Interstate Commerce Commission

Washington, D.C. 20423

OFFICE OF THE SECRETARY

I, SIDNEY L. STRICKLAND, JR., Secretary of the INTERSTATE COMMERCE COMMISSION, do hereby certify that the attached is a true copy of the Association of American Railroads Proceedings of the Thirty-Seventh Annual Meeting of the Medical and Surgical Section, held at The Greenbrier Hotel, White Sulphur Spring, West VA, March 28-30, 1957, the original of which are now on file and of record in the office of said Commission.

IN WITNESS WHEREOF I have hereunto set my hand and affixed the Seal of said Commission this 9th day of March, A.D., 1993.

SECRETARY OF THE INTERSTATE COMMERCE COMMISSION

Association of American Railroads

PROCEEDINGS

OF THE

THIRTY-SEVENTH ANNUAL MEETING

OF THE

MEDICAL AND SURGICAL SECTION

WHITE SULPHUR SPRINGS, WEST VIRGINIA

MARCH 28-30, 1957

PROCEEDINGS

OF THE

THIRTY-SEVENTH ANNUAL MEETING

OF THE

Association of American Railroads

MEDICAL AND SURGICAL SECTION

HELD AT THE

GREENBRIER HOTEL

WHITE SULPHUR SPRINGS, WEST VIRGINIA

MARCH 28-30, 1957

INDEX

ASSOCIATION OF AMERICAN RAILROADS

(March, 1957)

Officers

W. T. Faricy, President.
T. L. Preston, Vice-President and General Counsel (Law Department).
R. G. May, Vice-President (Operations and Maintenance Department).
Walter J. Kelly, Vice-President (Traffic Department).
A. R. Seder, Vice-President (Finance, Accounting, Taxation and Valuation Department).
J. Elmer Monroe, Vice-President and Director (Bureau of Railway Economics).
Robert S. Henry, Vice-President (Public Relations Department).
G. M. Campbell, Secretary-Treasurer.

Board of Directors

W. T. Faricy, Chairman (ex-officio).
C. McD. Davis, President, Atlantic Coast Line Railroad.
Harry A. DeButts, President, Southern Railway System.
F. G. Gurley, President and Chairman of Executive Committee, Atchison, Topeka and Santa Fe Railway.
Clark Hungerford, President, St. Louis-San Francisco Railway.
P. W. Johnston, Chairman of the Board and Chief Executive Officer, Erie Railroad.
W. A. Johnston, President, Illinois Central Railroad.
J. P. Kiley, President, Chicago, Milwaukee, St. Paul and Pacific Railroad.
R. S. MacFarlane, President, Northern Pacific Railway, St. Paul, Minnesota.
G. A. MacNamara, President, Minneapolis, St. Paul and Sault Ste. Marie Railroad, Minneapolis 2, Minnesota.
P. S. McGinnis, President, Boston & Maine Railroad.
P. J. Neff, President, Missouri Pacific Lines.
A. E. Perlman, President, New York Central System.
D. J. Russell, President, Southern Pacific Company.
H. E. Simpson, President, Baltimore and Ohio Railroad.
John W. Smith, President, Seaboard Air Line Railroad.
R. H. Smith, President, Norfolk & Western Railway.
A. E. Stoddard, President, Union Pacific Railroad.
J. M. Symes, President, Pennsylvania Railroad.
John E. Tilford, President, Louisville and Nashville Railroad.
L. L. White, Chairman of the Board, New York, Chicago and St. Louis Railroad.

OPERATIONS AND MAINTENANCE DEPARTMENT

R. G. May, Vice-President

OPERATING-TRANSPORTATION DIVISION

W. C. Baker, Chairman
E. M. Tolleson, Vice-Chairman
A. I. Cilske, Executive Vice-Chairman

OFFICERS AND PERSONNEL OF COMMITTEES OF THE MEDICAL AND SURGICAL SECTION FOR THE YEAR 1956-1957

Dr. R. J. Bennett, Chairman
Dr. I. Goldowsky, Vice-Chairman
F. J. Parker, Secretary

Committee of Direction

Dr. R. J. Bennett, Chairman
Dr. I. Goldowsky, Vice-Chairman

(Term expires in 1957)

Dr. R. J. Bennett, Chief Surgeon, Elgin, Joliet and Eastern Railway, 208 South LaSalle St., Chicago, Illinois.

Dr. S. M. English, Medical and Surgical Director, Baltimore and Ohio Railroad, Room 217, B. & O. Central Building, Baltimore, Maryland.

Dr. I. Goldowsky, Medical Director, Central Railroad Company of New Jersey, Jersey City, New Jersey.

Dr. B. W. Stockwell, Chief Surgeon, Detroit and Toledo Shore Line Railroad, 2219 John R. St., Detroit 1, Michigan.

(Term expires in 1958)

Dr. R. M. Graham, Director, Department of Medicine and Sanitation, The Pullman Company, 165 North Canal St., Chicago 6, Illinois.

Dr. C. F. Holton, Chief Surgeon, Central of Georgia Railway, Savannah, Georgia.

Dr. J. K. Stack, Chief Surgeon, Chicago & North Western Railway, 127 North Clinton Street, Chicago 6, Illinois.

*Dr. W. W. Washburn, Chief Surgeon, Southern Pacific Company, San Francisco 17, California.

(Term expires in 1959)

Dr. M. B. Clayton, Chief Surgeon, Southern Railway System, 15th and K Streets, N. W., Washington, D. C.

Dr. K. E. Dowd, Chief Medical Officer, Canadian National Railways, Montreal, Que., Canada.

Dr. V. W. Hollo, Chief Surgeon, St. Louis-San Francisco Railway, St. Louis, Missouri.

Dr. J. Huber Wagner, Chief Surgeon, Bessemer & Lake Erie Railroad, 525 William Penn Place, Pittsburgh, Pennsylvania.

*To Retire on September 1, 1957.

EPARTMENT

VISION

TTEES OF THE
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n Railway, 208 South

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Railway, 127 North

Company, San Fran-

System, 15th and K

National Railways,

Railway, St. Louis,

Erie Railroad, 525

Committee on Disability and Rehabilitation

Dr. James K. Stack (Chairman), Chief Surgeon, Chicago & North Western Railway, 127 North Clinton Street, Chicago 6, Illinois.
Dr. J. F. DePree, Chief Surgeon (Lines West), Chicago, Milwaukee, St. Paul & Pacific Railroad, 407 Medical Arts Building, Seattle 1, Washington.
Dr. S. M. English, Medical and Surgical Director, Baltimore & Ohio Railroad, B. & O. Central Building, Room 217, Baltimore 1, Maryland.
Dr. J. W. Houk, Medical Director, New York, Chicago & St. Louis Railroad, Terminal Tower, Cleveland 1, Ohio.
Dr. R. S. Kiefer, Chief Surgeon, Missouri-Kansas-Texas Railroad, St. Louis 1, Missouri.
Dr. Harvey Nelson, Chief Surgeon, Soo Line Railroad, 1433 Medical Arts Building, Minneapolis 2, Minnesota.
Dr. G. Earle Wright, Chief of Medical Services, Canadian Pacific Railway, Windsor station, Montreal, Que., Canada.

Committee on Trauma

Dr. B. W. Stockwell (Chairman), Chief Surgeon, Detroit & Toledo Shore Line Railroad, 710 Doctors Building, 4919 John R. Street, Detroit, Michigan.
Dr. R. G. Carothers, Chief Surgeon, Cincinnati, New Orleans & Texas Pacific Railway, Cincinnati 2, Ohio.
Dr. Duncan Eve, Chief Surgeon, Nashville, Chattanooga & St. Louis Railway, 2701 Hayes Street, Nashville 4, Tennessee.
Dr. J. R. Gandy, Chief Surgeon, Texas & New Orleans Railroad, Houston 1, Texas.
Dr. C. F. Holton, Chief Surgeon, Central of Georgia Railway, Savannah, Georgia.
Dr. Southgate Leigh, Jr., Chief Surgeon, Seaboard Air Line Railroad, S. A. L. Building, Norfolk 10, Virginia.
Dr. W. E. Mishler, Chief Surgeon, Erie Railroad, 608 Republic Building, Cleveland 15, Ohio.

Committee on Developments Resulting from Physical Examinations

Dr. W. J. Longeway (Chairman), Chief Surgeon, Colorado & Southern Railway, 320 Metropolitan Building, Denver, Colorado.
Dr. J. J. Brandabur, Chief Medical Examiner, Chesapeake & Ohio Railway, Huntington, West Virginia.
Dr. B. L. Dorau, Chief Surgeon, Northern Pacific Railway, St. Paul 1, Minnesota.
Dr. J. R. Knowles, Chief Surgeon, Boston & Maine Railroad, Boston, Massachusetts.
Dr. J. M. L. Jensen, Chief Surgeon, Chicago, Rock Island & Pacific Railroad, Chicago, Illinois.
Dr. K. C. Walden, Chief Surgeon, Atlantic Coast Line Railroad, Wilmington, North Carolina.
Dr. R. S. Westine, Chief Surgeon, Chicago & Eastern Illinois Railroad, 334 West 63rd Street, Chicago, Illinois.

Committee on Medical Aspects of Air Conditioning of Cars

Dr. R. M. Graham (Chairman), Director, Department of Medicine and Sanitation, The Pullman Company, Merchandise Mart Plaza, Chicago 54, Illinois.

Dr. M. B. Clayton, Chief Surgeon, Southern Railway System, 15th and K Streets, N. W., Washington 13, D. C.

Dr. K. E. Dowd, Chief Medical Officer, Canadian National Railways, Montreal, Que., Canada.

Committee on First Aid

Dr. E. C. Olson (Chairman), Chief Surgeon, Illinois Central Railroad, 5900 Stoney Island Avenue, Chicago, Illinois.

Dr. V. W. Hollo, Chief Surgeon, St. Louis-San Francisco Railway, St. Louis, Missouri.

Medical Film Committee

Dr. R. S. Kuhn (Chairman), Chief Surgeon, Missouri-Kansas-Texas Railroad, St. Louis 1, Missouri.

Dr. G. W. Benjamin, Chief Medical Officer, Western Maryland Railway, Hillen Station, Baltimore 2, Maryland.

Dr. G. F. Cushman, Chief Surgeon, Western Pacific Railroad, 526 Mission Street, San Francisco, California.

Dr. A. Negaard, Chief Medical Examiner, Chicago & North Western Railway, 127 North Clinton Street, Chicago 6, Illinois.

Dr. C. H. O'Donnell, Medical Director, New York Central System, 320 Michigan Central Passenger Station, Detroit 16, Michigan.

Dr. J. R. Winston, System Medical Director, Atchison, Topeka & Santa Fe Railway, 304 West French Avenue, Temple, Texas.

Advisory Members from Committee of Direction

Dr. R. J. Bennett, Chief Surgeon, Elgin, Joliet and Eastern Railway, 208 South LaSalle Street, Chicago, Illinois.

Dr. R. M. Graham, Director, Department of Medicine and Sanitation, The Pullman Company, Merchandise Mart Plaza, Chicago 54, Illinois.

Dr. V. W. Hollo, Chief Surgeon, St. Louis-San Francisco Railway, St. Louis, Missouri.

Representatives of the Medical and Surgical Section on the Joint Committee on Railway Sanitation

Dr. R. M. Graham (Chairman, Joint Committee on Railway Sanitation), Director, Department of Medicine and Sanitation, The Pullman Company, Merchandise Mart Plaza, Chicago 54, Illinois.

Dr. M. B. Clayton, Chief Surgeon, Southern Railway System, 15th and K Streets, N. W., Washington 13, D. C.

Dr. A. M. W. Hurst, Assistant Medical Director, Pennsylvania Railroad, 15 North 32nd Street, Philadelphia 4, Pennsylvania.

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ASSOCIATION OF AMERICAN RAILROADS

OPERATING—TRANSPORTATION DIVISION
MEDICAL AND SURGICAL SECTION

RULES OF ORDER

1. **REPRESENTATION:** As provided in the Plan of Organization, the representation of Member Roads in the Medical and Surgical Section shall be Chief Surgeons or other persons engaged in a similar capacity. The Railway Express Agency, Inc., and the Pullman Company are eligible for membership in this Section.

2. **AFFILIATED MEMBERS:** A representative of an organization collaborating or cooperating with the Section may become an Affiliated Member thereof upon the approval of his application by the Committee of Direction. An Affiliated Member shall have the rights and privileges accorded a Member Road representative, except voting or the holding of office.

Officers and Committees

3. The officers of the Section shall consist of a Chairman, Vice-Chairman and Secretary.

(a) As provided in the Plan of Organization, the **CHAIRMAN** and **VICE-CHAIRMAN** shall be selected by the Committee of Direction from its membership. Their terms of office shall be one year. A Chairman will not succeed himself.

(b) The **SECRETARY** will be appointed by the General Committee of the Division. His salary shall be named by that Committee, subject to the approval of the Vice-President, Operations and Maintenance Department.

(c) The **COMMITTEE OF DIRECTION** will consist of twelve members, territorially representative as far as practicable—one each from New England and Canada; four from the East; two from the South and four from the West—elected as hereinafter prescribed, each of whom shall serve for three years.

The terms of office of all elective members of the Committee of Direction shall expire at the conclusion of the Annual Meeting. Vacancies in the committee membership shall be filled by appointment of the Committee until the next election.

In addition to the above, the Surgeon-General of the United States Bureau of Public Health Service or a representative to be designated by him, and a representative to be designated by the Conference of State and Provincial Health Authorities of North America shall be honorary members of the Committee of Direction.

The Committee of Direction will select from its elective membership a Chairman and Vice-Chairman of the Section, whose terms of office shall be one year. A Chairman will not succeed himself.

(d) The Standing Committees of the Section will be as follows:

Committee on Disability and Rehabilitation
Committee on Trauma
Committee on Developments Resulting from Physical Examinations
Committee on Medical Aspects of Air Conditioning of Cars
Committee on First Aid
Medical Film Committee

The representation of Member Roads on these committees will be, so far as is practicable, territorially selected, in approximately the same proportions as that of the Committee of Direction, personnel to be named each year by the Committee of Direction immediately following adjournment of the Annual Meeting.

Duties of Officers

4. The CHAIRMAN shall have general supervision over the affairs of the Section and shall preside at meetings of the Section and at meetings of the Committee of Direction.

5. The VICE-CHAIRMAN, in the absence of the Chairman, shall perform the duties of the Chairman and such other duties as may be assigned.

6. (a) The SECRETARY shall perform the usual duties of that office and such other duties as may be assigned to him by the Chairman.

(b) He shall receive six weeks in advance of the Annual Meeting each year the report of the Committee on Nominations, as elsewhere provided for, and will submit to the membership at the Annual Meeting the nominations contained in that report, to fill the vacancies in the membership of the Committee of Direction. He shall announce the result of the election promptly to the members.

Duties of Committees

7. The COMMITTEE OF DIRECTION shall:

(a) Exercise general supervision over the interests and affairs of the Section.

(b) Be empowered to act on behalf of the Section in the interim between meetings and shall submit at each meeting a report covering its actions.

(c) Examine and decide what portion of communications, papers and reports shall be submitted at the meetings. It shall determine which, if any, of the subjects presented by the various committees, shall be referred to the General Committee of the Division.

(d) Appoint two months in advance of the Annual Meeting each year a Committee on Nominations, consisting of representatives of five Member Roads, who shall not be members of the Committee of Direction.

(e) Appoint additional committees as required.

(f) Submit to the Chairman, General Committee, detail of contemplated financial requirements for conducting the work of the Section as required or as called for by that official.

(g) Call Annual Meetings of the Section, subject to the approval of the General Committee of the Division, if in its judgment conditions warrant.

(h) Call meetings of the Section, upon not less than thirty days' notice to each member. It must call special meetings of the Section upon the request, in writing, of a majority of the Member Roads.

8. The COMMITTEE ON NOMINATIONS, appointed as above prescribed, shall report to the Secretary at least six weeks in advance of the Annual Meeting of each year, at least two nominations for each impending vacancy to replace the four members of the Committee of Direction whose terms expire that year, and to fill any vacancy.

The duties of the standing Committees shall be as follows:

9. COMMITTEE NO. 1—The COMMITTEE ON DISABILITY AND REHABILITATION shall study and report, with suggestions or recommendations, on such subjects that have to do with the physical efficiency or inefficiency of railroad employes. It shall also consider ways and means for the rehabilitation of injured or incapacitated employes and the complete restoration of function.

10. COMMITTEE NO. 2—The COMMITTEE ON TRAUMA shall study and report on the treatment and transportation of fracture cases including (a) Diagnosis of fractures, (b) First aid and transportation splints, (c) Fracture report forms, (d) X-ray work in connection with fractures, and similar subjects.

11. COMMITTEE NO. 3—The COMMITTEE ON DEVELOPMENTS RESULTING FROM PHYSICAL EXAMINATIONS shall analyze and make report, with recommendations or suggestions, on data made available by periodic examinations, etc. It shall study and revise as circumstances may warrant, the recommended standards covering physical examinations as well as the forms used in connection therewith.

12. COMMITTEE NO. 4—The COMMITTEE ON MEDICAL ASPECTS OF AIR CONDITIONING OF CARS shall study and report on this subject in its relation to the health and comfort of travelers, cooperating with other departments handling matters relating to air conditioning of equipment.

13. COMMITTEE NO. 5—The COMMITTEE ON FIRST AID shall study and report, with suggestions or recommendations, on first aid instructions for railroad employes, a standard first aid packet, etc., and such other matters involving first aid as relate to railroad operation.

14. COMMITTEE NO. 6—The MEDICAL FILM COMMITTEE shall be concerned with such study as required of matters relating to availability of medical films for railroad use.

15. VOTING AT MEETINGS OF SECTION: (a) Vote may be taken viva voce, by rising, by roll call or by ballot. Each Member Road shall be entitled to one vote. The vote of the majority of the Member Roads represented shall be required to decide any question, motion or resolution, unless otherwise ordered. (b) Voting for candidates for membership on the Committee of Direction shall be by ballot. (c) Unless otherwise designated by it, the ranking officer will be recognized as the Voting Representative of a road at any meeting.

16. LETTER BALLOTS may be taken upon any subject by order of the Committee of Direction and must be taken on all questions affecting physical property. The voting power of the Member Roads shall be proportionate to the ownership of miles of road.

17. ORDER OF BUSINESS: The order of business at meetings of the Section shall, unless otherwise directed by a majority of the members present, be as follows:

Approval of minutes of last meeting
Reports of Standing Committees
Reports of Special Committee
Reports of Tellers
Unfinished business
New Business

18. Robert's Rules of Order shall govern the proceedings of this Section, including amendment to these Rules of Order.

ASSOCIATION OF AMERICAN RAILROADS

MEDICAL AND SURGICAL SECTION

Greenbrier Hotel
White Sulphur Springs, West Virginia
March 28-30, 1957

The following were present:

Members	Representatives
Atlanta & St. Andrews Bay Railway	Dr. J. T. Ellis, Chief Surgeon.
Atlantic Coast Line Railroad	Dr. J. M. Johnson, Executive Assistant.
Baltimore & Ohio Railroad	Dr. S. M. English, Medical & Surgical Director.
Baltimore & Ohio Chicago Terminal Railroad	Dr. S. M. English, Medical & Surgical Director.
Bangor & Aroostook Railroad	Dr. J. H. Johnson, Chief Surgeon.
Boston & Maine Railroad	Dr. J. R. Knowles, Chief Surgeon.
British Railways	Dr. L. J. Haydon, Chief Medical Officer.
Canadian National Railways	Dr. K. E. Dowd, Chief Medical Officer.
Canadian Pacific Railway	Dr. G. Earle Wight, Chief of Medical Services.
Central of Georgia Railway	Dr. C. F. Holton, Chief Surgeon.
Central Railroad of New Jersey	Dr. I. Goldowsky, Medical Director.
Chicago & North Western Railway	Dr. J. K. Stack, Chief Surgeon.
Chicago, Burlington & Quincy Railroad	Dr. R. B. Kepner, Chief Medical Officer.
Chicago, Milwaukee, St. Paul & Pacific Railroad	Dr. R. Householder, Chief Surgeon, Lines East).
[illegible]	Dr. J. J. Beauchamp, Chief Medical Officer.
	Dr. J. M. Emmett, Chief Surgeon.
	Mr. W. J. Tuohy, President
Chicago, Rock Island & Pacific Railroad	Dr. J. M. L. Jensen, Chief Surgeon.
Colorado & Southern Railway	Dr. W. J. Longeway, Chief Surgeon.
Delaware, Lackawanna & Western Railroad	Dr. J. O. MacLean, Surgeon.
Detroit & Toledo Shore Line Railroad	Dr. B. W. Stockwell, Chief Surgeon.
Detroit Terminal Railroad	Dr. B. W. Stockwell, Chief Surgeon.
Elgin, Joliet & Eastern Railway	Dr. R. J. Bennett, Jr., Chief Surgeon.
Erie Railroad	Dr. W. E. Mishler, Chief Surgeon.
Ferrocarril del Pacifico	Dr. I. Chavez, Chief Surgeon.
Grand Trunk Western Railway	Dr. B. W. Stockwell, Chief Surgeon.

Members	Representatives
Illinois Central Railroad	Dr. E. C. Olson, Chief Surgeon. Dr. H. N. MacKechnie, Assistant Chief Surgeon.
Kansas City Terminal Railway	Dr. G. Owens, Chief Surgeon.
Louisville & Nashville Railroad	Dr. Duncan Eve, Chief Surgeon.
Missouri Pacific Railroad	Dr. J. A. Lemkuhl, Medical Assistant to President.
Menon Railroad	Dr. E. T. Stahl, Chief Surgeon.
Nashville, Chattanooga & St. Louis Railway	Dr. Duncan Eve, Chief Surgeon.
New York Central System	Dr. C. H. O'Donnell, Medical Director
Norfolk & Western Railway	Dr. M. P. Moore, Medical Director Dr. J. E. Hatfield, Associate Medical Director.
Northern Pacific Railway	Dr. B. I. Draud, Chief Surgeon.
Pennsylvania Railroad	Dr. J. M. Brewster, Regional Medical Officer.
Pittsburgh & Lake Erie Railroad	Dr. J. H. Wagner, Chief Surgeon. Dr. A. H. Winters, Chief Surgeon.
Pullman Company	Dr. R. M. Graham, Director of Medicine.
Reading Company	Dr. A. Neupauer, Chief Medical Officer.
St. Louis-San Francisco Railway	Dr. V. W. Hollo, Chief Surgeon. Mr. R. P. Hamilton, Superintendent of Safety.
Savannah & Atlanta Railroad	Dr. C. F. Holton, Chief Surgeon.
Seaboard Air Line Railroad	Dr. S. Leach, Jr., Chief Surgeon.
Southern Pacific Company	Dr. W. W. Washburn, Chief Surgeon.
Southern Railway System	Dr. M. B. Clayton, Chief Surgeon.
State Railway of Thailand	Dr. G. Homsethie, Chief Medical Officer.
Texas-Mexican Railway	Dr. W. R. Powell, Chief Surgeon.
Texas & New Orleans Railroad	Dr. J. R. Gandy, Chief Surgeon.
Texas & Pacific Railway	Dr. S. J. Feducia, Chief Surgeon.
Union Railroad	Dr. Julius Mazer, Medical Director. Dr. J. Huber Wagner, Chief Surgeon.
Western Maryland Railway	Dr. G. W. Benjamin, Chief Medical Officer.
Western Pacific Railroad	Dr. G. F. Cushman, Chief Surgeon.

Also Present

Members	Representatives
Association of American Railroads	Mr. K. A. Carney, Executive Vice-Chairman, General Claims Division, Director, Claims Research Bureau.
	Mr. H. S. Dewhurst, Special Assistant.
	Mr. F. J. Parker, Secretary, Medical and Surgical Section.
	Mr. R. L. Rose, Assistant to Secretary.
	Mr. Bruce Smith, Secretary and Assistant Director General Claims Division.
City National Bank & Trust Company	Mr. Thomas Collins.
Interstate Commerce Commission	Mr. Owen Clarke, Commissioner.
U. S. Railroad Retirement Board	Dr. R. L. Kohler.

THURSDAY MORNING SESSION

March 28, 1957

The Thirty-Seventh Annual Meeting, Medical and Surgical Section, Association of American Railroads, convened in the Greenbrier Hotel, White Sulphur Springs, West Virginia, at 9:50 o'clock, a.m., Chairman R. J. Bennett, Chief Surgeon, Elgin, Joliet & Eastern Railway, Chicago, Illinois, presiding.

CHAIRMAN BENNETT: The meeting will please come to order. We are certainly delighted to have you here. We are also delighted to be in such a beautiful place to hold this meeting, which we hope is going to be so beneficial to us all.

I apologize for starting this meeting a little late, but some of the chairmen got held up with [illegible] and I thought it best that we wait until all of them had arrived before we started. [illegible] at twelve-thirty today.

[illegible] Chairman Bennett.

CHAIRMAN BENNETT: We have a very long and interesting program this morning, and we'd like to get going.

We have some very distinguished guests this year, to whom we are very grateful. We are very happy to have them with us. We are going to hear from [illegible] in just a little while in the program. Right now I would like to introduce the guests who are here, so that you will know them, say hello to them, and [illegible] we can discuss our mutual problems with Mexico, Thailand and Canada, and see if we have anything in common. Undoubtedly, they can learn things from us, and undoubtedly, we can learn some things from them.

I would like to introduce to you first, Dr. Ignacio Chavez, of Guadalajara, Mexico. (Applause)

And we have Dr. G. Honsetnie, from Thailand. (Applause)

We would like to have our guests enter into our program, asking questions and giving us their ideas. I'm sure the whole program will be more interesting if they do, and they may help us in some of our problems.

As Item No. 3 on the program, we have "Address of Chairman." Actually, I did not write any address, but for the last ten years I have been intimately associated with physical examinations, and I felt that probably as a parting shot, I could say a few words about our physical examinations and the railroad industry as a whole.

At the present time, in 1957, we have some rather expanding technological changes. It seems only yesterday that we saw our coal and oil-burning locomotives going along our main lines, belching out huge amounts of black smoke. That was yesterday. Today we have our Dieseis, which represent a wonderful advance. They are doing a good job; they are cheaper, better, faster and more quiet. Tomorrow we will probably have gas turbines, and atom power. We now have our submarines, surface vessels and power stations in some of our cities, and undoubtedly, before very long, we may have an atom-powered locomotive for our railroads.

With all these technological advances, it is certainly necessary for men to know and to keep abreast of them, and, therefore, we as physicians and surgeons, must understand these new problems. We must be able to talk atoms, what precautions we must take, and how these men must work.

You must admit that our railroads, as they are today, our high seniority men, probably in their sixties or seventies, are the ones who are running our high-speed locomotives on our railroads. Let's look at just the opposite of this, where we have the mere boys, let's call them or young men, 18, 19, 20, 22, who are running our high-speed supersonic airplanes. In other words, they have the youth, they have the technical advantages, they have the quick reaction time where, sometimes, in just a matter of a split second, it means either the accomplishment of a mission or death. I'm just bringing you that subject of quick reaction time that we must think about in doing our physical examinations on our employes of today.

Furthermore, it is our job, for most of us, to supervise the physical examinations on thousands of employes. Undoubtedly, in the different sections of our country, the different sections demand different things from our employes, and, therefore, we have to adapt our physical findings to the conditions under which those people work.

The one point that I'm trying to bring out, from a personal standpoint, is that we are spending millions in building new mechanical shops, drafting rooms and all kinds of technological advances, to take care of these new machines. How much are we doing for our manpower?

There are a few of our railroads (and you know exactly where your railroad stands) where we haven't had a physical examination on some of the men since the day they started work. That may be rather far-fetched. We do know that they get the eyes and the hearing tests, but I'm talking about the physical examination of these employes, and what an important part it plays in the running of our railroads.

Some of these employes are never really examined until they are 64, 65 and 70, and sometimes older. I'm talking of the physical condition. We have to admit—at least in a few instances—when we see these men for the first time, they have high blood pressure, diabetes, hernia, changes in the respiratory system, gastrointestinal changes, genito-urinary trouble, etc.

I am a firm believer that "A stitch in time saves nine." I'm just recommending this now from a personal standpoint and no other. I think it is good business that we look at our manpower. I believe that our manpower—certainly, among our executives who are the backbone of our industry—is worth many more times than the value of any of the pieces of other machinery which we put into action and have them at a point interval, at so many miles, so many days, so many hours, giving them a good overhauling. I am recommending that, sometime or other, we look at our manpower, which is our most valuable asset.

I think that if and when a man becomes 60 or 70, if we have given him regular physical examinations, he will be in relatively good physical condition to carry on and give many, many more years of active service.

Thank you. (Applause) Now we can get on with our regular program.

We have found that one of our most important assets to this Medical and Surgical Section is a good Secretary. Frank Parker has served us well in the two years since Mr. Deshurst left. He has done a bang-up job. Frank, do you have something to say to the Section today?

MR. PARKER: Thank you Dr. Bennett for those kind remarks. I must correct you, however, in the fact that it has been one year—it only seems like two.

After one year I feel that I am getting to know everyone connected with the Section and I think everyone knows me. Many of the gentlemen present here today have stopped in the office when in Chicago and I do want you to know how much I appreciate the chance to talk with you. These visits give me an opportunity to get better acquainted with you individually, and, in addition, a chance to learn more about the activities of the Section, prior to my association with the Office.

To those who have contacted the office for information and not received an immediate reply, I want to say that if you will be patient we will do everything in our power to get the information to you just as quickly as possible. You realize we must look up most of the information requested and, of course, that takes considerable time.

[illegible] of the office staff in Chicago if we can be of assistance to you in any way. Thank you.

CHAIRMAN BENNETT: Thank you, Frank.

[illegible] please remember that the Secretary's office is [illegible] If you want to speak to Bob out there, any time, walk right in to [illegible] and state your business.

Now let's get down to business.

The Committee of Direction appointed a committee about two months ago to study the standing committees of our Section. As you all know, [illegible] and the Committee on Disability and Rehabilitation, the Committee on [illegible] the Committee on First Aid, and the Committee on [illegible] resulting from Physical Examinations. These are important standing committees that have been functioning for many years.

The personnel of the Committee on Physical Examinations was written in [illegible] listening to Dr. Stacy and the different members of the committee, we thought we'd see how we could streamline it, to bring it up to date, so as to bring to your attention in the shortest and sweetest way the things which [illegible] in rehabilitation, in physical examinations, in trauma, and to make it more interesting and easy to find everything.

Therefore, Jim, will you please tell us how long your committee met, what decisions you have come to, and what you would like to recommend to this section.

DR. JAMES K. STACY (Chief Surgeon, Chicago and North Western Railway, Chicago, Illinois): Mr. Chairman and gentlemen, the liaison committee that Dr. Bennett spoke of consisted of Dr. Goldowsky, Dr. English and myself, and our job was, first, to determine whether we needed all of these active committees or not.

You will recall that the Medical and Surgical Section of the A.A.R. was set up in its present form in 1920. The first report of the Committee on Disability and Rehabilitation was made in 1923. In the intervening years, the personalities of the committees have changed, also the Chairmen have changed. We have had different groups with different ideas, and inevitably, conflicts arose as to the subject-matter of the two committees.

In the meeting of the three of us, the liaison committee, with the Committee on Physical Examinations, Chairmanned by Dr. Longeway, and assisted in this meeting yesterday by Dr. Brandabur and Dr. Knowles, it was determined not to merge the two committees nor to do away with either committee. It was felt that there was a place for both, and that the apparent contradictions

that you can pick up by a review of the reports of these committees could be resolved, and they were resolved. Some were also transferred into the field of Dr. Olson's Committee on First Aid. That will come out in the general committee report.

I think that about sums up the work of the liaison committee, Dick. We do not feel that either committee should be abolished, and we have resolved the contradictions that are evident in the committee reports.

CHAIRMAN BENNETT: Excellent!

Is there any discussion on this report of the committee? By that I mean that there was some question about the Disability and Rehabilitation Committee, the Physical Examination Committee, or the Committee on Trauma. There is some thought that they somehow might be combined to streamline the set-up. Dr. Stack has recommended that they be continued, as is, but streamlined.

DR. R. M. GRAHAM (Director, Department of Medicine and Sanitation, the Pullman Company, Chicago, Illinois): Was there any delineation as to the field that each would cover, or will that come out in the individual committee reports?

DR. STACK: I think that will come out in the individual committee reports.

CHAIRMAN BENNETT: Any other questions, or discussion? Is it necessary to put that in the form of a motion, Jim? I guess we'll just carry on as is.

DR. J. HUBER WAGNER (Chief Surgeon, Bessemer & Lake Erie Railroad, Pittsburgh, Pa.): I move the acceptance of the report.

DR. K. E. DOWD (Chief Medical Officer, Canadian National Railways, Montreal, Quebec, Canada): Second the motion.

(The motion was put to a vote, and carried.)

CHAIRMAN BENNETT: Now, Jim, do you want to report separately on disability and rehabilitation?

We will now hear from Dr. Stack as the Chairman of the Committee on Disability and Rehabilitation.

DR. STACK: The Committee on Disability and Rehabilitation was formed in 1928, and charged by the Medical and Surgical Section of the A.A.R. with the following: "The Committee on Disability and Rehabilitation shall study and report with suggestions or recommendations on such subjects that have to do with the physical efficiency or inefficiency of railway employes. It shall also consider ways and means for the rehabilitation of the injured or incapacitated employe, and complete, in so far as possible, the restoration of function in that employe."

Now, that is a broad assignment.

The new committee is made up of Doctors English, Wight, Nelson, Houk, Kiefer and DePree. I am the Chairman of that Committee.

Many subjects have been brought up in the past 37 years, and they are listed in the index of the committee report to give you some idea of the subject material over the years, and the years in which changes were made, and these changes put in print.

In the column headed, "Years in which previously discussed by the Committee under same or related heading"—that is somewhat in error, in that practically all of these subjects were discussed each year. However, they were not changed to the point where they warranted a change in the printed material that is distributed to you as part of the proceedings of this Section each year.

I will go down the line with the digest and tell you of the changes that the committee recommends be made this year.

On the first subject, "Abrasions with Embedded Cinders," we simply changed that and added that further operative procedures may be necessary in some cases. As you gentlemen know, the tattooing effect of embedded cinders can be a disability in the sense that it can produce an unsightly scar in the event that it isn't possible at the time of the initial treatment to brush, away or curette out all of this embedded foreign material, so that plastic procedure such as [illegible] We simply added that further operative procedures may be necessary

On the second subject, "Alcoholism," we have added that we should be guided by the local, state or provincial laws. I need not remind you that all communities do not react the same to the assault of a person who is unwilling to have his blood drawn for an alcohol test; that may be assault in your community and it may not be assault in mine, so we should be guided by that.

The next item, then, is that of "Allergy, Hay Fever and Asthma." We have kept the paragraph as it is, and added that attention should be paid to the [illegible] side effects of the antihistaminic drugs, if the employe remains in operating service, particularly associated with moving equipment.

We have deleted the next subject, "Amoebic Dysentery." The last report on that subject by this committee was made in 1935, following the scare of the amoebic outbreak at the World's Fair in Chicago. It is the committee's feeling that amoebic dysentery is not at this time a problem as far as the efficiency of the railroad worker is concerned, or his rehabilitation.

On the next subject, "Amputations," we have kept the first paragraph, which reads, "The end result of amputation at the various levels is extremely important, and furthermore, the duties of the amputating surgeon are not finished until the amputated extremity has been fitted with a satisfactory artificial limb and the patient has been successfully rehabilitated."

We have deleted the next four paragraphs, because we felt that we were being a little too didactic. This manual is not a teaching manual, and we felt that we really had no right to outline how some person was going to carry out some sterile treatment. Of course, we do have the right and the obligation to outline the broad principles which interest us as railroad doctors.

We have kept the last two paragraphs, deleting the last sentence of the last paragraph—"At the present time there are several amputation centers which specialize in teaching the amputee to get the maximum use of his artificial member." It wasn't necessary to have that here because that is well known to all of us.

The next subject, "Antibiotics," has been changed a little. The first sentence will read, "The discovery and refinement of antibiotic methods and therapy has resulted in an increasing number of these being made available for use. Many of these have affinities for certain organisms." The rest remains.

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We have dropped the last sentence—"The value of antibiotics in the prophylactic treatment of wound infection is still undetermined." Now, it is not undetermined. It is very valuable.

We kept the sentence, "Antibiotics should be employed conservatively." I think we would all agree to that.

The next subject, "Back Conditions," is a long one, and we are going to hear more about that later in the morning.

We have deleted the material on page 21 of the book that I am using, which includes the opening paragraphs, and have simply said, "Back conditions are a notable cause of inefficiency and a condition requiring rehabilitation."

We have deleted the list of changes noted on X-ray that some people consider the basis for rejection.

As far as the painful backs are concerned, we have permitted the medical conditions in the left-hand column and the other conditions to remain, because we want to impress our medical examiners and the doctors throughout our systems with the idea that the painful back can be a reflection of some other disorder, and does not necessarily arise primarily in the back, itself. Of course, it does, most of the time, but these other conditions should be thought of, too.

We have kept the two paragraphs on "Sacro-iliac Complaints," because the diagnosis of sacro-iliac sprain, strain and slip, untenable as it is, is still being used, and is still being noted on reports that are sent in to many chief surgeons' offices.

We have made the following changes in "Spondylolisthesis": in the second sentence, "It is commonly associated with a congenital defect. This condition may exist for years without symptoms. It may be very mild and accompanied only by a local pain, or it may be extreme and associated with symptoms due to"—and this is the change—"pressure or irritation on nerve roots at the level involved."

We have added that "The congenital defect may exist without spondylolisthesis, or without displacement," and then, in brackets, "Such a condition is called spondyloschisis or spondylolisthesis."

On the next subject, "Blood Pressure," we have simply added to the end of the first sentence that the man may be a menace to other employes, the public and himself.

We have kept the next two paragraphs, and have added that hypotensive drugs and the so-called tranquilizers should be used with extreme caution by those involved in working with moving equipment.

The next subject is "Burns." We have deleted a good deal of this, because of the feeling that the second, rather long paragraph was too didactic for the purpose of this report. We simply say, "Burns are to be looked upon as wounds, and are to be treated with the respect accorded any other open or closed wound." In other words, a first-degree burn or second-degree burn is a closed wound, and is treated as such, and a third-degree burn is an open wound, and that is treated as such.

