may be an associated fresh acute myocardial infarction; in many cases the myocardial complication is absent. When it occurs it may have been silent or relatively asymptomatic and the entire disease may be made manifest for the first time by the sudden blowout of the myocardial infarction producing fatal intrapericardial hemorrhage and cardiac tamponade, or more rarely, a silent myocardial infarction is rendered fatal by the rupture of papillary muscle in the infarcted zone.

One is amazed at how extensive and advanced the occlusive coronary artery disease with or without myocardial infarction may be without concomitant symptomatology.

It is rather important to remember that those who will succumb unexpectedly tomorrow have just as much disease today. Death from other cause will reveal it as an incidental finding and it behooves the pathologist therefore to study the circumstances in connection with a death, and to make his autopsy a thorough one in order that he does not overlook more subtle conditions which may be the cause of death. The most rapid and sudden deaths are caused by occlusive coronary artery disease and only a few conditions simulate it in rapidity, but those possibilities must always be considered in the evaluation of findings leading to a determination of the cause of a sudden death.

The conditions which can simulate coronary artery disease are:

1. Electrocution with low tension currents.
2. Bolus death by choking on food.
3. An unsuspected fracture of the upper cervical spine with cord injury at that level.
4. Various types of poisoning including cyanid, alcohol, carbon dioxide and

carbon monoxide, which are sometimes unsuspected.

In the absence of an autopsy to confirm it, in view of pathological findings in most cases of sudden unexpected death from coronary artery disease, the diagnosis of coronary thrombosis as the lesion causing death should not be made or placed on death certificate. The cause of death is more correctly stated as occlusive coronary artery disease. Coronary thrombosis is only a part of the sum total of the entire extent of the disease in the heart. Whether strain or stress can cause an acute occlusive complication such as hemorrhage into a plaque and/or luminal thrombosis is debatable. But stress or strain may still be an important consideration because of its ability to induce complications in cases in which the acute occlusive complication would have been otherwise asymptomatic. It may cause coronary insufficiency which may be non-fatal or fatal, or it may precipitate myocardial infarction. In some cases it may cause hemorrhage and thrombosis in the diseased coronary artery, but these cases are not common and are difficult to substantiate.

Only occasionally does one come across a case in which one finds, after a very dramatic episode or incident, evidence of a fresh acute luminal thrombosis in already diseased coronary arteries in a person who has apparent health.

I recall two such cases. In the Andrea Doria collision in which the Andrea Doria sank, a forty-eight year old passenger on board who was previously considered to have been in good health did a great deal of work helping with the rescue and underwent quite an ordeal as did all the passengers. A few hours after this episode, he developed classic symptoms of angina pectoris and myocardial infarction, or what was thought to be myocardial infarction and he died shortly thereafter.

At autopsy we found a very severe occlusive coronary arteriosclerosis, but in addition there was a very fresh thrombus in the lumen of an already markedly narrowed vessel. Now, whether this was coming on independently, and nevertheless even if it were coming on independently, one can not say that the exertion and the old episode may not have been a factor in making something symptomatic and fatal that otherwise would have been another incident in the progress of his disease.

There is another case which I think is of the same type but in which one might even say that the emotion and the stress, and so on, actually precipitated the very fresh thrombosis. It was a case of a person who was working as a watchman in a large showroom and two safe breakers entered the place and held up the watchman and another porter and placed each person in the trunk of a large limousine-type automobile.

One man was able to escape. He finally, after several hours, was able to pry the cover off of his trunk and immediately called for help.

When the police came, in all the excitement they forgot about the other person and then they began looking for him. In view of the fact that one man was in the trunk, they looked in the trunk of another automobile and found the other person dead.

Incidentally, this person was also in apparent health. He had never been sick before, was not an emotional person, was always considered a very calm person, and without any evidence of symptomatic disease at all. He had rather marked coronary arteriosclerosis but also a very fresh hemorrhage in one of the atheromatous plaques which extended into the lumina to produce a fresh thrombosis.

Those cases are rather unusual. I would say that the great majority of people who die suddenly and under the influence of stress or without stress have disease that they had for a long time. There is nothing now that is added at the time of death.

At best, the pathologist comes up in most cases with something that has been there for a long time and one must always consider the circumstances before evaluating such a case.

