Interstate Commerce Commission

Washington, D.C. 20423

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-Eighth Annual Meeting of the Medical and Surgical Section, held at The Edgewater Gulf Hotel, Edgewater Park, MS, March 24-26, 1958, 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-EIGHTH ANNUAL MEETING

OF THE

MEDICAL AND SURGICAL SECTION

EDGEWATER PARK, MISSISSIPPI

MARCH 24-26, 1958

PROCEEDINGS

OF THE

THIRTY-EIGHTH ANNUAL MEETING

OF THE

Association of American Railroads

MEDICAL AND SURGICAL SECTION

HELD AT THE

EDGEWATER GULF HOTEL
EDGEWATER PARK, MISSISSIPPI
MARCH 24-26, 1958

INDEX

ASSO

Daniel P.
Gregory S
Walter J. I
William M
R. G. Ma
A. R. Sch
Depar
W. M. Ke
P. A. Holl
J. Elmer M
Robert S. H
S. J. Strong
R. E. Keefe

W. T. Farie
D. C.
R. L. Dearm
Harry A. Del
F. G. Gurley,
Topeka
Ben W. Heine
Illinois.
Clark Hunger
Missouri.
D. B. Jenks, P
Illinois.
W. A. Johnsto
P. B. McGinn
chusetts.
H. C. Murph
Burlingto
A. E. Perlman,
W. Thomas Ri
Carolina
D. J. Russell, P
H. E. Simpson,
John W. Smith,
A. E. Stoddard,
J. M. Symes, Pr
John E. Tilford
Kentucky.
W. J. Tuohy, Pr
H. W. Von Willer
L. L. White, Ch
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ASSOCIATION OF AMERICAN RAILROADS

(March, 1958)

Officers

Daniel P. Loomis, President.
Gregory S. Prince, Vice-President and General Counsel.
Walter J. Little, Vice-President.
William M. Moloney, General Solicitor.
R. G. May, Vice-President (Operations and Maintenance Department).
A. R. Seder, Vice President (Finance, Accounting, Taxation and Valuation Department).
W. M. Keller, Vice President (Research).
P. A. Hollar, Vice-President—Assistant to President.
J. Elmer Monroe, Vice-President and Director (Bureau of Railway Economics).
Robert S. Henry, Vice-President (Public Relations Department).
S. J. Strong, Secretary-Treasurer.
R. E. Keefer, Assistant Secretary-Treasurer.

Board of Directors

W. T. Faricy, Chairman (ex-officio), Transportation Building, Washington 6, D. C.
R. L. Dearmont, President, Missouri Pacific Lines, St. Louis, Missouri.
Harry A. DeButts, President, Southern Railway System, Washington, D. C.
F. G. Gurley, Chairman of the Board and Chief Executive Officer, Atchison, Topeka & Santa Fe Railway, Chicago, Illinois.
Ben W. Heineman, Chairman, Chicago and North Western Railway, Chicago 6, Illinois.
Clark Hungerford, President, St. Louis-San Francisco Railway, St. Louis, Missouri.
D. B. Jenks, President, Chicago, Rock Island and Pacific Railroad, Chicago, Illinois.
W. A. Johnston, President, Illinois Central Railroad, Chicago, Illinois.
P. B. McGinnis, President, Boston and Maine Railroad, Boston 11, Massachusetts.
H. C. Murphy, President and Chairman, Executive Committee, Chicago, Burlington & Quincy Railroad, Chicago 6, Illinois.
A. E. Perlman, President, New York Central System, New York, New York.
W. Thomas Rice, President, Atlantic Coast Line Railroad, Wilmington, North Carolina.
D. J. Russell, President, Southern Pacific Company, San Francisco, California.
H. E. Simpson, President, Baltimore & Ohio Railroad, Baltimore, Maryland.
John W. Smith, President, Seaboard Air Line Railroad, Norfolk, Virginia.
A. E. Stoddard, President, Union Pacific Railroad, Omaha, Nebraska.
J. M. Symes, President, Pennsylvania Railroad, Philadelphia, Pennsylvania.
John E. Tilford, President, Louisville & Nashville Railroad, Louisville, Kentucky.
W. J. Tuohy, President, Chesapeake and Ohio Railway, Cleveland 1, Ohio.
H. W. Von Willer, President, Erie Railroad, Cleveland 15, Ohio.
L. L. White, Chairman of the Board, New York, Chicago & St. Louis Railroad, Cleveland 1, Ohio.

OPERATIONS AND MAINTENANCE DEPARTMENT

R. G. May, Vice-President

OPERATING-TRANSPORTATION DIVISION

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

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

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

(Term 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. Mishler, Chief Surgeon, Erie Railroad, 608 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. 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, 1656 Medical and Dental Bldg., Seattle 1, Washington.

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Dr. K. E. Dowd, Chief Medical Officer, Canadian National Railways, Montreal, Que., Canada.
Dr. V. W. Hobo, Chief Surgeon, St. Louis-San Francisco Railway, St. Louis, Missouri.
Dr. J. Heber Wagner, Chief Surgeon, Pennsylvania & Lake Erie Railroad, 525 William Penn Place, Pittsburgh, Pennsylvania.

(Term 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. Mishler, Chief Surgeon, Erie Railroad, 608 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

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Dr. J. F. DePree, Chief Surgeon (Lines West), Chicago, Milwaukee, St. Paul & Pacific Railroad, 1656 Medical and Dental Bldg., Seattle 1, Washington.

Dr. S. M. English, M
B. & O. Central
Dr. J. W. Houk, Me
Terminal Tower,
Dr. R. S. Kieffer, Ch
Missouri.
Dr. Harvey Nelson,
Building, Minne
Dr. G. Earle Wight,
Windsor Station,

Dr. B. W. Stockwell
Railroad, 700 De
Dr. R. G. Carothers,
Railway, Cincinn
Dr. Duncan Eve, Chie
2001 Hayes Stree
Dr. J. R. Gandy, Chie
Texas.
Dr. C. F. Holton, Ch
Georgia.
Dr. Southgate Leigh,
Box 1620, Richmo
Dr. W. E. Mishler, C
Cleveland 15, Ohio

Committee on Deve

Dr. W. J. Longeway (C
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Dr. J. J. Brandabur, C
Huntington, West V
Dr. B. I. Derauf, Ch
Minnesota.
Dr. J. R. Knowles,
Massachusetts.
Dr. J. M. L. Jensen, Ch
Chicago, Illinois.
Dr. R. S. Westline, Chi
West 63rd Street, C
(One Vacancy)

Committee on

Dr. R. M. Graham (Chair
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Dr. M. B. Clayton, Chie
Streets, N.W., Washi
Dr. K. E. Dowd, Chie
Montreal, Que., Can

Dr. E. C. Olson (Chairm
Stony Island Avenue,

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. Kieffer, Chief Surgeon, Missouri-Kansas-Texas Railroad, St. Louis 1, Missouri.
Dr. Harvey Nelson, Chief Surgeon, Soo Line Railroad, 1451 Medical Arts Building, Minneapolis 2, Minnesota.
Dr. G. Earle Wight, 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, 700 Doctors Building, 3919 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, 2001 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, P. O. Box 1220, Richmond 13, Virginia.
Dr. W. E. Miehler, Chief Surgeon, Erie Railroad, 968 Republic Building, Cleveland 15, Ohio.