The rest is deleted.

Under the subject of "Cardiovascular-Renal Disease," minor changes were made. In the second sentence, "The examination includes the heart, blood pressure, and, next in importance, fundi."

In the second paragraph we have added the word, "valvular," and the sentence reads, "Employes in train, engine, yard and signal service with advanced valvular lesions, definite myocarditis, heart block," etc., "should

be removed from service." The other sentences have been deleted. We felt that the statement, "Persons with auricular fibrillations have a high mortality rate," did not belong in this, and "Cerebral and other complications frequently occur" is too didactic.

On the next subject, "Cataract," we have left this entirely alone, except that in the second paragraph we have used "may be" instead of "is." The sentence reads, "Post-operative vision, corrected or uncorrected, may be exceedingly poor, and judgment of distance is impaired." The committee felt that the wide variation in the patient's adaptability after cataract operation—just as in the patient with the one eye—is so wide that we did not care to make a definite statement.

The next subject is "Charcoal Heaters in Refrigerator Cars." There may be some of these in existence on the smaller roads, and therefore we left it, although on most of the larger roads we have no trouble with charcoal heaters because we don't have them.

"Chronic Arthritis"—we have changed that title to "Arthritis." We have deleted the entire chapter and simply substituted the following statement: "An accurate diagnosis of this disease must be made before proper treatment can be given. Many newer drugs show promise. Disabilities from arthritis are frequently improperly attributed to injury."

"Color Vision"—we have deleted this, because we think that, for the most part, this belongs in the field of the Committee on Examinations.

"The 'Common Cold' and Upper Respiratory Tract Infections"—we have deleted that and added the sentences: "The best prophylaxis against the common cold is good general health. There is no proof that the antihistaminic drugs are effective, but those who might use them or insist on using them should be warned of their side effects."

The chapter on "Cross Eye—Strabismus," has been left, because we feel that fits in well with the cataract group and with the one-eye group.

In the "Dermatitis" chapter, we have deleted the first two paragraphs and added the sentence, "Protective equipment should be used when there is danger of contact with any causative substance."

We have left the last paragraph as it is: "It is advised that certain workers who may be found to have a marked sensitivity to a material used may require transfer to other types of work not involving occupational exposure to the accused irritants."

The next subject, of "Diabetes," has been changed. In the first sentence we have deleted "It is agreed that," and have simply said, "No diabetic taking insulin should be allowed to continue in any hazardous occupation connected with train service," etc.

We have left the rest of it, and have made a change in the last paragraph stating that "An employe with diabetes"—(we have deleted the word, "mild," because of the difficulty in distinguishing between what is mild, slight, moderate, moderately severe, severe, etc.—we have left that up to the doctor) —"properly controlled by satisfactory diet may be permitted to continue work in certain occupations, but an employe in a hazardous occupation, particularly in connection with train service, should be removed from such occupation until the diabetic condition is brought under control without the use of insulin. Periodic examinations are indicated to see that proper control of the disease is maintained."

The next subject, "Dining Car Employe Instructions; Food Handlers," has been deleted entirely. We have simply used the statement that the doctor is to be guided by a local, state and provincial law when feasible. Local health departments have control over this aspect of railroad work.

"Diseases Due to Heat"—we have kept that. In the last sentence we say "Heat cramps may be prevented by taking sufficient table salt and water," in the first paragraph.

We have left the second paragraph of that subject.

The third paragraph now reads, "Heat stroke is due to the gradual elevation of body temperature over a period of hours or days, due to the hot environment, improper clothing, and improper diet. The most important point in the treatment of this condition is to reduce the temperature by any appropriate means, without delay. Aside from the specificity of packing in ice, and the specificity of the temperature, 103 to 104. If you have ice, fine. If you have a shade tree, that's fine. And I'm sure that's the way it works out, actually.

The subject of "Electrical Accidents," and the material we have on that, we felt, belongs to the Committee on First Aid, and we hope that they will accept this.

On the subject of "Epilepsy and Epileptic Equivalents," we have kept that with the exception of the last sentence of the third paragraph, which now reads, "During such a brief state, serious accidents could be caused by employes engaged in engine or train service."

CHAIRMAN BENNETT: This is terminally important.

DR. WAGNER: Are you going to discuss this at all, the argumentative points, or are you going to accept it?

CHAIRMAN BENNETT: I think they should be discussed because I think there are different points of view, and we have to consider them all.

DR. STACK: This is simply a committee recommending things now. You accept it or reject it. If you reject it, then we start all over again and talk about it again next year.

DR. WAGNER: Would it be proper to recommend to the Committee of Direction, and let them discuss it?

CHAIRMAN BENNETT: What are your wishes? I don't want to cut your report short, Jim. Any other ideas on this?

DR. WAGNER: I think it is very interesting, myself, and I believe from my point of view that it verifies a lot of those proposed reports. I think it is worthy of further hearing.

CHAIRMAN BENNETT: What are your wishes? To proceed? Carry on, Jim.

DR. STACK: "First Aid and Emergency Treatment"—that subject does not belong here, and, as the name implies, that is also shifted to the broad shoulders of Dr. Olson and his group.

"Foci of Infection"—we have deleted all but the last paragraph, which reads, "Periodic physical examinations with attention to focal infection will aid in the improvement of general health and increased work capacity and efficiency among railroad workers."

"Food Poisoning" has been deleted.

"Glasses and Goggles"—we have retained the first and the second paragraphs; we have deleted the third, fourth and fifth paragraphs. The final sentence reads, "Protective glasses or goggles must be worn by employes using hand tools or operating power machines, and they must be made of shatter-proof glass."

We have deleted the next heading, "Hansen's Disease (Leprosy)."

The subject of "Head Injuries" has been transferred to First Aid.

"Hearing Defects and Tests"—we have retained this just as you have it there.

We have retained "Hernia" with the exception of the last two sentences, which are deleted—"Such employes should be operated upon if their general condition permits; otherwise a properly fitted truss may be advised. The development of a hernia suggests the need for a thorough physical survey, with particular attention to the individual's gastrointestinal and genito-urinary functions. The first paragraph and two-thirds of the second paragraph have been retained.

The subject, "Injured Employe," has been deleted.

The subject, "Malaria," has been deleted.

"Main-Failure"—we have retained this, except to add the word, "mental," to the fourth line of the third paragraph—" . . . impaired physical or mental condition as a contributing cause of the failure."

"Mental and Nervous Disorders"—we have retained the list that is given on those two pages, and changed the final paragraph to read as follows: "No employe who has been confined to a mental institution should be permitted to return to any type of work until he has received a complete and satisfactory report from that institution," rather than to be guided entirely by the writ of adjudication, which is legal and not necessarily or entirely medical.

The subject of "Narcotic Habitues"—we have retained only the first two sentences. The rest has been deleted as being not pertinent to this work.

"Neisserian Infection (Gonorrhea)" has been deleted.

The subject of "Obesity" has been deleted except for the last two paragraphs—"The Time Table for Reducing and Regulating Weight is available, and it is recommended that a man who permits his weight to exceed by 50 per cent the average normal weight should be restricted from duty.

The subject of "One Eye"—we have retained that paragraph as is.

The subject of "Peripheral Nerves"—we have deleted this because that is entirely a matter up to the man who is confronted with the peripheral nerve lesion at the time.

On the subject of "Physical Medicine," we have deleted this with the exception of the last paragraph, which reads, "Occupational therapy is of proven value by prescribing various types of work for bringing into use muscles and joints which need exercise or rehabilitation. One of the best forms of occupational therapy is the practical application of the therapy on the man at work on his own job."

"Pneumoconiosis"—we have retained the first sentence. The next two sentences are deleted, and the final reads, "An entrance-to-service examination should include a complete occupational history, a careful physical examination, and an X-ray examination of the lungs for diagnosis and further record."

And under "1," just below that, we add the word, "annually"—"X-ray examination of the lungs should be done annually on this group of people."

"Poison Ivy and Poison Oak"—we have deleted this because that comes under the subject of dermatitis.

"Poisonous Snake Bite"—this has been transferred to First Aid.

"Repeated Injuries ('Accident Prone')"—we have retained this just as it is

"Sick Passengers"—we have deleted this.

"Special Diets on Dining Cars" has been deleted.

The subject of "Spray Painting" has been allowed to remain, except to add, "When spraying, protective equipment and ventilation are necessary."

We feel that the subject of "Syphilis" is all right, the way it is.

The subject of "Tetanus" is now transferred to the First Aid [illegible].

"Tropical Diseases" has been deleted.

"Tuberculosis" has been covered. I beg your pardon. The first two paragraphs have been deleted on "Tuberculosis." The third paragraph now reads, "An employe who has active tuberculosis, and manifests it in his sputum or by other accepted findings, should be relieved from duty because of the danger of transmitting the disease to others, and because the effort on the part of the employe to continue work may interfere with proper treatment and recovery."

The next sentence has been changed to read, "Such employe may be permitted to resume work only when," etc.

The next paragraph has been changed: "The tuberculous individual, after returning to service, should be re-examined at definite intervals as a precaution," etc.

The last paragraph has been deleted, because that suggests a definite time, and since this was written, great advances in the management of tuberculosis have come about through chemotherapy and through thoracic surgery. We felt that the time should not be mentioned specifically, because many people can beat that.

"Typhoid Fever and Paratyphoid Fever"—the first paragraph is deleted. The second paragraph reads, "Paratyphoid fever and other related enteric diseases are still seen, and may appear in epidemic form." The rest is retained.

"Varicose Veins"—we have deleted the last sentence, which has to do solely with treatment. We feel that should be left up to the treating doctor.

We still feel that those who are using [illegible] and other "Weed-Killing Compounds," should observe due care.

You may wonder, gentlemen, as to why we have recommended some of these deletions and additions. In the use of this book, we simply have to keep in mind how much good it will do us and our associates, and, on the other hand, how much good it might do some other people into whose hands it might fall. I'm sure, Ken, you appreciate that point. But we have to have that in mind in the thinking about these various subjects.

CHAIRMAN BENNETT: Jim, I want to thank you personally, and for the group as a whole, for a magnificent job of going over this extremely important subject for all of us.

I know we will get a lot out of this meeting as it is being conducted, but we also talk over our problems in the halls outside of the meeting, and these are just the things that we are discussing.

To date, there are 49 of us registered, and we have several guests with us who I am sure you would like to meet and know, and say hello to as we go through the meeting. I'm sure they have something to give to us, so if you have any special problems, don't hesitate about saying hello to them.

One of our guests is Colonel V. S. Aokins, General Claim Agent for the Elgin, Joliet & Eastern Railroad. Virgil, will you stand up and say hello?

MR. V. S. AOKINS (General Claim Agent, Elgin, Joliet & Eastern Railroad, Chicago, Illinois): Glad to be here.

CHAIRMAN BENNETT: Our second guest (and I think probably most of us know him) is the Executive Vice-Chairman, General Claims Division, A.A.R., Mr. Ken Carney. (Applause) And then we have Harlan L. Hackbert, who is a member of the firm of Stevenson, Conaghan, Velde and Hackbert, which firm is the Division Counsel for the United States Steel Corporation and Counsel for the Elgin, Joliet & Eastern Railway Company. Hack?

MR. HARLAN L. HACKBERT: You'll hear from me tomorrow. (Applause)

CHAIRMAN BENNETT: And then we also have Mr. John Small, [illegible] representative from the Chesapeake & Ohio. I'm not sure what Mr. Small is here for. Stand up, John. [illegible]

MR. JOHN SMALL (Special Representative, Chesapeake & Ohio Railroad): Gentlemen, I'm just a "Mister." I've been going to these meetings in the Medical Section for about 15 years, I guess, and possibly after another 25 or 30 years I might get my degree. (Laughter)

CHAIRMAN BENNETT: Nice to have you all. Please take part in our proceedings.

And now let's get back to this extremely important subject of our Committee on Disability and Rehabilitation. I think there might be some pearls of wisdom which some of you men might want to bring out—[illegible]—so that we can amend this Disability and Rehabilitation report so it will be of value to all of us as we use it to use it after it comes out.

All right, let's have a general discussion now.

DR. B. W. STOCKWELL (Chief Surgeon, Detroit & Toledo Shore Line Railroad, Detroit, Michigan): I would like to bring up the question of blood pressure, with reference to the possibility of the medical department's being considered as negligent if a man is kept at work with blood pressure above the level mentioned here, which is 200 over 120 in the report.

We had a case where we were sued for continuing a man at work with a blood pressure over this level; we were found guilty, and it cost us $5,000. He had a coronary at work, and we were considered as negligent in keeping him at work because his blood pressure was elevated.

I just wonder if it is wise to retain the figure in this report.

DR. W. J. LONGWAY (Chief Surgeon, Colorado & Southern Railway, Denver, Colorado): We took up that particular subject in our meeting, and we are going to propose a change when we make our report, covering that particular item.

CHAIRMAN BENNETT: Is there any other discussion, please?

DR. DOWD: Mr. Chairman, I would like to ask if there has been any consideration given to the placement of the running trades employe in yard service, or in a position as baggageman or some other type of employment?

It does seem to me, in going over the report, that when we refer to high blood pressure, diabetes, etc., true enough, these men are hazards in road service, but it does seem to me that in fairness to the man who has given many years of service to the company, it would be fair and reasonable if you took that man—who may be a diabetic on insulin, or who may have a hypertension beyond the official figures given—and retire him completely from service if he is 49 or 50, or well under the age of 65. I feel that all of you should give consideration to the placement of these men in various assignments where they are certainly not disabled, where they don't carry the same type of hazard at all as they do in road service.

That may be covered in the report, Jim. I'm not certain whether you referred to all running trades people, which takes in yard employes, baggagemen, etc.

DR. STACK: We spent a long time on that subject. I happen to be Chairman of this committee, but I am not the world's greatest expert on blood pressure. I'm in another department. However, we have people on the committee who are.

Earle Wight, do you want to answer your countryman here for a moment and tell him what our thoughts were on this subject?

DR. G. EARLE WIGHT (Chief of Medical Services, Canadian Pacific Railway, Montreal, Quebec): We deliberately left this the way it was. This is a recommendation and a guide. Of course, hard figures don't mean anything. You want a complete evaluation of the man's cardiovascular system. The figure of 250/120 doesn't mean very much; at 180/90, the man might be a lot more sick.

We left it this way for the reason that we can adopt that humanitarian attitude that you mentioned. We can put the man into yard service. However, if you have any particular trouble with your labor relations, you have a guide here that gives you the option to remove him from service, if you wish, but perhaps you are permitting him to continue in yard service as a calculated risk.

DR. STACK: Dr. Goldowsky is an internist, and he also participated in this discussion yesterday.

DR. ISAAC GOLDOWSKY (Medical Director, Central Railroad Company of New Jersey, Jersey City, New Jersey): I think I go along with what Dr. Wight said. We have to have the main part left in there. It was really the recommendation of Dr. Wight that we have something to go by when the labor representation comes in with the man we take out of service. The general feeling was that we do have some leeway here because of the additional thing that we asked for—a study of the whole cardiovascular system—and that the blood pressure, per se, should not be the deciding factor. As Dr. Wight has said, a man with 180 or even 170 blood pressure, with diabetes and fundi changes, and enlarged heart, is a far greater risk than a man with perhaps 240 and essential hypertension, where you have no other clinical findings.

DR. DOWD: The diabetic on insulin. You're getting off and only taking one tangent, actually, and that is the hypertension. Let's talk for a moment about the diabetic on insulin.

DR. STACK: First, Ben, does that answer your question about why we have the figure of blood pressure in the paragraph?

DR. STOCKWELL: Yes. However, I would just like to point out that it may be used against us if we retain a man in service who has a blood pressure higher than that specified in this paragraph.

CHAIRMAN BENNETT: Mr. Hackbert, you're a lawyer—what is your idea on that?

MR. HACKBERT: I've been sitting here, trying to keep my big mouth shut. From a legal standpoint, I would say that to the extent to which, in a report like this, you can avoid setting arbitrary standards and making the decisive test the responsibility of the examining doctor or the chief surgeon, or whoever it may be, you stand on stronger ground, both as to your labor relations problem and as to your litigated cases, because any slight deviation from the arbitrary test—any slight factor which is in favor of the man whom you want to place in another job, or the plaintiff in the lawsuit—will be seized upon by the people on the other side as indicating that the rule does not apply to that man if you want to change his job, or that you are guilty of negligence in having kept the man on the job if his condition is a little bit worse than the arbitrary standard.

From the legal standpoint, I would say that the safest thing to do is to make your standard the judgment of the examining doctor rather than any arbitrary figure or any arbitrary matter such as the diabetic with control under insulin, or whatever it may be.

When we have had these cases where it is left to the judgment of the examining doctor as to whether the man shall be transferred from service or returned to service, or re-employed, we have there the variable that enables us to give the benefit of the doubt to the man we think is entitled to it, and to take away from the man who is trying to trim us the advantage that he would otherwise have in the arbitrary standard.

CHAIRMAN BENNETT: Thank you very much.

Bob Graham?

DR. R. M. GRAHAM (Director, Department of Medicine and Sanitation, The Pullman Co., Chicago 6, Illinois): I'd like to ask Dr. Stockwell how long ago that case was? Was it five years?

DR. STOCKWELL: Four years ago.

MR. HACKBERT: I have heard of a similar case just within the last month or so. Those are in the books all the time.

DR. C. F. HOLTON (Chief Surgeon, Central of Georgia Railway, Savannah, Ga.): I would be in favor of deleting those figures entirely and just saying, "If, in the opinion of the examining physician, the chief surgeon, the blood pressure is dangerously high," etc. Wouldn't that solve that question?

CHAIRMAN BENNETT: The committee will take that under advisement.

DR. WIGHT: I was going to make a suggestion along that line. It would probably satisfy the legal department; I'm not sure: "an employe in train

service should be removed if the blood pressure has reached a dangerous level and (in brackets) as a guide, 200 systolic to 100 diastolic. Just as a guide.

DR. DOWD: It has just been suggested that you tone it down a bit, but still quote figures. I agree with Dr. Holton that it would be much better if we left out the figures.

CHAIRMAN BENNETT: Let's hear from Dr. Haydon, from London, England.

DR. L. J. HAYDON (British Railways, London, England): I must say if we worked on those figures, we should have to cut 50 per cent of our train service. [Laughter]

We use similar figures, except that we use a diastolic of 110 rather than 120 as an orange light, or red light, if you like. We then investigate these people very thoroughly indeed. I mean, we have the obvious investigations made, that is urinary tract, X-ray of chest for size of the heart and uncoiling of the aorta, Electrocardiogram, etc., if these investigations are normal we discard the blood pressure altogether.

I have kept records of the blood pressure of our footplate staff (Engineers) for over ten years now, including men sometimes up to 200 systolic, with 110 or 120 diastolic, who are driving in full service, and—touch wood—we have not yet, in those ten years, had any lapse on the driving cab or any trouble from those men at all. They retire at the age of 65, but we keep track of them afterwards where possible.

Personally, I don't think the figure matters a damn. It's the patient, and what he has behind it. I wouldn't have figures published at all. We merely use them as a guide.

CHAIRMAN BENNETT: Thank you, Dr. Hayden.

Dr. Chavez, would you like to say a word as to how you feel about putting down figures for blood pressure?

DR. IGNACIO CHAVEZ (Chief Surgeon, Ferrocarril Del Pacifico, S. A. de C. V., Guadalajara, Jalisco, Mexico): In Mexico we feel very much as does Dr. Haydon. We try never to cite figures, for fear we shall be immediately armored.

We recommend and try to perform frequent medical examinations on those employes whom we suspect to be accident-prone.

In Mexico the labor contract does not permit us to change an employe from one job to another. Were we to attempt to do so, we would be forced either to pay the employe his pension or indemnity.

CHAIRMAN BENNETT: Thank you, Dr. Chavez.

Dr. Homsethie, would you like to say a few words as to how you feel about this problem in Thailand?

DR. G. HOMSETHIE (State Railways of Thailand, Bangkok, Thailand): In my country we do not have a very high percentage of high blood pressure. We keep in mind that the blood pressure has to be considered, of course, but we believe it is not of so much concern in our country.

CHAIRMAN BENNETT: Is hypertension a problem in Thailand? Should we all eat more rice?

DR. HOUSETHIE: It is much less than among the wheat-eating people.

CHAIRMAN BENNETT: Thank you.

All I can say is this, that where we have a problem of blood pressure, diabetes and many other things, I can just tell you that probably we, individually, should not make the decision. I think it always helps us a lot if we call in our friend, the general claim agent, and give him our story, and let him look at it from his angle. Then, let us call in our lawyer and look at it from the point of view of whether we should put these figures down or not. We may even want to call in someone from the operating division.

I think if we are to put these figures down, ourselves, and stand behind them once in awhile, we'll be in trouble. Therefore, from my standpoint, only personally, I would recommend that we take the other departments of the railroad into consideration and call them in frequently to discuss these problems very fully, and then we can make our decision for the best interests of everyone concerned.

We have been over an hour on this problem, and I think it is all very important. That's what we came here for, to find out just where we stand. I think we should take a vote as to just exactly how we stand.

DR. GRAHAM: I move that we accept this report as a progress report, and that it be printed as a progress report, if the committee decides to print it, with final determination to be made at the meeting of the Committee or Direction at a later time.

(The motion was regularly seconded, was put to a vote, and carried.)

CHAIRMAN BENNETT: All right, we are now at Item No. 6, Report of the Committee on Trauma. The Chairman of that committee is Ben Stockwell, from Detroit, Michigan. I don't know whether Ben brought along the key to New Orleans that he had presented to him when he was there, or not, but nevertheless, we are going to turn this report over to Ben Stockwell, and he, in turn, is going to introduce Dr. Leigh, who has a sub-report.

DR. STOCKWELL: Mr. Chairman and gentlemen:

Prior to 1952 the Committee was named "Committee on Fractures," and the reports were limited to that subject. In 1951 when the Chairman of the Committee was Dr. Duncan Eve, the report consisted of three case histories of interesting fractures, and was then supplemented by an outline of "The Management of Low Back Sprains," which was presented by Dr. J. Huber Wagner. In 1952 the name of the Committee was changed to the Committee on Trauma, and at that time the Committee began to coordinate their reports with those of the Committee on Trauma of the American College of Surgeons. Thus in 1952, this plan was initiated by presenting a bulletin on "The Care of Hand Injuries" which was prepared by the American Society for the Surgery of the Hand and distributed by the Committee on Trauma of the American College of Surgeons through its regional committees.

In 1953 the presentations of the Committee on Trauma of the American College of Surgeons with special emphasis on Surface Injuries, and a bulletin on "Rehabilitation of the Quadriceps" was presented.

In 1955 the Committee presented and endorsed a bulletin prepared by the Committee on Trauma of the American College of Surgeons entitled "The Management of Acute Injuries to the Neck." It is interesting in reviewing

this report that one of the principles of First Aid was: "Do not apply a snug circular bandage around the neck."

In 1956 the Committee endorsed two booklets that were brought out by the Committee on Trauma of the American College of Surgeons, and recommended their use to all members of the Section in an effort to establish a set of sound basic surgical principles for the treatment of all acute injuries. These booklets are the "Early Care of Acute Soft Tissue Injuries," and "An Outline of the Treatment of Fractures."

In the report of the Committee for 1957, it is proposed that the booklets recommended to the Section in 1956 be again presented and heartily endorsed for the use of the members of the Section as well as their staffs. Particular emphasis may be placed on their usefulness in the teaching of the essential principles of emergency surgery. The booklets sell at $1.00 per copy and may be obtained from the American College of Surgeons, 40 E. Erie St., Chicago, Ill.

I might say that at a Sectional Meeting of the American College of Surgeons which was held on Monday of this week in Toronto, these booklets were mentioned by Dr. Michael Mason of Chicago. He told us that their use is being extended a great deal throughout the country, that many hospitals are using them for the training of their Interns and Residents, and that very recently the United States Navy has adopted the use of the booklets and is making them available in all of its centers and also making them available on ships.

I think they are very useful to the chief surgeons in recommending their use to their staffs.

This year your committee takes pleasure in presenting a paper on the subject, "The Use and Toxic Effects of Tranquilizing Drugs in Trauma." This will be presented by Dr. Southgate Leigh, Jr., who is one of the members of the Committee on Trauma. The paper is presented to the Section as a matter of interest, without a specific recommendation concerning the use of these drugs.

At this time I would like to present Dr. Leigh. (Applause)

DR. SOUTHGATE LEIGH, JR. (Chief Surgeon, Seaboard Air Line Railroad, Norfolk, Va.): Thank you Dr. Stockwell.

Mr. Chairman, Distinguished Guests and Gentlemen: The ataractic or tranquilizing drugs have been recommended for use in many ailments from financial worries to dementia praecox. Called "happiness pills" by the average layman, he has purchased over one hundred million dollars worth of them in the last year (Reader's Digest January 1957) in hopes of relieving care and tension.

Before using these drugs in the treatment of traumatic conditions, their complications and contraindications should be carefully considered. There is a change in the endocrine and autonomic nerve equilibrium of the body whenever trauma occurs, and its reversion to normal is imperative in the recovery from injury. Will the use of ataraxics impair or improve this reversion? What do we know of the actions and reactions of these drugs?

The ataraxics affect the central nervous system in a different manner from the barbiturates and produce calmness and amelioration of tension without changes in mental performance. Others that are similar are non-specific sedatives that are thought to block polysynaptic neural transmission in excessive muscular tension.

Serotonin release from the brain by reserpine, and other Rauwolfia alkaloids, was credited with the tranquilization effect of that drug, and is probably re-

sponsible for the side effects of its administration such as nasal congestion, gastro-intestinal motility and hypersecretion.

The Rauwolfia alkaloids, reserpine and rescinnamine (Serpasil, Moderil, Raudixin, Eskaserp, etc.) have been known to produce a marked depression accompanied by anxiety and agitation. The parasympathetic predominance such as miosis, nasal congestion, hypothermia, hypotension or gastrointestinal hypermotility and hypersecretion is a side effect noted with continued treatment. Any of these adverse reactions occurring during the treatment of an injury could have serious effect far outweighing the benefits of tranquilization.

The Phenothiazine derivatives, chlorpromazine, promazine pipamazine (Thorazine, Sparine, Compazine) have been known to cause hepatitis, obstructive jaundice and agranulocytosis early in their administration. Where the liver and bone marrow is already under a strain from trauma, any additional strain from drug therapy might be very detrimental. These drugs like reserpine can produce the parasympathetic side reactions and after a period of use a Parkinson-like syndrome.

Other drugs such as meprobamate (Miltown, Equanil, Deprol, Meprotabs, Meprospan, Meprogesic, Meprotabamate, Amoxydan, Equagesic) have a somewhat different action from the other two classes, have less effect and probably less toxicity. Some of these have been known to produce purpuric skin lesions with intense pruritis. The gastro-intestinal hypermotility and hypersecretion has also been observed. These tranquilizing types of drugs must also be used with caution in cases of trauma.

The muscle relaxants, mephenesin (Lissephen, Toiseril), diethyl aminoethiol (Psychiseril), oxazolamine (Flexin) and meprobamate (Equanil, Miltown) have some tranquilizing effects because most of their action is on the internuncial system of the brain. These drugs are not tolerated by an empty stomach and can produce severe gastro-intestinal irritation. In large doses they produce the parasympathetic side reactions and bone marrow suppression.

The non-barbiturate sedative-hypnotics include ethchlorvynol (Placidyl), ethinamate (Valmid), methylparaynol (Dormison), methaqualone (Noludar), and glutethimide (Doriden). Their action is that of a sedative rather than of a tranquilizer.

There are withdrawal phenomena often more severe than those associated with the barbiturates. Usually these occur following long use of the drug. They must be thought of before traumatic cases are started on long time therapy of any tranquilizing drug.

With the injured employe upset mentally because of loss of time from work, possible permanent disability, and inquiring families, neighbors, and lawyers, there is a great temptation to use a drug that would produce calmness, tranquility and amelioration of tension without drowsiness or mental effect. Trauma has already upset the sympathetic nervous system and most of these drugs have similar actions. In trauma they should be used sparingly and with extreme caution.

It is not safe for an employe taking moderate sized doses of ataraxics to return to work around moving equipment. The Rauwolfia alkaloids combined with ganglionic blocking agents are used extensively in the management of hypertension, and it is extremely dangerous for one using this combination to be around operating machinery.

The tranquilizing agents are very effective in mental and nervous conditions; in combination with other drugs they control hypertension; the acute alcoholic

can be quieted very quickly; however, they are not the treatment of choice in trauma where their possible side reactions are more likely to occur.

The introduction of the ataraxics was a definite step forward in controlling the diseases of the human mind. Undoubtedly they will be improved until their use in trauma without side effects can be advocated. When that happens, we will have a treatment for Compensation Neurosis.

Some persons react much more vigorously to trauma than others. The patient with moderate trauma who shows excessive agitation, increased pulse rate, glycosuria without hyperglycemia and thyroid crisis facies is probably suffering from excessive pituitary stress. He is producing an excess of ACTH, the suppression of which would return him to normal equilibrium much faster. Thyroid activity can be slowed, along with the metabolic rate, by the administration of anti-thyroid drugs. Under these circumstances, Propylthiouracil, 200 mg per day in divided doses, acts as an excellent tranquilizing agent. This drug too must be watched very carefully. Long extended use of it will cause agranulocytosis. The hypothalmic-pituitary-adrenal interaction following trauma is overactive in these cases. Slowing down the thyroid activity shows a marked improvement in the mental and emotional disturbances. The lowering of the general metabolism allows the reparative processes to work more effectively and produces a calmness and tranquility comparable to that of the ataractic drugs.

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CHAIRMAN BENNETT: Thank you, Dr. Stockwell, Dr. Leigh.
Did you have some more of your report to give, Ben?

DR. STOCKWELL: Duncan Eve, a member of the committee, has just a few words.

DR. DUNCAN EVE (Chief Surgeon, N. C. & St. L. Railway, Nashville 4, Tenn.): Mr. Chairman and gentlemen, I'm sure you all received this from the American College of Surgeons. It gives a little history about fractures; I'll hit the highlights on it.

It says that in 1909, Lane visited the United States and made a talk before the American Surgical Association in regard to fractures and how badly they were treated. Dr. Richard Harte of Philadelphia, President of the American Surgical Association, gave his address to the Association in 1911 on the treat-

ment of fractures, and in 1912 a symposium on fractures was given. The fracture subject was very active in this Association from 1911 to 1921.

Headed by Dr. John B. Roberts from 1912 to 1914. Dr. William L. Estes, Sr., from 1915 to 1921.

In 1922, Dr. Scudder established a Committee on the Treatment of Fractures, including three fellows of the American College of Surgeons. As Chairman, Dr. Scudder, in his first report in 1923, to the Regents, stated the results of fracture treatment in the United States and Canada are bad.

I had the pleasure of being in Chicago (this kind of gives my age away) in 1912, and witnessed Dr. Lane's operation there. What aroused me was his technic with his fingers, and sponges. I know my fingers are very active, because I play cards twice a week. (Laughter) I think I'd take a post-graduate course with my fingers like he did. On a scale of 4, I wouldn't register 1.

Thank you. (Laughter and applause)

CHAIRMAN BENNETT: Thank you, Dr. Lee.

Dr. Chaves, have the tranquilizers hit Mexico?

DR. CHAVES: Oh, yes. We have exactly the same as you do here.

CHAIRMAN BENNETT: Dr. Haydon, have the tranquilizers hit Australia?

DR. HAYDON: Not so heavily yet.

CHAIRMAN BENNETT: Dr. Homsethie?

DR. HOMSETHIE: Not yet.

CHAIRMAN BENNETT: Thank you very much for a very, very fine report, Dr. Stockwell, Dr. Leeth and Dr. Eve.

Now we have the report of the Committee on First Aid, by Dr. Olson, Chairman, Chief Surgeon, Illinois Central Railroad, Chicago.

DR. E. C. OLSON (Chief Surgeon, Illinois Central Railroad, Chicago, Illinois): No matters have been brought to the attention of the First Aid Committee as so far as first aid equipment is concerned. In view of the report which Dr. Stack has given, I presume that those items which are not now in the First Aid Manual will be incorporated in it.

There are some matters in there which refer to professional attention, and I presume that since the first aid is a matter which is handled by laymen, there will need to be some changes in the wording of the approach to these various conditions. Perhaps the committee could work on the wording of the articles and submit that along with the report which will be submitted by Dr. Stack's committee.

CHAIRMAN BENNETT: Any discussion about our report on First Aid? If not, we will carry on to our Item No. 8, a report of the Committee on Developments Resulting from Physical Examinations.

I am going to be a little facetious about this, but I was with Dr. Longeway last night for a while, and he made the remark this morning that he was going to toss a coin, and if it came heads, he was going to play golf. If it went tails, he was going to stay in bed. If it stood on its edge, he was coming to the meeting. (Laughter)

DR. LONGEWAY (Chief Surgeon, Colorado and Southern Ry., Denver, Colorado): You have received the report of the Committee on Disability and Rehabilitation, which met in joint session with your Committee on Developments Resulting from Physical Examinations.

The Committee on Developments Resulting from Physical Examinations, as noted in its circular, shall analyze and make a report with recommendations or suggestions on data made available by periodic examinations, etc. It shall study and revise, as conditions may warrant, the recommended standards covering physical examinations as well as the forms used in connection therewith.

As a result of this study, your committee has recommended very few changes, due primarily to the excellent work done in previous years by former committees. We refer you to your Circular No. M. & S.—300).

Under the General Rules, Section 7, page 3, we have omitted, in line 4, the words, "It is recommended that." Start a new sentence and add the word, "should"—" . . . should be held out of service."

In view of the things that were said earlier, we should probably re-study this section and consider the possibility of omitting figures as far as blood pressures are concerned. The idea in what we said was to demand, if we could, that these employes be held out of service pending further investigation if the blood pressure reached those figures. In view of what has been said here, we could probably re-study that problem, with the idea of possibly not using figures.

Continuing under the General Rules, we have added a section on page 4, which we have entitled No. 11, to read, "When an employe transfers to another occupation or classification, he must undergo and pass the required physical examination necessary for that class."

On page 10, under the general subject of Causes for Rejection, under the title, "The Eyes," in line 3, following the word, "strabismus," you will see that it reads" . . . of low visual acuity." We have omitted those words.

On page 12, under "The Abdomen," we have omitted that part beginning with "exceptional" thereon to the end of the sentence thus making all hernias not acceptable.

Further down on that page, under "Mental and Moral Infirmities," we feel we should add or have put in "refer to the entire section on 'Epilepsy,'" which was taken from page 10 of the report of the Committee on Disability and Rehabilitation, as was read by Dr. Stack today.

Also, under the same title in the section, add the first two sentences only from the subject concerning narcotics as read by Dr. Stack today.

Because so many of our examiners do not actually study the circular on disability and rehabilitation, we feel that under this same title we should add "refer to mental and nervous disorders in the report of the Committee on Disability and Rehabilitation." That is quite a long list, and there might be some objection to printing it twice, but you could make the notation "refer to, etc."

In an effort to further promote the adoption of a standard examination form which will be satisfactory to and adopted by each railroad, your committee has presented a form which it hopes will at least act as a basis for a real attempt at solving this major question. It consists of two sheets that can be joined, or it can be used as one sheet with the printing on both sides.

The first sheet is to be filled out by the applicant. It is set up in more or less of a check-off system. It asks really important questions, including ques-

tions on back injuries, head injuries, and claims and losses. Since many women are working for the railroads, we added a section for females.

The second part, or the examiner's report, at first may seem long, but after study you will see that it is set up in a time-saving way. We have added a section for spine X-ray reports, and also, for those who are interested, a place for alertness or reaction time of applicant.

We must do more than screen these applicants. We do have a really complete outline of standard regulations, and to make use of them, we must do a good examination.

One important thing, however, is that we all—not just a few—in complete harmony, must seriously adopt a uniform procedure if we are to avoid confusion, legal hazards and embarrassments by acting on our own.

The submitted forms are available at the Secretary's desk for your study and comment.

Respectfully submitted. (Applause)

DR. HACKBERT: I notice he has the Wassermann test in there. The Wassermann test is practically never used any more and laboratories use a Kahn. May I suggest that when you have those printed on the standard form, that they eliminate the word, "Wassermann," and substitute "Kahn"?

CHAIRMAN BENNETT: Any other remarks, suggestions or criticisms?

DR. G. F. CUSHMAN (Chief Surgeon, Western Pacific R. R., San Francisco, Calif.): Nothing is said about the coronary diseases other than presenting satisfactory evidence of recovery without persistent residual damage.

We have been having a lot of trouble with engineers with coronary disease. I wonder if you think it would be wise to make some change in that? You say that residual damage is evidence of electrocardiographic disease, which, of course, would knock out a lot of people.

CHAIRMAN BENNETT: Doctor, we have suggested that in the Committee of Direction, and we went over it from several different angles as to just exactly what our criteria should be for allowing these men to return to work again, depending upon their job, etc.

I wonder if Mr. Hackbert would give us an idea on that—these men in road service who have had coronary occlusions?

MR. HACKBERT: Again, the cases are tending to hold that if you put a man back to work who has given evidence of heart infirmity, either in the way of acute trouble or chronic trouble, if you put him to work at a job which may—in the opinion of some doctor, or the opinion of the trier of fact—the jury or a commission—have imposed a load on that man's heart which he could not bear, liability is going to follow.

Heart cases constitute a field of particular activity lying ahead of us in the claim field, and in the litigation field, and whatever can be done by way of bolstering up the employers' position, and whatever can be done by restricting the re-employment or the return to employment of men who have sustained some kind of heart damage, which may very possibly cause further trouble in the future, is going to be to the best advantage of the employer and, I think, may be to the best advantage of the employe.

Of course, it's just as uncomfortable to die from malnutrition because of not having a job or being able to feed yourself as it is to die from heart trouble, but I think that the industrial employer, the railroad employer and everyone

dise has to take an objective viewpoint when looking at the problem presented by the cardiac patient, and firmly restrict the area in which he will be permitted to work or even to be present on the employer's premises.

CHAIRMAN BENNETT: Thank you, Mr. Hackbert.

Dr. Chavez, do you have that problem in Mexico—coronary occlusions, myocardial infarcts? What are your procedures for allowing these men to work, if and when they go back to work?