I am going to forego showing the slides because I think you want to keep on schedule. Thank you very much.

(Applause.)

JUDGE KALTZ: Thank you very much, Dr. Helpern.

I might say, before introducing our next speaker, that there are some exhibits in the lobby that Dr. Albano has furnished and I am sure you will find them very interesting. While Dr. Helpern represents the field of pathology primarily, across the river, immediately, over in Jersey, we are very proud of our pathologists, particularly in the County of Essex. Dr. Albano, who was rather skimpy in his biographical sketch, being content to rely on two aspects of his biographical life, to wit: that he is professor of forensic medicine, Seton Hall College of Medicine and Chief Medical Examiner of the very large County of Essex. Dr. Albano, next to addressing you, has some very interesting slides which he is about to show and it is a pleasure for me to introduce Dr. Edwin H. Albano.

DR. ALBANO: Thank you, Mr. Moderator, distinguished guests, Ladies and Gentlemen. First, I want to say that it is an honor and a real privilege to be on the same program as Dr. Helpern. In my opinion, Dr. Helpern is the Dean of Forensic Medicine in this country and all over the world. He is a man with sincerity of integrity which is very important in our phase of medicine and he is a man who respectfully taught our profession. It is really a pleasure to be on the same program.

I have been asked by the Program Chairman to discuss the significance of stress and strain and the compensability of heart disease from the viewpoint of a pathologist. At the present time, under Workmen's Compensation laws throughout most of the United States the disability, the death of an employee from heart disease, is usually compensable if it can be established that the condition or the heart disease was caused, was accelerated, aggravated or made worse by an occupational injury. Our case records here in Essex County show that there are many, many heart conditions, both organic and functional, that arise directly and indirectly out of employment: Conditions due to direct trauma to the heart; conditions due to the secondary effects of trauma to other parts of the body and those due to stress and strain. Many of the cases include rupture, laceration, tears and bruises of the heart by penetrating and non-penetrating wounds or injuries of the chest. They also include cases of chronic cor pulmonale due to pneumonoconiosis or pulmonary fibrosis or scarring from the inhalation of industrial dusts, such as coal, silica, beryllium, asbestos and boxite, and there are cases of disability and death from myocarditis and inflammation of the heart muscle due to exposure to chemicals such as lead and mercury poisons, including arsenic, carbontetrachloride and benzine and poisonous gases such as chlorine and carbonmonoxide. In all of these cases, compensability depended upon whether the primary non-cardiac injury was occupationally work-connected or not.

The types of diseases, however, most frequently involved are those induced, accelerated and precipitated by physical effort, stress or strain, and emotional tension. I believe that stress can best be defined as any work, any physical effort, any mental activity to which an individual is subjected to that is beyond his ability to carry on with ease and without distress. Normally, the heart responds to any physical, emotional or sensory disturbance by means of a smooth, well balanced, well coordinated chain reaction. Now, this reaction is pivoted in the midbrain. It involves other parts of the nervous system and also involves many glands of the body, particularly the pituitary gland, the adrenals and the thyroid glands.

As the result of stress, the individual's response depends upon his constitution, his physical and muscular development and a great deal also upon his psychological and emotional state at the time of stress. At work it may depend upon his environment, upon the working conditions, whether they are suitable or detrimental due to satisfactory production; it may depend upon his relationship with management; it may depend upon the degree of competition with his fellow workers; it may also depend upon any change of environment, any change that may create additional work so that additional work that might lower the worker's resistance to stress and strain. Of course, we also know that it may depend upon his eating, drinking and smoking habits. We all know that similar stress situations may produce different effects in two or more individuals and, likewise, the response may also vary in the same individual at different times, dependent upon his threshold, the many constitutional, emotional and environmental factors involved.

As to the effect of stress and strain on the heart, the primary and most important factor is the presence or absence of preexisting disease. Most of the cases involve disease of the heart in which there is narrowing of the coronary arteries with impairment of circulation or the flow of blood through the main arteries of the heart. These diseases set up road blocks to the proper flow of blood, thereby interfering with the proper supply and demand of oxygen by the muscles of the heart. Fortunately, or unfortunately, there is always easily available medical opinion to establish cause and effect in any given situation and this leads to a tendency to encourage litigation in many cases brought into the Courts and it appears that the hair line differentiation between the stress and strain of ordinary living and the usual stress and strain of work-connected effort is a contributive and causative factor in mild and fatal heart attacks and will result in medical forensic problems for years to come.