Committee on Developments Resulting from Physical Examinations

Dr. W. J. Longeway (Chairman), Chief Surgeon, Colorado & Southern Railway, 520 Metropolitan Building, Denver, Colorado.
Dr. J. J. Brandfon, Chief Medical Examiner, Chesapeake & Ohio Railway, Huntington, West Virginia.
Dr. B. L. Derow, 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. R. S. Westhue, Chief Surgeon, Chicago & Eastern Illinois Railroad, 334 West 63rd Street, Chicago, Illinois.
(One Vacancy)

Committee on Medical Aspects of Air Conditioning of Cars

Dr. R. M. Graham (Chairman), Director, Department of Medicine and Sanitation, The Pullman Company, 165 North Canal Street, Chicago 6, 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, 5800 Stony Island Avenue, Chicago, Illinois.

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

Medical Film Committee

Dr. R. S. Kieffer (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. Nygood, Chief Medical Examiner, Chicago & North Western Railway, 127 North Clinton Street, Chicago 6, Illinois.

Dr. J. R. Winston, System Medical Director, Atchison, Topeka & Santa Fe Railway, 80 E. Jackson Boulevard, Chicago, Illinois.

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, 165 North 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

Dr. R. M. Graham (Chairman, Joint Committee on Railway Sanitation), Director, Department of Medicine and Sanitation, The Pullman Company, 165 North Canal Street, Chicago, Illinois.

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

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

Representatives of the Medical and Surgical Section on the Special Medical-Legal Research Committee

Dr. W. E. Mishler (Chairman), Chief Surgeon, Erie Railroad, 608 Republic Building, Cleveland 15, Ohio.

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

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

Dr. Harvey Nelson, Chief Surgeon, Soo Line Railroad, 1453 Medical Arts Building, Minneapolis 2, Minnesota.

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 will 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.

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(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 conditions 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
Report 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.

ASSOCIATIO

MEDI

The following were pr

Members

Atchison, Topeka & S... way.....

Atlanta & St. Andrews B...
Alton & Southern Railroad
Bamberger Railroad.....
Bangor & Aroostook Railr
Bessemer & Lake Erie Rai
Birmingham Southern Rai

Boston & Maine Railroad...

Buffalo Creek Railway.....
Canadian National Railway
Canadian Pacific Railway...

Central of Georgia Railway
Central Railroad of New Je
Chesapeake & Ohio Railway

Chicago, Burlington & Q... road.....

Chicago, Milwaukee, St. Pau... Railroad.....

Chicago & North Western R
Chicago, Rock Island & Pa... road.....
Chicago, South Shore & So... Railroad.....
Cotton Belt Railway.....

ASSOCIATION OF AMERICAN RAILROADS

MEDICAL AND SURGICAL SECTION

Edgewater Gulf Hotel
Edgewater Park, Mississippi
March 24-26, 1958

The following were present:

Members	Representatives
Atchison, Topeka & Santa Fe Railway	Dr. J. R. Winston, Medical Director, System. Dr. G. Wendell Olson, Local Surgeon.
Atlanta & St. Andrews Bay Railway	Dr. John T. Ellis.
Alton & Southern Railroad	Dr. V. P. Siegel, Medical Director.
Bamberger Railroad	Dr. Spencer Wright, Surgeon, Director.
Bangor & Aroostook Railroad	Dr. J. H. Johnson, Chief Surgeon.
Bessemer & Lake Erie Railroad	Dr. J. H. Wagner, Chief Surgeon.
Birmingham Southern Railroad	Dr. C. L. Yelton, Chief, Orthopedic Surgery.
Boston & Maine Railroad	Dr. J. R. Knowles, Chief Medical Consultant.
Buffalo Creek Railway	Dr. W. E. Mishler, Chief Surgeon.
Canadian National Railways	Dr. K. L. 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.
Chesapeake & Ohio Railway	Mr. J. J. Snyder, Special Representative.
Chicago, Burlington & Quincy Railroad	Dr. R. B. Kepner, Chief Medical Officer.
Chicago, Milwaukee, St. Paul & Pacific Railroad	Dr. R. Householder, Chief Surgeon, (Lines East).
Chicago & North Western Railway	Dr. J. K. Stack, Chief Surgeon.
Chicago, Rock Island & Pacific Railroad	Dr. J. M. L. Jensen, Chief Surgeon.
Chicago, South Shore & South Bend Railroad	Mr. J. M. Seabright, Claims Attorney.
Cotton Belt Railway	Dr. William Hibbitts, Chief Surgeon.

Members	Representatives
Delaware, Lackawanna & Western Railroad	Dr. J. O. MacLean, Chief Surgeon.
Detroit Terminal Railroad	Dr. B. W. Stockwell, Chief Surgeon.
Detroit & Toledo Shore Line Railroad	Dr. B. W. Stockwell, Chief Surgeon.
Elgin, Joliet & Eastern Railway	Dr. R. J. Bennett, Chief Surgeon. Col. V. S. Adkins, General Claims Agent. Mr. H. L. Hackbert, Attorney at Law.
Erie Railroad	Dr. W. E. Mishler, Chief Surgeon.
Grand Trunk Western Railway	Dr. K. E. Dowd, Chief Medical Officer. Dr. B. W. Stockwell, Chief Surgeon.
Illinois Central Railroad	Dr. E. C. Olson, Chief Surgeon.
Illinois Terminal Railroad	Dr. J. A. Lembeck, Medical Assistant to President.
Kansas City Terminal Railway	Dr. G. Owens, Chief Surgeon.
Lehigh Valley Railroad	Dr. J. S. Niles, Jr., Chief Surgeon.
Louisville & Nashville Railroad	Dr. Duncan Eve, Chief Surgeon.
Missouri-Kansas-Texas Lines	Dr. R. S. Kieffer, Chief Surgeon.
Missouri Pacific Railroad	Dr. J. A. Lembeck, Medical Assistant to President.
Monon Railroad	Dr. L. T. Stahl, Chief Surgeon.
New York Central System	Dr. R. A. Johnson, Medical Director.
Norfolk & Western Railroad	Dr. M. P. Moore, Medical Director.
Northern Pacific Railway	Dr. B. I. Derauf, Chief Surgeon.
Pullman Company	Dr. R. M. Graham, Director, Medicine and Sanitation.
Seaboard Air Line Railroad	Dr. Southgate Leigh, Jr., Chief Surgeon.
Soo Line Railroad	Dr. Harvey Nelson, Chief Surgeon.
Southern Pacific Company	Dr. V. M. Strange, Chief Surgeon.
Southern Railway	Dr. M. B. Clayton, Chief Surgeon.
St. Louis-San Francisco Railway	Dr. V. W. Hollo, Chief Surgeon.
Terminal Railroad Association of St. Louis	Dr. J. A. Lembeck, Medical Assistant to President.
Union Pacific Railroad	Dr. W. Bale, District Surgeon. Dr. J. O. Clanin. Dr. E. M. Pettis. Dr. R. O. Porter, Surgeon. Dr. Spencer Wright, Consultant.
Western Pacific Railroad	Dr. G. F. Cushman, Chief Surgeon.
Winston-Salem Southbound Railway	Dr. L. Shaffner, 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. 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.
Baylor Medical College	Dr. E. Stanley Crawford, Assistant Professor of Surgery.
Central of Georgia Railway Hospital	Dr. J. K. Quattlebaum.
Railroad Retirement Board	Mr. E. E. Koch, Assistant Director of Unemployment and Sickness Insurance.