DR. CHAVEZ: We do not have any definite standard. I do not believe that you have, either.

As Chief Surgeon of the railroad, I am rather skeptical about it. Unfortunately, we have seen cases in which we have made an electrocardiographic examination of an employe, the results of which were those of a perfectly healthy man, only to have him leave the office and drop dead half an hour later. Therefore, I view this examination with extreme reserve. I also feel that greater emphasis should be placed upon the rehabilitation of these patients, so as to prevent the hopeless, noboiess feeling which further aggravates their anxiety.

CHAIRMAN BENNETT: Dr. Haydon, would you like to make a few remarks as to how many of your people get these coronary occlusions and posterior myocardial infarcts before the age of 65?

DR. HAYDON: I would say that it is increasing very considerably. It is one of our major problems in the service.

We adopted the same method. We try to get them into jobs, and, again, I couldn't agree more that it is impossible to forecast whether you or I are going to have a coronary at any moment. As far as I know, there is no means of estimating whether that is likely or not.

I have one man who is master of one of our cross-channel ships who has had four, and after suitable rest and treatment, I have allowed him to go back to his job. He would be [illegible] a man of only 45. He has four young children, and if I pensioned him on a pension of about $900 a year, his worry from the point of view of the children would kill him quicker than would his job on the ship. Again—touching wood—he hasn't had one for two years, and I think he may be all right.

One man in general practice outside the railway whom I know had a very bad one, he was off six months at the age of 70, but he died at the age of 92, having led a very active life in between time.

I think we have to treat a coronary on its merits, and treat the patient, and the patient's reaction to this calamity. I think if we overemphasize it, we are more apt to precipitate another one than if we try, with common sense, to let them go ahead with their job.

CHAIRMAN BENNETT: Thank you, Dr. Haydon.

Dr. Homsethie, do you have such things as coronary occlusions and myocardial infarcts among your employes? If and when they do come back to go to work, what is your procedure?

DR. HOMSETHIE: There are cases of coronary disease in my country. First, I try not to put them into the running service. They have to be considered on an individual basis.

CHAIRMAN BENNETT: Thank you, Dr. Homsethie.

DR. E. C. OLSON: I'd like to submit the problem of the engineer who runs a high-speed train, who has had a coronary occlusion, who has made a clinical recovery, and also an electrocardiographic one. It has been my impression that you people have felt that such a man should not be returned to his former job. Is that still the position?

CHAIRMAN BENNETT: Jim Stack, do you want to say a few words on this subject?

DR. STACK: We're all throwing questions at this committee. I would like to refer them to Circular No. M. & S.—300, under the heading, "Causes for Rejection of Applicants for Employment," page 12, "The Spine." In the last line of this paragraph concerning the spine, it is said that a cause for rejection is the "protruded intervertebral disc, operated or unoperated."

From a practical standpoint, of course, you are not going to get the history of the unoperated protruded intervertebral disc, but in the course of your physical examination you are going to see a healed lumbar scar. Now are we going to take it as a matter of fact that any man who has a healed lumbar scar is going to cause us trouble on the railroad?

We can go on from there and supplement that by asking: Are you now going to reject any man who has a drop of linoleum seen in the lower lumbar area in the pre-employment X-ray that many of you take? That's just a question.

CHAIRMAN BENNETT: Ken Carney, can I ask your experience in such questions as this? Do you have any data, figures or opinions, on Jim Stack's questions there, from the large mass of material you have accumulated?

MR. K. A. CARNEY (Executive Vice-Chairman, General Claims Division, A.A.R., Chicago, Ill.): Only that on all types of injuries, the back injuries are, by far, the most potent as far as payments are concerned, and provide the greatest variables with respect to payments prior to lawsuits and judgments rendered after lawsuits, and payments in back injuries, as such, are greater than the total of all other injuries, including amputations and deaths.

From that you may take into consideration the exaggeration of a previous existing condition and apply it as a definite liability to an accident under the Federal Employers Liability Act, and make your own construction of what that will be.

CHAIRMAN BENNETT: Thank you, Ken.
Dr. Goldowsky, our Vice-Chairman.

DR. GOLDOWSKY: We all love our orthopedic colleagues, but with all due respect to the wonderful results they get with disc operations, in our department, if I see a man with a scar, I help him on with his hat and coat so we can get him out fast. (laughter) because I hate that word, "aggravation," that I hear later in the courts.

In reply to Dr. Olson, we left his question unanswered. In the case of a man running a high-speed engine, despite excellent clinical results and excellent electrocardiograph results, I would not return him to a high-speed engine. Medically, we know that anyone having one attack is certainly prone to the second, and we cannot foretell when it will occur.

Now, as to where we are going to put those men when they have had their attack and when they come back to work—the committee will this part rather broad. I don't think we can determine it alone on electrocardiograph readings. Certainly, we may find some with residuals, and they may be clinically fine. We may find some with perfect electrocardiographs, but with a good, careful history, they have angina, or they have some other type of syndrome.

I try to help these fellows. I'm a little humane, sometimes soft-hearted, and I think that sometimes my brain gets a little soft when the representatives come in with these men in tow. We try to put them into some work where I personally feel will entail no effort. For economic reasons, we try to keep them busy. However, at times I think we even get "on the spot" with that program; I have a habit of using the brotherhoods themselves to put them on the spot a little bit.

I may tell that I have a job for this man in the accounting department as a file clerk. Well, you all know the problem, the question of seniority; the man can't go there because he's going into a different union. I leave that up to that union representative—"You people work it out amongst yourselves. I can't use him in certain types of jobs. I can use him here if you fellows will agree upon it. The railroad will be magnanimous, and we'll give him a job, but you people have to help us."

CHAIRMAN BENNETT: Thank you, Dr. Goldowsky.

Let's hear from Jim Stack again.

DR. STACK: I must say one more thing about leaving in this material. This is just material for a large payment. The railroad industry of the United States and Canada hires more people—especially more laboring people—than many other industries put together. Are we going to give this ammunition to the other side and say, "This man absolutely, by your own standards, can never again get a job on a railroad, because he has a scar on his back"?

It reminds me a little bit of an old novel and motion picture called "The Mark of Zorro." Zorro was a Spanish Robin Hood, working in southern California. He was an expert swordsman, and he would mark his victims with a "Z" during the course of a duel. I hate to put myself and my colleagues in the position of being a Zorro as far as these patients with intervertebral discs are concerned.

DR. GOLDOWSKY: He feels that it is "ammunition" for the opposing attorneys that this man is permanently and totally disabled. I don't know if anyone has been more fortunate than I, and has got away with any lawsuit on these cases for $2,000. I know it costs us $50,000 or $35,000, and every single one has been on the basis that the man is permanently and totally disabled.

We all endeavor to help the country and the industry; I don't think the railroad industry can afford to take on a man who has had a disc operation.

DR. GRAHAM: Dr. Stack is making a difference between an employe and an applicant. In one case you're talking about an applicant in your reference to this, and in the other case we're talking about employes.

If you use the form that is recommended, you'll get a history on the back, and if they deny it and later it develops that they have a back history, you can drop the man, at least.

DR. M. B. CLAYTON (Chief Surgeon, Southern Railway System, Washington, D. C.): Mr. Chairman, I asked a number of orthopedic [illegible] about this, and I have these men on record as saying that all disc cases which have come to surgery should be given at least a minimum of 25 per cent permanent disability. They go on record further, to this extent, that no postoperative disc case should be returned to work which requires strenuous (and I'm using the exact words) or heavy lifting.

The plaintiff's side has no difficulty in getting two trained specialists [illegible] into the courtroom to testify to that effect. Therefore, I think we should have something on record to support those of us faced with this situation when those men apply for return to duty, or make application for duty.

As far as I'm concerned, this applies particularly to [illegible]. I don't see that it would do us any harm, I think, [illegible]

DR. [illegible]: [illegible] Railroad. [illegible] Railroad. I want to offer one thought. This situation has particular importance in connection with the [illegible] with injuries. Operating under the standard of [illegible] the Railroads, it seems to me that the [illegible] and the immediate liability, you might say, is only that which it comes to considering the liability of the company in returning him to work.

DR. A. NAVARRO (Chief Medical Officer, Pennsylvania Railroad, Philadelphia, Pa.): I have listened to your argument, and I am willing to substantiate what Dr. Clayton said. I look at it from a view that has to do with a lot of failure of a scar method. Therefore, in the long, under any conditions, because our liabilities and our troubles are piling up more and more each year with disc operations.

If you permit the man to go back to work as an employe, or you permit the man to work as a new man, the ruling of the federal court is that if you are cognizant of that disability and you permit him to work, you have condoned his disability, and any aggravation thereto, or any aggravation thereafter, you are liable to whatever the court will allow the claimant.

Some of them have said that a scar isn't enough to repeat a man. Dr. Stack mentioned a simple laminectomy. Perhaps some orthopedist would perform a fusion at the same time. What about that?

Number 2, the average man, up to 16, 17 or 18 years of age, has no herniated discs, normally. We're not talking about a traumatic disc, per se. What the average orthopedist won't tell you [illegible] they operate many times on these cases concerns these cases that are degenerated discs, cases that happened to be dislocated from a degenerated disc posteriorally, with pressure on the nervous system. Now, suppose the same disc should herniate in the upper portion of the body, the vertebrae, or the lower part? You'll get no symptoms; you have no trouble. Let's suppose that herniates anteriorally. You have no trouble. So what we are primarily starting with is degenerated discs which, in the course of work, happen to become dislocated or herniate posteriorally, producing pressure and symptomatology; thereafter, they are operated, and many times it is not a simple laminectomy. Some orthopedists say there must be perfect fusion. That is one of the troubles—some of them only do a laminectomy.

Under those conditions, I wouldn't touch them with a ten-foot pole.

CHAIRMAN BENNETT: He mentions that these occur during work. Let us remember that there are seven days in the week and three 8-hour turns in one day. That makes 21 turns a week. Let's remember that this man works five 8-hour turns a week, and he has 5/21 of a chance of getting this on the job. Let us also remember that at home and outside he sometimes does much more lifting and heavy work than he ever does on the railroad.

DR. W. W. WASHBURN (Chief Surgeon, Southern Pacific Co., San Francisco, Calif.): I have appreciated this discussion very much.

Last year, at our meeting in San Francisco, I mentioned the matter of uniform claim payment information for all railroads. I studied the forms of 12 or 14 railroads at that time. I found much "meat" in those forms.

There is one thing I noticed in this A.A.R. physical examination form which I think is rather important. Bob Graham and Ken Carney mentioned the difference between an employe who was working for you and one applying for the job. The operating department could turn a man down for no particular reason at all, whether it was because they didn't like the way he wore his necktie or anything else.

There are some other questions I put in our forms. We ask, "Have you ever had a back injury?" Now, there are a lot of people who have had back injuries who didn't know it. You can pick up lots of people who had back injuries as kids, and later on you find old compressions there. They never knew they had those, and yet they are definite compressions.

I also include in our form, "Have you ever had an X-ray of your spine or of your back? Have you ever suffered from lumbago or sciatica or neuritis in your back?" I think it is rather important to include that—if he has ever had an X-ray of his back.

We had a case just a few years ago of a gentleman who had never been sick in his life, never got hurt in his life. He had signed this form. He has never had a back injury. We found out that he had been working for the Spokane Railroad, up north, so our claims department got busy, and we were able to bring down some X-ray films of the spine taken two years before that time, showing old compression fractures for which the railroad settled. Of course, that case was thrown out of court.

I think it's a double-to find out. They know what you mean when you ask if they have ever had an X-ray taken of their back or spine. I think that is very important.

I won't say anything more about the coronaries, being hooked on a lot of them. We have been nice to the fellows, keeping them out of service. We all know they have to bid for jobs. We have been hooked on a lot of them on coronaries.

I'm not a cardiologist. I go along with Ken Carney about our back injuries. I think we just about hold a blue ribbon for payments on back injury cases, with the exception of two or three other railroads in the United States. We're pretty leary of these back cases. I do not accept anyone for employment who has had a laminectomy or a disc operation or a fusion operation on his back. I think it's a fairly good rule to follow. I hate to have to do it, but that's one of those things.

CHAIRMAN BENNETT: Thank you, Dr. Washburn.

DR. HOLTON: I strongly go along with Dr. Goldowsky. I will not accept anybody who has had a disc operation.

I think Dr. Washburn's remarks about the back were excellent.

You've got another change in the last paragraph. "Why did you change occupations?" You've got that under the female section. I think it ought to go above there, because some doctors would think that applied only to women.

Talking about the discs, we had a railroad fireman who sustained a disc injury and was operated on in our hospital. He made a one hundred per cent complete recovery. He can stand flat-footed, bend over and touch the floor with the palms of his hands without disability. No effort in the legs, no painful back. He was returned to work, to his regular job as fireman.

He went to court and got a $30,000 verdict which we had to pay, despite the fact that we returned him to full duty. His only time lost was five months.

I would not let a man with a history of disc or a bad back go in the operating department, with the section laborers or anything like that for my railroad.

DR. RAYMOND HOUSEHOLDER (Chief Surgeon, Illinois Div., Chicago, Milwaukee, St. Paul & Pacific Railroad Co.): I should like to [illegible] insurance for our local friends if there [illegible] that an injury might [illegible]

MR. HACKBERT: It isn't a matter of statute. It's a matter of general rules of law. If you hire a man, or if you have him at work, you take him as you find him, as he is. If you injure him during the course of his employment, then you are liable to him for the consequences of that injury, and the consequences of that injury at the time of trial is the sum total of his prior condition as it has been accentuated by the injury. Consequently, you pay for the end result, or you are liable for the end result.

Certain workmen's compensation statutes treat the question differently, but these are special statutory exceptions to the general rule, and they don't apply to the railroad industry except to the extent that our Canadian brothers are interested in the problem, because they are still under compensation statutes up there.

The answer to your question is that it is not a matter of statutes so far as the railroad liability is concerned; it's a matter of what the generally accepted rule of law concerning damages will cover.

CHAIRMAN BENNETT: Thank you.

DR. HOUSEHOLDER: I should like to continue my remarks, then. If an employe is injured by virtue of defective equipment—for instance, a grab iron that pulls loose—he immediately recovers on the basis that he has been furnished with improper material. I think that constitutes definite liability; the railroad has not furnished him with proper equipment.

By the same token, is there not an implied contract that when the employe accepts employment, he should furnish—as his part of the contract—"equipment" that is in *good working order*? It is my contention that the pre-existing condition aggravates the injury. If he were in good condition in the first place, he would not have suffered much, if any, from the traumatic or accidental assault on his person.

I think that most of us have been too willing to go along with the glib plaintiff's attorney who, in cross-examination, states, "This man had a degenerated disc, and he has osteoarthritis of the spine. This blow or fall that

he had, aggravated that condition, didn't it?" I have been cross-examined on similar cases, and have immediately replied, "No." The plaintiff's attorney has immediately perked up and asked, "Well, isn't that what the general opinion is, and what doctors generally testify to?" My reply to that is that I don't know what the rest of them say, but I think that the shoe is on the other foot, and that the pre-existing condition aggravates the injury. I think that we, as a body, should start talking in the other direction. It's just as easy to talk in the other direction, rather than to fall in line with the glib remarks of the plaintiff's attorney.

CHAIRMAN BENNETT: Thank you, Dr. Householder.

DR. HOUSEHOLDER: I think that the pre-existing condition aggravates the injury, and that, by an implied contract with the employe has not furnished suitable "equipment"—his physical body; that is his equipment—he should be willing, in accepting wages, to furnish "equipment" that is in satisfactory or in good condition, whether or not it is recognized prior to his employment, just as much as management is required to furnish him with equipment in good condition.

CHAIRMAN BENNETT: Thank you, Dr. Householder.
I see Mr. Hackbert is on his feet.

MR. HACKBERT: I think Dr. Householder is still addressing questions to me. So far as the obligation of the railroads to furnish secure grab irons, safe sill steps, couplers that couple automatically upon impact, and can be uncoupled without the necessity of having a man go between the ends of the cars—those are all parts of what are called safety appliance acts. There is a companion statute related to locomotive equipment called the Boiler Inspection Act.

By those statutes there is an absolute obligation imposed upon the railroads to furnish equipment that complies with those statutes, and there isn't any question of negligence or due care involved. There isn't any question presented as to whether or not the railroad has used its best efforts to provide suitable equipment. If the equipment doesn't conform to the statutory standards, and an injury results, the railroad is liable.

The less stringent rule of liability that applies where you don't have one of those specific statutory violations is just the general duty to use reasonable care to provide reasonably safe equipment and reasonably safe places to work.

So far as the average jury is concerned, the fact that an accident has occurred is conclusive proof of the fact that the equipment was defective, or the place of work was not safe. That is the test upon which the railroad's liability is determined.

Now, as to this question of what Dr. Householder refers to as an implied contract, or assurance or warranty on the man's part that he is physically able to do the work—well, when a man presents himself for employment to the railroad, he is no different than the can of beans on the grocery store shelf. If you go in and just buy that without any examination of the label, or without any warranty on the part of the canner or the grocery store as to its fitness, you may be charged with having taken it just as it is.

So it is in the case of the man whom you accept for employment on the railroad. If you take him as he is, just at face value, you take him and you get just what he is. If you don't require pre-employment physical examinations,

then, obviously, you don't care what his prior physical condition is, and you take him merely because he is available and willing to work.

If you take him on the basis of a rather perfunctory pre-employment examination, then you are charged under the law with having required no more of a warranty or assurance on his part as to his physical fitness to do the work than will be disclosed by the kind of examination that you give him.

If you give him a complete and thorough physical examination, and he misrepresents to the examining physician, or he conceals from the examining physician some defect or some physical condition which, if known, would have prevented his employment, and you have a policy to that effect and can prove it, and the man is subsequently injured, and he would not have met with that injury if he had not been employed, or if he had not been guilty of this misrepresentation or this concealment, then you do have a defense in that very limited range of cases by showing that his employment has been tainted by fraud.

If I don't [illegible], I'll have to [illegible] tomorrow.

I think that is the answer to Dr. H[illegible]'s question. If, by your physical examination, you [illegible] standards [illegible] are the equivalent of the minimum standards that the Social Security Act and the Longer Investigation Act impose on the railroad, then you can hold the man to those standards, and if you don't find [illegible], you can't. That's all there is to it.

CHAIRMAN BENNETT: Thank you.

Along that same line, we have some warehouses on the West Coast where Bill Woolbert is located and the longshoremen's union out there says, "You can't have a pre-employment physical examination. You have to take them just as they are."

We have taken the stand that those people are not employes until we have them on our payroll. We take the right to do a physical examination, and we do. Therefore, we are sure that they meet the standards.

Secondly, if we took the man as he was, or even if we took the word of a doctor on the outside—let's say, his family doctor—I often when these men come back from being ill or sick, they come back with a prescription which states that the man is now willing to work and is in good condition. The man pays the doctor $3.00. I don't know whether the doctor did go all over him to make certain or not, or whether he took the man's word.

I recall one time when I was on the witness stand, and, thank goodness, I had done a complete physical examination where the lawyer on the other side really ran me up and down the ladder of the physical examination. He started off by saying, "Doctor, was this man completely stripped when you started?" Then he started at the top of his head and just went right through all the systems and all the body. I was delighted that I had done a complete physical. If we do a perfunctory type of examination, we may or may not come into some conflict like that in court.

Again, I think if we go back to the few remarks that I made this morning upon opening this session, I think our employes are our most valuable assets, and I believe that, from time to time after they are with us, we should go over them with periodic physical examinations to decide their ability to carry on, and if something is wrong, we should pick it up early so that something constructive can be done, rather than pick them up for the first time when they are 65 or 70, when the condition which we had could or might be irreversible.

Dr. Longeway, will you close, please?

DR. LONGEWAY: I have nothing further to add, except to reiterate the remark that we just can't screen these applicants. We really have to give them a physical examination, just as the insurance companies do for a $500.00 policy, or a $20,000.00 policy. Here we have a man who may be with us for life. He may cost us a lot of money. We certainly should be sure of what we are buying. (Applause)

CHAIRMAN BENNETT: Thank you, Dr. Longeway, for presenting that very important subject. Dr. Longeway and his committee have put in a lot of time on these reports which have been put out this morning.

What should be our opinion of all the members present as far as the physical examination is concerned? Would you like to make a motion, as in the other reports, that this be put out in mimeographed form or something, and passed around to the members, or shall we leave it up to the Committee of Direction as to what should be done? What are your wishes?

DR. WASHBURN: Move they be approved.

DR. WAGNER: What was the motion? Report of progress?

CHAIRMAN BENNETT: Yes.

(The motion was regularly seconded, was put to a vote, and carried.)

CHAIRMAN BENNETT: Thank you very much, again, Dr. Longeway, for your report.

Now we have items 9 and 10, and those are just about the last items on our program. Again, these are extremely important. Certainly, over the past five or ten years, our railroads have gained an extreme amount of valuable experience as to the type of their pre-employment and periodic X-ray examinations of the spine.

Some railroads go all-out on taking these pre-employment X-rays, and some still do not do any, so, therefore, we have asked both sides of this question to present their case.

Of course, we have some people who say, "Yes, you ought to do it. This is what we find, and it has paid off." On the other hand, you have the things that are against taking these X-rays of the spine. We have two sides to the question. Therefore, we thought it would be nice today to bring to your attention the two (shall we say) conflicting views, the "cons" and the "pros" on this problem of pre-employment X-rays of the spine.

We will have the "cons" first, by Dr. Mishler, of the Erie Railroad.

DR. W. E. MISHLER (Chief Surgeon, Erie Railroad, Cleveland 13, Ohio): Mr. Chairman, members of the Section and distinguished guests, I want to thank the members of the Program Committee for the honor and privilege of speaking to you today.

As Dr. Bennett pointed out, the subject—which is "X-Rays of the Spine in Pre-Employment and Periodic Examinations"—is somewhat controversial as far as their feasibility in pre-employment examinations is concerned. I want to limit my discussion this morning to only the pre-employment examination.

The distinguished surgeon you will hear speaking in favor of the routine use of spinal X-rays will present very forceful arguments for their use and adoption

in industry and in particular the railroad industry. My talk today is against their routine use—I hope no one believes that we on our railroad do not fully realize the value of X-rays and I want to make our position clear—we do use X-rays primarily as a diagnostic aid in the treatment of the injured and sick employes. However, we have felt that as a routine procedure and part of the pre-employment examination its adoption up to the present was not justified.

The problem of the "railroad spine" or the painful back in general has been present probably from antiquity and will continue to be a challenge to the industrial surgeon as long as men must work for a living.

The ever increasing cost to the railroads for injuries to persons is of great concern to management and those departments directly concerned—and the entire solution has not been found.

As pointed out by the study at the cost of two hundred thousand dollars by the State of New York the cost to industry for compensation in New York has risen so alarmingly that it has become a deterrent to industrial expansion in that state.

The ratio of the latest year of New York to that of the nation has combined [illegible] roughly 20 per cent, the fatalities are only about 3 per cent—other statistics further support and are indicative of an active and efficient safety program—nevertheless, New York was responsible for about one-half of the nations permanent partial cases and 20 per cent of the countries permanent total cases.

Incidentally New York's lowest number of serious injuries was recorded in the peak war production period 1942-45 when the pressures of overtime, emotional factors and the influx of young and old inexperienced workers were forces at their zenith—in other words there was little selectivity of workers.

Further, injuries to the trunk have defied safety programs, improvements in medical science and shorter work week. As a cause of total disability, in 20 years, injuries to the trunk have changed from a poor third to almost first rank.

You may wonder why I have used New York compensation records when we are all concerned with those cases under F.E.L.A. The reason is clear—New York is concerned for its economic health—we in the railroad industry are aware that our problem is much more acute and that under F.E.L.A. we are much more vulnerable.

Dr. Howard A. Rusk, Director, Institute of Physical Medicine and Rehabilitation, New York University, Bellevue Medical Center, in discussing back cases said as follows:

"I know of no greater problem in rehabilitation than the back cases. I was absolutely astonished to read the statistics of the New York compensation record in 1949 and 1950. In that period 23,000 back cases were closed. Those that had just soft tissue injury averaged 42 weeks away from work. Those which had bony injury to the back averaged 246 weeks. That is almost 5 years. These statistics did not even count those who were paraplegic." Dr. Rusk continued, "When we can train the average paraplegic whose cord is severed in 120 days, so that he can go back to gainful work, there is something wrong." Continuing the quotation:

"We have been working on an experiment at my institute and two of my staff have been sitting on the Compensation Board reviewing cases for the last couple of years of severely disabled people who get what we call the big fat file. It comes in about three inches thick. These cases come down to us with a

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terrific fixed anxiety—they have seen anywhere from five to twenty-five doctors. They are still in litigation. They are afraid they can never make a living again. Their pain is fixed—sometimes from real causes and many times merely from emotional causes, so we have tried to see what we could do with these people with an adequate psychiatric staff in giving definite treatment. Our results have been discouraging. Out of a group of some 300 cases I think we were able to get less than 10 cases or about 3 per cent back to work."

Dr. Rusk goes on—"During that same period we had about 100 acute or semi-acute back cases that were referred to us by their physicians. That is non-industrial cases. Of the 100 we got 90 per cent back on the job in less than six weeks."

The late Harry L. Spaulding, an orthopedic surgeon contrasting the record of convalescence with back cases in private practice commented: "The back is literally the arch of industry. Again it is the most baffling of diagnoses, the most unsatisfactory of treatment, the most promotional in controversies and the most difficult of disposition."

He contrasted the disabilities in industry with that in private practice as follows: "Injuries to soft parts in industry 46 weeks and those with bony injuries averaging 232 weeks—in private practice 3-6 weeks and 2-6 months respectively," and stated "the industrial back is the people's burden."

I know you all agree with Doctors Rusk and Spaulding that the *injured* industrial case is different than the injured private case.

Recently I examined a conductor 60 years old who had fallen from a ladder at home and sustained a compression fracture of the first lumbar vertebrae. His doctor was a general practioner who hospitalized and X-rayed him. He was in bed 3-4 weeks, was symptom free and anxious to return to work in 10 weeks. He had had no rehabilitation team of orthopedist, neurologist, psychiatrist and rehabilitation specialist—but there was a cooperative patient, without hope of financial windfall to cushion his retirement, chagrined at his own clumsiness and a doctor who recognized a simple fracture without cord involvement and who treated the case simply, intelligently with personal attention, and convincing reassurance to attain a satisfactory early rehabilitation—a knack in every day language is return to work.

The employee who falls from a ladder while at work frequently is a different patient. He is not chagrined at his clumsiness but is convinced the ladder was not new, there was grease on the rung and perhaps someone pushed him. (Laughter) The local griever—a real orthopedic authority—tells him he will not be able to work again, that the company doctor will not tell him the whole truth, that his superiors are not interested in him (frequently with some truth after 72 hours) and that unless he retains an attorney the claim agent will cheat him.

These factors, primarily psychologic, explain, I believe, the appalling discrepancies of convalescent time and percentage of cure if you will—between private practice and industrial surgery.

Today's social atmosphere which often makes it profitable for a man to prolong his disability—the unconscious resentment to being injured—always through no fault of his—the fantastic promises of plaintiffs' attorneys, the newspaper stories of unbelievably generous injuries and the "larceny" in everyone's soul are prime causes for the difference in industrial and private practice.

There is, I believe, another cause that the medical profession contributes and that is the difference in the attitude of the surgeon doing some industrial

work. We are all familiar as chief surgeons with the worker who has a simple strain—he is examined briefly, told to apply heat and come back in 3-5 days. The following day he can't get out of bed and then is transferred to the hospital where he is X-rayed and physio-therapy is begun. After 10 days or two weeks an orthopedist is called in and because of low back ache a myelogram is ordered to rule out a disc—really he hopes to find one—when that is found to be negative but some arthritic spurs or perhaps a slightly narrowed disc traction and more physio-therapy is ordered and the confusion and disability grows like "topsy" and the lawsuit is in the offing. This patient would have passed a physical examination as an applicant even with pre-employment X-rays because the changes now seen are those that are normal with advancing years.

I don't believe routine pre-employment spinal X-rays solve or get to the roots of the problem—eliminating applicants with anomalies does not do away with the lazy, the accident prone or the neurotic. Here and in laws which provide automatic liability and in free spending juries in addition to those factors already mentioned lies our problem. These problems will continue to exist even though a railroad, by pre-employment X-rays, rejects 20 to 60 per cent of its applicants and spends $20 a head to do so. No, what industry needs is more traumatic surgeons trained in industrial accidents and surgery; men, whose primary interest is in the proper selection of applicants and the proper care of the injured.

This means that on the pre-employment examination the use of those facilities we as doctors were trained to use: a critical history; a complete examination of the man stripped so that the examination is a proper one; personality evaluation and good judgement as to his ability to perform the job for which he is applying, instead of reliance on a laboratory procedure. When an employe is injured he needs a traumatic surgeon in attendance who is primarily interested in that industry and its employes and who is acutely aware of its problems—not a surgeon who does some industrial work because it makes a good supplementary and sure income. A surgeon who treats the injured employe with the same care and patience he does his private cases and not as the poor and unreasoning relative.

The claim agent must be more alert than the ambulance chaser. He must make prompt contact, give assurance and assistance financially and otherwise and do everything possible to keep the injured employe from feeling forgotten. I believe the best remedy now available is to make sure we control the final result by careful treatment, early rehabilitation and a just settlement made directly as it should be between employer and employe.

On our railroad all injury reports as a rule are received within 24 hours after the injury; the manner in which the injury was received; what the examination including X-rays revealed and the estimated disability in days or weeks. For example a brakeman was severely contused over the lumbar area, most likely with some intra-muscular and retro-peritoneal hemorrhage. There was severe pain and bilateral sciatic radiation. Within 24 hours a myelogram and disc exploration had been proposed. This was vetoed and the man made a rapid and uneventful recovery.

Recently I called a man to my office because his loss of time was inconsistent with the manner in which the accident had occurred. His complaints were typical: low back pain with radiation into the thigh. On his own he had seen both an orthopedist and a neuro-surgeon both of whom had advised an operation. A detailed history including his social and economic situation and a

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complete physical revealed in spite of the typical complaint and a marked limp—no true muscle spasm—no atrophy—no neurologic deficit—but a severe anxiety state—primarily with a financial background. Obviously the cure was simple if with authority I could assure him he needed no operation, that simple remedies would cure his physical complaints and that the claim agent across the hall would alleviate the dollar deficit. Actually he went to work the following day.

I believe my position in respect to pre-employment X-rays is justified by a study of serious cases which is enlightening and reveals that the practice of routine X-rays is actually directed toward an almost negligible factor in claim costs.

Let me illustrate—I have reviewed the settlements of all the serious back cases for the past five years on the Erie Railroad. Those cases involving an amount less than $2,500 have been eliminated on the supposition that they were less serious and their convalescence normal or at least not unduly prolonged.

Of all the serious cases, $2,500 and up, the average payment was $7,005. These included fractures, discs, etc. In none were anomalous defects a factor and you may be surprised to know that the four largest settlements were in cases that the X-rays were negative and from our examinations showed no positive evidence of neurologic deficit.

There is the further consideration that most railroads and companies which use routine pre-employment X-rays confine their use to one class, i.e., those in train service. In this respect this review of our cases showed only one-third were train service employes. Back cases occur in all classes of service except possibly office workers and supervision.

Let us give thought in passing that the policy of pre-employment X-rays can be a boomerang in the hands of a plaintiff's attorney and under the present Federal rules of discovery there is little doubt that he can obtain them or make capital of the fact that they were refused. We can all imagine the damaging effect in litigation to have a current X-ray with time, stress, inflammatory and off duty injury changes compared with the normal pre-employment X-ray of a perfect youthful back.

I believe that as chief surgeons—following the principles of the council on industrial health which are to provide maximum benefits to employes, employers and communities—the emphasis should be on the placement of individuals according to their abilities and not simple selection of the physically perfect and rejection of all others. Unjust or questionable exclusion from work is against public welfare and contrary to sound industrial health principle.

Not only must we recognize that routine X-ray practice as possibly being against public policy but the beginning of a trend. Assuming all employers adopted this practice, a large pool of willing workers would be unemployable because they were not photogenic to X-rays. (Laughter) As a result each industry would be forced to take its proportionate share of such workers. This is the logical end result if the practice became universal.

The pre-employment X-ray will disqualify many men who have real desire, who will be willing workers and an asset to the railroad industry. On our older men X-rays frequently reveal anomalous and other conditions. These men have worked hard for years and have been loyal and faithful workers. These pre-employment X-rays would have denied them their job and the railroads would have been the losers. Paul Brown, the coach of the Cleveland Browns

football team says that given a boy with size and speed the most important ingredient for a championship team is desire. Football is a rough contact sport and contusions and sprains are expected yet the Browns have had no trouble with the "low back syndrome" and they don't use pre-employment spinal X-rays. We should look for this "desire" also in our applicants.

I believe pre-employment X-rays are unnecessary and never take the place of and are not needed to supplement a complete thorough examination by a trained surgeon who is aware of the railroads' problem and the many factors involved.

Now let us inquire as to whether the use of routine pre-employment X-rays has proved its worth. It is an added expense and it is not fair to management unless there have been results or indication that it has served its purpose of reducing claim costs. Let's look at the record—using 1951 as a base year—the claim payments on the Erie for the past four years have declined, roughly 7 per cent. Using the same I.C.C. source for my figures—a railroad using pre-employment X-rays showed a 20 per cent increase in claim costs for the same period.

In conclusion, let me reiterate that my position is based upon the following:

1. Routine pre-employment spinal X-rays are directed against anomalous back conditions which our records show to be a negligible factor in rising claim costs.
2. It is usually in use in only one class of employes and back claims are general.
3. It may be used against us in litigation.
4. The practice is against the principles of industrial health and public welfare.
5. It may be unfair to applicants who would have been good, willing workers.
6. The practice is unnecessary and may be a substitute for a thorough examination by a trained railroad surgeon.
7. It is an expensive program and I have not as yet seen figures to justify the expenditure.

Let me repeat that our problem is a real one but that pre-employment X-rays do not go to the root of the situation. I believe the remedy can be found only in a trained staff of surgeons who work hard and long to control the ultimate result of the injured employe and alert claim men who contact the injured and cultivate the confidence necessary to settle direct without the costly middleman and expensive litigation.

CHAIRMAN BENNETT: Gentlemen, we have reached twelve-thirty, the theoretical time for us to have some lunch. However, we have one more very important paper by Dr. Cushman, of the "pros" of this problem, and our Committee on Nominations also has to hand out our ballots and mark them. What are your wishes? Do you wish to carry on, or put this off until tomorrow?

Carry on? All in favor? All right, let's carry on.

Thank you very much, Dr. Mistler. That shows a lot of thought and hard work.

Now let's hear from the "pros," from Dr. Cushman, Chief Surgeon, Western Pacific Railroad.

DR. G. F. CUSHMAN (Chief Surgeon, Western Pacific Railroad, San Francisco, Calif.): Mr. Chairman, Distinguished Guests and Gentlemen: No one

doubts that X-ray examinations do disclose important physical defects not apparent on physical examination. Debate over their practical value arises from (1) their cost, which may be considerable, (2) administrative difficulties—additional time required and particularly difficulty in finding needed employes in times of labor shortage—and (3) difficulty in estimating tangible results, for no one can know that a given man, rejected, might have become a claim case if he had been employed.

After five years experience on the Western Pacific our pre-employment X-ray program appears to us as well worthwhile. And we think two main factors have yielded this satisfaction:

1. X-rays are limited to train and yardmen and to the low back—two 14 x 17 films, A-P and lateral, of the lumposacral region. These are the men and this is the region that have given us in the past by far our largest number of expensive claims. These are also the men who are likely to remain with us and so exposed for a long time. We think it is not feasible, for example, to X-ray track laborers. Methods of hiring them and their rapid turnover are such that we can't even give them routine physical examinations. We are presently including *B.* & *B.* carpenters and tunnel workers on a trial basis.

2. More than a year's study of claims experience was made not only by the Medical Department but independently by the Safety, the Personnel and the Claim Departments. Reports were exchanged and conferences held. Out of these came decisions not only to start a program, but also about what classes of employes should be X-rayed and what the extent of examination should be. Still more important, this period of investigation was mutually educational for all. We had a preview of some of the problems that would confront us and were not completely unprepared. Management knew in advance that this would not be a cure-all. They knew we could eliminate some claims that might be caused by pre-existent conditions rather than by trauma, and that they might expect some reduction in prolonged disability from minor injuries. They also discovered that the malingerer and the hysteric could not be detected on x-ray film and they realized that accidents and injuries would still occur—but there could be no relaxation of the very intensive safety supervision already in effect. In other words, a program involving several departments, but administered by the Medical Department, was thoroughly discussed in advance. Since we were able to speak with some intelligence and an understanding of each other's problems, adjustments came naturally, not after a build-up of hostility and suspicion. I am positive that the very complete cooperation and minimal friction we enjoy could not have been attained without these preliminary studies and discussions.

X-Ray Standards

Certain conditions are obvious grounds for disqualification: spondylolisthesis, neoplasm, marked narrowing of intervertebral discs, congenital anomalies, marked arthritic or degenerative changes, evidence of previous operations, opaque oil in the spinal canal. Beyond these, I believe decision becomes a matter of personal opinion and of degree of abnormality discovered. No completely arbitrary standard is possible. I believe this is fortunate since a certain flexibility is desirable and necessary to minimize a frequently overlooked accessory expense. In times of heavy train movement when train and yard crews must be quickly augmented and labor supply becomes short,

rigid standards result in excessive overtime to keep trains moving. Reasonable temporary relaxation of our standards has minimized this additional expense.

Rejection Rates

TABLE I

	Number examined	Rejected	Per cent
1952	629	250	37.8
1953	492	93	18.9
1954	163	24	14.7
1955	384	65	16.9
1956	267	35	13.1

Table I (Slide 1) shows our rejection rate by year since we started. The figure for 1952 (37.8 per cent) is far out of line and well illustrates some of the difficulties of statistical evaluation. Our initial minimum standard was too strict and was adjusted after a few months' experience. There was also a high level of employment and a very short labor market that year. In addition, there has been a continuing decrease in rejections from the start, apparently because the vast majority of those rejected do not re-apply in subsequent years. There seem to be less rejections in years of lighter demand because the Personnel Department is able to select younger applicants.