Now, I want to show you a few slides and present the type of case that may come up for consideration before the Compensation Courts. We all know that the heart consists of four chambers, two auricles and two ventricles. It consists of four sets of valves, blood vessels, a mass of muscle and nerve fibers. This is the wall of the left ventricle, being thicker than the wall of the right ventricle and here we have the septum dividing both the right and the left ventricle and these are the sets of valves referred to.

This is a section -- I am sorry, skip that one. That was a section of coronary artery of the new born. The artery shows three coats, an inner, middle and outer coat, and it shows a lumen that is free and clear and lined by a single simple layer of epithelium cells. It shows no evidence of pathology, no evidence of the wear and tear, the stress and strain of living. The artery is perfectly normal in every respect.

This is an artery of an individual twenty-four years of age and it, too, shows no evidence of stress; the lumen is free and clear. The lining is smooth by the simple layer of epithelium and the coats are well differentiated. Now, when individuals with normal hearts are at work or under stress, whether it is from physical effort or from emotional tension, the heart, the muscle contracts with greater force. The volume output is increased. The amount of blood put out into the circulation is increased. The pulse rate goes up and the blood pressure also rises. Clinically, some of these individuals under stress, under nervous tension, will complain of shortness of breath, nervousness, some weakness and occasionally some pain across the chest with a pounding of the heart and palpatation but there is no case with any clinical or pathological proof that any single episode of severe stress in individuals with normal hearts has ever sustained any permanent damage from that single episode or stress. However, it is conceivable and also probable that individuals with normal hearts who are repeatedly exposed to severe, acute, extreme episodes of stress may develop pathological changes and some damage to the heart.

This is a microscopic demonstration of the myocardium. The myocardium, or the muscle of the heart itself, consists of nerves, muscles, bundles of muscle fibers, separated by thin strands of loose connective tissue. In this case, the myocardium is perfectly healthy, the cells of normal nuclei and show no degenerative changes whatsoever. Now, the work of the heart depends upon the myocardium and the myocardium depends upon the coronary circulation or the flow of blood to the main arteries of the heart, for its source of nutrition and supply of oxygen.

This, too, is an individual twenty-four years of age. He is a stock clerk. He works all day long and attends night classes for high school credits. This happened about a year and a half ago in the middle of the summer, a hot humid day. His helper was on vacation so instead of coming in at nine o'clock in the morning, he came in at seven and instead of going home at five he stayed on until seven. This was a real hot day and he was taking inventory and moving heavy crates from one part of the storeroom to another. About noon he sustained slight precordial pain, considerable indigestion and he felt kind of weak. He took a few Tums and he was relieved but he did not feel well enough to eat, so he went without his lunch. After the lunch period he went back to work. He worked and at three o'clock he was taken with sharp pain across his chest, pain radiating up into the jaw. He collapsed, became cold and clammy, and he hollered for help. Help came and about ten minutes later he was dead. We autopsied this individual and this is what we find. This is a twenty-four year old individual. We find severe coronary arteriosclerosis, the wall of the artery is thickened. It is sclerotic and it is calcified. Now, the lumen is no longer clear. It is replaced by a blood clot or a thrombus. The musculature appears fairly healthy.

Now, this is a magnification, a close view of the arteries. This shows the coronary arteries and it showed thickening of the walls and the lumen completely obliterated and taken up by a blood clot. We do microscopic sections of that blood clot and we come up with this. This is part of the wall down here and this is the blood clot in the blood vessel. It consists of red blood cells, a few scattered leucocytes and some fibrin, indicating that the clot is no more than three, four, five hours of age, and clinically, in view of the fact that the individual had sustained precordial pain, acute indigestion, about three hours before death, we can reaffirm from our pathological findings that the occlusive coronary episode occurred at twelve o'clock and not at three o'clock. Now, this is the kind of a case that is compensable because the indicent of working under pressure, doing more than his share of work on a hot humid day and then sustaining the acute occlusive coronary episode. There is definite causal relationship between the episode and the coronary thrombosis.