MONDAY MORNING SESSION

March 24, 1958

The Thirty-Eighth Annual Meeting of the Medical and Surgical Section, Association of American Railroads, convened in the Edgewater Gulf Hotel, Edgewater Park, Mississippi, at nine-thirty a.m., Chairman Ira Goldowsky, Medical Director, Central Railroad Company of New Jersey, Jersey City, New Jersey, presiding.

CHAIRMAN GOLDOWSKY: I will now call this Thirty-Eighth Meeting of the Medical and Surgical Section of the Association of American Railroads to order.

The first item on the agenda is announcements, and I do have a few.

I have a telegram here from Doctor Stack:

"Unavoidably detained: please arrange
my report for Tuesday instead of Monday."

We do have a letter here from Doctor Bunten, Atlantic Coast Line, expressing his regrets at not being with us here at Edgewater Park for the reason that the Annual Meeting of the Atlantic Coast Line Association is held in Nassau at this time. Maybe we should have been in Nassau.

The next item I see on the program is Address of the Chairman, so we won't hold up any longer. I will go ahead with that, but I never do know why they make these things so big.

Ladies, Honored Guests, and Colleagues:

I bid you welcome to the Thirty-Eighth Annual Meeting of the Medical and Surgical Section of the Association of American Railroads. I hope by this morning you have all settled down and are comfortably situated. If the Southland will provide nice weather, our Arrangements Committee and Committee of Direction can assure you of an interesting meeting.

In the first draft of the program that our good Secretary sent me, he had noted Item No. 3 as "Remarks of the Chairman." Now, at the final printing, I see he has changed it to the "Address of the Chairman." As my address is already known to all of you, I am going to stay with the original and make this "Remarks of the Chairman."

What better remarks can I make than to give you a summary of my Trusteeship of this honored position for the past year and my hopes for the future.

I am reminded of the story of some Brown University students visiting Chief Justice Hughes in Washington, who was a Brown alumnus. They expressed a desire to see the Government in action. He asked them did they spell it as one word or two words? Your Medical and Surgical Section has been "in action," spelled as two words, though your Chairman was forced into "inaction," spelled as one word, for nearly five months. I commuted between Jersey City and Chicago with our Secretary during this time by mail and phone. I am sure by today Frank Parker has classed me as the No. 1 Pest or Worry Wart.

Before this meeting, having learned that snows had left Savannah and points South, I took further rest on the West Coast of Florida. The snow had left, but the coolness stayed. While resting, my thoughts were of this Section and this meeting. Even "Remarks" should have a title. I decided on: "Where Have We Been—Where Are We Going?"

The years have brought a complete change in the thinking of the Industrial Physician and Railroad Physician. Years ago, I will even say at the start of this august section, the Railroad Physician was a "necessary evil." Something had to be done for the care of the injured railroad employe. We were

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an expense to management and no doubt thoroughly disliked by the employes and Brotherhoods. Education of management and the good care of the injured have changed many attitudes, but it has been slow work.

Years ago we were content to care for the injured employe—today working with our Safety Section and thinking with them, our aim is to prevent accidents. Not one of us want to see a single employe brought to our departments injured. As of old, we are the only profession looking and aiming to put itself out of business.

After the last meeting at Greenbrier, letters were sent to the management of all railroads who did not have a representative present, informing them of our aims and the necessity of one hundred per cent attendance. It was a nice letter. Frank Parker wrote it. I am afraid that my words would have been sharper than Frank's; as he knows how I feel on the subject, he didn't wait to hear how I wanted the letter written. Frank said he had a good response from the letter. I am going to wait to hear the attendance figures. It is hard for me to conceive of any railroad management reading the Proceedings of our Greenbrier meeting and the warnings that were given to the railroads and what was accomplished at that meeting, not sending a representative to this meeting or any future meeting. To me it means that they do not read the Proceedings of the meetings, or they still class us as a "necessary evil."

Your Committee of Direction met twice to consider problems that arose during the year and to prepare for this meeting. Once they were kind enough to come to New York for a meeting because of my inability to make the trip to Chicago. To the Committee of Direction, thank you for one hundred per cent cooperation and all your help.

Your Committee on Disability and Rehabilitation, under Chairman J. K. Stack, had meetings and are presenting recommendations for revisions to be voted upon at this meeting. Much has been done in joint session to prepare the workings and overlapping of this Committee and the Committee on Developments Resulting from Physical Examinations, and the Committee on First Aid.

Your Committee on Developments Resulting from Physical Examinations has worked hard under Chairman Dr. W. J. Longeway to present for your consideration a revised set of rules and regulations for physical examinations, with a new Examination form to standardize a system for the entire railroad industry.

I am sorry to have to say that Dr. and Mrs. Longeway are not with us for the first time in many years representing the Colorado & Southern Railroad, Doctor Longeway having suffered a coronary attack on March 1st. I am happy to say he is doing nicely, and I am sure you all join me in sending him our best wishes for a speedy recovery.

Your Committee on Trauma has met under the direction of Dr. B. W. Stockwell to keep us up to date and informed in the latest on treatment in trauma.

Under the direction of Dr. R. M. Graham, the Committee on Medical Aspects of Air Conditioning of Cars and its problems is ready to keep you up to date.

The Committee on First Aid under Chairman E. C. Olson, is presenting for your consideration a revision of the First Aid Manual.

The Committee on Medical Films with Chairman R. S. Kieffer is actively quiescent, not because they want to be, but rather because they have been forced into inaction.

Your Committee on Railway Sanitation under the direction of Chairman R. M. Graham is ever cognizant of this important problem, and I am sure will give you the latest advice on this subject.

All the proposed revisions have been sent you in time for leisurely study in that we would not have to take valuable time from our meeting in having them read here today. I hope you have all your comments ready for the discussion period before voting on the proposals.

I have left the following committee last because it is an entirely new committee. I have always felt with the mass of Railroad Medical Department Statistics, experience and common problems on hand, whether we be from the East or West, North or South, Canada or Mexico, that much could be done to co-ordinate our common problems. Much research could be done not only on medical subjects, *per se*, but on joint medical-legal problems.