Our rejection rate may still be somewhat higher than optimum but I do not believe it is excessive. The cost of pre-employment X-rays, therefore, can be kept in reasonable bounds if the program is predicated on maximum return for minimum expense, and if the standards are both reasonable and flexible.

Apparent Results

Coming to the third and final major cause for dissatisfaction—inability to prove definite results of pre-employment X-rays—I must confess we are as frustrated as others. We believe we are beginning to see a return for our expenditure of money and effort but the distortion caused by factors other than pre-employment selection (one or two major accidents, for example) makes the total claims cost of back injuries anything but an accurate index of the value of X-rays.

Nevertheless the decline in incidence of injuries is impressive. Table II (Slide 2) shows for each year since the program was started the number of back injuries with disability and also the percentage of employes sustaining back injuries resulting in claims.

TABLE II

Number of Back Injuries with Disability
(All injuries with claim cost in excess of nuisance value of $100.00)

	Trainmen	Yardmen	Total	Per cent of average employment
1952	17	19	36	6.6
1953	12	12	24	4.1
1954	10	10	20	4.0
1955	7	8	15	2.7
1956	4	6	10	1.5

I wish we could claim full credit for these almost startling reductions in injury incidence but many things may also have had their effects, such as Safety Department activity, modernization of equipment and the gradual reduction in the ranks of "war babies"—the physically unfit who gained seniority during the war years.

In the final analysis it is obviously impossible to estimate the number of disabilities that do not occur by reason of pre-employment selection. We do not try to do it for physical examination; why attempt it for X-ray? Perhaps a quick review of a few of the hazards we have avoided may be more persuasive than impersonal statistics. Last year we rejected 35 men by reason of X-ray findings.

(Slide) I want to apologize for these first two slides. They came out all right, and also by Chesapeake and Ohio, and I think that almost certainly it must have been the plane that broke them. Then, of course, there is the little matter of the shaking around we had in San Francisco last Friday that might possibly have had some effect on them.

This is a renal calculus, as you can see up there. It is an incidental finding, but they often wander into the "injury on duty" class. In our case, we have an additional benefit by not having them as members of our hospital association.

(Slide) This shows marked hypertrophic changes and scoliosis, and, as you can see there, marked lumbosacral sorta. I didn't put down the age of this man, but he certainly is a 70-year old man regardless of chronological age, and he obviously is not a good risk.

(Slide) This is an interesting type of thing. We have been talking about rejecting people who have had myelograms. I am always suspicious of a man who forgets that he went through the not-too-pleasant procedure of a myelogram when he applied for a job. This fellow was rejected, but he actually does not belong in this series since he was pinch-hitting for a man rejected three years ago. The name and social security number in the medical department files led to comparison with the previous films which are completely dissimilar.

(Slide) Another myelogram, oil-type out in the spinal canal. We didn't want him.

(Slide) This shouldn't be here, because we insist on —at least we think we insist on —having our doctors strip our applicants and examine them thoroughly before sending them for X-rays. The doctor in this instance was a little hit tired, so he sent him over first and here we have a spinal fusion.

(Slide) I don't think that some narrowing of the lumbar-sacral space, in itself, is necessarily bad, but when it is as extreme as this, and when it is associated with such marked arthritic changes around it, I think that this individual has had, and will have, back trouble.

(Slide) As you can see, this shows an anomalous vertebra. I didn't bring along the lateral. He does have spondylolisthesis.

(Slide) Marked hypertrophic arthritis of the spine in a man of 46 who had never worked for us we feel is cause for rejection. We don't feel public-spirited enough, if you will, to take on the possible expense that will come from this; we would rather he went back to one of his former employers.

We can't tell what might have happened if we hired these men, because we didn't hire them. We only rejected 35 last year, and the total cost was some $3,800 to us in X-ray bills, but I feel very sure that if these men were on the

property our Claim Agent would pay several times, at least, the cost of the X-ray programs, just to get them off.

Thank you.

CHAIRMAN BENNETT: Thank you very, very much.

Gentlemen, that is the end of our formal program. I feel sure and certain that we would like to go into some discussion on this, and if I may, I will make a recommendation that we put that part off until tomorrow, probably, when we may have a little time.

I do believe that we have had a very instructive and wonderful morning as far as our problems in the railroad industry are concerned, and, of course, we particularly feel that Dr. Speck, Dr. English, Dr. Goidowsky, our Vice-Chairman, Dr. Stockwell, Dr. Leith, Dr. Olson, Dr. Longeway and his group, Dr. Mishler and Dr. Cushman should be commended. Let's give them a good hand. (Applause)

Now we have only one more item of business to bring up, and that is the report of the Committee on Nominations. Dr. Eve, would you give us your nominations, please?

May I say this before Dr. Eve gets up here? We have a little problem, in that we have four vacancies of three years each, all from the eastern division. I don't think it happens very often—we usually have western, eastern, southern, etc.

Dr. Eve will give his recommendations for the four vacancies in the eastern division.

DR. DUNCAN EVE (Chief Surgeon, Nashville, Chattanooga & St. Louis Railway, Nashville, Tenn.): Mr. Chairman and Gentlemen: Your Committee on Nominations met March 14, in the Office of the Secretary, and in line with the Rules of Order and taking into consideration the allocation of nominees for the Committee of Direction, we have selected the following members for ballot:

ASSOCIATION OF AMERICAN RAILROADS

MEDICAL AND SURGICAL SECTION

ANNUAL MEETING—MARCH 28-30, 1957

BALLOT FOR MEMBERS OF COMMITTEE OF DIRECTION

(Indicate by an "X" the names voted for)

Eastern Territory (3 Year Terms—Vote for Four)

	Dr. R. J. Bennett, Chief Surgeon, Elgin, Joliet and Eastern Railway
	Dr. S. M. English, Medical and Surgical Director, Baltimore and Ohio Railroad
	Dr. I. Goldowsky, Medical Director, Central Railroad of New Jersey
	Dr. J. W. Hawk, Medical Director, New York, Chicago and St. Louis Railroad
	Dr. A. M. W. Hirsh, Assistant Medical Director, Pennsylvania Railroad
	Dr. J. R. Knowles, Chief Surgeon, Boston and Maine Railroad
	Dr. W. R. Meeker, Chief Surgeon, Erie Railroad
	Dr. A. Neupauer, Chief Medical Officer, Reading Company
	Dr. C. H. O'Donnell, Medical Director, New York Central System
	Dr. E. T. Stahl, Chief Surgeon, Monon Railway
	Dr. B. W. Stockwell, Chief Surgeon, Detroit & Toledo Shore Line Railroad
	Dr. R. S. Westline, Chief Surgeon, Chicago and Eastern Illinois Railroad

CHAIRMAN BENNETT: Thank you, Dr. Eve.

Now, let's look at these nominations this way—we have four openings, and I can say without any hesitation that they have absolutely picked out a lot of heavyweights as far as the railroad industry is concerned. I think they are to be commended upon their recommendations.

DR. HOLTON: These gentlemen are being nominated for the Committee of Direction, aren't they?

CHAIRMAN BENNETT: Right.

DR. HOLTON: Isn't Dr. Goldowsky automatically on that committee?

CHAIRMAN BENNETT: No, he must be re-elected.

DR. HOLTON: I wanted to get that clear.

CHAIRMAN BENNETT: As you know, you are entitled to so many votes according to the miles of railroad that your company operates. Mr. Parks has the ballots and will now distribute them. Please mark your choice of four only, out of this group of twelve.

As tellers for the election, I would like to appoint Dr. Dennis, from the Northern Pacific Railway as Chairman, with Dr. G. W. Benjamin, Chief Medical Officer of the Western Maryland Railway, and Dr. S. J. Peluso, Chief Surgeon of the Texas & Pacific Railway. Those three gentlemen will collect the ballots after they are marked and will return after lunch for the purpose of counting the votes and preparing their report.

We will now adjourn for lunch.

(The meeting recessed at 1:10 p.m.)

FRIDAY

The meeting reconvened at 9

CHAIRMAN BENNETT: The
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CHAIRMAN BENNETT: Let s
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DR. DOWD: And now a hand

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FRIDAY MORNING SESSION

March 29, 1957

The meeting reconvened at 9:30 a.m., Chairman Bennett presiding.

CHAIRMAN BENNETT: The meeting will please come to order. We are delighted to see so many out so early this morning, after being up so late last night.

Our first order of business this morning is Item No. 13. May we hear from Dr. Derauf, Chief Surgeon of the Northern Pacific Railway, with the report of the tellers as to the results of yesterday's election.

DR. R. J. DERAUF (Chief Surgeon, Northern Pacific Railway, St. Paul 1, Minnesota): Mr. Chairman and members of the Section, Your committee of tellers—Dr. Fortin, Dr. Benjamin and myself—have counted the ballots and recorded the votes, and we are pleased to report re-election to the Committee of Direction of Dr. R. J. Bennett, Chief Surgeon, Elgin, Joliet & Eastern Railway, Dr. I. Goldowsky, Medical Director, Central Railroad of New Jersey, Dr. B. W. Stockwell, Chief Surgeon, Detroit & Toledo Shore Line Railroad, and the election of Dr. W. E. Mishler, Chief Surgeon, Erie Railroad.

CHAIRMAN BENNETT: Let's forget Bennett, but let's give Mishler, Goldowsky and Stockwell a little hand. (Applause)

DR. DOWD: And now a hand for Bennett. (Laughter and applause)

CHAIRMAN BENNETT: Now we come down to the business at hand today, and I assure you that it is very, very important to all of us.

Yesterday we had our regular committee meeting, and the reports were extremely interesting. Today we enter a different phase of the business, something which we do every day on our railroads.

Unfortunately, we are faced with accidents, and when we do have accidents, we have to treat these people and get them well, mentally and physically, and if and when they are well (or not) we are faced with the legal problems.

Most of our legal cases—at least in the Chicago area—run from $100,000 to $250,000 a case. I can assure you that the juries today are very liberal with your money.

Therefore, if we got our house in order yesterday from the standpoint of how to care for these employes, today we are going to attempt to take the next step of this program, to attempt to protect you against unscrupulous claims, lawyers, etc.

In this connection, our first speaker on the program has had a vast amount of experience in this type of problem. In fact, he has spent his life working on this problem, day and night, to try to get around it, through it, over it or under it, and I'm sure we are all going to be very interested to hear "The Doctor's Cooperation in an Effective Medical-Legal Defense of Personal Injury Cases." It gives me, indeed, a great deal of pleasure to present to you now Mr. Harlan L. Hackbert, one of my associates in Chicago. (Applause)

MR. HARLAN L. HACKBERT (Division Counsel, United States Steel Corporation; Counsel, Elgin, Joliet & Eastern Railway Company, Chicago, Illinois): I see that today I am fortunate—I have a lady in the audience.

Anyone who doesn't believe that I have re-written what I had to say can

come and look at my notes, which are on Greenbrier stationery. So you're really getting double value for my appearance here.

One of my favorite stories is about the rooster in the henyard which was located near a public playground. One day the youngsters in the playground kicked a football over into the henyard. The rooster came up to it, walked around it, and looked it over from all sides. Finally he clucked and called the hens around and said, "Now, look girls, I don't want to complain, but I want to show you the kind of work that is being turned out in some of the other yards." (Laughter)

Well, this morning I'd like to talk to you about some of the "eggs" that are being laid in the legal henyard.

As I think was pretty clearly indicated yesterday by the trend of the discussion, you gentlemen are familiar with what is going on in the litigation field. When I talk today, I talk largely about my own experiences. I know from years of contact with your claim people and the men who are trying your lawsuits (and I think with respect to most one of you here in the audience I could say that I have one or both of the people who are doing that for your railroads) that your experience coincides with mine, and consequently, when I talk about my experiences, I'm talking about things that happen to all of us.

As we survey what is going on in the courtroom, we know that the railroads are paying for injuries which existed before the man ever came to work for the railroad. Under the name of "aggravation," we are paying additional amounts for congenital or anomalous conditions, and again, for the pre-existing injuries which the man had.

Under the guise of "acceleration," we are paying for the ordinary diseases of life, or for the normal wear and tear of normal degenerative and aging processes.

When it comes to the question of liability we are paying on plaintiffs' stories that are fantastically improbable, and we are paying from the standpoint of medical causation on claims where the cause relationship seems to us to be transparently thin, but seems to the jury to be sufficiently connected—we are paying for grossly exaggerated disabilities.

Turning to my own experience for a minute, just as we filed the record on appeal in a case in which there had been a $50,000 verdict, the examining neurosurgeon testified that the man would never be able to bend or lift or carry or do any kind of manual labor again. Within a month after the jury had returned the $50,000 verdict for that man, he went to work as a furniture mover's helper. As I say, just before the record was filed on appeal, we learned that he had been killed in an automobile accident on his way back from one of these furniture-moving trips, in which he and another man had moved 11,000 pounds of furniture into a two-story house, including an upright piano, refrigerator and stove.

We set that all up by affidavit on a delayed motion for new trial, and to no one's surprise, the appellate court reversed, and remanded the case for new trial, so as to give us an opportunity to present to another jury the story of the extent of the plaintiff's disability.

If the jury accepts the plaintiff's story of the accident, or if it accepts the medical testimony as to the causal relationship or extent of injuries, the jury's verdict in these cases is well nigh conclusive, and our opportunities to set it aside or get it reversed, or get a new trial, come rather rarely.

In this contest to win the minds and convictions of the jurors, the railroad company operates under very severe disadvantages. It is not only the natural

tendency of the jurors to be sympathetic for the injured man, and to accept his story of how the accident happened, and what his complaints are and what his disabilities are, as against the impersonal corporation which is not seen in the courtroom except, possibly, through the granite-faced claim agent, but also, we have to face the fact that whereas we were saying yesterday that the liability of the railroad company is predicated upon the failure to furnish safe or proper equipment, or the failure to furnish, as the law requires, a reasonably safe place to work, the jury assumes the fact that an accident occurred is proof of the fact that the equipment or the place of work was defective.

Again, in our railroad employees' cases, unlike the ordinary run of negligence cases, the contributory negligence of the injured man, himself, is no defense. True, under the F.E.L.A. it is supposed to go into mitigation of damages, but actually, that is a rather slim reed with which to undertake to prop up our case.

Then the law imposes liability if the railroad's negligence "in whole or in part" caused the injury to the plaintiff, and from the standpoint of the relationship of the accident to the injury, all that is necessary from the plaintiff's standpoint is that someone testify that there might or can be a causal relationship, whereas, from the defense standpoint, our burden is to prove that there could not possibly have been any causal relationship between the accident and the alleged injury.

When you take those disadvantages that we operate under into the courtroom, and bear in mind that the courts are constantly restricting the field of available defenses, and are permitting no new ingeniously-thought-out defenses to survive, and that they are, on the other hand, constantly extending the field of liability, virtually our only successful defense in these F.E.L.A. cases today is to prove that the plaintiff's version of how the accident happened—or his story as to when his injury was first complained of, or his complaints were first observed, or his story as to the extent of his injuries or disabilities—it is highly improbable. Unless we succeed on that question, unless we prove to the jury that the plaintiff is either lying or grossly exaggerating his case, our chances of winning before the jury are [illegible], generally speaking, our chances of winning [illegible].

Now, that is the task we have to undertake—to convince the jury of that theory of defense, and the question I want to discuss with you here this morning is what the doctors and medical departments of the railroads can do to help us in the defense against the fraudulent or the grossly exaggerated claim.

In this field of proving that the plaintiff is either lying or grossly exaggerating his case, I think the medical witness and the medical testimony is virtually the only source available to us which has not yet been fully explored and exploited.

What I am going to say this morning—when I talk about pre-employment examinations, periodic or other examinations during the course of the man's employment—is wholly from the standpoint of how it affects the outcome of the lawsuit, how it affects litigation, the importance that it has to the trial lawyer and to the legal department of the railroad. I am not going to worry about the question of whether or not pre-employment examinations unduly restrict the manpower that is available for the railroad, and I will leave that problem to the operating department.

In passing, I think it is pertinent to observe that to the extent that the operating department pays overtime to get the work done, at least it is pay-

ing out the railroad's money for work that has actually been performed. To the extent that the claim department or the trial lawyer sees money paid out in settlement of claims, or in satisfaction of judgments, based on a loss of future earning power, we are paying out the railroad's money for work that never has been and never will be done for the railroad.

Similarly, I am not going to touch on the question of what is the railroad's obligation to re-employ or to take back in employment the man who has been injured and who has made a good or substantially good recovery. There, again, the question of the weight to be given to the long years of service—as affecting the obligation of the railroad to offer that man another job—is a question of policy for management to determine. It is not a question for me, as a lawyer, to undertake to decide, or perhaps even to express my views on.

But I do want to say this, in that connection: I can't resist saying something on these things, even though I know I shouldn't, on that policy question. I would like to make this illustration, that the question is not one just as between the railroad and the injured man. The question is not to be determined solely on the basis of what is the extent of the cure or improvement in the condition of the individual patient, but rather, that the railroad also has to take into consideration its obligation that it owes to the man's fellow employes and to the traveling public not to put a man back in a position of vulnerability, of injury to himself or causing injury to his fellow employes or to the traveling public, when he is more susceptible to injury and to sudden disability than is true in the case of the man who has never had a heart attack or other injuries which we spoke of.

I think no one undertook to answer Dr. Olson's question yesterday as to the railroad's obligation to re-employ and put back in the operation of high-speed trains an engineer who has made what is clinically demonstrated to be a complete recovery from heart attack. Well, I think I can answer that question posed by Dr. Olson by putting another question to him.

If he had to go out here to the Greenbrier airport and catch a plane back to Chicago, and he had his choice between two planes, one flown by a pilot who had a medical history of a heart attack, presumably completely rehabilitated from a medical standpoint, and the other flown by a man who had no such previous history, and he had the opportunity to make a fully informed and otherwise free choice as between the two pilots, I think it is quite clear that he would take the additional margin of safety that was provided by the pilot who had never had a history of prior heart attack.

It is the duty of the railroad to bring that additional margin of safety to its employes and to the traveling public, and to the others who may be affected by the injury or the diseased condition of the engineer.

Coming to this question of the preparation of the medical defense for the trial of a lawsuit, no matter how early the plaintiff's lawyer may contact the injured man—even if he is waiting for him on the hospital steps as the ambulance pulls up to the door—nevertheless, we still have an advantage in the preparation of our case over that plaintiff's lawyer, in that we have had the man in our employ for some period of time prior to the occurrence of the accident, and we have the first chance at the preparation of our medical and our legal defenses.

I think it is no exaggeration to say that the effective time for the preparation of a persuasive medical-legal defense begins long before the accident ever occurs. It begins at the time when the man first comes to the railroad and makes application for employment.

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There was a good deal of discussion yesterday about pre-employment physical examination, and I think I cannot overemphsaize to you gentlemen the importance of those as they relate to the successful defense of our F.E.L.A. cases.

There was some discussion as to the propriety of rejecting a man for employment, and the conditions which should lead to his rejection, but let me say this to you, just from my standpoint, from the trial lawyer's standpoint, that as to the applicant who is rejected for employment, this much is clear: I have won his lawsuit before the accident ever occurred, and before the lawsuit is ever filed. I am never going to have to qualify a jury or argue before a jury on the question of how much there was in the way of aggravation, or how much there was in the way of this or that, or how much there is exaggeration of the claimed disabilities in his case. We're just never going to have to spend any money in investigating that man's lawsuit or in defending it in the courts. And, believe me, gentlemen, investigation and trial expenses are very heavy expenses as compared with the cost of pre-employment physical examination.

As to the applicant who is accepted for employment, a careful pre-employment physical examination furnishes the trial lawyer with two things in the ultimate lawsuit, if we have one. One is a record of the doctor's findings as to the man's physical condition at the time that he first entered our employ, and the other, in the form of X-rays, is evidence that we can show to the jury, to demonstrate to them what the plaintiff's lawyers call "demonstrative evidence" these days. We can show them, in effect, an actual picture of the man as he was at the time that he was employed.

The importance of X-rays in the trial of a lawsuit is something that may come as a surprise to you gentlemen. You accept them as tools of your trade. They are one of the many things that you rely upon in diagnosis and in treatment, and in evaluation of the extent of disability. They are as familiar to you as the law books are—or should be—to lawyers, but X-rays are very interesting and very important to jurors.

I think I have never tried a lawsuit in which the shadow box was set up and the first X-rays put on the screen but what the jurors all leaned forward in their chairs or moved to the edge of their chairs and looked with the greatest of interest at the pictorial demonstration that was provided by the X-rays. I suppose in this day and age, most all of us have had X-rays taken, but it is a kind of unusual process, and in any event, the patient never gets to see his own pictures unless he has a doctor whom he knows pretty well. The whole thing is rather intriguing, but it is a wholly closed chapter so far as the patient is concerned.

When the juror sits in the jury box and the X-ray films are put in the shadow box for the doctor to interpret and explain, and for the juror to see, the jurors are all intensely interested in that.

Now, to the extent that, from the defense standpoint, we can come up with X-rays which demonstrate either the falseness of the plaintiff's story or the exaggerated character of it, we have something there in the X-ray film that is of interest to the jury, and in many cases I think it is of controlling importance to them.

Something was said yesterday about the possible use that our adversaries might make at the trial of either pre-employment X-rays or possibly X-rays taken during the course of the man's employment and prior to the time of the accident upon which he is relying in his lawsuit. Well, let's say the X-ray doesn't show any disabling condition at the time of the man's employment.

Then let's say that all of his pre-accident X-rays, whatever they might be, are also negative so far as the conditions that are relied upon in the particular lawsuit. There isn't any argument that my adversary can make—based on those negative X-rays, or based on a pre-employment or other physical examination report—that can be any more damaging or any harder to meet from my standpoint than the argument that he can similarly make from the fact that the man was accepted into the railroad's employ and that he worked for 30 days or a year or whatever period of time it might have been prior to the time of the accident upon which he is relying. In other words, unless we are able to demonstrate by proof what the man's condition was prior to the time of the accident, the assumption that is going to be argued to the jury in every one of these cases is that prior to the accident, the man was a totally well and physically perfect individual, and that all of the conditions which are found in the subsequent examinations and X-rays are attributable solely to the accident.

There is[illegible] use that our adversaries can make of our pre-employment examination, whether in the form of written reports or in the form of X-rays that can do us any harm, beyond that to which we are already subject.

On the other hand, let's say that the X-rays do show the conditions which are charged by the man, or by his medical witnesses, as being the result of or attributable to or aggravated by the accident upon which he relies. If we are able to show the jury by pre-employment or periodic examinations and X-rays taken prior to the time of the accident that the narrowing of the intervertebral disc space—or the arthritic spurs, or the wear and tear on the vertebral bodies, or the curvature or lack of curvature of the spine—were all conditions that can be shown by the X-rays to have existed before the accident, then we are entitled to argue that to the jury, and to have the jury instructed that it cannot allow the plaintiff any recovery in this lawsuit except for injuries that are the result of the accident upon which he is relying, and we've got something to use for comparative purposes to show that the condition did exist, or the disability was there prior to the time of the accident. We leave the plaintiff in a position where he must make his case solely upon the ground of aggravation, and if the plaintiff's medical witness or witnesses know that we have ammunition like that in our brief case, or in our papers there at the trial, they'll pull in their horns a long, long way, and they'll stay very far from climbing out to the edges of the limb in their testimony.

Almost invariably, gentlemen, in the trial of these lawsuits, we find that when we have ammunition like that in our locker, we are not confronted at all with the extreme testimony and the exaggerated findings and complaints that we are confronted with when we are wholly lacking in that kind of previous preparation of our medical defense.

There was also criticism yesterday over the fact that the pre-employment examination, at least from the X-ray standpoint, is largely limited in current practice to trainmen in road operations, and that the X-rays are limited primarily to the back. Well, that is a valid criticism, but I submit to you that it is no criticism of the pre-employment examination technique, because, after all, if I may coin a phrase, we have to learn to walk before we can run. We have to tackle this problem of pre-employment examinations and determine to what extent it can be utilized advantageously, both from the standpoint of employment and also of what value it can be to us in the trial of our lawsuits in subsequent years.

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Certainly, this is true, that the railroad is tackling the problem of determining of what use the pre-employment physical examinations can be made from both standpoints—that is, the employment standpoint and the litigation standpoint—right at the very heart of the problem.

You will recall that Mr. Carney told you yesterday that the back injuries comprise, by far, the most important segment of our personal injury litigation, that more money is paid out in settlement or satisfaction of back injury claims than is paid out in the settlement or satisfaction of all other claims together. Certainly, I know from my experience in the impression that the cases which are the most difficult, the cases which cause us the most anguish, are the back injury cases. They are the most difficult of all cases to defend and to explain intelligently to the jury, persuading the jury of the correctness of our position.

I say we are tackling that problem right at the very heart of it, not around at the fringes of it. If it is a valid criticism that pre-employment examination is thus limited in its scope at the present time, I want to say that from my standpoint as a trial lawyer, I hope that the field of pre-employment examinations is extended just as fully as possible and just as fast as possible. I hope that pre-employment physical examinations, in the very near future, are going to go into such questions as the latent susceptibility of the man to contact dermatitis from the substances with which he is going to come in contact in the course of his work, because the dermatitis field of liability is one which has just barely been touched upon, and although we have had some pretty hot battles in some of those cases, and I have the gate receipts there for the biggest fee against me of anyone who has tried any dermatitis cases yet, that is a field of activity that is going to assume even greater proportions so far as the railroads are concerned.

I hope the field of pre-employment physical examinations is going to be extended to the question of determining the extent of the man's hearing, or the extent of his loss of hearing at the time that he first comes to work for the railroad company and is about to be put to work in an atmosphere of an area in which there is constant noise or explosion, because the field of liability for loss of hearing is one which has not barely been touched upon, but it is one of the fields in which we are going to find that we are confronted in future years with substantial claims for damages in the settlement of those claims.

Yes, you can say, it is going to be disadvantageous to us to establish a record of the fact that this man's hearing was 100 per cent before he came to work for us, and now he has worked for us for ten or fifteen or twenty or whatever number of years it may be, and now the hearing test discloses that he has had a substantial hearing loss, and the argument is going to be made that, well, that is due to his employment by the railroad. Well, if that is what the fact is, let's know it right at the start. Let's cut off from our employment the man who has the partial loss of hearing, before he ever comes to work for us. Let's build up our defense, at least, to that extent, and take our chances on what may be our liability for the man who loses his hearing during the period of time that he is working for the railroad, whether he loses it as a result of his railroad work or as a result of other conditions. Let's at least know the facts of what we are dealing with, and let's face the fact, as I said before, that we aren't going to be any worse off in the trial of a lawsuit when confronted by the actual record of what the man's condition was than we will be with the argument of the plaintiff's lawyer that it must be assumed or must be taken for granted

from the man's testimony that he never noticed any difficulty in hearing at the time he first come to work for the railroad company.

Similarly, I hope that our pre-employment physical examination will be extended to discover the existence of cardiac defects and all of the other conditions of that general kind and character which rise up in the later years of the man's employment to plague us and to become the basis for the recovery which he hopes to obtain.

There is another use of the pre-employment physical examination that was just touched upon very briefly yesterday, and that is the situation where the man misrepresents his physical condition or conceals what was his physical condition at the time he came to work for the railroad company.

I have just finished a three-weeks trial in which that question of misrepresentation and concealment of the man's physical condition was one of the major issues in the case. That happened to be a suit against a steamship company by one of its employes. As you gentlemen whose railroads have some over-the-water operations know, the liability under the Jones Act is precisely the same as the liability under the F.E.L.A. As a matter of fact, the Jones Act adopts provisions of the Federal Employers Liability Act by reference.

Now, if the man comes to the examining doctor in the pre-employment physical examination and either misrepresents or conceals a physical defect or a prior injury, and if that misrepresentation or concealment is material, if, had the true facts been known, the man would not have been employed, but if his fraud (and that's what it is) is effective, and he is permitted to go to work, and he subsequently meets with an accident which was perhaps in part caused by that concealed physical condition, or, in the ultimate outcome, his physical condition plays a part—in other words, if it were accravated or accelerated (or whatever term you want to use)—and you are able to demonstrate all of those facts to the jury, then, in the words of the Supreme Court, that man was not an employe as a matter of right at the time of his accident. He is not entitled to sue under the Jones Act or the Federal Employers Liability Act, and he is not entitled to recover for the injury which he has sustained.

In that respect, the question of fraud in obtaining employment becomes a significant and a very valuable defensive aid. Make no mistake about this, gentlemen. You have to prove that defense right up to the hilt. The examining doctor can't see a surgical scar in the midline of the back and then claim later on that he just never knew at the time of the examination that this man had a surgical operation for the repair of a ruptured disc. He can't see that the man has a glass eye and pass him on a physical examination as having 20-20 vision in both eyes.

You may say, well, let's not kid ourselves; that isn't going to happen. Well, I can quote you—if necessary, to the book and page—where that situation happened, with one of the major trunk lines in this country, one of whose representatives is sitting here today. To avoid embarrassing him, I won't name the railroad.

You can't pass a man as being within the employable age range—assuming that 45 is your top limit for hiring engineers—and accept a man who is obviously 65, and then claim later on that you were deceived by him as to his age. There has to be a real and material misrepresentation in order to make this defense available to the railroad. But when it is available, gentlemen, it is what my former senior partner used to call a "sockdologer." It's good, boy, to the last drop.

The discussion yesterday didn't turn much on the question of periodic re-examination of employes who are already in your employ. Of course, once the man passes the pre-employment physical examination, he joins the ranks of those employes who were accepted for employment and who have been working for the railroad long prior to the time of the installation of the pre-employment examination routine. What, then, can you doctors do to help us lawyers out with respect to those men who are already on the payroll [illegible] work, who are beyond the scope of the pre-employment examination routine?

[illegible] to the extent to which periodic re-examination of your men, that is entirely proper [illegible]. I'm talking just from the standpoint of the railroad organization, and I'm not talking about what men are to be made of periodic physical examinations as regards to continuance of physical employment or even as regards the transfer of personnel from one job to another job in which the physical condition [illegible] be that re-examination would be motivated with [illegible] injury to himself or to others.

To the extent that it is possible to take periodic re-examinations of your employes, and thus to keep the record current, to make up a record for each employe as to what his physical condition is from time to time, [illegible] of frequent periods or longer periods, or whatever it may be, it seems [illegible] to that pre-employment record of the particular individual, [illegible] evidence at hand for use in the lawsuit when it comes to trial.

If periodic re-examinations are not feasible or possible under [illegible] employment of your railroad, then let me suggest this to you. [illegible] railroad employes, railroad trainmen, are constantly coming in with claims for first aid attention, or perhaps just in order to get away from work early on a particular day, with a story of having been [illegible] on the head or fallen in the bank, or having fallen or something of that kind, and there is some suggestion of the possibility of a head injury or a back injury. I think the usual technique from the standpoint of the doctor [illegible] is to make a perfunctory examination of the head, or whatever it may be, and to give it as your opinion that [illegible] perfunctory examination, but if [illegible] that man come back to you in that perfunctory examination, but if the man goes home and to come back to work the following morning, and if the man says anything further about his condition, or has any more trouble, he is to go back to the doctor in three days or two days, or whatever it may be, and let the doctor have another look at him.

In all probability, the man never comes back to you, and you never see him again, so far as the result of that particular incident are concerned, and it is simply swept away in the current of other things. But I suggest this to you, gentlemen, that the appearance of the man at your dispensary or at your local doctor's affords you a further opportunity to build up the medical file on the history of that individual.

If he comes in with a complaint of a blow on the head, or a blow on the back, I suggest to you the advisability of taking full and complete X-rays, and a full and complete history of that incident, putting that into the man's medical file for such future use as may ultimately be made of it. That serves to keep current the record of the particular individual, just as periodic re-examinations will do. It also affords you an opportunity, as does the periodic re-examination, to determine what is the course of that man's condition, the course of his wear and tear, the course of the development of his arthritic deposits in the

spine, and in the other bones and joints of the body. It affords you an opportunity, if called for, to suggest to that individual that his physical examination demonstrates the desirability of changing to a less hazardous type of work in which he is not exposed to the same hazards of injury that he might be in the work which he is then doing.

Again I say, gentlemen, if by a transfer of the man to other work, you avoid the ultimate accident which he might have, we have won that lawsuit before it was ever filed, and we have done both a valuable service to the man and rendered a valuable service to the railroad.

Finally, I suggest to you gentlemen that even in the trivial kinds of incidents such as I have suggested, a full and complete physical examination, and X-ray examination, guards against the possibility of a later asserted claim based upon the incident which brought the man into the dispensary or the first aid station, because, after all, the man has three years from the date of the accident within which to bring a lawsuit and to claim that some eventual physical condition was, in fact, caused by the incident of which he complained upon that occasion and to the doctor for medical attention. Unless we have that type of record at that time, we are confronted in the courtroom with the assertion that "I went to see the doctor, and I told him I hurt my back. The doctor took me back, my shirt off, and taped me around the back a little bit, and said, 'Go on home and come back the next day,' and that's all the attention I ever got from the company, and that is the extent to which the company gave me the medical care and attention to which I was entitled, as an employe injured on the job.

One doctor comes into the courtroom with [illegible] slip of paper indicating a perfunctory and cursory examination of the man. The plaintiff's medical witness comes in with some of the X-ray films, [illegible] picks out just those which are indicative of the pathology, and he tells about the complete and comprehensive examination that he made of the man. Oh, sure, he may have made it the day after the trial started, and he may admit frankly that he never prescribed any treatment for the man, and doesn't intend ever to treat him for any condition, but the contrast between the perfunctory examination at the time of the accident and the comprehensive and complete examination at the time of trial is something that damns us in the minds of every juror before whom that situation is presented.

Well, when it comes to the question of cooperation between the doctors and the lawyers—at the time of an actual accident of which you have knowledge, when you know that the accident is of sufficient seriousness and severity that a claim is going to be made, and a lawsuit may be the possible outcome—I don't think I have to tell you gentlemen anything as to the necessity for full and complete examination, and to the desirability of rendering to the injured employe the fullest and most adequate treatment that medical science knows. That is part of your job, and I know you do it, and I don't need to tell you.

I don't need to tell you that in the cooperation between the doctor and the lawyer when the lawsuit comes to trial, your function is going to be to give the lawyer, in capsule form, what it took you years in medical school to learn, and years in practice to learn by experience. You are going to have to give that all to him in ten or fifteen minutes of discussion.

You're going to have to go around and browbeat expert witnesses who are specialists in particular fields, and persuade them to cancel their office appointments—perhaps for three or four days running—and to postpone the operating schedule that they have set up, in order to hold themselves available

to come at the lawyer's call and take the witness stand and help you out in the defense of your lawsuit.

You know all of those things. You've been through them just the same as I have, and you know what is called for in the way of cooperation at the time of the trial.

Now I would like to say something about report forms. You have all received this rather comprehensive two-page physical examination form. It's a good one. I have one or two suggestions that I am going to make to the committee.

I think a valuable suggestion was made yesterday about inserting a question as to whether or not the applicant had ever had an X-ray taken previously, and if so, when and where.

These forms are good only to the extent that they are actually used and used completely and fully.

In this lawsuit that I told you about, which we spent three weeks in trying, where the question was on the matter of concealment at a pre-employment physical examination, the steamship company had a perfectly magnificent report in its files that would have made a complete defense to the lawsuit. All of the questions as to prior history, questions as to whether or not the man had been medically discharged from the military services, a question as to whether or not he had ever had any prior back trouble—all the questions were answered with "No." It was typed in there just as bold and black as you please. Down the list of things—"Have you ever had any of the following:"—the answer was "No."

In the spaces where the answer called for was "Normal," the word, "Normal," was there. Down at the bottom of the page was the man's signature, under a printed line which read, "I have fully disclosed all previous physical injuries, and I certify that I am in good physical condition."

Well, the doctor who had made the pre-employment physical examination was no longer in this part of the country, and we had to go down to New York and take his deposition. He was shown this report, and he identified his signature, and identified the man's signature. He said very frankly that he had no recollection whatever of this particular examination. Later on, he examined thousands of seamen on the Great Lakes during the course of a navigation season.

On cross-examination it developed that this particular form which was shown to the doctor was one which had been signed by both the doctor and the applicant in blank, and all of the information that was typed in on the form had been typed in at the office of the clinic in Cleveland.

It developed that the doctor had another copy of the form on which he had made notations as he went along. The typewritten form had been made up on the basis of the handwritten form.

Off we went to Cleveland, to take the deposition of the doctor at the clinic who had custody of the handwritten form. Then we discovered, to our dismay, that it was the doctor's practice—in taking the history and in asking the questions about the previous physical conditions and diseases—to leave it blank if the man's answer was normal, or if the man's answer was "No," and that he only wrote on the handwritten form those things in which the applicant made a statement which indicated something that was a departure from the normal "No" or "Normal condition" answer. Consequently, although this man, at the time he made application for work on the vessel, had a file with the Army

and the Veterans Administration that (I'm not lying) was that thick, and he was drawing compensation from the Veterans Administration on the basis of a 30 per cent physical disability, still, on the handwritten report, the question, "Have you ever been discharged for any reason from the military service?" was blank, and the question, "Are you now receiving compensation from anyone, based upon physical disability?" was blank, and the question, "Have you had any prior back injuries?" was blank, although the man had a history as long as my arm of back trouble. Of the ten months he had spent in the Army in 1942 and 1943, he put nine months of that time in Army hospitals for back trouble.

Well, fortunately for us, the plaintiff's lawyer, who was a very able and experienced plaintiff's trial man (I mentioned his name, I'm quite sure that many of you would know of him, and of experience with his cases) made the mistake of suggesting on his cross-examination that this whole thing was framed up and consequently, that gave us an opportunity to demonstrate—by the use of other physical examination reports made by this same doctor—that this [illegible] was the way he got it, that he put everything down and wrote in only the abnormal or unusual matters.

For instance, on this particular patient (with, as I say, this tremendous record of 15 years of back trouble) he did have, in his physical history, "Tonsils and adenoids removed in childhood." But we had an opportunity to disclose by way of these comparative reports that this was the doctor's technique, and subsequently, after a full day of argument, we were able to get the physical examination report in evidence and get the doctor's testimony as to what had happened at the physical examination as reflected by his deposition admitted in evidence, and after a three-weeks trial—which, with the investigation and trial expense, probably cost the steamship company something in the neighborhood of $30,000 to defend—the jury was out less than 45 minutes and, thank God, returned with a "not guilty" verdict.