This is the case of a bank teller fifty-four years of age who was at work at the counter making up his accounts of the day. He had sustained a heart attack about four years prior to this episode and he was hospitalized for a period of six weeks. He was put on anticoagulants and he had been on anticoagulants ever since. Anticoagulants are to thin the blood as profilactic against thrombosis. During that period of time he would experience slight attacks of precordial pain and shortness of breath going up a flight of stairs or when he became emotionally excited. Now, on the day of this episode he collapsed suddenly to the floor. They called a doctor. They called the Emergency Squad. The Emergency Squad came and gave him oxygen. The doctor came along and the man was in total collapse. He was cold and clammy and in shock, and the doctor went right ahead and he did an open heart massage, trying to bring him back to life and, personally, I would rather take my chances with nature, and they brought this body to the morgue and we autopsied him, and this is what we find. We find evidence of the old scar, marked evidence of fibrosis and scarring of the myocardium, or heart. Physically, this part of the myocardium appears to be fairly well, a healthy one and this myocardial infarct we shall date back to the initial episode about four years prior. Here in the interstitial tissues we see areas of hemorrhage which are indicative of early myocardial infarction. Examination of the coronary arteries reveals marked sclerosis, but the lumen is free and clear. There is no evidence of any blood clot or thrombus. Microscopically it reveals marked coronary sclerosis.

Now, this is the coronary artery and this is the lumen, markedly diminished in size, relatively in size, compared to the size of the artery and here is a large arteriosclerotic plaque. The plaque consists of fatty infiltration. The deposition of numerous cholesterol crystals and calcification and the lumen is absolutely free and clear.

This is a higher magnification showing the strip-like crystals of cholesterol deposited in the wall of the coronary artery, evidence of calcification and fatty infiltration and marked thickening with scarring. This constitutes an arteriosclerotic plaque made up of cholesterol crystals, fibrous tissues, calcium and some fatty infiltration. Now, what the cause of arteriosclerotic heart disease is, none of us know. There are many, many theories. Some of them believe that it is due to a faulty fat or cholesterol metabolism and that is only because in most of these cases of coronary artery disease, the blood level of cholesterol is extremely high and also because in the lesion we find a large amount of cholesterol deposition in the walls of the arteries. Now, we all know that cholesterol is formed in the liver, gets into the circulation and has a strong tendency to invade the blood vessels and deposit within the wall substance itself. As it does so, the amount of cholesterol piles up and the wall of the blood vessel starts to bulge. It bulges in the path of least resistance and that is into the cavity or the core of the artery. In so doing, it narrows that artery so that we end up with an arteriosclerotic plaque. What can happen when we have a plaque? First the plaque, the lining of the plaque, is very rough. It is shaggy and it is an ideal site for a blood clot formation or a thrombus formation that will seal off the artery and cut off the circulation to the myocardium, producing myocardial infarct.

Secondly, that plaque may become so big that in itself will cause some obstruction to the coronary blood circulation and cause coronary insufficiency, then heart failure and possibly ventricular fibralation and ventricular standstill and death.

Another thing, the contents of that plaque may rupture and spill right into the lumen of the artery and cause coronary occlusion and choking off of the circulation to the myocardium with death of the muscle tissue and myocardial infarction.

This is a microscopic section of the same individual taken of the area of scarring that he had that dates back four years previously, to the first attack and here we show the red muscle, the blue fibrous tissue, the balance is reversed. There is more fibrous tissue than there is muscle. This brings up the point of how I would feel about sending a longshoreman back to work, or a man with a pick and shovel. I always try to make an analogy with an apple, a coronary occlusion with an apple. An apple starts to go bad, you remove the rotten part out of the apple, the rest of the apple is good, but you have less of it. The same thing applies to coronary occlusion, with a myocardial infarct and if you have seen as many infarctions as we have, with the marked replacement of the myocardium with scar tissue, there is no question in my mind that the cardiac reserve in these individuals is diminished, and in many cases markedly diminished, and any excessive work on the heart will cause that heart to go into coronary insufficiency, heart failure and probably death. We have seen a number of these cases after their first attack.