After much discussion with our guest and ever-helpful Ken Carney, he took this matter up with the claim-legal group of the Association of American Railroads, and they were most receptive to the idea. They appointed a committee, and I appointed a committee from our Section. You will learn the committee members and what has transpired so far this year from the Chairman of our Committee, Doctor W. E. Mishler.

"To Doctor E. C. Olson, Chief Surgeon, Illinois Central Railroad, and his Committee, our combined thanks for his fine work in preparing the one hundred and one details necessary for this meeting, and helping me contact some of our guest speakers. Please stand up, Doctor Olson, and take a bow. (Applause)

This all tells us of "Where We Have Been." Now, "Where Are We Going—What of the Future?"

More education of management to show them we are not entirely on the "red side" of the ledger, that our efforts produce hundreds of thousands of dollars of saving. The rejected applicant for employment with a hernia or weak back is our black side of the ledger. Our periodical examination that turns up an employe with bad vision or a bad heart, again is our black side of the ledger. Further education of labor organizations and labor itself, that the job we are doing is for their benefit, that a healthy employe is one that has earning capacity. We are not looking to take employes out of service. Our job is to help keep them fit so that they can continue in service.

There is no department on any railroad that offers a better liaison between management and labor than does a well-organized and proper-functioning medical department.

When I read of Aviation Medicine, testing volunteers for space travel, I know that they are preparing for the future regardless of how many years it may be away.

In this nuclear age, are we preparing for the future? I am sure, though it may be years away, the railroads will still be here, despite all the bad times and voices to the contrary. Are we preparing for the atomic locomotive? Are we studying the new dermatitis problem of atomic fuel, or the hazards of "loose atomic energy" after a collision? We will no doubt be transporting various types of thermo-nuclear energy in our freight cars. What are the hazards? What are the builders of our locomotives planning for the future—speeds of two hundred miles per hour? Maybe! Are we planning for the new hazards of speed to our engine, train crews and passengers?

Let us prepare now. Let us not be complacent and figure to ourselves, "It will not happen in our time." The way things are happening, we all may

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SECRETARY PARKER: lined the years activities helps me considerably. our letter to management in the Section, wherever p the suggestions of both D we were able to draft a l sentation in the Section new doctors to our list of

Of the several doctors Medical Director for the Chief Surgeon for the M sentation. The balance fessional representatives.

At this time, if you ple ments. (Announcements)

awaken to a surprise before it becomes time for us to retire. So, I plead my case. Let us get out of our rocking chairs, set up the necessary committees for research on these problems, and be prepared.

Let our actions and planning be uniform for the industry. Let us help each other to aid the industry as a whole, and let no man feel or think that he can keep himself aloof, that this department is the best or better than any other in the industry, and that he can go it alone.

That is enough for me. There is much work to be done this morning. Bear with me as you have for the past fifteen minutes. Address the Chair if you wish to speak; all will get a chance, but it will run more smoothly if we speak one at a time. When you get up to speak, please, for the benefit of the stenographer, announce your name and the name of the railroad you represent.

I am just going to take a minute, because I am awfully, awfully happy here today that I see so many new faces. I am going to digress and do something a little different than has been done before. I want all those who are new here today, new with our Section or meeting for the first time, to raise their hand.

Now, I am going to start over here. Let's start right in the front row. I would like each of you to get up, announce your name, and the name of the railroad you represent. Let's not feel as I did at the first meeting I attended. I was here three days, and nobody knew I came in and nobody knew I got out of here.

Let's stand up.

. . . . . Thereupon, new members to the meeting rose and announced their names. . . . .

So, maybe Frank's letter did do some good. I know he is going to give you a report following me, and I am sure he will have some good things to tell you. (Announcements)

Those that are here for the first time, please don't be backward, don't be hesitant, let your hair down. If you see somebody you don't know, just go over and shake hands and introduce yourself. Let's all get to know each other better. (Applause)

Number four, the most wonderful guy who helped me while I was Inactive for five months, I will have the report from our Secretary, Frank J. Parker.

I would like you to meet somebody else. You know, our Secretary is big enough to have a secretary. But, he is outside doing the work.

SECRETARY PARKER: Thank you Dr. Goldowsky. Our Chairman has outlined the years activities of the Section rather thoroughly in his address, which helps me considerably. One item Dr. Goldowsky mentioned, that concerning our letter to management requesting professional representation be appointed in the Section, wherever possible, did meet with a great deal of success. Through the suggestions of both Dr. Goldowsky and Dr. Bennett, our former Chairman, we were able to draft a letter which resulted in increasing professional representation in the Section by approximately ten per cent. This added twelve new doctors to our list of representatives in the Section.

Of the several doctors who stood up a moment ago, Dr. R. A. Johnson, Medical Director for the New York Central Railroad, and Dr. E. T. Stahl, Chief Surgeon for the Monon Railroad, replaced former professional representation. The balance are all new members who have replaced non-professional representatives.

At this time, if you please I would like to make a few additional announcements. (Announcements)

Please feel free to call upon Bob Rose or myself for any assistance we may be able to render during your stay here at Edgewater Park. Thank you. (Applause)

CHAIRMAN GOLDOWSKY: Our next item was supposed to be the report of Doctor Stack. Having received his telegram, I did make a shift, and at this time I would like to introduce Doctor Hollo, Chief Surgeon, St. Louis-San Francisco Railway, who I was kind enough to send to the International Union of Railway Medical Officers, in Paris, September 24-30, 1957. He does have a report to give us which was requested by the powers-that-be in the Association.

DR. V. W. HOLLO (Chief Surgeon, St. Louis-San Francisco Railway, St. Louis, Missouri): Mr. Chairman and Members of the Association of American Railroads:

At noontime on Thursday, September 19, 1957, my wife and I sailed from New York aboard the Liner SS United States. After an exciting voyage aboard ship, we docked at Le Havre, France, Tuesday morning, September 24th, and on boat-train arrived in Paris that afternoon.

At seven o'clock, Wednesday morning, September 25th, we took a taxi to Centre Marcelin Berthelot 28 bis, rue St-Dominique, Paris, where we both registered for the Seventh Congress of the Union Internationale Des Services Medicaux Des Chemins De Fer.

It is customary for the wives and family of the delegates to register as well as the delegate. Each person was given a portfolio containing the program of the meeting as well as special invitations to well-planned entertainment for the delegates and their families.

Doctor Ortega, the Secretary General, was on hand to extend a most cordial welcome to us and expressed his sincere thanks for having an official observer from the United States attend for the first time this year.

I was then formally introduced to all the delegates from other countries who are members of the Congress. There were 122 physicians attending the meeting. The only countries in Europe who are not members are Bolgaria and Romania. Both the United States and Russia had only official observers attend this year.

The Congress in general made it known to me that it was most anxious for the United States to become a participating member of the Union Internationale Des Services Medicaux Des Chemins de Fer, and asked me as an official observer to carry this invitation back to the States.