But our whole problem would have been greatly simplified if that examining doctor had taken the few minutes of extra time needed to fill out the form and to answer all of the questions directly and explicitly. Had he done that, and he made the examination that was indicated by the typewritten report, we could have disposed of that lawsuit—possibly by motion for summary judgment—without any trial whatsoever, and certainly in a very short space of time, much less than the three weeks that we spent in the trial of that lawsuit.

So I say to you gentlemen that when it comes to the matter of these physical examinations, whether it is a pre-employment physical examination report, whether it is a periodic examination made at regular intervals during the man's employment, whether it is the examination that you make at the time the man notifies it with a complaint of some trivial or some serious incident which occurred while at work, make the examination fully and completely, and record it in detail upon the form. If you do that, it has these advantages in the ultimate trial of the lawsuit:

In the first place, a report made by the examining doctor in the regular course of his work as a doctor, and in the regular course of his work for the railroad company, made as one of the regular records of his office, or of the railroad company's business, made contemporaneously with the examination itself, known to the doctor to be true and to be accurate and to be complete, that record then qualifies under the rule of the federal courts that is known as the "shop book" rule, the rule that is known in most of our state court pro-

ceedings as the "original entry" rule, and that record may be used in three ways in the trial of a lawsuit.

In the first place, it may be used to refresh the recollection of the examining doctor if, after looking over the examination form, he is able to say that he recalls the examination, he recalls the questions he put to the man, and the answers which the man made, he recalls the clinical tests that he applied to the man, then that record may be used by the doctor, as we say, to refresh his recollection. He may testify on the witness stand on the basis of his recollection as it is thus refreshed.

Well, the record may not recall anything to the doctor. He may be sorry, he may say — as did the doctor in my examination case — that he has made so many examinations that, frankly, he is unable to recall this particular examination. He doesn't know whether the man was tall, short, fat or thin, whether he had brown eyes or blue eyes, or black hair or any hair at all. He may know nothing about it other than that it was his practice to make a report of this type, that he made those reports promptly and accurately, and that he made them at the time of the examination, and that he knows that the report is true and correct.

With that report in front of him, and on the basis of his knowledge of its accuracy and his knowledge of his usual course of examination and his usual procedure, he may testify as a matter of fact, not simply to the price fixed, but he may testify as a matter of fact that he put these questions to the applicant or to the employee who came in complaining of an accident, and that the man made the answers that are recorded on the examination form, that he performed on that individual the tests which are recited on the form, and that the results of those tests, the progress of the individual, all of the other matters which are set forth there, those tests were made, and those reactions were observed.

On the basis of that report, he may testify to what we lawyers call "past recollection recorded."

As I say, it took about half a day of argument in order to get the record in, in our particular lawsuit, but we did get it in, and on just that basis (and I think it proved to be very effective with the jury) we proved our case.

Finally, there is a third aspect in which the record may be used. The examining doctor may be dead. He may be gone and unavailable at the time when you want to use him. You may not be able to locate him or bring him to the courthouse to testify in your particular lawsuit. Then, if the record has been kept in conformity with the requirements of these rules that I have mentioned, the record, itself, may be admissible in evidence, and may be read to the jury.

We had an instance of that in this lawsuit to which I referred when we were able to qualify the Veterans Administration records, and the records of the Marine hospital where the man had gone for treatment.

I might say this, just by way of patting myself on the back, and my co-counsel, for the result of that law-suit. This man had been operated on twice subsequent to the claimed accident on board ship, for ruptured disc, and on the first operation he was found to have a ruptured disc on the lumbar-sacral, and on the second operation, at the fourth and fifth interspaces, so there wasn't any question about the fact that this man did actually have an injury. The question was: did he get it working for the steamship company, or did he get it in the Army, or did he get it prior to the time of his Army experience?

Fortunately, by the use of the Veterans Administration records, and the

Marine hospital records, we were able to put in those records and to read them verbatim, the portions we wanted, to the jury, so they could get the full benefit of the man's history as he recited it in the Army hospital, of these prior back troubles, the diagnosis by the doctor in the Army and the doctor in the Veterans Administration, and the treatment. We were also able to present the history again as he gave it at the Marine hospital. The last thing we read to the jury was the conclusion of the doctors at the Marine hospital. There were four doctors, including a psychiatrist, a neuro-surgeon, an orthopedic surgeon and the chief of surgery.

When this man came back the year after his final examination and complained of the symptoms of which he was complaining at the time of trial, it was decided by each one of those doctors that the man was malingering. Upon that note we closed our case, and upon that note, gentlemen—on the effective use that can be made of carefully kept medical records—I will close my remarks here.

Thank you. (Applause)

CHAIRMAN BENNETT: Thank you very much, Mr. Buckner. That was a masterful presentation.

We are going to have a question-and-answer period after the next address, but in the meantime, I wonder if Dr. Emmett would like to introduce a very distinguished visitor who is with us today? Dr. Emmett?

DR. J. M. EMMETT (Chief Surgeon, Chesapeake & Ohio Ry., Richmond 10, Va.): Mr. Chairman, it is a great privilege to introduce to you two gentlemen who have recently come into the meeting.

First, I would like to introduce the President of the Chesapeake & Ohio Railway, Mr. Walter J. Tuohy. (Applause)

Secondly, I would like to introduce Colonel Monroe Johnson, of Washington, Executive Assistant to the President of the Atlantic Coast Line Railroad, formerly Chairman of the I.C.C., and an internationally recognized authority on transportation. (Applause)

CHAIRMAN BENNETT: Thank you very much, Dr. Emmett. We are delighted to have you with us, gentlemen.

I think that since most of us are assembled here, I would also like to introduce some other guests, and some of our speakers, so we'll just know exactly whom we are talking to and about.

I can tell you, gentlemen—everyone included, including our visitors—that you can talk frankly here, and talk right out, because anything that is said here will be sent to you for censorship. So, therefore, we are going to be sure that this is well censored before it gets into the wrong hands. But I think our best defense is a vigorous offense, so, therefore, we must talk very frankly about all our problems. Now, I have been with the Association, on the Committee of Direction and in different jobs, for many years now, and I do not recall any time that we have talked so frankly about our mutual problems.

Years ago, we used to get away with $30,000 or $40,000 a claim. Now, most of our claims are at least for $100,000, and many of them are for $250,000 and over as they are sent in, as a claim. Therefore, the Committee of Direction thought that we had better face this thing squarely and bring into this meeting

all of the people who played a major part and could help us, so that we could help them.

I just want to introduce the gentlemen at the head table so you will know who they are as we go through our program.

The gentleman on my immediate left is Owen Clarke, Commissioner of the Interstate Commerce Commission, Washington, D. C. (Applause)

The next gentleman is Mr. W. B. Connell, who is Chief of the Division of Disability Determinations, Bureau of Retirement Claims, Railroad Retirement Board, Chicago, Ill. (Applause)

The next guest is Mr. P. D. Hamilton, Superintendent of Safety, St. Louis-San Francisco Railway, St. Louis, Mo. (Applause)

And we also have with us Dr. Raymond Coulter, who is Medical Consultant to the Railroad Retirement Board in Chicago, Ill. (Applause)

And just to bring to your attention that we don't stop at the borders of the United States and Canada, this time we have brought in—and asked him to be with us and to discuss our problems very seriously, to see whether we can learn from him, or he from us—Dr. L. J. Haydon, who is from London, England.

—Dr. Haydon, will you stand up and just say hello? (Applause)

We also have with us Dr. Ignacio Chavez, from Mexico.

Dr. Chavez? (Applause)

And we have Dr. Honsethie, from Thailand. (Applause)

And last but not least, we have a former Secretary of this Section, now with Public Relations in Washington, D. C., Steve Dewgard.

Now, we'll get on with the program. You can see, Mr. Toney, just exactly what we're up to here. We're trying to save some money for you.

Mr. Walter J. Toney (President, Chesapeake & Ohio Railway, Cleveland, Ohio): Splendid!

Chairman Bennett: Therefore, to the operating officers of all the railroads, we send the most cordial invitation to come and attend, and to discuss our problems. I know that we have a lot with taking good, severe [illegible] of that type, but nevertheless, that is the thing you must [illegible], and therefore, we're going to discuss these problems and see what is possible to save some of these large settlements and get a "not guilty" from the jury.

Now we have a man who has done an extremely large amount of work in solving us on this type of problem as a group, from a group which was set up by the Association of American Railroads to see if we could combat this evil—at least we think so from our standpoint. Our next address will be "A Look at Management—The Medical Department—The Employe," by Ken Carney. Ken? (Applause)

Mr. K. A. Carney (Executive Vice-Chairman, General Claims Division, Director, Claims Research Bureau, Association of American Railroads, Chicago, Illinois): Mr. Chairman, distinguished guests, ladies and gentlemen.

In talking to you today, I thought I might bring you up to date as to just exactly what we are looking at in the General Claims Division of the Association. We have a rather sordid picture in many respects, but still it is a very hopeful one in other respects.

Among the hopeful signs is the increasing awareness of management—including the medical departments and other departments—as to the need for standing up and doing something about something that ought to have been done many, many years ago.

I have always believed that the person who puts temptation in the way of another is just as guilty as the person who takes it—money, or whatever it may be—and when we permit fraud and things like that to exist on our properties without raising our hands to strike back, I say that we are guilty of a grave mistake in judgment.

Of course, it is easy to say these things, but it is a little more difficult to put them in operation. I would like to give you a perspective as to what is happening, just to see what you think of it. There is a study in which we include all the million figures you read in the newspapers—and I think, really, we have exaggerated to some degree the damages that have been done to us as a result of these astronomical verdicts. It's not quite as bad as it looks. It is bad enough, because if we had maintained our same accident record that we had maintained from 1941 to '45, in the last five years, instead of spending an average of about $95,000,000 a year, we would have spent an average of $177,000,000 a year, and that's not good.

But you must remember that part of that is due to the increasing level of wages. Wages have risen from 97 cents in 1945 to $1.196 in 1955, and I don't know what the '56 figures are yet, but they are still higher.

So, if we take out of our payments the increase in wages, and then take the decrease in accidents, and balance those two figures out, we come out with a general figure that our claims today are, on the average, costing us about 25 per cent more per case than they were costing us in 1941 to 1945.

Now, that doesn't sound too impressive, except when I tell you that the 25 per cent represents something that we paid for that we shouldn't have paid for.

When you take 25 per cent of $95,000,000, you're taking a pretty good chunk of money, and that is exactly what I'm talking about.

Now, where do these costs emanate from in the industry? I think we've got to locate them in order to determine where we ought to apply our remedies.

We are always aware of the fact that the switchmen, the men in the transportation department, are engaged in the most hazardous part of our operations. Likewise, we think that they are perhaps the recipients of more money than anybody else, and they are. But, since 1945, the claims paid to transportation department employes have increased 20 per cent.

The maintenance of equipment account is up 90 per cent, and the maintenance of way account is up 70 per cent. So, when you gentlemen start considering the impact of the increases in those departments, you might further reflect upon your decision not to carry your X-ray program beyond your transportation employes. I cast that out as an indication of the need in our industry today for a greater examination of why we are paying the money, to whom we are paying it, before we make up our minds as to how far we ought to go, or how much we ought to limit some of our activities to make it possible for our lawyers to have some material on which to defend successfully those cases that ought to be defended.

I also think you ought to know that in the United States, which is divided up into different regions in the railroad business, there are two regions that stand

out as not showing any appreciable increase in the last ten years. There has been quite a substantial reduction in accidents due to the fine work of our safety divisions.

The eastern territory has not shown a very large increase. It has been a very modest one, as a matter of fact.

The southwestern region has been just about the same.

The northwestern region is way up.

The southeastern region is way up.

The Pocahontas region is way up.

The central west is on a little bit. We haven't analyzed yet exactly why that is, except that we do know that there were some low-verdict areas, at the time that we compared our figures with appropriate information with that which we had paid back in 1941.

That is our general picture. Now, what have we been attempting to do in the General Claims Division? I think the best thing we have been trying to do, and I think this season of the year is rather an appropriate one in which to bring this thought into being, since the Lenten period is a soul-searching period—this is when you get really deep down inside yourself and try to figure out why it is that the world doesn't look so good to you. Is it the other fellow's fault, or does it lie in your heart?

I want to say this to you, that I don't feel that we in the industry have yet developed that degree of cooperation with each other that we should have, but we are rapidly getting to it. We want to produce for our managements the kind of results that they ought to have. Instead of having a safety man telling a claim man that he is all wrong, or a claim man telling a safety man that he is pampering his injured, or a medical man telling a claim man that if he didn't pay these claims so readily, we wouldn't have so many accidents, and we wouldn't have so many disability cases, and you could save money, I'd like to see them all sit down together and figure out their respective problems. Unless we can do that, especially in the field of personal injury claim costs—and we still haven't done it to the degree we should—we're not going to be in a position to make intelligent recommendations to our management. So I say that the first order of business is a down-and-cream.

I think our personnel people, our safety people, our claim people, our lawyers, and our medical people ought to get together, and let's end this interference between medical doctors as to how to treat personal injury claims. There are more people telling us how to handle claims, and everyone tells us something different, until we are just more or less bewildered from the standpoint of developing a claim-cost policy. Until you have a claim-cost policy, I don't know how you can function intelligently. That is the basis of what I think we ought to do first, to a degree that we have never before attempted.

In our Division, we are attempting to do that. I think a great deal of our time has been spent with members of the Safety Division, with you gentlemen, with all of your medical societies, and the lawyers. We have attended a great number of meetings.

The National Association of Railway Trial Counsel is producing another excellent medium, and I commend that to all of you folk, because you're going to see some real results from that group in the years to come. They have had a marvelous growth. A defense law journal is now being published in which many of these things that we are talking about are going to be documented and produced like N.A.C.C.A. products in the N.A.C.C.A. law reports.

Incidentally, to demonstrate the weakness of the N.A.C.C.A. position in

connection with these large verdicts, we have made a post-settlement investigation of all of the N.A.C.C.A. law journals from the time they started publishing them, and we have documented the discrepancies appearing in the N.A.C.C.A. law reports. There is a substantial number of them—almost 50 per cent.

Now our trial lawyers are able to use that wherever N.A.C.C.A. uses that for publication for the purpose of demonstrating that the verdict is one that ought to be upheld because, for instance, in California, a man with a leg off is awarded $125,000 and it is upheld. As a matter of fact, the N.A.C.C.A. law journal did not disclose that in addition to having an amputation of the leg, he also had, perhaps, a 50 per cent disability in the other leg, or maybe a permanent injury to his back. In the trial to sustain these particular damages, the man only has an amputation, and none of the other factors, so it has been misleading in that respect.

These are some of the things, the little tools. [illegible] has tried to get you back to understand, that you [illegible] in the latter that I mean this. [illegible] it is true that people have [illegible] respect to their cases. You are in a position to get that information.

Now, let's give you an idea of some of the results that we have achieved. I don't think we have produced any world-shaking results. I think we have achieved some things that have made us feel a little good about them, and I think this has given a little heart to some of our claim people, some of our lawyers, and perhaps some of our management.

In six years' time, one successful lawyer in Cleveland collected $[illegible] in settlements and judgments from the railroad industry. [illegible] pending at the time that we rounded up with him in New York, Pennsylvania, and one other state. He didn't want any trouble, and he hasn't caused us any. He went to the bar association, this was at our suggestion, and he reports in to me about once every six weeks so we find out how he is getting along. He is a very good lawyer, a very nice chap in many respects, although unethical as the devil. (Laughter) At any rate, since he got religion and since he is living the kind of life that we hope all lawyers will start to live, he has acquired only 22 cases in two and one-half years, compared with the 15 cases a month that he was formerly acquiring.

Another Cleveland law firm, whose members were not such good boys as he was—in other words, their ethics were just a little bit worse, in many respects—has gone in and done the same thing now within the last three months. Since that time they haven't gotten any cases. We are watching them to see just what develops. We say to them, "We're not interested in punishment. We just want you to live a good, clean, honest life, and let us have an opportunity to do a fair turn for the people who work for us." They have discharged their "chasers." (Laughter)

Another thing that we have done: we assisted the state bar association of West Virginia in an injunctive action against a Chicago lawyer. The state bar enjoined this particular lawyer from soliciting claims in the state, and also enjoined his "chaser," a very effective man. This happened about a year ago in West Virginia.

Well, the court very quickly managed to get this gentleman in its jurisdiction so they could serve him, and after they served him, he was inclined to contest the action, but they managed to get him to commit himself to a continuance of his case, and so he sure enough was in court then, and when he came in to defend himself, he decided he'd better capitulate, which he did.

His "chaser" decided to fight, however. Unfortunately for the "chaser," he had a West Virginia lawyer, and the complaint had been drawn in the name of all of the lawyers of West Virginia, so there was a conflict of interest involved. The lawyer was not able to represent him, and he signed a consent decree. As a result, he has gotten no business out of the state of West Virginia since that time, and we have reduced the solicitation of claims by these lawyers in the state of West Virginia to a substantial degree.

We had a letter from the Attorney General of New Mexico recently, stating that ambulance chasing in that state by out-of-state lawyers—and, so far as they know, by in-state lawyers—is at an absolute minimum, and there are no problems there.

In Southern California, a very able lawyer, one of the best in that country, was enjoined. Since he was enjoined, it has been two years, and litigation in Los Angeles County—and that is a troublesome place—has reduced about 40 per cent.

Another lawyer has just been enjoined in San Francisco, and he came in and capitulated. They all come in and capitulate. They have various reasons for doing it, but they come in, and then it becomes a policing operation. It is too early to tell what is going to happen to this gentleman yet, but we're ready for another one there.

While describing these successes to you, I must tell you about one defeat we had. That defeat was not something that this organization originated, although I am the person who originated the first action when I was then with the Illinois Central. The Supreme Court of Illinois has just ruled against the disbarment of a lawyer who, on all streetcars of the imagination, should be out of business completely. We have so much evidence in that situation that it is rather painful, but it is one of those things that will happen to you, and I hope we don't have it in our organization.

There were three employees of a railroad in Indianapolis who were very vicious in their solicitation activities for Cleveland lawyers and Chicago lawyers. We watched them pretty carefully, and finally caught up with them. There were four of them, as a matter of fact, but, unfortunately for us, one of them died before we could bring him to trial; however, the others got the maximum sentence, $500 and six months on the work farm. They had been offered a bargain before that, but they didn't think they were going to lose.

As a result of that conviction, I was called by the defendant's lawyers in another case to find out whether we had any mercy in our hearts, and if we would agree to vacating jail sentence, getting the court to set that part of it aside. I said, "Certainly, we'll be glad to," and I went down there personally and testified before the court. They were very grateful, and the unions were grateful because we had shown a little heart. I said, "We're not interested in punishing you fellows. The thing we're interested in is stopping this racket. I just don't think it's right that you should work and draw wages from a railroad company and then, by the same token, take money from a lawyer for steering cases into his hands. It just isn't right. That's what we want to break up."

Their wives were there, and we have had an awfully good result from that. The solicitation in that territory has been reduced rather substantially.

I hope you realize from this that we don't want to be punitive, vindictive, or anything else. We would like to win people over to a different mode of conduct.

That gets me to Jim Stack. He is greatly concerned. Naturally, he is humanitarian, as all doctors are. We don't want to keep people out of our employ who ought to be employed. We do think we have a right to be selective.

When you clear applicants through our Division, please do not (and we have told this repeatedly) take the fact that they have been rejected by somebody else as evidence that you should reject them. That information is given to you merely for the purpose of putting you on guard that there had been something wrong with that man. Perhaps it has been corrected since that time. You should inquire as to that, and not depend upon the rejection from somebody else.

It might be interesting to you to know what kind of records we are turning up in this clearinghouse. The reporting is getting increasingly important. In our applications for employment last year, we had 20,430 inquiries from 40 railroads, and we turned up 533 records. That is almost double the showing of the year before, and quite substantially more than the first year, of course.

On our claims repeaters, we turned up 49 last year, against 15 the year before, and 15 the year before that. And, bear in mind, as we go along, these figures will grow increasingly important.

I don't know that I have said a single thing about what I said I was going to talk about in the title of my talk, which is "Management, the Doctor and the Employe." I put the doctor in the middle, because that's where he is. (Laughter) But I'm going to show the doctor how to get out of the middle and how to chart himself a course so that when he comes out, he's going to be smelling like a rose.

In the first place, I think we've got to dissociate ourselves from the apparent need for being "Partisan." The railroad industry does not want the doctor to say things that are in favor of the railroad company and against the interests of his patient, unless they are true. The railroad industry wants you to give the employe and the injured person the benefit of every reasonable doubt.

Now, if you will please pursue one goal, and that goal alone, which is seeking the truth—and, after you get the truth, if you will not be afraid to proclaim it, whether your organization is controlled by labor or by management or by any other group—and stand steadfastly on that, you will ultimately prevail, and if you go down, you will at least go down with honor. I think we need that more today than at any other time in our history. We have too many doctors who are willing to vacillate, and we have a substantial problem with defendants' doctors when they get on the witness stand, because they hesitate to be as positive about some things as they ought to be, whereas the plaintiff's doctor doesn't have that same degree of hesitancy. That is open to a little argument here and there, in many points. (Laughter)

Now, records are highly important to us, and I think that we would like to have you, the medical department, give us some statistics from time to time on the rate of recovery and the rate of rehabilitation of the disc cases and of the back cases, the fracture cases and the amputation cases. I think we ought to know more about that. Then we can do a more effective job. You have a wonderful opportunity to do that, by reason of the fact that you keep these people with you all the time.

I would like to see some standards. I would like to compliment Dr. Longeway, if you please, for his preparation of that very good application form.

Colonel Adkins, here—this Yankee colonel—prepared a form of examination for the claim departments and the employing officers of the railroad industry. I think they ought to be uniform all over the country. I think you ought to have standards, so that when one railroad says it rejects an applicant because of Standard 1, 2 or 3, you will know what it is talking about.

Now, it doesn't mean that you have got to disqualify a man on your railroad upon those standards. You can accept all of them if that is what your management wants or needs, but you ought to know what you're taking, whom you are taking, and what risks you're running. But, at least, you want to have a standard that every other railroad should have, and then let the determination and selection be with them.

Malpractice, as you know, is growing by leaps and bounds. There is an excellent article in the most recent issue of the Journal of the American Medical Association about that, and I commend it to all of you.

There is also an excellent study on Illinois workmen's compensation, just produced by the Illinois Chamber of Commerce, which you can get by writing the Illinois State Chamber of Commerce. I commend that to you, because it shows you a medical picture in there which is rather disturbing.

I also commend this bulletin to you, and the National Association of Railway Trial Counsel book, which I think will keep you informed of important medical-legal problems.

Lastly, I would like to deal with the one thing that will remain bring together the attitudes of management, the employe and the doctor. What is our greatest need in the treatment of an employe injury case? First, it is to restore that man to health as quickly and as completely as possible. The things that deter that improvement and that accomplishment are simply those things which tend to make him consider dollars above his health. These pressures are present from fellow workers, his union, and from others. We know that we have a big psychological problem.

I want to say very plainly, very directly, very honestly and very fearlessly, that while we have made tremendous strides in the medical profession in the question of treating those problems medically and surgically, we are way behind the times in treating them psychologically.

I say that we claim men, too, are way behind, psychologically. I say that management is way behind, psychologically, because, first of all, the employing officer ought to be just as important to the injured man as the union representative. He ought to maintain an interest in that man, an interest in his welfare and the welfare of his family. I'm telling you this can be done, because I've done it, and others are doing it today, and we can keep cases out of the hands of the lawyers to a much greater degree by a firm, understandable, sympathetic, honorable policy, even one that is tinged with a little bit of liberality, but not to the point where you spoil it. When we do that, and when we really concentrate on that problem and give that fellow everything that we've got, and for his benefit, and not to spend more time on getting a man back to work within three days than we spend getting him back to health, we're going to fail just as sure as you know, and we're not going to do the kind of job we ought to do.

That's the only message I have. I believe this, and I believe it with all my heart—I don't believe that a single employe, a single person, can stand long against the sincere interest of the attending doctor, his boss, the guy he works

for, if he is sincere. He can't stand to override them. He can't stand to do something that is slapping them in the face.

Dr. Holton is one I know who has done a job just like that recently. Dr. Mishler is another one, and I could name others. Dr. Mishler wasn't kidding you when he said he is paying less money today than he paid ten years ago.

We had a letter from one of the Erie employes that we published in our bulletin, describing what a wonderful relationship they had there. That's the kind of thing I'm pleading for. Let's humanize this business of treating [illegible] men. Let's treat them at least as well as we treat damaged machines, and restore them to health. Be sympathetic, kindly, attentive, and take [illegible] them.

I think that's all, gentlemen, and I know with all your [illegible] thing we can do at a time, [illegible] for us to do it, because we [illegible] little steam and put a little more [illegible] railroad industry that which they have long needed.

Thank you very much. (Applause)

CHAIRMAN BENNETT: Thank you, Ken Carney. That was a wonderful presentation.

I just thought it would be nice, remarks, if Colonel Johnson [illegible] approximately 90 to 95 per cent of the mileage of the entire railroad industry in Canada, the United States and Mexico is represented here by [illegible] people. That is a remarkable record.

(A short recess was taken.)

CHAIRMAN BENNETT: Gentlemen, shall we carry on with our program? Very frankly, we're running a little behind time, and we have some very, very important subjects yet to cover. We are listed right now for a question-and-answer period. I would like to ask your recommendations and suggestions as to whether you think it is best that we should go on with the other presentations this morning, and then have our question-and-answer period at the end, so we can all let our hair down and tie into each other, to see if we can work out our best interests, or whether we should have the question-and-answer period at this time. What do you think? All right, let's carry on.

Item 10 is an address, "The Disability Annuity Program of the Railroad Retirement Board." Now, the reason we are bringing the Railroad Retirement Board in is because I think it is an integral part of our cooperation between the different organizations within the Association of American Railroads which makes our circle complete. You know and I know that if and when our men are disabled, and if and when they have accidents, injuries, illnesses which are outside, the problem often arises: is this man able to carry on in his own craft, his own occupation, along with his seniority? Or, if this man cannot carry on with his own job, does he have to start at the bottom of the list in another category?

Also, every time we pay out Railroad Retirement Board benefits for these men, that takes some funds. Is there anything left in these men that we can use, so that they get a decent living, so that their families will gain? Exactly where do we stand on this?

Mr. Connell.

MR. W. B. CONNELL (Chief of Disability Determinations, Bureau of Retirement Claims, Railroad Retirement Board, Chicago, Ill.): Mr. Chairman, ladies and gentlemen:

I deeply appreciate the gracious invitation extended to me by Dr. Bennett and Mr. Parker to meet with you here this morning for a discussion of the Board's disability annuity program. I would be remiss at this time if I did not review with you some of the splendid contributions you have made to our program and to convey to you the Board's sincere appreciation for your cooperation which has been given so generously for so many years. Certainly without such cooperation much of the success we have achieved would not have been possible. In reviewing your contributions, I shall commence from the beginning in 1937 when our first disability legislation provided annuities upon the basis of total and permanent disability was enacted. At that time the Board was immediately confronted with the problem of evaluating disability in 40,000 cases. To add to this problem, we had no doctors, no source of acceptable medical evidence to support disability claims and no specific basis for administering disability legislation. At this stage, Dr. Harvey Bartle of your Association, was summoned for consultation and as the result of such consultation, the Board's medical policies were decided upon and a system of medical cooperation was established. Dr. A. M. W. Hursh also of your Association was loaned to the Board for a period of two years and during that time the Board's medical staff was organized and a system of medical cooperation was provided to include practically all of the employers and Employe Hospital Associations. To date, over 50 per cent of all medical evidence needed to support disability annuity applications is received from these sources.

Section 2 (a) 4 of the Act under which approximately 98 per cent of our disability claims are adjudicated, provides annuities for individuals having a current connection with the railroad industry, and whose permanent physical or mental condition is such as to be disabling for work in their regular occupation, and who will have completed 20 years of service or will have attained the age of 60 and will have completed 10 years of service. This section of the Act further provides that the Board, with the cooperation of employers and employes, shall secure the establishment of standards determining the physical and mental conditions which permanently disqualify employes for work in the several occupations in the railroad industry, and the Board, employers, and employes shall cooperate in the promotion of the greatest practicable degree of uniformity in the standards applied by the several employers. The Act also provides that an individual's condition shall be deemed to be disabling for work in his regular occupation if he will have been disqualified by his employer because of disability for service in his regular occupation in accordance with the applicable standards so established.

It is obvious from the text of the Act that Congress intended a realistic approach to the payment of occupational annuities. In the first place it was provided that standards be established by mutual agreement between employers, employes and the Board and in the second place, it provided that applicants be deemed to be disabled when disqualified by the employers in accordance with such standards. You will note that factual disqualification under the terms of the Act is vested in the employer and not in the Board. You will also note that the Board is required to accept your disqualifications as a basis for the payment of annuities provided your disqualifications are made

in accordance with the standards. It is, therefore, extremely important in your decisions of disqualification that you first consider the permanency of the disability and secondly, if the disability is permanent, whether it precludes work in the applicant's particular occupation in accordance with these standards. In this connection, you should bear in mind that disability annuities are not payable upon the basis of temporary disabilities. In resolving the question of permanency, the Board's regulations are sufficiently elastic to permit determinations of permanency where surgery or generally accepted methods of treatment are contraindicated. However, the reason for contraindication should be clearly stated on your reports so that our medical staff will understand the basis for your action. In the final analysis, you should consider that if your di-qualifications are properly based upon permanency of the disability, and the standards for the particular occupation, that annuities will not be denied by the Board. Conversely, if your findings do not warrant such action, the employe should be apprised of your opinion in this regard so that they may return to work in their respective occupations provided they care to do so. Certainly no worthwhile purpose can be served by the filing of claims by employes who are not disabled for work in their occupations and the proper place to resolve questions of this character is with the doctors who make or cause to be made the decisions of disqualification. In this connection, you are reminded that disability annuity applicants whom you may disqualify because of disability are not required by the Act to relinquish their employment rights until they attain the age of 65. This is an important consideration because some employes do recover sufficiently from their disability to return to work in their regular occupations.

Following the enactment of Section 2 (a) 4 of the Act on July 31, 1946, the Board called upon the employers and employes for the cooperation provided for therein and in response thereto, a committee on standards was established. This committee was composed of six representatives of the employers, six representatives of the employes and three representatives of the Board. Doctors Hursh, Metz, Miller and Clayton were named to this committee by the Association of American Railroads. We found from this committee that there were no uniform disability standards in the railroad industry and with their cooperation we commenced to build standards as nearly as we could to fit the Board's needs in the administration of the Act. Needless to say, the standards agreed upon were not perfect, but they have far exceeded our expectations for accuracy. During the ten years we have used the standards, we know of no case where they could not be applied with reasonable and equitable results.

The committee designed the Board's disability standards to meet the minimum requirements for occupational annuities. This does not necessarily mean that applicants who meet the minimum requirements are disabled for work in their regular occupations, but it does mean that applicants having less than the minimum requirements may not qualify for occupational annuities. It was necessary to adopt the minimum theory of disability evaluation because any other approach to the problem would not conform with the provisions of the Act requiring uniformity of decisions. In adopting this theory of disability evaluation, it was clearly recognized that many individuals having the bare minimum disability would be able to continue in their occupations and that has proven to be true in many cases. However, it should be considered that the standards are for use only in determining annuity rights under

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the provisions of the Railroad Retirement Act and were never intended for use in determining employment rights as such.

Having adopted the minimum standard theory of disability evaluation, the Chief Surgeon Members of the committee were of the opinion that a simplified medical examination form should be adopted as a companion to the standards. The reasons advanced in support of this opinion was their experience that most employes are disqualified because of a single disability and that the preparation of extensive medical reports showing negative findings was a needless expenditure of their time and could serve no worthwhile purpose. [illegible] Form G-SEMP was adopted for these reasons after consulting [illegible] Chief Surgeons for their comments and their suggestions. We [illegible] all you doctors recognize that it is not so much the form that is used as it is the information given by you on the form.

It is believed significant to point out that over 40 per cent of our cases involve the heart and circulation and over 20 per cent of our cases involve diseases of the skeletal system. The obvious result is the need for electrocardiograms or X-rays in approximately 60 per cent of our cases. In recent years examinations received from the Chief Surgeons have been supported in most cases in this respect to the extent that they were adequate for disability rating purposes. In the completion of your examinations for the Board, a complete description of the disabling conditions is most essential because our medical staff does not have an opportunity to see or examine the annuitants. You may, therefore, rest assured that you cannot over-emphasize disabilities and findings in the preparation of your reports. When it is considered that disability decisions of the Board are subject to review on appeal to the several federal courts, the importance of adequate examinations cannot be over-emphasized. We might add at this point that in about 10 per cent of our disability claims the applicants are less than 60 years of age and have completed 10 but less than 20 years of service. When we encounter cases of this character they must be adjudicated under Section 2 (a) 5 of the Act which requires a showing of total and permanent disability for all work. The standards are not for application in these cases and since the disability requirements are considerably more exacting we generally require more complete medical information than is called for on our medical Form G-SEMP. It is, therefore, not unusual for us in these cases to request either from you or from other sources additional proof of disability. We shall not elaborate further on cases of this character because they are relatively few in number and many of them do not have a record of recent employment in the industry.

Applicants awarded disability annuities are required under the terms of the Act to furnish proof of continuance of disability until they attain the age of 65. Under recent amendments to the Act, disability annuities are not payable for months in which earnings from employment or self-employment exceed the sum of $100.00 regardless of the nature and extent of their disability. When disability annuities are approved, the recipients thereof are fully informed of the requirement that they report promptly to the Board if they recover from disability or if they earn in excess of $100.00 in any one month. In addition, we require all disability annuitants under age 65 to complete a standard form at least once each year which is designed to disclose information regarding both treatment for their disability and their earnings. Disability annuitants who furnish false information in this regard are subject to prosecution in the federal courts for fraud where they may be fined as much as $10,000 or im-

prisoned for as much as one year. It, therefore, follows that our controls against malingering and fraud are adequate in most cases.

In the final analysis our disability program has not reached the stage of perfection but I can state with reasonable accuracy that it is by far the most advanced disability annuity program in existence. Again I wish to thank you for the privilege of addressing your Association and I sincerely hope that it will serve in some measure to explain the legal and administrative concepts of the Railroad Retirement Act relating to disability annuities.

CHAIRMAN BENNETT: That was an extremely valuable presentation. Thank you, Mr. Connell.

After Ken gave his brilliant talk on our Claims Division, he was apparently afraid that we were going to jump him in this question-and-answer period, so he has asked me if I wouldn't please introduce the Assistant Director of Medico-Legal Research, Bruce Smith. Where are you, Bruce? Now to have you with us. (Applause)

In closing this ring of our cooperation for the Association of American Railroads, we want to cooperate in anything we can for the help of the other divisions. We are wide open to criticism and suggestions. We know that our next speaker has an extremely important position as far as this Association of American Railroads is concerned, and I know that he has some things on his mind which might be valuable to us all. It gives me a great deal of pleasure to introduce to you the Chairman of the Interstate Commerce Commission, Mr. Owen Clarke. (Applause)

MR. OWEN CLARKE (Commissioner, Interstate Commerce Commission, Washington, D. C.): Thank you, Dr. Bennett.

In not being assigned a specific topic for discussion this morning, I am reminded of a certain commencement speaker at Yale University, who found himself in the same boat. In searching for an appropriate subject, he suddenly became inspired by the four letters in the name of that great school, so he decided to take four subjects as his theme or text—Youth, Ability, Loyalty and Efficiency, having in mind the letters Y. A. L and E. Then he proceeded to lecture for at least 30 minutes on each subject.

Needless to say, long before he had finished, one of the smarter students sitting in the back of the room remarked in a loud whisper, "Thank God, we're not graduating from the Massachusetts Institute of Technology." (Laughter)

Well, gentlemen, don't be alarmed; I have no intention of emulating that particular speaker. In fact, my distinguished colleagues, members of the bar at the head table, will tell you that lawyers generally have a courteous and time-saving custom of beginning a lengthy argument on some fine and deadly point of law by telling you, at the outset, what they are not going to talk about. I have always thought that was a very convenient device, because it enables you to see at a glance that the information you really want will not be covered. (Laughter) And so it just isn't necessary to wear out the seats of your trousers squirming through it.

Well, gentlemen, in the same spirit of courtesy, I think I should state right now what my remarks this morning are not about. They are not about freight rates or charges; they are not about per diem charges; they are not about freight car shortages; they are not about mergers, consolidations, or any one of many other controversial matters which confront and confound the Commission almost daily. Instead, for just a very few moments, I would like to talk to you about the gene
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May I first thank you for the privilege of appearing before this meeting of the Medical and Surgical Section to discuss matters of mutual interest? In scanning the proceedings of some of your previous annual meetings, I find that usually you have been addressed by eminent physicians instead of by a group of lawyers. Now, although I cannot discuss with you [illegible] as sitting your medical colleagues, or, in fact, find your presentations [illegible] I believe a great deal in common, with a view to what we might suggest. Therefore, I am very happy that you have provided this opportunity for our meeting.

An effective transportation system for the nation is a vital concern to all of us. Health and safety, of course, are of primary importance in achieving this goal. Many sections of the Interstate Commerce Act apply to safety, and safety is constantly in our thinking. At the Commission we consider it on itself, and also see it on the broad canvas of all the regulatory powers set forth by Congress.

You doctors, as industrial physicians, are vitally concerned, I know, with the broad field of health and safety for all the workers of the nation. Recent figures indicate that almost 2,000,000 American workers in all walks of industry were disabled by on-the-job injuries in 1956. Of these, more than 14,000 resulted in deaths, and approximately 42,000 in permanent total disablement. The total days of disability from these injuries last year amounted to 90,000,000 man-days.

When the future effects of the deaths and permanent impairments are evaluated and added to the immediate loss, the total attributable to the 1956 work injuries will amount to the staggering total of $25,000,000,000 man-days. This certainly is a war on waste which we just cannot continue to tolerate.

Occupational accidents have created more tragic destruction in the history of America than all the wars, domestic and foreign, in which we have engaged.

We know that our [illegible] are going to [illegible] deal more effectively with this problem. However, it continues as a matter of serious national concern, and a [illegible] blight on our economy.