Here is another case. A fellow working with a vending machine company. He, worked along with a friend of his; his friend was on vacation. He was working harder than usual doing more than his share of work and he was carrying cartons of cigarettes up to the second floor when he suddenly experienced pain in his chest and he collapsed and died within minutes. So we do an autopsy on this fellow and here he shows -- this man is forty-seven years of age -- and he shows severe coronary artery disease. The lumen is hardly visible. It is replaced by blood clot. The microscopic section shows occlusion of the lumen of the artery by a mixture of blood and cholesterol crystals and fat. Now, what happened in this case was he had a rupture of an arteriosclerotic plaque under stress and strain and there was spillage of blood into the lumen of the artery causing coronary occlusion and damage to the heart muscle. This is a microscopic section of that mixture in the lumen of the artery, cholesterol crystals, some fibrin, numerous red blood cells, so this is due to a spillage of a rupture with spillage of the contents into an artery.

This is what the muscle looks like in myocardial infarction. There are degenerative necrotic changes of the muscle and the muscle infiltrated by numerous leucocytes.

Here is another case of coronary artery disease in a watchman. This fellow worked up to Friday night, and he was off Saturday and Sunday, went to work Monday, and he was found dead Tuesday morning. Here we find at autopsy severe coronary artery disease and he has very small portion of the lumen taken up with some blood.

Now, this is a section of the coronary artery and there is marked sclerosis, thickening with fatty infilitration and here is a thrombus, but the age of the thrombus is more than four, five or six, or even twelve hours, twenty-four hours old, so we can date it back to within two or three days before that time and it was not work-connected, and therefore, not eligible for compensation.

This is the myocardium of that individual showing the process of the muscle tissue and infiltration with the leucocytes.

This is coronary occlusion caused by hemorrhage into the plaque or into the wall of a blood vessel under stress and strain, not at rest or while asleep. This is the lumen of the coronary artery. All that is left is a small slit and that is due to the marked hemorrhage in the wall of the artery, causing marked bulging into the lumen of the artery, causing almost complete obliteration to the flow of blood through that artery.

A case of syphilis, luetic aortitis. This individual had a penile lesion when he was about twenty-one years of age. That is what the history said. No treatment. About thirty-four on routine physical examination, he had a 4-plus Wasserman test and later on in life, about fifty, he suddenly collapsed from a coronary. He was working at a bench, collapsed and he died from an acute occlusive coronary episode and that is due to natural causes, natural causes, because the process, the luetic process in the aorta impinged itself on the opening of the coronary arteries, caused occlusion and myocardial infarction.

This is a microscopic section of that heart showing the process, destruction of the muscle cells and destruction of the leucocytes which you get with early myocardial infarction.

This is a case of subendocardial infarction. In this case, trauma, an injury, in which there was considerable shock. This individual got out of his car. He walked in front of his car and as he was walking by the front of his car the brakes slipped and it pinned him up against the truck. He sustained a bumper fracture. He was in shock. He was admitted to the hospital and he died the next day. He had irreversible shock. Now, with shock, you get a lower-ing of the blood pressure in the coronary circulation, not only in the coronary circulation, but in every blood vessel throughout the body there is diminution in the flow. There is hypoxia. There is a diminished amount of oxygen supplied to the muscle of the heart and the muscle of the heart undergoes necrosis and this shows the area of subendocardial infarction.

I will skip these. This is a rupture of the heart, one of the complications of coronary occlusion. This is an old lesion of the myocardial infarction showing marked scarring and aneurysmal dilatation, and this is the microscopic section showing some muscle and a large amount of scar tissue.

Another old infarct showing you aneurysmal dilatation and scarring of the myocardium.

This is a patient with hypertensive heart disease with marked thickening of the wall of the heart. It weighed about 800 grams and he died as a result of coronary insufficiency, although there was very little pathology in the coronary arteries.

Rheumatic heart disease. Marked thickening. Fibrosis of the valves and these individuals, under stress and strain, may also develop coronary insufficiency, heart failure and death, and aneurysm of the aorta, at work, lifting a heavy object, sudden pain in the chest, radiating down the back, both arms, down both legs, shock and sudden death.