After meeting delegates and exchanging greetings, the meeting was formally opened at eleven o'clock by talk by Mr. Armand, the President of the Union and President of the Administrative Council. All delegates, observers, their wives and families attended this session which was heard (by means of interpreters and earphones) in four languages, English, French, Italian and German.

The meeting went from Monday through Sunday. The program was very interesting and thorough. Under separate cover you will all have enclosed in brief outline form statutes of the International Union of Railway Medical Services which are self-explanatory, and the English translation of papers as given.

However, I might bring special attention to the fact that the meetings are held in different countries each year. The country in which the meeting is held pays all the expenses for the entertainment of the delegates and their wives while at the meeting. The delegate's own country pays his transportation and hotel expense.

The medical presentations at the Paris Congress dealt with the application of psychotechnical services in pre-employment examinations for the purpose of properly recruiting the best suited individuals for various jobs.

However, I would like to inject a thought here that all railroads of the European countries and foreign countries are nationally owned.

The aim of the psychotechnical tests is to bring out the individuals special qualities, both good and bad. They help to reveal inadequate personalities and inability to co-ordinate both mentally and physically. The tests, in some degree, are able to measure memory, reaction time, observation, perception, and ability to concentrate.

It has been observed that psychotechnology scientifically applied can be advantageous to both industry and the working man. It helps to decrease staff turnover as well as accident, and aids in shortening the training period of certain individuals in particular occupations. It can definitely increase production and produce a satisfactory relationship between employer and employe. It would be most desirable to have the responsibility of selecting employes shared by more than one department. Management and the medical staff aided by a psychologist and a physiologist could evaluate the abilities of an employe and place him in the particular type of employment best suited for his ability.

With the increased use of complex mechanized equipment and electronics, it is most important to have a well-selected, well-adapted, highly-responsible operator at all times. This can be better accomplished by the use of psychotechnology in pre-employment examinations of all personnel.

Thank you. (Applause)

CHAIRMAN GOLDOWSKY: Thank you, Doctor Hollo.

(There followed a brief, off-the-record discussion of the Report presented by Dr. Hollo.)

CHAIRMAN GOLDOWSKY: Thank you gentlemen. If there are no further comments on this subject, we will go on to our next item which is the Report of the Committee on Trauma, Doctor Stockwell, Chairman.

DR. R. W. STOCKWELL (Chief Surgeon, Detroit and Toledo Shore Line Railroad, Detroit, Michigan): Mr. Chairman, Members of the Medical and Surgical Section:

The Committee on Trauma has had no formal meetings since the meeting of the Section last spring in White Sulfur Springs, West Virginia. However, various members of the Committee have made suggestions concerning our report for this year.

The Committee would like to again recommend to the members of the Section two booklets which are issued by the Committee on Trauma of the American College of Surgeons:

The first is an "Outline on the Treatment of Fractures," and the second, "The Early Care of Acute Soft Tissue Injuries."

This Committee has recommended these booklets for several years, and we again would like to call them to your attention.

We have been advised that the subcommittee on the Soft Tissue Manual is planning a revision, and they have held their first meeting on February 6, 1958. It has been estimated that it will be approximately a year, however, before the revised edition will become available.

We are further advised that the subcommittee on the Fracture Manual is considering a new edition, however, nothing definite has been started so far.

These booklets are available from the American College of Surgeons, 40 East Erie Street, Chicago, Illinois. Booklets sell at a dollar per copy, and they are very valuable, particularly for distribution to your District Surgeons, and they are particularly valuable in teaching the surgery of trauma in your hospitals.

Doctor Duncan Eve, Chief Surgeon of the Nashville, Chattanooga & St. Louis Railroad, suggested that this year our report should include a color-sound movie on the subject "Transportation of the Injured," which is reported to be of good general interest and which was made by Doctor George J. Curry of Flint, Michigan.

The Committee takes pleasure in presenting this film to you at this time.

(There followed the showing of the motion picture film entitled "Transportation of the Injured.")

DOCTOR B. W. STOCKWELL: I see that we have with us Doctor Wagner of Pittsburgh who was mentioned in the film as one of the members of the Committee that helped prepare the material.

Doctor Wagner, would you care to say a word about the film?

DR. J. HOWE WAGNER (Chief Surgeon, Bessemer and Lake Erie Railroad, Pittsburgh, Pennsylvania): I think it speaks for itself. This is truly the work of Dr. Robert Kennedy who has been advocating the proper transportation of the injured for a period of twenty years or more; taken up by Dr. George Curry who really was the producer of this very fine film.

As it is shown throughout the country, I believe it will do much toward the helping of this problem. Nothing is better in the way of education than a picture.

Dr. George Curry and Dr. Robert Kennedy and the other members of this Committee are to be congratulated.

DOCTOR B. W. STOCKWELL: Thank you, Doctor Wagner.

DR. C. F. HOLTON (Chief Surgeon, Central of Georgia Railway, Savannah, Georgia): Doctor Wagner, what is the name of those padded, metal splints for the leg? I would like to get some of them. Do you know the name of them?

DR. WAGNER: Sorry, I can't tell you the name of them right now.

DR. STOCKWELL: On the Committee on Trauma, our group, we have Doctor Duncan Eve. We would like to have him say a few words if he will.

DR. DUNCAN EVE (Chief Surgeon, Nashville, Chattanooga and St. Louis Railway, Nashville, Tennessee): I certainly enjoyed the film, and it is a hard proposition to get this around in every city. Of course, we have laws in Tennessee in regard to the handling of the injured with ambulance people.

In 1955 I proposed to the Academy of Medicine to appoint four or six outstanding young men, who were well qualified in trauma, which we did. They visited the people connected with the various ambulance services once or twice a year and gave them very careful instructions, especially in regard to wounds, how to apply tourniquets, and, in the case of body injury or neck injury, instructed them positively to avoid jack-knifing the patient.

I do not think that you can have a meeting like that and be successful in getting them to come to you. If you have ten or twelve ambulance services in your city, about five will attend. This way, we thought we covered the

field very well. It is remarkable how much they have accomplished in bringing the injured people to our hospital.

Thank you.

DOCTOR B. W. STOCKWELL: Thank you, Doctor.

Doctor C. F. Holton, a member of our Committee on Trauma, has already asked a question. Do you have any other comments, Doctor Holton?

DR. C. F. HOLTON: Yes, I have.

I think that is a splendid film. I have already made a note to have that film for a showing in Savannah at which I would like to have all county policemen, state policemen and ambulance drivers see it. It is self-evident to them.

Our trouble down there is so many times people who handle our ambulances have no training whatever.

We have just recently started a new ambulance service there. They brought a fellow with a coronary to the hospital, and took him off the stretcher and told him to walk to the elevator; that kind of thing.

I appreciate seeing that film, and I am going to try and arrange to get it for a showing to the lay people of Savannah, especially the police and ambulance people.

Doctor Southgate Leigh, Jr., will you say a word, please?