In a way, when accident prevention is so often in our minds, when preventive medicine is increasingly popular, when group hospitalization is carried by more and more families, the industrial physician has an unusual opportunity to help improve the health and safety of the nation. It seems to me that the railroad industry has been very wise, indeed, in pioneering the field of industrial medicine in this country. Your industry was certainly young when the need first arose.

History tells us that Dr. James Quinn, of Martinsburg, West Virginia, was appointed railway surgeon for the Baltimore & Ohio from Point of Rocks to Harper's Ferry, in 1834, and as early as 1850, the first railroad hospital to be used exclusively for the care of the sick and injured was opened. Dr. Quinn, America's first railway surgeon, undoubtedly thought of his job solely as caring for the employes and passengers involved in accidents. It is not surprising, of course, that many accidents occurred in those early days. There were few well trained workers to fill the jobs of a new industry. Many defects were found in the experimental equipment, and the nation was so anxious to have the country spanned with railroads that time seemed more important than safety.

But conditions have changed. Great strides have been made, not only in technological developments but in safety practices. Through the persistent efforts of the officers and employes in all branches of railroad service, it has been demonstrated that a naturally hazardous business can be made relatively safe. The progress that has been made in railroad safety has meant a saving of lives of railway employes as well as of passengers.

In the five years just prior to World War II, the annual fatality rate, I am told, averaged about 5.7 per million train-miles. The 1940 to '44 average was down to 4.6, and there was a further decline to 3.9 in the postwar period of 1946 to 1950.

Since then, the rate has held between 3.2 and 3.5 per million train-miles, so it is apparent that a new effort must be made—possibly in areas of safety not yet explored—if we are to achieve further improvement.

The Interstate Commerce Commission is charged [illegible] with many aspects of transportation safety. Our [illegible] safety regulations [illegible] the safety appliance [illegible] and train [illegible] accidents and injuries in service reported; transportation of explosives and other dangerous articles; inspections to insure compliance with such regulations; and investigations of railroad accidents.

The industry as a whole, as well as labor, has been most cooperative and helpful in endeavors directed toward the elimination of safety weak spots. That real progress has been achieved is illustrated by using just one example—by the steady decline in the last 5 years in the number of accidents caused by failure of some part or appurtenance of locomotives. In the year ended last June, only 73 accidents caused by defective locomotives were reported. That compares with 170 such accidents reported in 1952.

I want to say at this point that we anticipate further progress all along the line in railroad safety, and there will certainly be progress if you and all of us concerned with the subject perform conscientiously and cooperatively. If we do our jobs to the best of our ability.

One of the greatest temptations that face any man is the desire to tell another man how to run his job. I shall yield to temptation at this point, and try to tell you three ways in which I believe you can do a better job.

Perhaps it will seem less incongruous for a lawyer to be telling a doctor how to run his business if I point out quickly that two of these ideas really go beyond not only the medical profession but the legal profession as well. Instead, they deal with administration and salesmanship.

It seems to me that you, as medical officers of the railroads, have a tremendously important job to do in these two fields. The administrative task has been imposed upon you, in a sense, by the Commission. We took a major step forward in the rail safety field at the beginning of this year when we put into effect our new accident reporting rules. I was pleased to note that you have a discussion of the application of these new accident reporting rules on the program.

Perhaps your first reaction will be that rules on the mere recording of accidents that have already happened cannot contribute much toward a reduction in the number of accidents in the future, but they can. Among other things, the new rules clarify the relation of the chief railroad medical officer to the Commission, and they provide for a much closer working relationship between us.

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You are probably already familiar with the provision I have in mind, but let me recall it to you. The provision to which I refer is found in Section 125.14 of the new rules: "When there is uncertainty as to the extent of disability, all the circumstances surrounding an injury will be thoroughly investigated, including any medical attention rendered, which will be submitted to the chief medical officers of the carrier, and in the light of all such circumstances and medical attention, the professional opinion of the chief medical officer will govern the determination and duration of physical incapacitation under these rules."

Now, please bear in mind that we are dealing with those cases where a controversy might arise as to just what constitutes a reportable accident. Under our revised rules, a report-able accident is one which involves "and again I wish to quote "... injury to an employe sufficient to incapacitate him from performing fully and promptly and without extra assistance all"—and I emphasize the word, "all"—of the duties customarily included in the assignment of the employe at the time of injury for more than 3 days, 72 hours, in the aggregate, during the 10 days immediately following the accident."

In your professional opinion, how often can a layman determine the extent of a man's injuries and be sure his diagnosis is correct? And, since we are concerned here with a prognosis, as well, who but a trained and experienced medical officer can forecast the course of a man's recovery, or the duration of his physical incapacitation? Isn't it likely that a simple error in judgment by a layman could return an injured man to his job too soon, and thus possibly contribute to another accident or to further injury to the man, himself?

Under the new procedure, you, as chief medical officers, will be called upon to determine both the extent and the duration of injury when there is any uncertainty. It is of vital importance in the public interest that employes not be allowed to return to their work until the medical officer is convinced that they actually have recovered sufficiently. In other words, the government has placed this responsibility upon you. We turn to you because of your medical knowledge, and also because of your understanding of the job functions and responsibilities of railroad employes. We turn to you because our examinations of railroad accident and casualty files disclose that on some occasions, injured employes were returned to duty before they were physically able to do their work. The decisions in those cases were made by untrained railroad men, that is true—division officials, supervisory employes, safety agents—but not by the medical officers.

Our examinations showed plainly that some injured employes were returned to service when it was obvious that the men could not possibly perform all of their regular duties. In fact, in some instances, it was found that employes could not perform any of their regular duties because of the serious nature of their injuries.

We are aware of the fact that in some instances, over-zealous supervisors are tempted not to report an injury, or to minimize one, so as to preserve a good safety record. Of course, we are all interested in good safety records, but I'm sure none of us wants to achieve a safety record based in part upon a layman's faulty diagnosis or prognosis. Therefore, as I see it, you have an urgent and important administrative task ahead of you.

I have been told that some 10,000 physicians throughout the country assume responsibility for the health and safety of railroad employes and passengers,

some of them on a full-time basis and some part-time. While that seems like an awful lot of doctors, I assume that it has nothing whatever to do with the fact that we sometimes hear the railroad industry referred to as a sick industry. (Laughter) I don't believe there is any connection. But it is the chief medical officers of the Class I railroads, through this Medical and Surgical Section, who are really responsible for the standards of health and sanitation on all the railroads.

You have unquestionably developed excellent standards, particularly with regard to the kind and frequency of physical examination, but that is only part of the job, gentlemen. Much more remains to be done. I believe you will agree with me that it is hardly enough to set up the standards and then to wait complacently for somebody, somewhere, to comply with them.

Please don't misunderstand me. I'm not accusing anyone of complacency. I know that you have tried to see that [illegible] recommended standards, and I know that you have [illegible] by most railroads. However, the fact remains that [illegible] fail to heed, and have not accepted your [illegible]

I am thoroughly familiar with the kind of problem [illegible] is identical with that confronting the Commission. We promulgate rules and regulations to the extent that the Congress directs us to do so, but human nature being what it is, we must seek voluntary compliance by all the methods of persuasion we know, and in addition, we must enforce compliance by means of prosecution. Since you lack the tools of enforcement, you must rely solely on persuasion, so your job is to sell railroad management on the importance of their adopting your recommendations without acceptance as minimum standards.

I refer especially to the standards as to physical qualifications of operating personnel. Unfortunately, there is a disturbing lack of uniformity among the different railroads, as I know you are well aware. This lack of uniformity showed up most recently in a survey conducted among the Member Roads of the Association of American Railroads. Of 113 that replied, all reported that they require a physical examination as a prerequisite for applicants who went to work in train and engine service, but only 92 of the 113 require periodic physical examinations after entering the service. This is a fairly good percentage, but it also means that 21 railroads (and probably more, since some did not even bother to reply to the questionnaire) do not require any further physical examinations after the original check-up. And of the 92 that do, many reported that they have modified the requirements that you recommended for all subsequent examinations.

Some of the railroads required physical examinations only for engine crews, and not for the train crews. Others reported that reexaminations are given only once every 3 years, between the ages of 40 and 55, although they do require annual physical examinations after 55. A number of other roads require annual examinations only after the man has reached 65, and in some cases, the periodic examination is concerned only with the man's vision, his color sense and his hearing.

The Commission had no jurisdiction over the physical qualifications or the type and frequency of examinations for railroad employes, and I want to assure you that we want no authority. Congress did direct the Commission, however, to prescribe extensive rules and regulations in this field for motor carriers; and we have done so. We have prescribed rigid standards as to the physical quali-

tions of bus and truck drivers, and we require an annual physical examination. Moreover, we insist that a doctor's certificate, showing the date of the last physical, be carried by the driver at all times. Any failure by the driver to measure up to these requirements means that he may no longer drive a bus or truck in interstate commerce.

This might seem to impose a hardship on employes of the motor carrier industry, and we realize that in some cases it does, but the public interest and the public safety on the highways, after all, are paramount. Congress recognized this many years ago, and I stepped into the picture on behalf of the people.

As I said at the outset, I do not want to be a controversy in this field. In fact, the recommended enactment of such legislation at the last session of Congress, I believe would be the milestone we can and should do for you in your

Under a bill introduced by Senator Wagner, the Commission would have been directed to prescribe minimum standards for the physical qualifications of all railroad operating personnel, and the frequency of reexamination. The bill would also have provided penalties for violations of such regulations. In recommending against passage, we informed the Senate Interstate and Foreign Commerce Committee that, in our opinion, the railroads were quite able to set up their own physical qualification standards.

But it is obvious that there are gaps in these standards. They become more apparent when, on occasion, a serious railroad accident grabs the headlines, and there are immediate and widespread demands for investigations and corrective action of one kind or another. Under our present authority, we can investigate, and we usually do, but we can only make recommendations. Our results show up in the form of rising improvement in the railroad safety records over the years, but the public has the right to assume that all possible measures are being taken to protect passengers and rail employes and the public generally, and so the question of federal intervention occurs and reoccurs. It came up just a year ago after one of the most tragic railroad accidents in our history, the one on the West Coast in which 50 persons died and 122 were injured. At that time, you may recall, a grand jury recommended, among other things, that all operating personnel should undergo frequent, compulsory, standardized [illegible] examination.

Perhaps there is room for some form of examination would be desirable. At the very least, however, your recommended standards should apply uniformly throughout the railroad industry as an absolute minimum, and I believe you can make a great and lasting contribution to railroad safety if you re-double your efforts to convince rail management that these standards must be adopted fully and with no modification. I want to assure you that all of us at the Commission will be happy to work with you in achieving this objective.

There is one other aspect of your work that I want to touch on very briefly, because of its promise of new knowledge in the long battle to prevent those accidents caused by human failure. Man has come a long way in development equipment of all kinds that can be operated safely. The problem that remains has to do with development of the man who can operate this equipment safely, day in and day out, without getting drowsy or bored, or without making one of many possibly human errors that send a train roaring over an embankment, a plane crashing into a mountainside, or a truck hurtling into a bridge abutment.

A disturbing number of recent rail accidents have resulted, apparently, from human failure—some undetected physical ailment that caused a temporary blackout, or a loss of consciousness, or control from some other cause.

One category of accidents regularly investigated by the Commission is the type caused by a failure to control the speed of a train properly. In six accidents of this kind investigated in recent years, it was obvious that the engineer had lost consciousness or control. In 13 similar accidents, the engineers were killed, so their mental and physical condition immediately prior to the accidents could not be determined, but those accidents were suspect.

I am sure that no group has considered this problem more seriously than have you. But much work must be done to find the real answers, and I believe your Section is the logical one to direct the needed research. For example, too little is known of the hypnotic effect of the constant, repetitious movement of objects past the eyes of an engineer. The danger involved in possible hypnotism because of a flat, unbroken landscape has long been recognized by highway designers, and as a result, trees, shrubbery and other objects have been added in a variety and at locations designed to break the monotony along our turnpikes. But the rail of engineer's service still are faced by the same expanse of steel rushing toward him, and [illegible] by the monotony of regular intervals. Too little is known about the environment that must be endured by the train crew members, or by the steady, low-pitched drone of its powerful engines.

And I'm not so we know about the best temperature for the cab, or how much fresh air the engineer needs to remain alert and wide awake? We all recognize that an engineer must be constantly alert while at the controls. At 60 miles an hour, he passes a signal every minute and a half. If he misses one signal, he must and himself hearing down on another train, and at 60 miles an hour it would take at least a mile to stop.

So there is still a broad field for new study and intensive research. It seems most appropriate that such work should be undertaken by your Section. On behalf of the Commission and of the public, I sincerely urge that you give favorable consideration to substantive studies in this field.

Now I seem to have taken quite a bit of time today in telling you experts how to run your job. Perhaps that is symptomatic of a desire to escape the realities of a job as an adjudicator. We Commissioners must listen every day to arguments from opposing parties, with each side telling us exactly how we should decide the cases, so, with a lawyer's usual disregard for logic, I stand here exercising that same privilege. I sincerely hope that you will find some degree of merit in the several recommendations I have made this morning. All of us at the Commission who are concerned with railroad safety are looking forward to great improvement under the new accident reporting rules and the administrative job that we are asking you to do. Naturally, we anticipate ready acceptance by railroad management of your minimum standards for physical qualifications as a result of your eloquent persuasion, and we shall be keenly interested in the findings that we hope will come from your research into the hypnotic and other effects of the Diesel.

May I wish you continued success in these ventures.

Thank you. (Applause)

CHAIRMAN BENNETT: Thank you very much, Mr. Clarke.

Wasn't that an exclusive? It's just exactly what the doctor ordered.

I know, Mr. Clarke, you have looked over our program, and you will notice that tomorrow we have the subject of "Human Factors in the Design and

Operation of Railway Equipment," to be discussed by Dr. McFarland, and you will also notice Item 24, "The Value of Necessity and Method of Examining All Road (Main Line) Employes at Reasonable Intervals." That should take in the other groups, also.

I do believe that I have failed in keeping this program within bounds, but it has been very interesting, and so valuable to us all. Since we meet only once a year, we have to take this back home, digest it, and pass it on to the other 20,400 doctors who work under us and with us. We really have a job.

At meetings of the Committee of Direction I have talked of how we could get management in here with us, to discuss these problems. We haven't quite closed that ring which makes for entire cooperation among all our departments.

As you know, as we mentioned previously, we do have two gentlemen here with us today who are very often in management. I certainly don't want to embarrass them, but I just wonder whether Mr. Tuohy would say something as to how we might approach this problem, to have management meet with us and with the Interstate Commerce Commission, or the Railroad Retirement Board, and the Claims Section, so that we can close this ring and work together, in harmony, and probably lick this problem that is facing us today?

Certain of the railroads have large mileage, and they not only have passenger trains but they have wonderful establishments along their lines. I happen to be Chairman of this section this year, and I apologize for the fact that the most I can offer you is the caboose, because our services are entirely freight, and I have been told on several occasions that if I wanted to take advantage of that pass on our railroad, I could ride the caboose any time. I don't say that with levity, but I do mean this, how can we get management on the idea of sitting down and discussing these problems very frankly? I feel that with the cooperation of our many departments, we can show management, if they know the problems, how we can probably save them millions of dollars a year.

Now, I may be talking a little big, but we have to face these problems. When the doctors get together, we talk medicine—intervertebral discs—and perhaps we take exception with that, but those are our own special problems.

Mr. Tuohy, I'm going to ask if you have any ideas on this. How can we meet this problem of getting management to sit in with us, to tell us their problems?

MR. TUOHY: I'll stay here, Dr. Bennett, because you won't miss a thing if you don't hear what I have to tell you. (Laughter)

Mr. Chairman, Mr. Chairman of the Interstate Commerce Commission, distinguished friends and guests. In the first place, I am usually referred to as a coal man, not a professional railroad man. If I were a professional railroad man, I might be able to do what Owen Clarke has done—I could make a few suggestions and tell you how to run your business—but I can't do that.

This has been a very interesting and educational session for me. I can only tell you that so far as the Chesapeake & Ohio Railway is concerned, Dr. Emmett runs the show when it comes to any matter of standards of medical requirements.

I think if there is anything for which we strive, it is for a cooperative team, whether it's accounting, coal traffic, merchandise traffic, research or medical. Each man knows that he has his responsibility. We don't have any fine lines

of demarcation about talking to the other fellow about his business. We do that. We make suggestions. But when we come right down to the final showing, Dr. Emmett's word is going to prevail in any medical matter.

We encourage and do have frequent staff meetings. It isn't hard to get those boys down here to the Greenbrier. (Laughter) Not only that, but Dr. Emmett seems to have sort of seasoned us. He seasoned me about six or seven weeks ago—after working on me for about a year, he got me down to Clifton Force Hospital and did a little surgical work, and when he gets you there, he really works on you, not only physically but financially and temperamentally, too. (Laughter)

I think, in all seriousness, there is a need for better understanding on the part of top management. Certainly, we recognize the immensity of the problem, and we know the colossal amounts in claims.

We try to go to the grass roots on our railroad. [illegible] time, we will have a system-wide safety meeting. We have [illegible] terminal meetings, not monthly meetings, and we can [illegible] We can't replace Dennis and we can replace other valued things, but the greatest asset that the railroad has is its employees, its men. You can't replace them.

So, I think it's a matter of a day-to-day operation. It's a matter of [illegible] among the departments, the claim department, the legal department and the medical department. It's a matter of understanding and cooperation, and the more we can recognize those things, I think the easier you have will your problem. And you've got to be good salesmen. You have to put it up in some of the ways that you put it here today. Maybe you haven't been sufficiently aggressive in selling us on it, because I suppose we're human, and we think we're busy, we think we have a lot of things to do, and maybe we don't sit down and listen to these things here.

Frankly, I will admit that I had no conception of the size, the seriousness, the scope of your work here in the end of the A.A.R., although we are a member of the A.A.R.

I'm sorry that is all that I can say, but we are very delighted and feel highly honored to have you gentlemen—and particularly, your ladies—come down to our little hostelry here in the hills of West Virginia, and we hope you can come back frequently. (Applause)

Chairman Bennett: Thank you, Mr. Tooby. I think that throws the problem right back in our own laps, so let us continue to work together, and let's see if we can solve this problem.

Again, I put it up to the meeting as a whole. We are behind time. It's five minutes of one. You haven't eaten since six o'clock this morning, when you all got up. We still have another paper which is extremely important.

All right, let's carry on. Next on our program is an informal discussion on "The Part the Doctor Will Play in the Reporting of the 1956 Revision of the Interstate Commerce Commission's Rules Governing Monthly Reports of Railroad Accidents, Which Become Effective on January 1, 1957."

I believe there is no one better able to explain this to us than Mr. R. P. Hamilton, Superintendent of Safety for the St. Louis-San Francisco Railway, of St. Louis, Missouri. Mr. Hamilton, please. (Applause)

MR. R. P. HAMILTON (Superintendent of Safety, St. Louis-San Francisco Railway, St. Louis, Mo.): Mr. Chairman, Distinguished Guests, Ladies and Gentlemen: The invitation to participate in your program is always appreciated—especially so when it is realized that you have a full program with many technical subjects to discuss, yet found time to discuss a matter that is vital to the railroads of America—the proper and uniform reporting of accidents.

My subject is "The Part the Doctor Will Play in the Reporting of Accidents Under the New Rules." Frankly, the doctor will play a very important part, and in just a few moments I will discuss the rules pertaining to the [illegible]

My good friend, Owen Clarke, is not on account of the [illegible] to discuss, and I think he covered the most vital [illegible] of the rules. However, I think we should go into detail as to why it was deemed necessary to all concerned to revise the reporting rules, as I am sure [illegible] are wondering why they were changed.

First, as a safety man, I want to say that in my opinion the most important thing in a good safety program is to prevent the accident. The second is employe morale, and the third is the record. If you are successful in the first two, you don't have to worry about the third.

It should be understood by all concerned that the purpose of the revision was not to take anything away from anyone, but to conform with the Accident Reporting Act as passed by Congress to prevent the railroads from being charged with alleged injuries when no accident is involved.

The Members of the Interstate Commerce Commission, one of whom is a just had the pleasure of hearing, Mr. Owen Clarke, pointed out the [illegible] of uniformity in reporting by all railroads, there should be a revision of the reporting rules to bring them in line with the Accident Reporting Act and to comprehend changes in railroad operation which have occurred in recent years.

Mr. W. H. Stephens, better known as "Doc," Director of the Bureau of Transportation Economics and Statistics, requested the Association of American Railroads to appoint a committee to work with his staff in the revision of the rules. A committee of five was appointed to work with Dr. Stephens, with Mr. John Tenney of the Western Maryland Railway as Chairman. I was selected as a member of the committee, and at the [illegible] of Mr. Tenney, was asked to preside with the Commission.

Shortly after this committee was appointed to confer with the Bureau of Statistics, Dr. Stephens retired and [illegible] Mr. Julius H. Jolsma, who has been very active in preparing the new rules. We found both Dr. Stephens and Mr. Jolsma very fair, and anxious to obtain a set of rules that would be practical and conform with the Accident Reporting Act as passed by Congress.

At a recent meeting in Washington with Mr. Jolsma for an informal discussion of the new rules, he used the doctors a nice compliment. He was the one who was consistently in favor of having the chief surgeons of the railroads be the ones to govern the determination and duration of the physical incapacitation under the new rules, should there be a controversy between the company and the employe. As chairman of the committee, representing the A.A.R., I want to say thanks to Mr. Jolsma, his staff, and members of the Commission for the many courtesies shown our committee, and I'm sure we all hope that the new rules will promote accuracy and uniformity in reporting among all railroads.

It must be realized that the railroads are in competition with other forms of transportation which are not required by law to render personal injury reports

to the Commission as the railroads must do. Also, practically all reports rendered by these competitive forms of transportation are kept confidential, while the railroad reports are open to anyone who desires to see them, or who wants to send in for a report. This matter is being handled by the Commission, and we hope that it will be corrected.

During past years, the railroads have been charged with many personal injuries where no accidents were involved, the alleged injury being nothing more than an unfavorable physical condition. For an example, an employe comes to work complaining of his back hurting. After working for an hour or so, he states that he started to lift something and hurt his back. He did not slip, trip or fall, nor was there any mishap, and yet a reportable injury was charged to the railroad. However, neither the industries of America nor the railroads' competitors had to report an instance such as this. There were many similar cases which we could discuss, but time does not permit.

Mr. Johnson, his staff and members of the Commission realize the situation, and have tried to correct it as much as possible.

As stated before, the doctors will play an important part in uniform reporting by the railroads. Mr. Clarke mentioned a moment ago, the new ruling which gives responsibility to the chief surgeon as the one who would govern the determination and duration of physical incapacitation, and in his opinion it is one of the important changes made.

At this time I would like to discuss several of the new rules with you. First, definition of an accident—125.12 (a) An accident is an occurrence arising from a collision, derailment, or other happening incurred in the physical operation of a railroad. Each of you were furnished with a set of the new rules—if you failed to obtain a copy of them, Mr. Parker will be glad to furnish one to you upon request. The accident act requires the reporting of collisions, derailments, or other accidents resulting to persons, equipment, or road bed, arising from the operation of a railroad. An accident as defined in 125.12 (c) is something which results in external or internal injury to a person, and presupposes an occurrence such as a blow, impact of a locomotive, car machinery, equipment, tool, material, or other object, or a slip, trip or fall, or any mishap usually unforeseen, resulting from an action arising in the operation of a railroad.

125.12 (d) The Act makes clear that "accident" and "injury" are not synonymous terms, and, therefore an injury must be the result of an accident.

Under rules 125.13 the doctor plays an important part in uniform reporting.

125.13—Occurences not to be classed as "accidents arising from the operation of a railroad."

(a) In the absence of any mishap the application of physical exertion alone shall not be classed as an accident.

(b) Disability through aggravation of an unfavorable physical condition in connection with a mishap as defined in 125.12 (c) shall not be classed as a reportable accident if all the evidence is non-conflicting and clearly indicates that such mishap of itself would have been insufficient to cause reportability.

(c) Disability resulting alone from the accentuation of an unfavorable physical condition, in the absence of a mishap, shall not be classed as an accident.

(d) Disability resulting from illness or disease shall not be classed as an accident.

Would like for you to review rules 125.14 (d). In doing so you will note that the professional opinion of the chief medical officer will govern the determination and duration of physical incapacitation under these rules.

We are confident that the doctors will assist in every way possible by giving the operating officers the benefit of their professional opinion when it is requested.

The managements of the railroads are going to continue to do everything possible to prevent personal injuries to their employes and to the public, and I believe that no one can say that a good job, safety-wise, has not been done in spite of the fact that many alleged personal injuries have been charged to the railroads which should not be charged, since there was no accident involved.

Mr. Clarke and all of the members of the Commission have certainly cooperated in every way they could to assist in the revision of the rules, and I have found Mr. Jelsma and the others fair and square at all times. We deeply appreciate the interest they have shown, and we are going to do our best to try to keep from burdening their offices, and try to have accurate and uniform reporting. You gentlemen can help us by giving the benefit of your professional opinion when it is requested.

CHAIRMAN BENNETT: Thank you Mr. Hamilton.

(A general discussion on all the papers presented at this morning's session followed.)

(The meeting recessed at 1:25 p.m.)

SATURDAY MORNING SESSION

March 30, 1957

The meeting reconvened at 9:40 o'clock, Chairman Bennett presiding.

CHAIRMAN BENNETT: The meeting will please come to order.

Good morning, ladies and gentlemen. We are delighted to see you here so early.

I think at this time we should thank Doctor and Mrs. Emmett and Dr. Clayton for the very lovely party which they gave on Thursday evening. It certainly was a lovely affair, and we are certainly indebted to them for such a nice time. (Applause)

Now if we may carry on with our meeting, I think probably Ken Carney would like to make a small announcement about a meeting which will be held in Philadelphia.

(Announcement by Mr. Carney.)

CHAIRMAN BENNETT: Thank you, Ken.

We will now go on with the program, and now we come to the international flavor of our program, and, of course, we are dedicated to have our international visitors with us. It is certainly a pleasure, and an honor. I can assure you that it was quite a job for some of these men to come these great distances in order to be with us, so that they might pass on to us some of their experiences. I hope that we, in turn, can be of value to them.

We are especially delighted today to have with us Dr. L. J. Haydon, of the British Railways, in London, England.

Dr. Haydon? (Applause)

I think you already have copies of Dr. Haydon's address. I understand Dr. Haydon will elaborate on that, and then you can ask him any questions you may have in mind.

DR. HAYDON (British Railways, London, England): Thank you, Dr. Bennett.

Ladies and gentlemen, first, I would like to say a very sincere "thank you" for being asked and given the high honor of addressing you today. I can't find words to express my real delight in being with you once more, and I can only hope that it won't be the last time.

I think there are two essential differences between railway medicine in my country and yours. First, our railways, as you know, are nationalized. Secondly, we have a National Health Service, as well.

Nationalization of the railways doesn't really affect the medical services a great deal. There are six regions on the British Railways—the Scottish, the Northeastern, Midland, Western, Eastern, and the Southern. We are autonomous to a large extent.

Above the regions, there is a Body called the British Transport Commission which is not only responsible for the railroads but for road transport, for docks, for canals, the hotels and catering. They are really policymakers: as I said, the regions, themselves, are autonomous under the direction of the General Manager.

At the Commission level, the official responsible for the direction of the medical services is called the Manpower Adviser.

Each of the six regions has a chief medical officer, but we have no over-all chief medical officer in the Commission. We meet as a committee every month,

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and we discuss any problems that may have arisen in any region. Any directives which the Commission make are done through a liaison officer, one of our own body, and he brings them to this meeting. We have alternating Chairmen each month.

Nationalization of the Health Service means that every man, woman and child in Great Britain is entitled to free medical and surgical treatment, and both employes and employers contribute a weekly sum towards the cost, roughly $2.00 a week by each party. Independent or self-employed persons contribute a similar sum.

I should, however, state that this weekly levy covers not only medical treatment, but also Old Age Pensions, Industrial Injury and Sickness benefits, and Widows' pensions.

The result of this is that Industrial Medical Officers do not in Great Britain undertake any treatment, other than first aid, and as far as our own work in the Railway Service is concerned, we confine ourselves to examination of applicants for employment, routine age examinations of safety grades, examinations for admission to the Superannuation Fund and the examination of employes prior to resumption of work, who have suffered accident or sickness. We also of course play our part in accident prevention, general hygiene, heating, lighting and water problems and toxic hazards, and the training of St. John Ambulance men and women.

Historically, Railway Medical Service goes back well over a hundred years. In 1847 a Surgeon was appointed by the Great Western Railway to attend all cases of accident and sickness amongst Railway employes at Swindon.

There are also records, in the Directors' minutes of the old Railway Companies, of individual accounts by private doctors for treatment of patients and staff, going back to 1851.

A Board minute of the old Midland Railway in 1850 says "Resolved that it is desirable that District Medical Officers be appointed over the whole line." The same Company in 1868 set up a private hospital at Crewe for Railway Employees, and the record shows that a Matron-in-Charge was appointed at a salary of something in the $2.50 a week.

It will be appreciated that at this time there was no free medical treatment in Great Britain, as there then by kindness of the Medical Practitioners and the staff made their contribution to the expenses of the hospital. However, in 1897 the Company took over full financial responsibility.

Most of the Railway Companies during this period, 1850-1920, had appointed local practitioners throughout the country as "Medical Officers to the Company Sick Fund" and they were paid on a per capita basis.

The Southern Railway Company was formed in 1923, from the amalgamation of a number of smaller Companies, and there is only one record that I can find of the appointment of a full time Medical Officer prior to this date. In 1867 the South Eastern Railway appointed a Medical Officer for a few months. I think there was some constructional work going on, and they wanted to have someone on hand.

In 1924 the Southern Railway Company appointed 12 General Practitioners in various parts of the system as Medical Officers to the Company. They worked on a part-time basis, but undertook the eyesight and physical examination of all applicants, and on request by the departmental chief, the examination of men and women already in the Service.

In 1938 a full-time Chief Medical Officer was appointed, and it was intended gradually to recruit a full-time staff who could replace the part-time practitioners. Unfortunately the death of the Chief Medical Officer, and the outbreak of War put a stop to this development.

In April, 1946, I was appointed Chief Medical Officer of the Southern Railway. It was a Directors' appointment and I was directly responsible to them and not to the Management. My instructions were to survey the existing set-up and report suggestions for an improvement of the service.

When I took up my appointment my medical staff consisted of one full-time Medical Officer, two part-time (in London) and 12 part-time in the provinces; all excellent doctors, but none having any practical experience of Railway working or its attendant hazards.

I recommended (and the Directors agreed) the setting up of a full-time Medical Service. The two part-time London men were taken on full time and five new doctors were engaged.

In 1946 many doctors had returned from service with the Armed Forces and I could be very selective in my choice. In general I looked for a man with the following qualifications:

1. He had had some General Practice experience.

2. He held a Diploma in Public Health or in Industrial Hygiene.

I don't think you have these types of diplomas over here. The qualifications of a practitioner in England are very varied. You can go to a university and get your M.D., or you can take what is known as the conjoint examination of the Royal College of Surgeons and Physicians, which gives you your M.R.C.S. or L.R.C.P., which allows you to practice medicine. The colleges of physicians and surgeons also have joint diplomas in public health and industrial medicine, anesthetics, pediatrics, and other specialties, and they are generally a two-year course for postgraduates.

3. He had had some administrative experience in the Armed Forces.

Such men were available and were engaged.

In our Railway we have 354 separate grades of employes. Obviously many grades overlap, but my first step was to insure that all my Medical Officers had a detailed knowledge of the working conditions, stresses and strains of each and every grade. During the first year therefore two Medical Officers were out every afternoon gaining this knowledge, and eventually we produced a book giving a medical job analysis for all the main grades. I have it here, if anyone would care to see it afterward.

Today a new Medical Officer on appointment spends his first three weeks in the Service watching men at work in all departments, in company with a local Supervisor.

We have three main Works on the Southern—at Ashford, Brighton and Eastleigh. Each employ between 2,000–4,000 men and women, and the next step was to appoint a Works doctor for each. In addition to Works duties they were required to cover an adjacent area for the purpose of routine examinations.

The general work remained the same, i.e. the examination (eyesight and medical) of all applicants for service, the examination of employes following sickness and accident before resumption of work (we see every man and woman who has had an accident, prior to their resumption of work), and routine examinations at certain ages of those in the safety grades. Rather

over 50,000 such examinations are carried out annually by my staff. In addition there is the medico-legal work following accidents to staff and public.

At first the doctors were responsible for geographical areas, seeing and examining staff from all departments therein, but later it was found more convenient to have one doctor in charge of each main department. Thus one is responsible for the Civil Engineer's staff, one for Motive Power staff, etc. This system works very well and insures a very close cooperation between the Medical Officer, the local officials, and perhaps equally important, the local Brotherhood leaders.

The routine finally evolved for dealing with day to day work of the Medical Department was as follows:

All five doctors attended at London Bridge each morning for the routine examination of individual applicants, and for the periodic examination of established employes, who as far as possible are seen by appointment. Otherwise, we lose them. The labor problem in Great Britain has been extremely difficult. We have virtually full employment throughout the country, and as the railways pay such really poor wages—or did until just recently—we did rather tend to get the dregs of the labor market. For that reason, we had to step up the severity of our applicant examination. We are very severe on applicants before they come into the service, but once they are in the service, we try to see that they are employed suitably.

Normally in the afternoons only two doctors work in the department, as the rush of applicants has been taken care of in the morning. These two see cases by appointment only and can therefore arrange their work so that a longer period can be given to special cases.

The other three are employed in various ways. One is usually engaged in examining, in consultation with the family doctor or specialist, or with members of the Public who are making claims for compensation following accident. Another visits shops, depots and other installations under his jurisdiction. During these visits cases requiring special rehabilitation are discussed with local officials and usually where light work improvements can be made. In other words, we try to do all rehabilitation on a personal note. The doctor goes to the works, sees the works manager, sees the union official there, because—and I expect you have the same thing—it is extremely difficult to move a man from one grade to another. There are all sorts of agreements about it, and you have to get the union okay, in many cases, before you can transfer a man from a heavy to a light job, but by the personal contact, we do get very satisfactory results, and the rehabilitation is done the way I think all rehabilitation should be done, and that is on the man's own job amongst his own work people.

The third, where possible, attends a Teaching Hospital in order to study a particular specialty in which he is interested, or at any rate to keep up to date with modern medicine and surgery. This afternoon routine must be frequently interrupted, either because of the number of patients, or because some special investigation has to be made.

At the same time the Divisional Medical Officers appointed to the three main works, i.e. Ashford, Brighton and Eastleigh, have increased their scope. By now they know individually most of the General Practitioners in their area, as well as the staff of the local hospitals. It goes without saying that they also have a personal knowledge of all the officers and the majority of the men employed in the Works.

More and more they are being brought into consultation on matters of Industrial Hygiene in the Works and are now asked to give an opinion on possible toxic hazards before a new processing plant is installed.

The watchword of my department is "Personal Contact where possible." The closest liaison is maintained with our employes' Private Doctors, Chest Clinics and Hospitals, and, where a periodic examination reveals incipient disease, a full report is sent to the family doctor.

Virtually until ten years ago, the medical department was never consulted on anything. New toxic hazards could be introduced anywhere, but nobody ever told us. Almost the hardest work has been to educate the heads of departments to seeing that the doctor was a useful member of society, rather than a hazard to his production schedule.

We maintain very close liaison with the private doctor, the National Health doctor of our employes, for obvious reasons, and we do get the most wonderful co-operation from them. We don't offer them a fee. We write a letter to them, and they'll send hospital reports or full clinical notes on one of our patients. I can remember before the war we had to write and ask for a medical report on a patient.

I have three very good friends in London in various teaching hospitals who give specialists' advice (again, under the health scheme) for railway patients, diabetes and general medicine.

We have no specific Rehabilitation Workshops as such, but specialists from hospitals adjacent to our big Works frequently visit the Works with my Divisional Medical Officer and advise on upgrading of their patients following accident or operation.

In many cases domiciliary visits are made by my staff to employes who have been absent from work on health grounds for more than two months, and where possible, consultation is arranged with the family practitioner.

Special investigations have been made throughout the Region into various toxic hazards. The workers in a quarry with a fairly high free silica content are examined physically and radiologically every six months.

The actual stone has a very high free silica content, and we have done an investigation there.

Every employe in the quarry has had an annual full physical examination and a bi-annual X-ray. A full occupational history is taken at the first examination and so far we have kept free of silicosis.

The ventilation of all our foundries and shops where lead working is carried out has been fully investigated and necessary extraction plant installed giving a lead free atmosphere. All lead workers have a periodic blood examination. Our mercury hazard has been similarly dealt with.

Other special investigations have been carried out at the request of, or in collaboration with, Research bodies. Amongst these have been the measurement of ventilation in trains, at the request of The Common Cold Research Unit of the Medical Research Council, and also a trial of vaporisers in offices in conjunction with the Public Health Laboratory Service (Air Hygiene Laboratory).

At present a long term project investigating Hypertension in railway workers is being made in conjunction with the Social Medicine Research Unit.

I have personally given talks on the Functions of the Department to staff members of all our Sectional Councils, and I give regular talks on Industrial Health to the students of a Railway Training College. My assistants also give

talks at intervals to such bodies as Mutual Improvement Classes and Permanent Way Institutes.

Post Graduate students of the London School of Hygiene and Tropical Medicine and of the Royal Institute of Public Health, who are taking the course for the Diploma of Public Health and or the Diploma of Industrial Hygiene attend every six month for a short course of lectures and demonstrations on railway medicine.

Although the St. John Ambulance Center is not directly under the jurisdiction of the Medical Department, we work very closely with the Regional Ambulance Secretary. The Class Secretaries and members of the classes. Most of the Medical Officers give regular class lectures, and every year one is given a member of the examining board from regional ambulance committee.

Visits have been paid with the Regional Ambulance Secretary to most first aid posts throughout the Region. Recommendations for bringing existing rooms up to date, and in some cases erecting new ones where necessary, have been made, and the work is progressing very satisfactorily.

At our largest Works new and up-to-date surgeries have been built and these are staffed by trained Nurses who are part of the Works Medical Department. We have, roughly, 72,000 employes, and over 4,000 of them have their first aid certificate, which I think is a very good record. It's all voluntary. They don't get paid for it. All training is carried out in their own time and it's really a very fine organization.