Here is an individual with rheumatic heart disease, admitted to the hospital for a hernia operation. Taped pre-operative electrocardiograms, perfectly normal. This was an individual who was nervous, marked nervous temperament, and the day before the operation in the morning he was seized with severe pain in his chest. The nurse called the doctor. By the time the doctor got there he was in shock. They took an electrocardiogram and they came up with this. He developed ventricular fibrilation and sudden death. No longer looks like a normal electrocardiogram.

(Applause.)

JUDGE KALTZ: I am sure you enjoyed it because another name for this particular finish will be the Untouchables. If Elliott Ness saw this, I think he would quit.

Questions now, Gentlemen, please.

DR. GELFAND: Dr. Gelfand, Philadelphia. I realize that this is important, because I do not want to leave this group with the understanding that there is a misunderstanding between Dr. Albano and myself. One of the gentlemen from the press wants to know whether there was any disagreement. Actually, basically, there is not. You must remember the question with reference to the longshoreman qualified him as a Class 1 individual. That is a person without symptoms, a person who has cardiac impairment without symptoms and based upon our findings, medically, and under the working conditions, the job analyses, we would, in all likelihood, let this man go back to work. Mr. Balk's question as related, did not qualify, I believe, this individual's characteristics but I hedged as to whether I would only let him go back under certain conditions, certain working conditions, certain conditions that would have to satisfy me as a cardiologist. So, basically, there are all variations and degrees of myocardial fibrosis, secondary to coronary occlusive, coronary artery disease, and each one might be judged for his own individual purpose. Some people can go back to pick and shovel work after a myocardial infarction. Some people can go back to longshoreman's work after myocardial infarction. We cannot give you any statistics on that.

JUDGE KALTZ: Any questions?

MR. WILSON: Herman Wilson, attorney for the petitioners, only. Doctor, in the case that you told us about, concerning the patient on the Andria Doria, I think that there was one significant thing that I would like to have your opinion on. While you indicate the man had had some severe strain during the rescue operations, he died several hours later. I gathered from your comments that there was a feeling that there was a relationship between his death and the excitement and the activity he had undergone several hours before. Was this delay in time of the events in death something which would impair your judgment concerning causal relationship?

DR. GELFAND: No. I think in his case the continuation of the effect of that stress situation is pretty evident from what the distress was. I would say this: I think that there is a little misunderstanding. I do not know whether this man's thrombosis actually developed as a result of this situation. It is possible. I am not entirely sure of that, but certain that we have to differentiate not only between an anatomical change in the body, but also by the elements of ultimate effect of that anatomical change on the individual. If you look through many hearts of people who have never had an episode at all, who have never had any symptomatic heart disease, the heart tells you that there have been episodes which were acute. Now, what may make the difference in a particular case as to whether or not an individual is going to die or have coronary insufficiency or have myocardial infarction may be dependent on some stressful situation. I don't know, but the outcome of the case may be different. Lots of people have coronary thrombosis which does not even produce symptoms and they may very well be that what may make the process symptomatic is some unusual situation. I do not think you can altogether interpret the case on the basis of findings. You can never dismiss the circumstances in a particular case and sometimes these circumstances are so close and the situation is so connected with it, that one has to admit that it is not unreasonable to conclude there is a relationship between the stress and the outcome, not between the stress necessarily and the course of the anatomical disease.

JUDGE KALTZ: Anybody else have a question? Mr. Avidan.

MR. AVIDAN: Alex Avidan. Dr. Helpern assuming in the Andria Doria case there was this connection between the stress of the rescue operations and the development of the thrombus several hours later and ultimately death, could you explain what would be the probable pathological mechanism in the development of that thrombus from that stress?

DR. HELPERN: In other words, how would the thrombus develop as a result of a stressful situation? That is a very difficult question to answer in view of the fact that some thrombi develop with ordinary stresses, but many of the thrombi that we see, many of the thromboses in the lumen are preceded by hemorrhages into the atheromatous plaque and if you make serial sections, you can see a relationship between hemorrhage and the thrombosis or an association. Now, I cannot say why that thrombus develops as a result of stress. I do not know the answer to that, but you do not have to know the answer to that. In other words, even if you do not understand the mechanism of the formation of a thrombus, that does not dismiss the question of whether there is a relationship be-