DR. SOUTHGATE LEIGH, JR. (Chief Surgeon, Seaboard Air Line Railroad, Norfolk, Virginia): Gentlemen, I think we ought to stress even more what Doctor Holton said about the police departments, and especially the highway patrols. They are supposed to have had First Aid training. They are supposed to know about it, yet I have found in Norfolk, at least, in a large percentage of the cases they bring in, they are doing some damage. There ought to be some way that we can get over to them.

Now, in Norfolk proper we have an ambulance service with trained crews, very much like the ones shown here in Flint. We have, also, the volunteer fire departments. They are well trained.

The biggest trouble apparently is not one injury but multiple. As an example, it is the man that has the scalp torn up and a broken back, too. They look at the one that is bleeding and causing the trouble, and they forget to look elsewhere. We have had, time after time, a man with a scalp wound, and a compression fracture of the spine. They neglect the back fracture and by the time he is in the hospital he has a paralysis from his waist down.

Especially with the police department and the highway safety patrol, this film should be given a very universal spread all through that group. I have enjoyed it very much.

DR. B. W. STOCKWELL: Thank you, Doctor Leigh.

Doctor W. E. Mishler is a member of the Committee on Trauma. Doctor Mishler, will you say a word, please?

DR. W. E. MISHLER (Chief Surgeon, Erie Railroad, Cleveland, Ohio): I have nothing to add.

DR. STOCKWELL: Are there any other questions?

DOCTOR WAGNER: Pardon me for getting on my feet again.

This movie, "Transportation of the Injured," has been one of the projects of the Committee on Trauma of the American College of Surgeons.

Twenty years or so ago, it was hoped that, perhaps, through contact of the morticians who handled most of the ambulance services throughout the

country, we could get proper legislation so that all ambulances must be equipped with proper splints and other apparatus to give the proper handling.

The morticians were contacted and at first the move was resisted; in our district, however, with a little propaganda, they came around. In Michigan and in several cities throughout the country there has been legislation which makes it a law that ambulances must be properly equipped with trained attendants. If any of you gentlemen are interested, write Dr. George Curry and you will get all the literature necessary as to the methods of procedure to have proper training for ambulance attendants in your districts.

DR. B. W. STOCKWELL: Thank you.

DR. R. M. GRAHAM (Director, Department of Medicine and Sanitation, Pullman Company, Chicago, Illinois): For the record, I would just like to mention that this is not a new subject of the Section.

Doctor Reece Webb, whose name was mentioned as one of the members of the Committee for many years and about twenty-five years ago was on the subcommittee interested in the problems in the transportation of the injured. He was one of the first to advocate the use of Thomas splints or have Thomas splints available in depots and in the automobile of the railroad surgeon who was called to these places.

As most of you know, Doctor Reece Webb died several months ago.

DR. B. W. STOCKWELL: Any other discussion?
If not, that concludes our report.

CHAIRMAN GOLDOWSKY: Thank you very much, Doctor Stockwell and your Committee. (Applause)

Our next report is our Committee on First Aid under the Chairmanship of Dr. E. C. Olson. This is a revision of the First Aid Manual, and I think we will more or less ask Doctor Olson when he is through to have this presented to us to vote on its adoption.

DR. E. C. OLSON (Chief Surgeon, Illinois Central Railroad, Chicago, Illinois): Thank you Mr. Chairman, Gentlemen:

The Committee on First Aid is very grateful to the Committee on Trauma for the very fine presentation this morning on its behalf.

Last year you may remember that the Committee on Disability and Rehabilitation wished to have certain items transferred to the Manual on First Aid. In doing so, we took occasion to go through the whole pamphlet and make what really amounts to minor corrections here and there. Some of them were nothing more than language structures. I doubt that it is important that we go through the whole manual, merely point out the changes which have been made.

You probably have a copy of the revision, and I will merely read the points where we made changes and make any comments that seem pertinent.

On page 2, it says: "With pressure over wound to control bleeding if necessary."

Then we skip over to page 7 which is under the subject of Electric Shock, and read: "Institute artificial respiration immediately if the victim is not breathing and continue artificial respiration by the back pressure arm lift method, as long as indicated, or until unmistakable signs of death." "Victims of electrical accident in the vicinities of large cities may receive rapid emergency treatment by the inhalator squad maintained by most police departments."

Now, under the subject of gas poisoning, Doctor Goldowsky very properly made some observations about the original comments.

I would like to say, since the advent of the diesel engine, many railroads are one hundred per cent dieselized, and others greatly so, so that the picture regarding carbon monoxide as a factor in gas poisoning from motive power has changed considerably. It develops that the diesel engine produces a very small quantity of carbon monoxide during combustion of the fuel as compared with gas engines or steam locomotives.

It has been found by tests that carbon monoxide is a negligible factor. The oxides of nitrogen are a much greater factor in producing general irritation with subsequent bronchitis and pneumonia.

Aldehydes are also produced during the combustion processes, and these are extremely irritating to the eyes, nasal and pharyngeal mucosae and warn the individual of the presence of these gases very quickly. Therefore, it is not likely that one would voluntarily remain in the presence of any appreciable concentration of these fumes for a long enough time to do any harm.

It has been suggested by investigators in this field that where a diesel engine is required to stand for longer than fifteen minutes in a tunnel that the motor be shut down in order to prevent undue accumulation of exhaust gases.

Now, on that basis, and you do not have this in your copy, I would like to suggest that we revise Item No. 2 under Gas Poisoning to read: "Carbon monoxide is a colorless, odorless gas which may be found in heated refrigerator cars where charcoal burners are used, and in garages or other places where gasoline engine exhaust fumes may accumulate. In railroad tunnels where a diesel engine is required to stand for more than fifteen minutes, it is recommended that the motor be shut down in order to prevent undue accumulation of exhaust gases." That is the end of the change.

Further down at the end of that same subject, we read: "If oxygen or oxygen and carbon-dioxide mixtures are available, they may be used in case one has been trained in its [illegible]."

On page 8, this is just a word change: "Drainage of water from the air passages [illegible] be promoted, [illegible] circulation in proceed." That comes under the head [illegible].

Under [illegible] page 8, the [illegible] paragraph under that subject, "Time will be [illegible] if injured is promptly removed to hospital or first aid station instead of waiting for a doctor to arrive at scene of accident, assuming that removal is proper and possible."

And, under "B" of Protection from Heat or Cold. That is a typographical error and should be left as it was in the original.

On page 12 there is another item I have here, on the splints. On page 10 of the original first aid manual there is a picture of an individual who has an arm and leg splint applied, and it reads: "Board splints applied to arm and lower extremity for fractures above the knee." It is obvious, of course, that the arm does not enter into the situation in a fracture of the knee. We thought in order to be explicit, it would be better to separate those pictures and make a single one for the arm and another one for the leg. Then there would be no question in the mind of any first-aid individual who happened to run into such a situation. We will have them inserted, if you so agree, at those points.