Close touch is kept with the Southern Railway Orphanage and Homes for Old People, and although medical care of the inmates of all the homes is the responsibility of the Medical Department, we do examine all candidates for admission to the Homes for Old People, to determine their suitability for admission.

Close contact is maintained with Railway Medical Services of other European countries and every two years a Medical Conference is held under the auspices of The International Union of Railway Medical Services.

There is at present an intensive modernization program operated by British Railways, including large scale introduction of Diesel engines. I feel sure that you all know a great deal more about the problem of Diesel fumes than I do. We are building several new servicing depots. I have been to a Diesel depot of this, and we don't know if there is a hazard at all, or if there is a carbon monoxide factor in the fumes, but while we are doing any alterations, as we have, while building, we might as well get the exhaust removed at the source. As much fume and exhaust gas as possible is removed at source by extractors at exhaust level over the pits, and a balanced system of warm air input and roof exhaust has been designed to over-come gas. Warm air is also introduced at truss level to prevent condensation and formation of sulphuric acid on exposed steel, this warm air system being controlled by temperatures and humidity instruments located throughout the building.

Exposed roof members are protected by fibre glass mattresses and insulating hardboard from Sulphur Dioxide, and this also gives a low heat transference rate. This work is done with our heating, lighting and water engineer, and we have a very close cooperation. We meet once a week. We have a lot of water problems in the country, with well water, and reservoirs. The two of us, between us, take complete charge and assume responsibility for that.

Regarding the International Union of Medical Services, the European one, I have with me a letter addressed to Dr. Bennett, extending welcome to any

of you who would like to come to our next meeting in Paris, in September. If possible, we would like to have an official delegate. Most every European country is represented on this body, and we have some very good papers and good discussions at those meetings. I will now hand that to Dr. Bennett.

CHAIRMAN BENNETT: Thank you, Dr. Haydon.

DR. HAYDON: Well gentlemen, I think that is my very brief story. I would be very delighted to answer any questions I could, but that is up to you. (Applause)

CHAIRMAN BENNETT: Ladies and gentlemen, that was really worthwhile. We can see that, no matter where in the world we go, the employes of the railroads are properly examined, cared for, and the equipment, the ideals of public safety, hygiene and everything are the same the world around. It's just a question of how we apply it.

I think this wonderful invitation which Dr. Haydon has extended to us is really something.

As Dr. Haydon mentioned, these meetings are held each and every year, in Rome, Paris, Berne, London, Edinburgh, all over the European continent. All these different nations get together and discuss their mutual problems concerning railways, so please get your thinking caps on, and let's send several delegates.

DR. HOLTON: Tell us more about it. When is it going to be?

CHAIRMAN BENNETT: It will convene in September: "We beg to inform you that the U.I.M.C. will hold its 7th Annual Congress in Paris from the 25th to 30th, September, 1957, and we are pleased to invite you to send an observer. We think, in fact, that it would be of considerable interest to establish a liaison between our two organizations, and we hope that this first contact established by our distinguished colleague, Dr. Haydon, may be the beginning of active collaboration in the future.

"We are happy, on this occasion, to ask him to give you the best wishes of the International Union of Railway Medical Services, and to explain to you something about our Union and its activities."

Signed by the President, Vice President and Secretary General.

There was one item that came to my attention, about two men in the English ward. One said to the other, "I sye, Alf, did you come in to-day?" The other replied, "No, I came in yesterday." (Laughter)

I don't mean any disrespect by that, Dr. Haydon, when I say that. I was amazed when I heard it the first time, and I just wondered—how frank could you be?

(There followed a general off the record discussion of Dr. Haydon's paper, also the invitation to the U. I. M. C. meeting in Paris, France, September 25-30, 1957)

CHAIRMAN BENNETT: For many years we have not only had the problem of the pre-employment and periodic physical examination of our employes, but the age problem. Now, in our examination of these employes by ourselves, by other doctors and by a third doctor to make this decision, we are really being put on the spot, personally, individually, as a railroad. Are we taking an added risk?

You will recall that yesterday, both Mr. Connell of the Railroad Retirement Board and the Chairman of our Interstate Commerce Commission put the problem directly up to us, to each and every one, individually. Now, let us take that responsibility, and let's do something about it.

There is something else here that has me just a little upset, which I think I ought to mention right now. I think it is part of our problem along with what I have just mentioned.

In the back part of our program for this meeting you will notice a huge number of railroads here that have their medical representatives shown. Thank goodness, most of our railroads have medical directors, chief surgeons, or someone in the medical and surgical field who is responsible for the best interests of each and every railroad individually. I am just a little upset to read the names of Vice-Presidents, Claim Agents, Mr. So-and-so, and Superintendent So-and-so.

According to the laws and regulations, I do not see how these railroads can be properly represented to their best interests by having someone on here who is not a medical representative, who knows exactly what we are talking about.

I would like to see this thing properly taken care of by next year, somehow or other.

As our next speaker, we are certainly more than delighted and honored to have a distinguished professor from the Harvard Medical School, the Harvard School of Public Health, the Department of Industrial Hygiene, in Boston. His subject is "Human Factors in the Design and Operation of Railway Equipment."

Dr. Ross A. McFarland. (Applause)

Dr. Ross A. McFarland (Harvard School of Public Health, Boston, Massachusetts): Mr. Chairman, ladies and gentlemen, it is indeed a great pleasure to come before this group to talk about "Human Factors in the Design and Operation of Railway Equipment," with special reference to the prevention of accidents. First of all, I must explain that my experience has been largely in the field of air transportation, bus, and truck operations. However, I believe that the same basic principles apply equally well to the railway field.

After you invited me to speak, I took the opportunity to ride with a number of your engineers and to talk with your operating personnel to try to obtain a better understanding of some of your problems. Fortunately, I have had the advantage of working closely, for many years, with one of your members, Dr. K. K. Dowd. He has been a great inspiration and encouragement to me and my group and we have had a chance to learn about your problems from him.

In my talk today I propose to analyze the areas of efficiency and safety in the operation of all types of vehicular equipment, from the point of view of epidemiology. After briefly outlining some of the problems in the field of accidental trauma, and stating the principles, I believe you will see that these can be effectively applied to your field. It seems to me the fundamentals are the same in all fields where operators use mechanized equipment.

It is of great importance to you, as physicians and surgeons, to recognize that accidental deaths and injuries have reached the epidemic proportions of a non-contagious mass disease. Each year there are about 96,000 fatalities from accidents in this country. The largest percentage of these come from motor vehicle accidents; there are about 28,000 in the home, about 16,000 in public places, and about 14,000 in different types of industrial activities. Moreover,

accidents have now replaced diseases as the chief threat to health in large proportions of our populations. Accidents now rank ahead of diseases as the leading cause of death to persons between the ages of 1 and 35 years, and are surpassed beyond this age, chiefly by heart disease, cancer, and certain degenerative conditions.

Thus you can see why we consider accidental trauma to be a public health problem, the control of which may be amenable to the methods developed for the control of mass disease. In my opinion, the next significant advance in safety will result from engineers, physicians and other biological scientists working together toward a more careful analysis of the problems involved.

Of course, such collaboration is not new in preventive medicine. For example, the control of malaria was brought about by team study—the malariologist, the sanitary engineer, and other specialists. A team approach, in which different disciplines are working together, is very much required to control accidents in the use of all types of equipment.

One of the most critical problems in modern life [illegible] is mobility. It is important to recognize that the [illegible] one place to another, in some type of transport equipment now ranks with food, clothing and shelter as a basic [illegible] annually 120,000 permanent disabilities, and 1,700,000 [illegible] disabilities. Based on these trends 10 per cent of the people in this country will be injured or killed in a period of about 15 years in motor vehicle accidents alone.

Accidental trauma is also an important problem in our military services. In the Korean conflict more men were killed in vehicular accidents than in combat. Currently, accidents are the leading cause of death and ineffectiveness in all three branches of the Armed Forces, with motor vehicle accidents outranking all other types. Each year about 2,100 servicemen are killed in motor vehicle accidents, and the larger proportion of these accidents occur while the men are off duty.

In addition to military personnel, the Services are the largest employers of civilians. Thus they must give serious consideration to the prevention of accidents. A Commission on Accidental Trauma has been set up in the Armed Forces Epidemiological Board, Department of Defense. I have the honor to serve as Director of this Commission. We are trying to develop basic studies to reduce the incidence of accidents, particularly with regard to vehicular equipment. A series of slides will now be shown to present some of our findings in the industrial and transport fields.

This first slide, based on data in the industrial field from one of the large casualty insurance companies in Boston, shows that accident frequency rates are often higher in small companies than in larger ones. This probably reflects the fact that larger industries have put more talent and technical men into the field of safety engineering and occupational medicine, for the control of accidents, with a better record as a result. Also, the safety of operations depends to some extent on the nature and distribution of the operations. Fields such as air transport and railroading have their activities spread out over very extensive areas. The high utilization of equipment implies urgent time factors. Also, there is a concentration of many technical specialists working in close proximity. Where these conditions exist one usually finds a very high accident rate. Ground operations in aviation, for example, have a very poor record, rating about 30th out of 40 industries in the National Safety Council's listing. The railway field is not specifically included in the N.S.C. statement, although

I note that the transit industry ranks about the same as air transport. If a precise analysis is made in particular industries, it is usually possible to see why the accident rates are high. Regardless of the nature and size of operations, however, good medical and safety departments can usually bring about improved rates.

The details of the role of health and safety departments in air transportation may be found in my book "Human Factors in Air Transportation—Occupational Health and Safety," McGraw Hill, 1953. A similar study of the truck and bus industries is available in my book "Human Factors in Highway Safety," Harvard School of Public Health, 1954. A limited number of complimentary copies of the latter is available on request.

The thesis that I plan to develop in this talk is that accidents fall within the field of preventive medicine and public health, and that an epidemiological approach to the control of accidents is logical and useful. Most accidents have a multicausal etiology, and depend on many interrelated factors of the operator, his equipment and the environmental setting. In this epidemiological approach the railway engineer or the driver of a truck or bus, or the pilot of an aircraft, is the host. The agent is the equipment, the vehicle, or the car or whatever the machine or workspace may be in which a man is working, whether in transport industries or in the factory. The environment, of course, consists of a variety of factors influencing the host and the agent.

First let us consider the question of host factors in the causation of accidents. The next slide shows a number of findings in the field of highway safety. Youthfulness is one of the important factors associated with high accident rates. Then there is the question of the small proportion of drivers who have repeated accidents. Whether some people are naturally more susceptible to accidents is of great interest to psychiatrists as in any other field. If so, how can such persons be identified? In addition, we note that factors of personal adjustment are of great importance, and that adequate training is of great significance for safety. The changes in skill with advancing age must be considered, as you will know from experience in railway transportation. Finally, the influence of [illegible] such as fatigue, emotional [illegible], and the effects of drugs and [illegible].

[illegible] accidents. I would like first to make a brief analysis of the [illegible] of accident proneness, of the problem of the accident-repeater. In most industrial organizations the medical departments report that a small per cent of the workers are responsible for a large majority of the visits to the first aid department, or of direct accidents. Currently there is great interest in this area, and some fresh findings will be discussed briefly below.

There are two approaches to this question. One is statistical, where an attempt is made to find out about the distribution of repeated accidents among the workers, and to follow those with accidents through subsequent periods. If one finds that repeated accidents are concentrated in a few people then, obviously, attempts at control should start with this group. Another method is clinical, and I will discuss our findings in this area a little later.

One of the considerations in the statistical approach is that some people will have repeated accidents, just on the basis of chance alone, and not as a result of any accident proneness. The next slide shows the concentration of accident repetition based on chance alone. If there were 300 accidents in a group of

500 persons, 275 would have none; 165 would have 1; 49 would have 2; 10 would have 3, and one would have 4. Most carefully controlled studies in industry have shown the accidents to follow just such a chance distribution, and therefore, the influence of proneness on a statistical basis has not been demonstrated.

One of the difficulties in this approach is that you must have large numbers of accidents before the distributions are meaningful. If you studied railroad engineers, switchmen, or brakemen, the accident frequencies would probably not be high enough. Thus you wouldn't be able to obtain a large enough number of accidents to do a statistical study.

The next slide shows a distribution of accidents for a large number of pilots while in training. Here there seems to be some evidence of the influence of a personal factor which might be related to accident proneness. You will note that the theoretical or chance figures are compared with the actual accident data. There are considerably more pilots with repeated accidents—4, 5, 6 and 7 spaces—than would be expected by chance. Thus there seems to be some hope that one might be able to identify those pilots who are repeaters.

One interesting thing about investigations in this area is that when the high accident group is studied in subsequent years, it is not composed of the same persons. This finding suggests that treatment for various frustrations, or overcoming worries may clear up their difficulties. This leads us next to a consideration of the clinical approach.

It has been proposed that the clinical approach is better suited to reveal the personal factors underlying repeated accidents. One very successful study in this area was made by a Canadian psychiatrist, Dr. W. A. Tillmann, who has worked with us at Harvard. He compared taxi drivers in Ontario who were free of accidents over a certain period of time, a second group of taxi who also had no accidents, and a third group with three or more accidents each within the same period. He used a simple objective method to compare the personal adjustments of these drivers. This was to look up the names of the individuals in the adult court records, the credit bureau ratings, the juvenile court records, the public health and venereal disease records, and the social service agencies. He found that 60 per cent of those who had repeated accidents were known to one or more of these agencies, against only 9 per cent of those who were free of accidents. As a result of these findings, and from intensive psychiatric study of accident repeaters, he concluded that "a man drives as he lives." This is probably just as true among your railway workers as for the drivers. The principle that a man drives, or works, as he lives suggests what might be done at the time of selection, and indicates the importance of investigating how the emotional adjustment of a person, and his social adjustment in the community, play a role in the safety of his work.

At the Harvard School of Public Health, we applied the same procedures in a study of truck drivers. About 300 drivers who had serious accidents were matched with accident free men. When the various kinds of records were searched for the names of these drivers, the court records of automotive offenses, minor violations in motor vehicle records, court records of offenses against persons, court records of offenses against self, and unfavorable business inspection report, were found to differentiate significantly between the accident repeaters and accident free drivers. Then these items were developed into a test, giving the items weights reflecting their statistical importance, as shown in the next slide. When we applied this test to a new group of drivers, it "predicted" the accident repeaters among them in about 85 per cent of the cases.

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Because of the [illegible] clinical approach it is very unwise [illegible] to develop methods [illegible]. It would be an unfortunate day [illegible] psychiatrist, [illegible], would not read into it many things—that the persons were trying to get attention, that they were resenting something, that they had repressions or certain conflicts. We must discover objective methods which will predict the persons who may have accidents, and the one just described is very promising in this connection.

Age is another [illegible] extremely important in the [illegible] safety of a man's work. [illegible] studies of the influence of age in various [illegible] types of [illegible] driving in regard to motor vehicle [illegible] results are shown in the next slide. These data are for the state of [illegible], in Connecticut. Note that the [illegible] drivers, in terms of their numbers, have disproportionately too many accidents. Moreover, when they are involved in accidents, they are too often at fault. The youngest drivers, age 16, are the highest-risk group. The rates decline [illegible] with each succeeding year, and level off in the thirties to remain low and stable through about age 60. Essentially the same results have been obtained in [illegible] Massachusetts, and are probably true for most other states. Similar findings of disproportionately high accident rates with youth have been observed in studies in industry. It is clear that special attention must be given to the younger inexperienced worker in [illegible] accident prevention.

The efficiency and safety of the older worker is also important, but is a question more frequently [illegible] in respect to the technical and professional groups such as railway engineers. The problem may be stated as follows: (1) What are the characteristics of people beyond 50 or 60 years of age? (2) When is the onset of aging and changes in sensory function, reaction time and skills no longer compensated by training and experience, so that efficiency and safety are compromised?

Aviation is usually considered to be a young man's field, but it is well [illegible] to know that there are now about 800 airline pilots who are beyond 40 years of age. The [illegible] of [illegible] is the first group [illegible] that was studied. They have tried to [illegible] the [illegible] question with [illegible] psychologists, the railway engineers worried—that is, how many [illegible] or period should there are proven to be their physical [illegible] psychologically. As you know this is a difficult problem. It is hard enough to judge the fitness of the younger men, but it is possible to submit the problems in this area to the scrutiny of the scientific method, and we are learning what to expect with normal aging. We [illegible] have obtained very good distributions [illegible] almost every sensory function with regard to age as well as on a number of other capacities.

This next slide sums up one of the most interesting findings. This study was made in Great Britain by Dr. Welford at Cambridge. You will see the per cent of the sample in each age group who were employed in activities involving time stress, compared to the per cent in jobs without this factor. As persons get older, they can carry out work without time stress quite well. On the other hand, if the older worker is forced to assimilate new situations rapidly, and to carry out a series of complex reactions within narrow time limits, he is apt to become muddled, make errors, and have accidents. It thus is of importance to place the worker, as he gets older, in work which does not involve such pressures.

More continuous attention is probably demanded of the truck driver or the railroad engineer than even of the airplane pilot, and an even closer scrutiny

is required of the influences which may affect his different sensory functions, and the complexity of the decisions that he has to make against time.

I have carried out experiments in this area, and I have found, for instance, that in the field of immediate memory, college students perform much better than their professors. If the students are tested in an altitude chamber adjusted for oxygen at 12,000 feet, their capacity for immediate memory drops off to about the same level as that of their college professors. These effects are apparent earlier than we usually think. They probably begin around 40, rather than at 60. The supply of oxygen to the nervous tissue is the critical variable and as we get older anything that reduces the transport or utilization of oxygen will impair function. This effect is well illustrated by the effects of alcohol.

It seems to me that an operational job analysis should be made of what is [illegible] given time intervals. If the tires [illegible] visual [illegible] that are instant to get into an [illegible] studies of this kind might be revealing in regard to older railway employes.

The next slide illustrates the influence of temporary conditions in the form of the frequency of accidents. It deals specifically with the effect of alcohol on highway safety. You will note that the risk of accidents increase sharply when the amount of alcohol in the drivers blood reaches .12 or .15 of one per cent. It is 5 times greater than at the lower concentrations, and at levels above .15 [illegible] 10 times as great. Also recent autopsy studies made on highway accident victims suggest that 60 to 70 per cent of those killed have significant amounts of alcohol in their blood.

In this connection the relationship between blood alcohol and brain alcohol is of very great importance. Your employes may ask, "When can we go on duty after drinking? How many hours should elapse." In the airlines, this has been set at 15 hours.

The point is that the curve of alcohol in the blood and that for alcohol in the spinal fluid and brain do not parallel each other. In the brain the alcohol reaches a higher concentration and remains much longer, almost twice as long. In talking about this subject to various workers, I have shown them such curves to try to bring out the importance of refraining from drinking for a significant period of time before going on duty.

There are many other host factors which might be analyzed, but the preceding examples should give an indication of the type of analysis that can be made, in quantitative terms, to relate safety and efficiency on an epidemiological basis.

The next phase of my talk will deal with human engineering, or biotechnology. Some years ago, I wrote a book for the aircraft industry on "Human Factors in Air Transport Design," (McGraw Hill, 1946). Ten years later, I am pleased to say, all the major aircraft manufacturing companies have from 20 to 30 employes in what are called human factors teams. In such instances the physician, the physiologist, the psychologist, the anthropologist and the engineer—through mock-ups and through careful studies—analyze the effect of the equipment on human performance. The end result is a better integration of the worker and his equipment.

This approach concerns what I would call host-agent relationships in accidents. The point is that if men are to operate equipment efficiently and safely, it must be designed in terms of human capabilities and limitations. We

learned in the last war that machines do not fight alone; they have to be operated by men, with all of their limitations. For instance, we designed a visual range finder, and found that the instrument, as first developed, was very accurate, but when you put the human eyes in this range finder, the margin of error was very great; interocular distance and a whole series of human factors were found to be important.

If the design of any kind of machinery involves interference of an established habit pattern, you will have an inadvertent operation of a control. I can give many interesting illustrations of this in aviation. For instance, in a 12-month period in the U.S.A.F., 547 aircraft were lost because of pilots confusing the controls for the flaps and the landing gear. The controls operating these two were reversed in different planes causing inadvertent manipulation or mistaken identity in use.

Man is a notoriously poor monitor of equipment. You know that from your own railway experience. You expect men to watch, to look and to see, and yet they consistently go right through a signal to watch they should have stopped. Thus it is necessary to monitor men through the equipment, or to save them from themselves.

One method of reducing accidents is to make an advance analysis of equipment to discover and eliminate all possible errors in design which might lead to inefficient and unsafe operations. I am very pleased to say that one of our students has investigated the interior of a submarine from this point of view and the same has been done in aircraft. I do not see why this could be done for railway equipment.

In the planning stage there must be an operational job analysis of what is required of a person on the job. In the blueprint phase, there must be a prediction of efficiency, and a consideration of human limitations. Then, in the mock-up stage, you analyze the interrelationships between items which influence performance, and the effects of various factors which are not apparent, except through direct observations of the operation.

The next two slides illustrate types of activity analysis, carried out to determine what are the requirements of the operation. The first relates to driving a truck. You want to see the frequency of what the vehicle is doing, what the man must do, if hands, eyes and feet are used, and the time required. This activity is a somewhat monotonous job, similar in some ways to that of the railway engineman. The operator is not doing a great deal most of the time, but he has to be alert and watch signals and carry out certain observations constantly.

The second slide shows the results of an activity analysis on the job of the navigator in aircraft. When you look at data like these, you immediately see what is required of the men, what proportion of their time is used in carrying out each of the various aspects of their duties. It is not necessary to take moving pictures for this kind of an analysis. You can make careful observations of a man at work, see what he is required to do, and note the critical incidents and near accidents before the actual accidents occur.

In this slide we have an illustration of what an operational analysis, or one carried out in a mock-up, might reveal. In this truck, the dimmer switch is found directly underneath the clutch and brake pedals—and these are at the excessive height of 9 inches from the floor. Why should these locations have been selected, if ease and efficiency in operation are desired?

The next few slides deal with human [illegible] in relation to the design of equipment. Our anthropologists have made very precise measurements of all parts of the body. Then these data have been used to see how well a particular vehicle accommodates most of the truck drivers, or what per cent of the group is discommoded.

This slide shows the distributions in three body dimensions—anterior arm reach, knee height, and the sitting eye level. The chief engineer of an automotive company once said to me, "We have often wondered what the sitting eye level height should be when we design a car." It is obvious that in many cases such distributions have not been available to the designers and the engineer has been working in terms of an "average man." The average value is not adequate: you must design to the range in a distribution. You can't satisfy everybody in the distribution possibly, but you should know where the cut-off points would be for any desired proportion of the operators.

In the truck model shown in this slide 5 per cent of the women truck drivers could not get their knees up to the wheel and their feet on the brakes with the seat shut in the two left positions. I told this to a group of automotive engineers in Detroit, and there were many smiles in the room since they were aware of certain design errors in meeting human requirements.

How about the operators of your trucks. What does the engineer have to reach or look at, or do, in relation to where he is sitting. I am quite sure that improvements might be made if this kind of an analysis were made.

The next slide illustrates the principle of using shape coding in the design of knobs and switches, to prevent mistaken identity or inadvertent operation. The shapes shown can be distinguished from each other by touch alone with a high degree of accuracy. If switches or knobs are close together, and should be distinguished from each other, it can be predicted that there will be error in operation. For example, I know of a recent motor vehicle accident where a driver going at 50 miles an hour at night reached over to pull out the cigarette lighter and mistakenly shut off the head lights. He had a serious accident as a result of improper design.

This next slide shows the principle of designing instruments for ease of reading, and to give the operator the kind of information he needs. Instead of giving a complete scale with detailed markings when the critical area involves only a small portion of the range, why not arrange the indicator to show hot, or cold, or safe instead? In our samples of trucks and buses we found no systematized attempt to design the instruments to give the information in simple ways, and directly before the eyes of the operator. Similar examples may be found in railway engine cabs.

In general, it may be said that any instrument difficult to read, any control unnecessarily difficult to reach and operate, any seat inducing poor posture or discomfort or any unnecessary obstruction to vision may contribute directly to an accident because of the difficulty of proper operation on the part of the driver. In addition, the cumulative effects of such difficulties are sure to induce fatigue, resulting in the overall deterioration of driver efficiency and perhaps leading to an accident.

The next few slides may be of particular interest to you, since they involve the principle of the prevention of injury by eliminating or modifying those features of equipment which cause injuries in accidents. This material is from the Cornell Crash Injury project, which was originally set up through the Commission on Accidental Trauma mentioned earlier. You all drive cars, so this

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subject is very near to you. I know, and you probably treat more of your employes for automobile injuries than for any other cause.

The first shows the major causes of injury in automobile accidents: the rank order is at the extreme right. As you see, a leading cause can be located in the steering wheel assembly. Secondly, if you are ejected from the car, the chances of your being severely or fatally injured are much greater. The manufacturing companies have now put better door locks on the cars, so they are less apt to open on impact. Thirdly, hitting the instrument panel is dangerous because of all the protruding objects. An attempt is being made to obtain good information on all of the structures causing injury. Film data of accidents are being collected in [illegible] cities. In this way it will be able to identify the things with a low tolerance, so they can be modified in subsequent models.

The next slide shows the frequency of injury in relation to the cross body areas. Note that the head is most vulnerable. Then this last slide from the Cornell study relates the data from the previous slides in terms of the seriousness of the injury.

Obviously we need to know more about the injury thresholds of the head and other parts of the body to impact forces. I have a group of students working with traumatic surgeons and engineers, trying to relate what all the parts of the human body can stand in terms of the physical forces of impact. Such data should assist the engineer in designing equipment for adequate protection. We must have more knowledge of these interchangeable relationships if we are to prevent injuries.

Only one reference will be made in regard to restraining devices. If you put a seat belt on a person in a car, and also restrain his movement with a shoulder harness, (I'm not suggesting that the average public will ever wear shoulder harness) he could drive the car into a brick wall at 40 or 50 miles an hour and walk away from it. In one preliminary study, seat belts alone have proved to be effective in reducing injury by more than 50 per cent.

My talk will be concluded by a brief analysis of what I would call host-environment factors in this epidemiological framework. Up to now I have talked about the host or operators of vehicles and the interaction of the host with his equipment or the agent. Now let us consider the interrelationships of the host and agent in the environmental setting.

The comfort, safety, and efficiency of the operators are obviously influenced by a variety of environmental factors, such as temperature, illumination, noise and vibration. The next slide shows in a schematic way the ranges of comfort, discomfort, and harmful effects for each factors. This slide appeals to engineers because it attempts to put in linear scales what they should know regarding biological data necessary for the design of equipment. The center of the chart represents the optimum values for vibration, noise, carbon monoxide, carbon dioxide, humidity, ventilation, heat, cold as far as human comfort is concerned. This middle circle shows the values corresponding to the psychological boundary, or limit for each variable, and values at the outer circle mark the physiological boundary, or threshold of injury.

In the fields of air and highway transportation I have collaborated with various engineering groups in providing the threshold and tolerance limits for the environmental variables mentioned above. As you know, the control of temperature, noise, vibration, and toxic agents such as carbon monoxide has important implications for health and safety. It seems reasonable, for ex-

[illegible] to [illegible] engineers to know something about the ear and its receptivity to signals if the latter are used most effectively and do not place the [illegible] workers at a disadvantage. I have found that engineers will design to meet human requirements if the necessary data are made available to them. To be most effective, the data should be presented in nomograms, rather than [illegible], so as to show the interaction of one variable upon another. A great deal of information from the studies on environmental influences on behavior in the air and highway fields can be applied to railway transportation.

There is only time to discuss two variables, namely noise and illumination. In regard to the former, it is obviously necessary for the noise levels to be low enough so that workers can communicate with each other. Also the noise levels should be below the desired levels which may produce some [illegible] permanent [illegible] [illegible] [illegible] [illegible] [illegible] However [illegible] [illegible] will be required, even with [illegible] [illegible] considerable disagreement in regard to noise levels which produce serious impairment of hearing and more research is needed on the problem.

I have [illegible] more slides on illumination than on other subjects because [illegible] in his engine cab at night I noted he repeatedly [illegible] his schedules. By doing that, he destroyed whatever [illegible] so that in various situations he was not using his eyes [illegible]. Moreover, the illumination provided in the cab was [illegible] preserve his night vision.

[illegible] when a bright light shines in our eyes, it is more difficult to see [illegible] the field of vision. Age is of special importance in this [illegible] that this effect becomes regularly more pronounced with increasing age. You can note that with an equal amount of glare, objects that can be seen by the young person 15-19 years in age will not be seen by the older one of 70 unless the same objects are made some 17 times brighter.

The next slide is shown partly to demonstrate the characteristic curves obtained in dark adaptation studies and to show the way the eye becomes more sensitive to light with increased periods of time in the dark. The early portion of the curve [illegible] adaptation in the cones—beyond this break the curve [illegible] the [illegible]. Dark adaptation reaches its maximum after [illegible] 30 minutes. The higher this final portion of the curve, the poorer is the adaptation. This particular slide is from a study on Vitamin A deficiency, and you can see that with this condition, one does not adapt as well.

The next slide shows the relationship between age and the ability to perceive light under low illumination. It is based on a study we made of 240 subjects ranging from 16 to 90 years of age. As you can see, the relationship between age and the amount of illumination needed is a straight line function—as we get older, we need more light for threshold vision. This correlation is about 0.9, one of the highest correlations yet reported between age and a biological function.

In connection with the above, what is the effect on a 60 year old driver [illegible] a tinted windowshield which cuts out 30 per cent of the light before it reaches the eyes. Also remember that accident rates at night are three times

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The final slide demo[illegible] [illegible] or ability to adap[illegible] [illegible] or four cigarettes, [illegible] as high a level as [illegible] carbon monoxide in your bloo[illegible] level of altitude. Thus if [illegible] carboxyhemoglo[illegible] [illegible] were at 7[illegible] [illegible] if the [illegible] [illegible] to even [illegible] in showing the dire[illegible] [illegible] as well as the inte[illegible] [illegible] in fairly quantitativ[illegible]

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In conclusion, the physic[illegible] role in the prevention of ac[illegible] [illegible] by carefully controll[illegible] surveys, and statistical ana[illegible] collaboration with other bi[illegible] [illegible]. Finally, in the wo[illegible] [illegible] followed [illegible], thought and acti[illegible] [illegible] and the end of all our [illegible] know the place for the fir[illegible]

Thank you. (Applause)

Chairman Bennett: T[illegible] [illegible].

(There followed a general [illegible] by Dr. McFarland.)

Chairman Bennett: We [illegible], we had a meeting [illegible] who were still present. We h[illegible] [illegible] Dr. [illegible]dowsky, of the Ce[illegible] M. E. Clayton is Vice-Chair[illegible]

as high as at daytime levels of illumination. I commit this problem for further study. I believe engineers should know something about human vision before they design a heat absorbing windowshield. If the good features of the tinted windshield are to be used advantageously, all of these human and physical variables should be considered in their interrelationship with each other if accidents are to be prevented and operational efficiency increased.

The final slide demonstrates the influence of carbon monoxide on night vision or ability to adapt in darkness. If a non-smoker inhales the smoke of three or four cigarettes, the amount of carboxyhemoglobin in the blood may reach as high a level as from 4 to 5 per cent. If there is this much carboxyhemoglobin in your blood the oxygen saturation is the same as at about 7,000 feet of altitude. Thus if a chronic cigarette smoker inhales, he has from 5 to 8 per cent carboxyhemoglobin in his blood, and his ability to see in dim light is reduced as if he were at 7,000 to 9,000 feet altitude. The effects are obviously greatly accentuated if there are additional amounts of CO from engine exhaust or upon ascents to even moderate altitudes. What better example could be given in showing the direct effects of certain environmental influences on behavior, as well as the interrelationship between the host, agent, and environment in fairly quantitative terms.

It is proposed that the epidemiologic approach originally developed for the control and study of mass infectious disease is also applicable to the study and control of accidental trauma. Similar ideologic principles are involved, and because of the multiple causes of accidents, a team approach is a basic requirement.

One important way of improving safety is by the design of equipment in terms of human capabilities and limitations. This involves the closer integration of the host-agent relationships through the application of the principles of human engineering. Such an approach utilizes an advance analysis of possible faults in the design of the equipment and can aid substantially in the reduction of accidents.

In conclusion, the physician of today and the future can play an important role in the prevention of accidents. The next significant advances will be obtained by carefully controlled experimental and clinical studies, accident field surveys, and statistical analysis, and with the assistance of those working in close collaboration with other biological specialists, engineers, and administrative officers. Finally, in the words of the poet, T. S. Eliot, "These are only hints and guesses, hints followed by guesses; and the rest is prayer, observance, discipline, thought and action." and again, "we shall not cease from exploration, and the end of all our exploring will be to arrive where we started, and to know the place for the first time."

Thank you. (Applause)

CHAIRMAN BENNETT: Thank you Dr. McFarland, that was indeed most revealing.

(There followed a general off the record discussion of the paper presented by Dr. McFarland.)

CHAIRMAN BENNETT: We are now ready to continue with our meeting. As you noticed, we had a meeting of the Committee of Direction for those members who were still present. We have elected a new Chairman for next year, and he is Dr. Goldowsky, of the Central Railroad of New Jersey. (Applause) Dr. M. B. Clayton is Vice-Chairman.

I think it would be nice if Dr. Eve and Dr. Holton would escort Dr. Goldowsky to the rostrum.

(Dr. Eve and Dr. Holton escorted Dr. Goldowsky to the rostrum.)

CHAIRMAN BENNETT: Dr. Goldowsky, we are delighted to have you. We could not have anyone better. I'm going to let you carry on with the rest of the program.

All I can say is, gentlemen, that I have enjoyed my stay in this position. I really have tried to carry on with the trust that you have put in me.

I am now going to turn the Chairmanship of the Medical and Surgical Section over to Dr. Goldowsky. Good luck! (Applause)

(Dr. Goldowsky assumed the chair.)

CHAIRMAN GOLDOWSKY: Thank you very much.

DR. HOLTON: I think this has been the most outstanding meeting we have ever had with the best program. I know personally that every [illegible] by a fellow named Bennett, and I would like to [illegible] a standing vote of thanks to Dr. Bennett for the [illegible]

CHAIRMAN GOLDOWSKY: I so agree.

(The audience arose and applauded.)

DR. BENNETT: Thank you. Thank you very much.

CHAIRMAN GOLDOWSKY: We shall proceed with the program. Maybe we will have time for some informal discussion later. We will now hear from a distinguished visitor who has been with us for a few days, and whom you have met informally, he will talk to us on "The Railway Medical Services in Mexico" — Dr. Jaime J. Chavez. (Applause)

DR. CHAVEZ (Chief Surgeon, Ferrocarril Del Pacifico, S. A. de C. V. Guadalajara, Jalisco, Mexico): Mr. Chairman, ladies and esteemed colleagues, for [illegible] with you with some of our problems, which may or may not be of interest to you, may I say a few words of appreciation and express my thanks for having the privilege of being with you and enjoying this new experience. This is practically the first time in the history of your Association that one of our Mexican colleagues has been represented at one of your meetings. I thank you sincerely for the opportunity both for myself and for my country.

The marked social progress of Mexico is the result of the Revolution of 1910. The economic system of the country from a completely pastoral and agricultural [illegible] an industrially modern one, posed vital problems on both the individual and national level. As a nation we had become cognizant of the necessity of industrial expansion, but we possessed no skilled human resources from which to recruit a labor force. In a few short years we were obligated to train the individual in skills completely dissimilar to those he had previously acquired, namely the mechanical skills necessary to our national development.

During this educational process we were forced to recognize the importance of the personal well-being of the individual to industry and the nation, and to take such steps to protect the health of our workers.

As a natural sequence the old, inadequate Federal Labor Laws were abandoned and new ones formulated and promulgated. The present Federal Labor Laws of Mexico are among the most advanced in the western world.

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The federal prece [illegible] is a mandatory of [illegible] individual fun [illegible] of the role of me [illegible] totally con [illegible] and modern s

MEDICAL ASPECTS

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Almost without exce [illegible] trained in foreign clinics The Southern Pacific Ra [illegible] have outstandingly gener [illegible] in their chosen specialtie [illegible] enabled us to spread t [illegible] practice to the benefit of

Our Federal Labor Law [illegible] its workers. This law pro [illegible] and certain diseases cons [illegible] obligation on the part of

In the first Railway La [illegible] duty to attend all acciden [illegible] duty and those incurred o [illegible] wise, with the exception of [illegible] the later Railway Labor

By 1929 the workers' groups had become effective and virile. They determined to eliminate the servitude in which labor had heretofore been held and to insist upon more humanitarian treatment for their members.

In this year 1929, the Union of Railway Workers demanded and were conceded the first contracts between this industry and its workers. Since then these contracts have been revised four times, in each instance to the workers' demand. In each contract revision, additional concessions have been granted labor.

As the workers' ranks [illegible] the power of productivity of their industry in the national economy, the sense inherent in that power urges to attain the capacity of industry. It required more than 20 years for the [illegible] to gain its immediate backswing, to educate labor to a practical realization of the economic and social limitations of the country.

In the medical aspect, however, our obligations to the workers have been minimally implemented. We now observe the phenomenon of the railway contracts with labor offering more extensive medical service than required by the Federal Labor Laws. For this reason the railway unions refused to accept participation in the new Federal Social Security Law, which is an experimental attempt to provide medical service, pensions and compensations for all labor on a national level.

The [illegible] with the medical aspect of our industrial [illegible] it is a continuity of the open labor market. It is to our advantage that [illegible] maintain individual health at the optimum level of efficiency. This attitude toward the role of medicine in industry is rational. The railway systems of Mexico are totally controlled by the Federal Government, which demands an efficient and modern approach to the health problem.

MEDICAL ASPECTS OF LEGAL AND CONTRACTUAL OBLIGATIONS

In 24 years as Chief Surgeon of the Ferrocarril del Pacifico, one of the two largest railway systems in Mexico, I have been privileged to take active part in the organizing of that department. Our policy in medical personnel is especially trained in all branches of medical science. Technicians are trained in their respective fields, such as X-ray, physiotherapy, laboratory, etc.

Almost without exception, these specialists and technicians have been trained in foreign clinics and hospitals, especially in those of the United States. The Southern Pacific Railway Hospitals and the University of Chicago have been outstandingly generous in receiving our promising young men for training in their own specialties. This nucleus of excellently trained young doctors has enabled us to spread throughout our organization a high concept of medical practice, to the benefit of both the worker and the nation.