Now, on page 12, under Head Injuries, "After a blow on the head, an important thing to determine is not only whether the skull is fractured, but the extent of the injury, if any, to the brain or its vessels. Patients with a head injury should not be subjected to any unnecessary movements and should be

sent to the doctor as soon as possible. Injuries to the neck should be similarly regarded."

On page 13, under No. 6, Shock: "Lay on back, head low, loosen clothing about neck, chest and abdomen. Transport in lying position to the hospital or doctor's office."

On page 15, under Tetanus: "Wounds which have been grossly contaminated by street dirt or other similar form of materials may require the use of anti-tetanus serum. Puncture wounds made by sharp objects or stepping on nails may carry infection under the skin. Injuries of this kind may result in tetanus (lock-jaw), and should be sent to the doctor at once for treatment."

Further, under Snake Bite, the last sentence of the first paragraph: "Let the blood run freely from the cut, at the same time dislodging any of the poison that remains by rubbing the wound with a piece of gauze or by squeezing out as much blood as possible. Suction by cup, if available, may be applied over the wound twenty minutes out of each hour. The patient should not be permitted to walk or exert himself in any way. Medical attention is important and should be secured as quickly as possible in order that anti-venom serum or other supportative measures may be given promptly. Employes working in snake-infested country may have available snake venom antitoxin in hypodermic containers to be used as an emergency measure after being bitten. Alcoholic beverages are harmful in snake bites."

Under dog bite: "In case the dog has been killed, secure the head and pack it in ice and send to the nearest Health Department laboratory for examination to determine if the dog was mad and as to the necessity of giving Pasteur treatment."

Those are the revisions which Doctor Hollo and I offer for your consideration.

CHAIRMAN GOLDOWSKY: Thank you very much, Doctor Olson. I know the Committee has worked hard.

(There followed an off-the-record discussion of the proposed revisions to the report of the Committee on First Aid. A motion was made, seconded and carried that this report be referred back to the Committee of Direction for approval.)

CHAIRMAN GOLDOWSKY: Now we are going on to a very, very important committee and a committee that has done a lot of work, the Committee on Developments Resulting from Physical Examinations.

As I told you in my little talk, Doctor Longeway is confined to the hospital. Doctor Jensen, one of the members of this committee, has kindly consented to take over his part of the program.

DR. J. M. L. JENSEN (Chief Surgeon, Chicago, Rock Island & Pacific Railroad, Chicago, Illinois): Mr. Chairman:

Doctor Longeway called a meeting of this committee on November 11, 1957, for the purpose of revising this circular.

I don't think I will read all the changes. However, I will call your attention to each one, the first being page 3, item No. 7.

I would appreciate your reading this item and making suggestions and recommendations.

CHAIRMAN GOLDOWSKY: I think all the members have received this about two or three weeks ago. It was given to you in time to sit down and look this

over and bring any mental notes or written notes about them or comments or corrections.

I think we will probably let you hold the chair for a few minutes and call on anyone who has any comments or additions.

I have one recommendation that I did send in on the form itself. I think that if anybody else has any comments or recommendations, let's hear them now.

DR. J. M. L. JENSEN: Doctor Goldowsky made one recommendation relative to the form for the Medical Examiner's Report. Under the heading "Extremities" and subheading "Spine" it was suggested that the words "amputations" and "contractures" be deleted. I would further suggest that the subheading "Spine" be placed farther to the left as a heading of its own.

CHAIRMAN GOLDOWSKY: Doctor Bennett.

DR. R. J. BENNETT (Chief Surgeon, Elgin, Joliet & Eastern Railway, Chicago, Illinois): Mr. Chairman: Under vision, in our book it states it should be done at twenty feet. Would it be of any value to put twenty as a numerator in these "without glasses," "with glasses," and then are we going to use fourteen inches for the reading? Should we put fourteen as the numerator in here? Would it help any?

Then, I do believe that probably under color vision that even though in some channels the lantern is frowned upon, it is not universal; and also under hearing, I just wonder how many are using the new modern apparatuses available.

DR. J. M. L. JENSEN: In reference to distant vision with and without glasses—it is suggested that a numerator of twenty (the distance in feet at which the examinee is placed) be used. The same would apply to examination of hearing for ordinary conversation.

I do not quite understand the recommendation you made in regard to color sense.

Are there any other corrections, recommendations, additions or subtractions from the floor?

Let's start in the front.

Doctor Dowd.

DR. K. E. DOWD (Chief Medical Officer, Canadian National Railways, Montreal, Quebec, Canada): Mr. Chairman, this first-aid instruction is, of course, for employes only. I wonder whether it is of value to mention anything about drugs in the first-aid text. Normally, we do not include any drugs in the first-aid kits which we use on our railway in Canada.

Another thing, we do not now teach the pressure point method in first aid because we feel it is much better to apply a pressure bandage locally at the site of injury and get the patient to the doctor as soon as possible. Also, we do not carry tourniquets in our kits any more because of some bad past experiences. We can use a triangular bandage or handkerchief or something else as a tourniquet, but the official "tourniquets" have been discontinued.

These are not serious changes, but I just mention them because many of the suggestions that are made here certainly would not apply to our Canadian practice.

The reference that was made to the "mad dog situation" doesn't seem to me to be a first aid matter. I refer to the part which reads "In case the dog has

been killed, etc." I question whether this advice is going to be dealt with by first-aid people. However, it may probably be a good thing to have it included in the first-aid regulations.

DR. I. GOLDOWSKY: I think we have to analyze it. I accept Dr. Dowd's recommendations, and it is something for all of you to decide whether we should delete or not. I think there was enough discussion at numerous times during the years whether we should in our first aid kit have any mercurochrome. I think most in discussion would rather have it out. It was psychological. It was just the color of the metaphen that did any good. Rather than have the first aid man color the patient up, we would leave it out. As a result, in my own kits, on our own railroad, we have left out most all antiseptics. I would rather have them send the case in with some sterile gauze over a wound and let us handle it rather than have them decorate the wound.

Any others? Dr. Kieffer. I am trying to go down in order.

DR. R. S. KIEFFER (Chief Surgeon, Missouri-Kansas-Texas Railroad, St. Louis, Missouri): Just briefly, page 7, Section H, under Gas Poisoning, the last line of the first paragraph, where you use the word "gasoline engine exhaust."

I would like to suggest that that be changed to read: "internal combustion engine exhaust."

The diesel, producing relatively smaller amounts of carbon dioxide in its combustion of fuel, is a hazard, but there are some gas turbine locomotives operating. I think for that reason "internal combustion" would cover the whole field.

DR. I. GOLDOWSKY: Dr. Olson, would you care to answer.

DR. E. C. OLSON: We were thinking chiefly of the small hand cars or small engines that might be used within a building. I don't believe they have any diesel type of units that are small or portable. I thought that we had covered pretty well the item under diesel fuel exhaust that the quality of those fumes were so irritating that one could not long remain in its presence. It is a distinct warning as contrasted to the exhaust of gasoline engines.