Our Federal Labor law clearly defines the obligations of industry toward its workers. This law provides for treatment of accidents incurred in service and certain diseases considered as professional. It does not establish any obligation on the part of industry to the families of its employes.

In the first Railway Labor Contracts, the company accepted the responsibility to attend all accidents, both those incurred during the performance of duty, and those incurred out of service, and all illnesses, professional or otherwise, with the exception of those of a venereal character. With the signing of the latest Railway Labor Contract, the railroad accepted the treatment of

venereal disease as a gesture of social collaboration beneficial to the nation. Female employes receive obstetrical and gynecological treatment at no expense.

Medical service also includes [illegible] dependents, with certain restrictions.

At this writing we have a labor force of over 14,000 workers, distributed over approximately 2,000 kilometers [illegible] 1,200 miles. We [illegible] estimate four dependents [illegible] employe. This means [illegible] persons for whom we must be prepared to render complete medical service.

Listed as dependents are wives, unmarried daughters of any age, sons up to the age of 21 [illegible]

Medical service to dependents [illegible] consists of consultations, physical examinations and prescriptions [illegible]. Medicines and [illegible] are provided [illegible] laboratory and X-ray [illegible] supply dental [illegible] [illegible] cases.

As a gesture toward offsetting the cost of this medical attention [illegible] deduct [illegible] salary. [illegible] monthly [illegible] states currency. Despite [illegible] and various devaluations [illegible] Mexican peso with subsequent increases in the cost of medicines and equipment, this deductible sum has remained stable.

The annual [illegible] medical service [illegible] and dependents [illegible]. The annual [illegible] [illegible] more than [illegible].

ORGANIZATION OF MEDICAL DEPARTMENT

The Ferrocarril del Pacifico General Hospital is in Guadalajara. There are two small hospital units on the line. In practice these two units function as emergency centers. Although they are adequately equipped to handle all types of cases, their work is principally in traumatology, X-ray and laboratory. Patients requiring the attention of a specialist are transferred to the General Hospital where they can be more carefully observed and controlled. In addition to these two hospital units, the Medical Department has contracts with several private hospitals on the line for the hospitalization of any patient who cannot be transferred to the nearest hospital unit. We also have a small [illegible] traveling doctors who [illegible] the sections in hospital cars and track motors. This traveling service has proved invaluable in the timely treatment of minor accidents and incipient illnesses, thus obviating the necessity for later hospitalization.

The total hospital capacity is 200 beds, with an additional 50 beds for tuberculous patients. These latter are attended in a modern government sanatorium, where we have a floor reserved for our patients, who are attended by our own specialists.

MEDICAL PERSONNEL

In administrative and economic matters, the Medical Department reports to the Assistant Manager of the railway. The Hospital Department is com-

[illegible] assistant to the Chief [illegible] Superintendent of [illegible] Superintendents [illegible] nurses and personnel necessary [illegible] of the three hospital [illegible].

We have [illegible] distributed among the three hospitals in Guadalajara, Mazatlan and [illegible]. There are 29 additional [illegible] in the larger settlements [illegible] a monthly [illegible] company, [illegible] nearly [illegible]

This [illegible] remote settlements [illegible] be required.

[illegible]NIFICATION PAYMENTS

Heretofore the [illegible] has provided the sum equivalent to [illegible] days' salary as the [illegible] remuneration. Now, however, the Congress has just passed [illegible] of 1,[illegible] days' salary. This indemnification [illegible] does not, however, relieve [illegible] of the [illegible] of the [illegible] the indemnity.

Besides [illegible] the railway labor [illegible] the right of the [illegible] years [illegible] of [illegible] indemnity. An employe [illegible] of service [illegible] indemnity [illegible].

The degree of [illegible] professional accidents is [illegible] by the Chief Surgeon, based on [illegible] Labor Contracts. These tables [illegible] to permit of a just [illegible].

However, [illegible] is dissatisfied with the [illegible] to a [illegible] are [illegible] the Federal [illegible] the specialist and [illegible] the Labor Board.

If an employe [illegible] to a [illegible] accident [illegible] illness, and he [illegible] of service with [illegible] company, his contract with the [illegible] by the payment of [illegible] month's salary and [illegible] service.

The partial permanent incapacities are the most difficult with which to cope. Due to a clause in [illegible] labor contract, we have been forced to pay total indemnity and [illegible] to workers whose incapacity makes it impossible for them to continue with the work in which they were employed at the time of the accident, but whose incapacity is not incompatible with employment in another branch of railway service. In justice these cases should not be classified as totally incapacitated. [illegible]

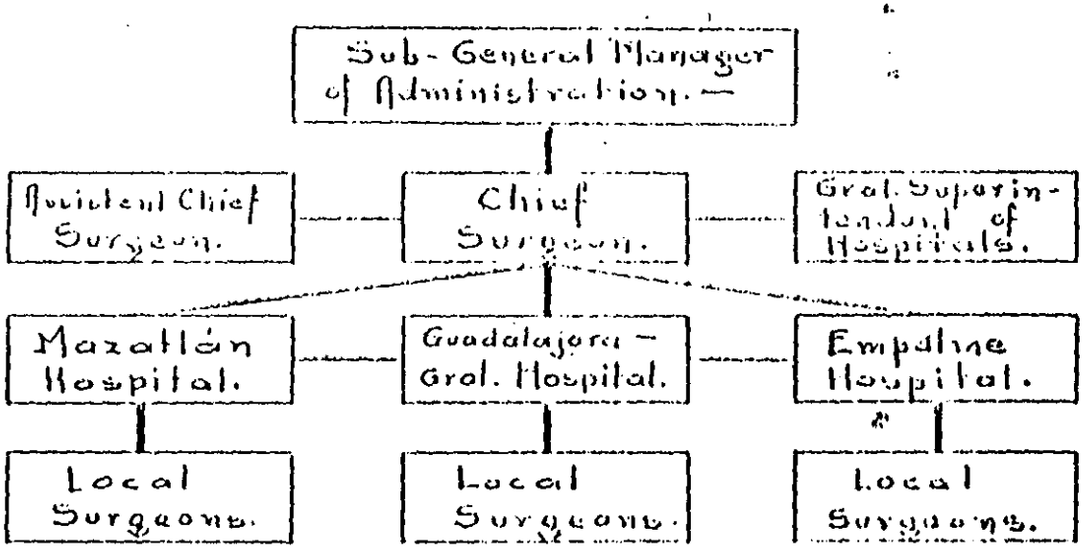
In professional disease and accidents, employes receive full salary for the entire period of treatment. All workers also have the right to two weeks sick leave a year with full salary. In the past, this latter contractual prerogative, was the occasion for much abuse on the part of employes. Frequently in order

to obtain two weeks extension of their vacation with pay, they simulated, or attempted to simulate an illness. Other cases of prolonged non-professional illness which invalidated the worker were observed, in which after the lapse of the two weeks full-pay period, the patient and his family were confronted with grave financial problems. In view of the abuse of this privilege in some cases as opposed to the actual financial necessity in others, during the discussion of the last labor contract, I suggested a modification which was unanimously accepted. This new clause reads as follows: "An employe who has not availed himself of the two weeks annual sick leave with pay, may accumulate this time totally or in part, so that if necessary because of a non-professional illness, he will receive full pay for a total of 180 days. This modification of the contract will be retroactive for a period of 10 years." The benefits of this modification have already become patent.

In Mexico we have no problem of lawsuits by the public for injuries suffered [illegible]. This phase of the railway's obligation to the public is [illegible] Federal Government. Even passengers paying a fare, but in charge [illegible] transported in the service of the Board, to cover all liability actually [illegible]. In case of accident the settlement is handled by the insurance company [illegible] the government and is entirely outside the jurisdiction of the railway companies.

The following are a few statistical projections, which I believe are self-explanatory.

FERROCARRIL del PACIFICO, S.A. de C.V.
- HOSPITAL DEPARTMENT -
- MEXICO -



FERROCARRIL DEL PACIFICO, S. A. DE C. V.
MEXICO—1956

ANNUAL PAY ROLL

	M.M.	U.S.Cy.
Total Salaries	$160,449,306	$12,835,944
Professional Accidents and Illnesses	$ 2,099,158	$ 167,933
Percentage	1.3%	
Non-Professional Accidents and Illnesses	$ 2,887,620	$ 231,010
Percentage	1.8%	

FERROCARRIL DEL PACIFICO, S. A. DE C. V.
MEXICO—1956

TOTAL HOSPITAL DAYS

65,915

Hospitalization Cost Per Day For

	M.M.	U.S.Cy.
T.B., Leprosy, and Mental Cases	$25.25	$2.02
Others	$40.90	$3.27

FERROCARRIL DEL PACIFICO, S. A. DE C. V.
MEXICO—1956

NUMBER OF PROFESSIONAL ACCIDENTS

In-Patients	784
Out-Patients	2,764
Total	3,548

FERROCARRIL DEL PACIFICO, S. A. DE C. V.
MEXICO—1956

COST PER CAPITA PROFESSIONAL PATIENT

	M.M.	U.S.Cy.
In-Patient	$392.55	$31.40
Out-Patient	$ 44.23	$ 3.54

FERROCARRIL DEL PACIFICO, S. A. DE C. V.
MEXICO—1956

COST PER CAPITA OF PROFESSIONAL ACCIDENTS

	M.M.	U.S.Cy.
In-Patients	$375.84	$30.07
Out-Patients	[illegible]	[illegible]

FERROCARRIL DEL PACIFICO, S. A. DE C. V.
MEXICO—1956

NUMBER OF PROFESSIONAL ILLNESSES

In-Patients	53
Out-Patients	496
Total	[illegible]

FERROCARRIL DEL PACIFICO, S. A. DE C. V.
MEXICO—1956

NUMBER OF NON-PROFESSIONAL ACCIDENTS

In-Patients	272
Out-Patients	1121
Total	1393

FERROCARRIL DEL PACIFICO, S. A. DE C. V.
MEXICO—1956

COST PER CAPITA, NON-PROFESSIONAL ACCIDENTS

	M.M.	U.S.Cy.
In-Patient	$556.23	$44.50
Out-Patient	$ 41.23	$ 3.34

FERROCARRIL DEL PACIFICO, S. A. DE C. V.

MEXICO—1956

PERCENTAGE OF PROFESSIONAL ACCIDENTS BY DEPARTMENTS

Departments	No. of Employes	No. of Accidents	Percentage
[illegible] Way	4,853	1,839	37.7
[illegible]	1,993	486	24.4
[illegible]	2,131	1,064	44.7
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	15	5.0
[illegible]	319	22	6.9
[illegible] and Telegraphers	257	7	2.4
[illegible]	22	0	0.0
[illegible]	[illegible]	[illegible]	[illegible]

FERROCARRIL DEL PACIFICO, S. A. DE C. V.

MEXICO—1956

NUMBER OF NON-PROFESSIONAL ILLNESSES

[illegible]	[illegible]
[illegible]	46,001
[illegible]	48,091

FERROCARRIL DEL PACIFICO, S. A. DE C. V.
MEXICO—1956

NUMBER OF T.B., LEPROSY AND MENTAL PATIENTS

In-Patients	164
Out-Patients	308
Total	472

FERROCARRIL DEL PACIFICO, S. A. DE C. V.
MEXICO—1956

COST PER PATIENT T.B., LEPROSY AND MENTAL

	M.M.	U.S.Cy.
[illegible]	$2,[illegible]	$200.18
[illegible]	$ [illegible]	$ [illegible]

FERROCARRIL DEL PACIFICO, S. A. DE C. V.
MEXICO—1956

COST PER CAPITA NON-PROFESSIONAL PATIENT

	M.M.	U.S.Cy.
[illegible]	$ 707.91	$42.96
[illegible]	$ 44.23	$ 3.54

FERROCARRIL DEL PACIFICO, S. A. DE C. V.
MEXICO—1956

COST PER PATIENT

	M.M.	U.S.Cy.
In-Patient	$ 607.93	$ 53.41
Out-Patient	$ 44.23	$ 3.54
Total Cost	$3,773,462.13	$461,576.96

FERROCARRIL DEL PACIFICO, S. A. DE C. V.

MEXICO—1956

NUMBER OF EMPLOYE'S FAMILIES ATTENDED

In-Patients	821
Out-Patients	16,388
Total	17,209

FERROCARRIL DEL PACIFICO, S. A. DE C. V.

MEXICO—1956

COST PER CAPITA EMPLOYE'S FAMILIES

	M.M.	U.S.Cy.
In-Patient	$429.14	$34.33
Out-Patient	$ 44.23	$ 3.54

FERROCARRIL DEL PACIFICO, S. A. DE C. V.

MEXICO—1956

NUMBER OF PATIENTS ATTENDED

In-Patients	4,174
Out-Patients	67,528
Total	71,702

FERROCARRIL DEL PACIFICO, S. A. DE C. V.

MEXICO—1956

AVERAGE HOSPITALIZATION DAYS

Professional Accidents	18.67 days
Non-Professional Accidents	11.08 days
Professional Illness	8.37 days
Non-Professional Illness	11.45 days
Families of Employes	9.15 days
T.B., Leprosy and Mental	92.46 days

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CHAIRMAN GOLDOWSKY: Thank you very much, Dr. Chavez, for a most interesting and informative paper on the railroads of Mexico.

We shall now proceed with the next speaker, a very patient individual. I know his patience, because on Wednesday, the day preceding our meeting, our special committee met all afternoon and from 8:00 p.m. until 12:15 a.m., and our guest was right with us, and bore with us through thick and thin.

At this time I would like to present Dr. G. Homsetsin, of the State Railways of Thailand, who will address us on "The Railway Medical Services in Thailand."

DR. G. HOMSETSIN (State Railways of Thailand): Mr. Chairman, Ladies, Gentlemen and Members of the Medical Section of the Association of American Railroads. I greatly appreciate the honor of saying a few words here today at your Thirty-Seventh Annual Meeting in the general views and railway medical services of the State Railways of Thailand. Before going into details, I should like to give you some of the descriptions of Thailand. Thailand, the name by itself means the land of freedom and the populations are called Thai. The country is situated on the North by Burma and Laos, South by British Federation Malaya and Gulf of Siam, East by Vietnam and Cambodia and West by Burma. Thailand is a wide land running from North to South having Tenasserim Range of Mountains as its backbone. The peninsula is bound West by the Indian Ocean and East by the Pacific Ocean. The size of the country is about the size of the State of Texas. The population is a little above 21,000,000 (Census taken in July 1960). The present Capital is Bangkok 1,000,000 having [illegible] International Air Center, considered one of the most Air [illegible] land now is gradually becoming the world's [illegible] Far East.

It is thought that some facts and figures concerning the State Railways of Thailand might be of interest to the participating societies and societies. Admitted that the information is not as comprehensive as it should be, because of the limited time for this preparation. It is however intended to convey a general knowledge of the State Railways System. The total mileage of the principal lines open to traffic is 3,475 kilometers (1,734 miles), including double tracks, sidings and yard tracks. With a primary duty [illegible] to serve the public both passenger and freight transport services, the State Railway has acquired 500 locomotives. Out of these, 90 per cent are steam, [illegible] and 10 per cent are Diesel electric engines. Number of rolling stock in the year 1957 are 6,500 freight wagons and 616 passenger coaches.

Prior to July 1, 1951 (B.E. 2494) the State Railways of Thailand was owned and operated by the government. It had suffered severe damage during World War II which tremendously crippled its service with [illegible]. A rapid rehabilitation was the only solution. It was then deemed if the management were put in the hands of an autonomous authority, responsible to the government through the minister of communications, it might facilitate the expeditious attainment of the ultimate aim. The government consequently promulgated the Railway Act (1951) B.E. 2194, creating the State Railways an autonomous independent organization under the Board of Railway Commissioners, appointed by the government. With various modes of transportation the State Railways yet remain the principal and effective means of transportation in Thailand. At present the State Railways employ altogether about 30,000 men and women. All railway employes and members of their families

have the advantage of the facilities provided for their welfare by the Medical Service Bureau. New facilities and modern methods of treating various diseases have been added. A new and modern railway hospital was established recently in the proximity of Makasan Workshop, and a dispensary section at the Central Headquarters was also put in service. At the present time, the medical service bureau has acquired 20 physicians and pharmacists, 25 nurses and 35 sanitary inspectors. The service is performed on a centralized basis. For medical facilities the system is divided into six divisions, each of which is supervised by the Regional Doctor. All physicians are working on a full-time scale. The first aid centers with sanitary inspectors have been appointed in various locations and their activities are under the control of the Regional Doctors. Free medicines are provided for the employes and their families except for the expensive patented medicines. (They are charged at cost prices.) The Pre-Employment examinations with basic information for proper placement of all applicants have been performed under strict regulations. The frequency and extent of the periodic re-examinations are requested and depend largely upon the circumstances of the individual workmen. Due to the shortage in number of doctors the combination with the community physicians and connections with approved hospitals are the adequate necessities. At the same time the educational program has to be available for teaching employes in operating services. First aid equipment has been provided on all trains (both passenger and freight trains). This short talk with geographical descriptions of the State Railways Medical Services will, I hope, give you a better view of Thailand. I thank you.

CHAIRMAN GOLDOWSKY: Thank you, Dr. Homesethe. I think if and when I ever visit Thailand, I will have to apologize for my language difficulties more than you have had to apologize for yours.

(There followed a general off the record discussion of Dr. Homesethe's paper on the Medical Services in Thailand.)

CHAIRMAN GOLDOWSKY: Any other questions from the floor? If not, we'll go on with our meeting. I know the hour is getting late, but I hope you will all bear with us so we can finish this session in good order.

It gives me a great deal of pleasure now to call on our next speaker, one who has been very closely associated with us for many years as our Secretary—our old friend, Steve Dewhurst, Special Assistant in the Public Relations Department of the A.A.R. in Washington. Steve will talk to us on "The Function of Public Relations in the Association of American Railroads." (Applause)

MR. H. S. DEWHURST (Special Assistant, A.A.R. Public Relations Department): Mr. Chairman, ladies and gentlemen:

Before I say anything else, I want to let you know what a great pleasure it is for me to be with you today. Mr. Henry, the Vice President of our Public Relations Department, was most pleased to have been invited to speak at this meeting. He wanted very much to join you on this occasion, but other commitments made it impossible for him to get away from Washington at this time. He asked that I express to you his sincere regrets in not being able to be here.

As I am sure most of you are aware, this is a group for which I have acquired a real fondness over the years. First of all, it meant, while I was your Secre-

...ary. Among those who have always been so ready and willing to be of ... for the common good. How true this is, is probably ... took place very shortly after the office of the Medical ... was moved from New York to Chicago in 1950. We had ... before the members of this Section in Chicago re- ... to review and bring up-to-date the recommenda- ... developed in the Section over the years.

While I had already been with the Association some eight years, I must ... surprised to find that the doctors much preferred to ... in person ... in groups of various committees ... a week ... period of months, and when the night ... early we met on Saturdays and Sundays.

... of it prior to that time, those meetings certainly ... and directed and the thinking of this group on ... railroad industry as a whole, the railroads individu- ...

... the year since I transferred to the Public Relations ... a personal pleasure to have this privilege of ... program. It has been a very constructive meeting, ... that my brief remarks would add a little something to this ... program.

... relations in the United States began on individual railroads, ... very beginning of business. It was not regarded as ... but as we look upon public ... Nevertheless, it was to be expected ... be known a little better by the general public.

... relations activities progressed until it was decided, some ... years ago, that there should be an association ... railroads, regional railroad ... and the Association of American Railroads. Dealing more ... public relations activities of the A.A.R., it was in ... that the Members of the Association authorized the establishment of ... November 1947, the Mem- ... under the ... with a handful of people ...

Having in mind the need for handling the various facets of public relations ... the greatest degree of efficiency and expertness, the A.A.R. public rela- ... was divided into sections. There are seven of these: Advertis- ... Information Service, News Service, Public Section, ... Service, and Special Studies.

The Advertising Section handles matters relating to the magazine advertising ... has ... properties with an advertising agency in this connection. ... publications in which the advertising appears are Life, Look, The Saturday Evening Post, Time, Newsweek, Nation's Business and Business Week. ... also run in trade, radio and television magazines such as Editor & Publisher and Broadcasting-Telecasting, and in various educational ... The production of exhibits, posters, booklets and cer- ... is also the responsibility of the Advertising Section.

... Agricultural Relations, the principal function of this Section ... between the railroads and agriculture. It serves to

create a better understanding between the railroads and such well-known farm groups as the American Farm Bureau Federation, the National Grange, and the National Council of Farmer Cooperatives.

The Information Section is primarily for the purpose of bringing information into the industry. It prepares and distributes to executives of all member roads a weekly news letter covering happenings in Washington that are of particular interest to the railroads. This Section also puts out press releases having to do with such matters as carloadings, earnings and equipment orders.

As the name implies, the News Service furnishes railroad information to newspaper, magazine, radio and television sources. It prepares and distributes news and feature releases. It produces several monthly publications and occasionally drafts radio, television and motion picture scripts. It develops memoranda on request by writers for use in stories and articles. In addition to these and other related activities, this Section has the responsibility of maintaining extensive photograph files.

The primary purpose of the Public Service Section is to bring railroad information to the public. It has prepared a public kit of material for distribution to high school employee counselor editors and to others with a special railroad interest. Among the newly published publications produced through this Section are the Quiz on Railroads and Railroading; American Railroads: Their Growth and Development; The Human Side of Railroading; and a Railroad Film Directory.

As might be expected, the School and College Service deals with educational materials for school and college use. It designs, prepares and distributes kits, lesson plans, booklets, charts, display pieces, slide-films and numerous other items for this particular purpose. These materials are also exhibited and distributed at conventions of teachers and librarians, and the Section handles a great many inquiries and requests from students and instructors.

The services of the Special Studies Section involve, in the main, special research, the preparation of articles for encyclopedias and books, and the publication of a publication called Railway Digest which is used extensively by speakers and writers on railroad subjects. This Section also prepares speeches on occasion and assists in various other public relations projects.

All in all, the Public Relations Department of the Association of American Railroads employs nearly every means of communication in telling the railroad story. It coordinates its activities with those of the individual railroads and the regional railroad organizations, and these efforts are supported by other groups, such as the suppliers, with a corresponding interest in making known the enterprise, the achievements and the problems of the railroads.

As I promised at the start to keep my remarks brief, I intend to do just that. Before I close, however, there is one further thought that I would like to mention at this point. Aside from large-scale programming and the over-all scope of an industry public relations activity, there is an element which is every bit as important, if not more so, and that comprises what might be called "the personal touch." I know there is no need to stress to a group such as this the value of personal contact. The impression we leave with individuals reflects not only upon ourselves but upon the companies and offices we represent. How right and how good that impression is have a great deal to do with the long-run success of any public relations program.

I want to say again what a particular pleasure it has been for me to have this opportunity to be with you and to say a few words to you at this meeting. You have my wholehearted assurance that, if we in the A.A.R. Public Relations

Department can be of assistance to you at any time, all that is necessary is for you to let us know.

Thank you very much. (Applause)

CHAIRMAN GOLDOWSKY: Thank you, Steve.

You can always depend upon Steve.

I am going to keep your [illegible] before going on to the 26th from here, in case we get out of it a little ahead of time. I think that is going to involve itself into a rather full session, and since there is a few minutes left, I would like to progress with any unfinished business that we may have.

Mr. Parker, do we have any unfinished business before we go on to the new business?

[illegible] making his way up here. I think we ought to give Frank a big hand. He has to sit through all these meetings. (Applause) And he has all the minutes of the Chairman and the Vice-Chairman, and everything that goes with it.

Frank, it's yours.

[illegible] Thank you, Mr. Chairman.

[illegible] unfinished business that I know of at this time. If anyone has anything to bring before the meeting of the group, I would be happy to have all present [illegible]

[illegible] as necessary every so often.

As much as I am here, I just wanted to acknowledge the pleasure it has been for me to work for Chairman up to this point—Dr. Bennett. I hope I have done it for him in every way that he expected, and I do want to say that I look forward to working with our new Chairman, Dr. Goldowsky.

[illegible] Dr. Chavez's visit to you.

[illegible] Mr. Parker, and have no worries. I will [illegible] to you.

We go on to new business, and I guess one of the main items under new business of the present time is our next meeting place.

[illegible] meeting this morning. Mentioned [illegible] possible locations.

I have been put on the spot a little bit with this. My good friend, Dr. [illegible] invited us to Thailand. (Laughter) I was afraid that I would [illegible] have to go through the A.M.A., but probably have to end up with the Marine Corps. I know what trouble Dick Bennett had in getting him down to the Commander.

My good friend, Dr. Chavez, has invited us to Mexico. That is not too far away.

Our Committee of Direction has given these three places for your choice: Mexico City, Mexico; Edgewater Park, Mississippi; and New Orleans, Louisiana. That would be the Edgewater Gulf Hotel at Edgewater Park and the Jung Hotel at New Orleans.

We have to decide on the meeting place, also, the dates.

I know that at that time of the year there are some conflicting meetings of the Industrial Medical Associations, and the Committee on Trauma. I think we must keep in mind our choice of place and also the possible weather. This was unseasonable weather here, the first two days. I was assured that by the management. Laughter

Any opinions from the floor?

Dr. Graham: I move for Edgewater Park.

Dr. Bennett: Mexico City.

Chairman Goldowsky: A very strong voice for Mexico City.

Member: Acapulco.

Chairman Goldowsky: Any other opinions?

[illegible] take them up in order.

How all those in favor of going to Mexico City—let's see your hands. Nine. Nine or ten say no.

All those in favor of Edgewater Park? Eleven.

All those in favor of New Orleans? Two.

Then our next meeting will be held at Edgewater Park, Mississippi. That is the Pan-American Gulf Coast at Edgewater Park, Mississippi. It was the scene of one of our previous meetings, I believe, three or four years ago.

Dr. Graham: That is the Gulf Coast, near Biloxi and the place best suited, according to the Committee on Arrangements.

Chairman Goldowsky: Then I believe it is your desire to return to the Edgewater Gulf Coast next January, with the hotel being left to the Committee on Arrangements, which will be appointed.

Now I'd like to hear some comments about the date for the meeting. Dr. Graham, I think you are more familiar with some of the dates of these active societies and things going on in Chicago.

Dr. Graham: When we met at the Edgewater Gulf the last time, the weather was fine. I thought it was very comfortable at the end of March.

Here are some suggestions from the I. C. Ken Carney will be our guest from there he can come there a lot.

Mr. Carney: That's a beautiful time of the year.

Dr. Graham: The end of March.

Chairman Goldowsky: I think we will leave it up to the Arrangements Committee to look up the dates, but it will be some time toward the end of March of next year.

Any more new business? If not, I would like to make a few remarks. I may be out of order in some of the things I say, but I have taken punishment before, and I'm willing to take it again. I might say that this is not a speech, but rather a reflection on this meeting, which has been so wonderful, from which we have received so much information.

Inasmuch as our guests are the I.C.C., I think you will all agree that when we go to a horse race, we like to speak to the horses first, and I certainly ap-

[illegible] something direct from the horse's mouth. We also heard much [illegible] and we heard much from our committee reports.

I'm sure that you will have a new form in your hands before the next meeting, a new form for all the railroads, and I sincerely hope that, no matter how [illegible] you think your form may be, you will all stick together, or we're little [illegible]

[illegible] I firmly believe that for the good established by [illegible] examination. I think [illegible] 20-20 vision, and I bet the good backs as well. [illegible] I don't think we can expect an [illegible] to do a proper examination when a railroad employe comes in [illegible] two or three hours. He has someone waiting in the [illegible] he's going to do this job—think many times he does it. [illegible] examination, blood pressure, etc.

[illegible] within the province of this body that we be more active [illegible] management. We have said that to persuade management [illegible] I think we should be the leaders. We have an [illegible] railroads as having some [illegible] have the best intentions they [illegible] and I think it's time [illegible] and tired of being told by [illegible] people. That is bunk, then we correct them. Let's [illegible] some of these things while they happen.

There are many times I am sure. I know that in many instances, certain [illegible] directors are not in the operating department man. [illegible] I've noted that for quite a while.

[illegible] I think the [illegible] as much as possible [illegible] and with the [illegible] should report to [illegible] top management, [illegible] President or Vice President of the [illegible]

At this time I'm going to appoint right here you as a committee of one to [illegible] when the resolutions of this meeting reach your hands, that you see that [illegible] has the proper [illegible] I think the Presidents can get a [illegible] of what has gone on here in the past three days, even if you have to [illegible] with an electronic multiple machine.

I would like to appoint a committee, and I will do that after I give it further [illegible] I think we should have more research within our own body. We would like to know what happens in the various areas. We'd like to know how many days a man takes to go back to work after certain accidents happen on a western railroad, and we'd probably like to know how they go back on the eastern railroads. There are many statistics, too, that we have amassed—[illegible] having good records—that I feel are going to waste, and I feel we can make more active use of that material.

We have heard much here of the persuasion of management, the persuasion of presidents and senior officers. I think we should also have a spot on the program for the persuasion of the labor organizations. I have had my ears

pinned back by them plenty of times, but I'm still going to keep [illegible] at the stone.

Nothing breaks my heart more than to take an engineer out [illegible] a coronary and have no spot for him on the railroad. I think it's a [illegible] waste of manpower, an economic waste, that we have to throw a man [illegible] pension board, and sometimes on society, to continue living that [illegible] self, his wife and his family. I fought this out with my local [illegible] sometimes I have no hesitancy when they can't see the light and I'm [illegible] be stubborn and just refuse to put back the borderline case. I [illegible] somewhere, if we [illegible] along with our local [illegible] top, and they, as well as we, can change some of the rules and [illegible] these people into a proper place in the railroad industry. [illegible] destroy a man after 25 years of service, [illegible] destroy his [illegible] railroad industry and his worth to the railroad industry.

That's enough. [illegible] I'm going to [illegible]

[illegible]

Any new business from the floor? [illegible] final item—the [illegible] The [illegible] of Necessity [illegible]

[illegible] Let's distribute [illegible] over the country.

(There followed a general [illegible] panel discussion.)

Dr. Goldowsky: Thank you gentlemen, [illegible] that very [illegible]. Is there any further business to be brought before the meeting?

Dr. Holton: I move we adjourn.

(The motion was regularly seconded, was put to a vote, and carried.)

Chairman Goldowsky: This 37th Annual Meeting is adjourned.

(The meeting adjourned at 1:2[illegible] p.m.)

OFFICERS AND PERSONNEL OF COMMITTEES OF THE MEDICAL AND SURGICAL SECTION FOR THE YEAR 1957-1958

Dr. I. Goldowsky, Chairman
Dr. M. B. Clayton, Vice-Chairman
F. J. Parker, Secretary

Committee of Direction

Dr. I. Goldowsky, Chairman
Dr. M. B. Clayton, Vice-Chairman

Terms expires in 1958)

*Dr. G. P. Cranman, Chief Surgeon, Western Pacific Railroad, [illegible] Street, San Francisco, California.

Dr. R. M. Graham, Director, Department of Medicine and Surgery, The Pullman Company, 165 North Canal St., Chicago 6, Illinois.

Dr. C. F. Holton, Chief Surgeon, Central of Georgia Railway System, Savannah, Georgia.

Dr. J. K. Stark, Chief Surgeon, Chicago & North Western Railway, 127 North Clinton Street, Chicago 6, Illinois.

Terms expires in 1959)

Dr. M. B. Clayton, Chief Surgeon, Southern Railway System, [illegible] Streets, N. W., Washington 13, D. C.

Dr. K. E. Dodd, Chief Medical Officer, Canadian National Railways, Montreal, Province of Quebec, Canada.

Dr. V. W. Hollo, Chief Surgeon, St. Louis-San Francisco Railway, St. Louis, Missouri.

Dr. J. Hubert Wagner, Chief Surgeon, Pennsylvania & Lake Erie Railroad, [illegible] William Penn Place, Pittsburgh, Pennsylvania.

Terms expires in 1960)

Dr. R. J. Bennett, Chief Surgeon, Elgin, Joliet and Eastern Railway, 208 South LaSalle St., Chicago, Illinois.

Dr. I. Goldowsky, Medical Director, Central Railroad Company of New Jersey, Jersey City, New Jersey.

Dr. W. E. Mobley, Chief Surgeon, Erie Railroad, 908 Republic Building, Cleveland 15, Ohio.

Dr. B. W. Stockwell, Chief Surgeon, Detroit and Toledo Shore Line Railroad, 3919 John R. Street, Detroit 1, Michigan.

Committee on Disability and Rehabilitation

Dr. James K. Stark (Chairman), Chief Surgeon, Chicago & North Western Railway, 127 North Clinton Street, Chicago 6, Illinois.

Dr. J. F. DePree, Chief Surgeon (Lines West), Chicago, Milwaukee, St. Paul & Pacific Railroad, 1660 Medical and Dental Building, Seattle 1, Washington.

* Appointed to fill the unexpired term of Dr. W. W. Washburn.

Dr. S. D. [illegible], Medical and Surgical Director, Baltimore & Ohio Railroad, B. & O. Terminal Building, Room 217, Baltimore 1, Maryland.
Dr. J. [illegible], Medical Director, New York, Chicago & St. Louis Railroad, Terminal Tower, Cleveland 1, Ohio.
Dr. R. S. [illegible], Chief Surgeon, Missouri-Kansas-Texas Railroad, St. Louis 1, Missouri.
Dr. [illegible], Chief Surgeon, Soo Line Railroad, 1433 Northwestern Bank Building, Minneapolis 2, Minnesota.
Dr. [illegible], Chief of Medical Services, Canadian Pacific Railway, [illegible], Montreal, Que., Canada.

Committee on Trauma

Dr. [illegible], (Chairman), Chief Surgeon, Detroit & Toledo Shore Line Railroad, [illegible], Chief Surgeon, Columbus & Toledo Division, Ohio Central Lines, [illegible], Ohio.
Dr. [illegible], Chief Surgeon, Nashville, Chattanooga & St. Louis Railway, [illegible], Nashville 4, Tennessee.
Dr. [illegible], Chief Surgeon, Texas & New Orleans Railroad, [illegible], Texas.
Dr. [illegible], Chief Surgeon, Central of Georgia Railway, Savannah, Georgia.
Dr. [illegible], Chief Surgeon, Chesapeake & Ohio Railway, [illegible], Richmond 19, Virginia.
Dr. [illegible], Chief Surgeon, [illegible], Chicago, Illinois.

Committee on Developments Resulting from Physical Examinations

Dr. [illegible], (Chairman), Chief Surgeon, Colorado & Southern Railway, [illegible], Denver, Colorado.
Dr. [illegible], Chief Medical Examiner, Chesapeake & Ohio Railway, [illegible], West Virginia.
Dr. [illegible], Chief Surgeon, Northern Pacific Railway, St. Paul 1, Minnesota.
Dr. [illegible], Chief Surgeon, Boston & Maine Railroad, Boston, Massachusetts.
Dr. [illegible], Chief Surgeon, Chicago, Rock Island & Pacific Railway, [illegible], Illinois.
Dr. [illegible], Chief Surgeon, Chicago & Eastern Illinois Railroad, 901 [illegible], Chicago, Illinois.

Committee on Medical Aspects of Air Conditioning of Cars

Dr. [illegible], (Chairman), Director, Department of Medicine and Surgery, The Pullman Company, 165 North Canal Street, Chicago, Illinois.
Dr. [illegible], Chief Surgeon, Southern Railway System, [illegible], Washington 13, D. C.
Dr. [illegible], Chief Medical Officer, Canadian National Railways, [illegible], Canada.

Dr. E. C. [illegible], Surgeon
Dr. V. W. [illegible], Missouri
Dr. [illegible]
Dr. [illegible], Chief Surgeon
Dr. [illegible], Director
Dr. M. B. [illegible], Surgeon
Dr. A. M. [illegible], North
Dr. W. E. [illegible], Building
Dr. R. J. [illegible], South L
Dr. I. [illegible], Jersey,
Dr. Harvey [illegible], Building

Committee on First Aid

Dr. E. C. [illegible], Chief Surgeon, Illinois Central Railroad, 5900 Stony Island Avenue, Chicago, Illinois.

Dr. V. W. Hollo, Chief Surgeon, St. Louis-San Francisco Railway, St. Louis, Missouri.

Medical Film Committee

[illegible]

[illegible] W. [illegible], Medical Officer, Western Pacific and Missouri Pacific, [illegible] Maryland.

[illegible] Chairman, Assistant Western Region Medical Director, Union Pacific Railroad.

Dr. [illegible], Medical Director, Chicago & Eastern Illinois Railway, [illegible], Illinois.

[illegible] Assistant Director, Office of Defense Transportation, 30 [illegible] Boulevard, Chicago, Illinois.

[illegible]

Advisory Members from Committee on Practice

[illegible] Chief Surgeon, Texas & Pacific Railway, [illegible] Texas.

[illegible] Department of Medicine and Surgery, The Pullman Company, [illegible] Canal Street, Chicago, Illinois.

Dr. V. W. Hollo, Chief Surgeon, St. Louis-San Francisco Railway, St. Louis, Missouri.

Representatives of the Medical and Surgical Section on the Joint Committee on Railway Sanitation

[illegible] Chairman, Joint Committee on Railway Sanitation, Assistant Chief Surgeon, Illinois Central System, 135 East 11th Place, Chicago 6, Illinois.

Dr. M. G. [illegible], Chief Surgeon, Southern Railway System, Cincinnati and K. [illegible], N. W. [illegible], Washington, D. C.

M. W. [illegible], Assistant Medical Director, Pennsylvania Railroad, 15 [illegible] Philadelphia 4, Pennsylvania.

Representatives of the Medical and Surgical Section on the Special Medical-Legal Research Committee

[illegible] Chief Surgeon, Erie Railroad, The Rapanos Building, Cleveland, Ohio.

Dr. R. J. Bennett, Chief Surgeon, Elgin, Joliet and Eastern Railway, 208 South LaSalle Street, Chicago, Illinois.

Dr. I. Goldwasser, Medical Director, Central Railroad Company of New Jersey, Jersey City, New Jersey. (Ex-Officio)

Dr. Harvey Nelson, Chief Surgeon, Soo Line Railroad, 1432 Medical Arts Building, Minneapolis, Minnesota.