I just wonder whether the term internal combustion would not again bring the diesel into focus as an internal combustion engine, too, and confuse the point. But, I would have no serious objection or comment to make other than what I have said.

DR. R. S. KIEFFER: That is all right with me. I didn't appreciate the fact that you were dealing with these smaller units.

You do have the little diesel units for the air conditioning in some pullmans and dining cars, which will be contained in a building from time to time. But, the fact that their products are irritating will offer some automatic safeguard.

DR. I. GOLDOWSKY: Dr. Wagner, I believe you had your hand up.

DR. WAGNER: Under the same paragraph, the word in regard to the generation of carbon monoxide for charcoal burners are used, the construction in the sentence, I believe, should be changed to read "may be," instead of the term "might be." "May be" is permission and "might be" is possibility. The term "may be," I believe, connotes that it was, whereas "might be" suggests the question of whether it does. For protection, I believe it would

be a good thing to change the word "might be." It is a terminology that is misused every day by every broadcaster that you hear.

Now, I am not necessarily a purist, but I offer that for your consideration.

DR. I. GOLDOWSKY: Dr. Olson.

DR. E. C. OLSON: Should we engage in a semantic duel this morning? I agree with you that the word is misused a great deal but it seemed to me that used in this manner it would be synonymous. But, certainly there would be no objection to making the change that you wanted.

DR. I. GOLDOWSKY: Any others?

DR. WIGHT: (Off the Record.)

DR. E. C. OLSON: I think that the point in question there was the previous use of toxoids in the individual which might not require any reinforcements.

DR. WIGHT: (Off the Record.)

DR. E. C. OLSON: I think it would depend on how long an interval he had his previous toxin. I think the comment there about being transported to the doctor is an extremely good one. We should change that.

The point you bring up about stopping the engine in a tunnel where it is going to sit for a period greater than fifteen minutes has been arrived at by some of the safety workers. I saw an item in the Association of American Railroads' Journal in which this recommendation was made.

Experiments were conducted on our lines, and I know on some others, where these trains had been pulled through a tunnel. They had some rapid analyzers with them, and were able to make various determinations on the spot. In no instance did they find either in the cab or in the atmosphere any deleterious concentrations of gases.

While you do not detect the odor of the oxides of nitrogen readily, I am given to understand that the aldehydes are a part of the process of combustion, and would always act as the warning signal.

DR. WIGHT: (Off the Record.)

DR. E. C. OLSON: There is no difference made, or no recognition is given that you would only be passing through that tunnel within a relatively short period of time. Thirty-seven parts per million would be a negligible quantity under those circumstances.

DR. WIGHT: (Off the Record.)

DR. WAGNER: How long does it take to make that trip?

DR. WIGHT: (Off the Record.)

DR. WAGNER: How long are they subject to those fumes?

DR. WIGHT: (Off the Record.)

DR. I. GOLDOWSKY: It has not been, but we can delete it later.

DR. WIGHT: (Off the Record.)

DR. R. M. GRAHAM: Some of you people will recall the A.A.R. had a special committee here on gases about five years ago, and then we had an excellent dissertation on this by the Southern-Pacific expert two years ago out in San Francisco bringing us up to date.

We are getting information here that individual railroads have done some good work on this, but work directed to certain special problems.

The Committee of Direction knows that one of the larger railroads has become interested in this subject from a theoretical possibility of claims and is expected in the next few years to do some concentrated work on it.

I think the wording that was given by the Committee on First Aid is proper, and that these others are incidental. I am wondering if it wouldn't be quite worthwhile for the Section to have a committee on this problem alone on the question of noxious gases in operating.

Then I would like to request that Dr. Olson read that one suggestion again. I think it is okay as stands.

DR. I. GOLDOWSKY: In answer to Dr. Graham, if you remember, at our Committee of Direction meeting we reviewed this problem of the noxious gases, et cetera, with Dr. Mishler's Medical-Legal Research Committee. They were to take it up and probably throw it back at us, whether we take it up aside from the medical-legal problem, that we take it up with the committee per se as a medical problem.

In other words, we are faced with two factors here. We are faced with the straight medical research problem on gases whether concentration and the effects and relation-ship, and we are also affected by the medical-legal aspects of this thing which are coming to the fore more and more each day.

DR. R. M. GRAHAM: The point that comes up, of course, is this: Dr. Wight brings out the point that the maximum allowable concentration of nitrogen oxide gases according to the American Standards is five parts per million. But, that is five parts per million eight hours per day, six days a week. That is an entirely different proposition.

DR. I. GOLDOWSKY: Any other comments or discussion?

Dr. Olson, I will let you answer this, and then we will call for more or less a vote on these corrections and additions.

DR. E. C. OLSON: Should I re-read that?

DR. I. GOLDOWSKY: Yes, I think you had better.

DR. E. C. OLSON: "Carbon monoxide is a colorless, odorless gas which might be found in either refrigerator cars or where charcoal burners are used, in garages or other places where gasoline engine exhaust fumes may accumulate." The alternate was: "internal combustion engine exhaust fumes." "In railroad tunnels where a diesel engine is required to stand for more than fifteen minutes, it is recommended that the motor be shut down in order to prevent undue accumulation of exhaust gases."

Doctor raised the question about the use of drugs. On page 2 of the original, the use of drugs by first aid workers is interdicted.

DR. K. E. DOWD: There are no drugs contained in our first aid kits as far as we are concerned, Mr. Chairman. Therefore, it is sort of an unnecessary statement.

On the bottom of page 2 you also state: "Do not use drugs." It is stressed all the way through that they are not to use drugs. I don't think that any first aid kits should have drugs to use. That is my point. Therefore, you can't use what you haven't got.

DR. OLSON: Well, I think most of them just have some merthiolate or zephiran. That is all.

DR. K. E. DOWD: That is under antiseptics, I suppose; not a serious point.

DR. OLSON: You raised the question of tourniquets. I suppose that there has been considerable first aid instruction disseminated as a result of the war in recent years, and many people are aware of the value and the need for the tourniquet under certain circumstances. Whether they would be put on for an undue length of time, I suppose is the basis for your comment.

I don't know how one could regulate that sort of thing. We might put a caution in there to say that tourniquets should not be left on indefinitely.

DR. K. E. DOWD: Mr. Chairman: Instead of the word "tourniquet," the words "pressure bandage" might be better. That gives you a little leeway, too, to get away from this idea of having to put on a so-called tourniquet which practice, as I previously stated, is not now followed in our teaching in Canada.

DR. E. C. OLSON: I think that takes care of all the comments that have been offered about it.

Doctor, do you want to call for a vote on it?

DR. I. GOLDOWSKY: You all understand some of the suggested revisions which I am sure Dr. Olson will incorporate.

I just ask your pleasure now in voting on this to put into print for general dissemination to other members.

Dr. Nelson.

DR. H. NELSON: (Off the Record.)

DR. E. C. OLSON: I think that is a very good observation.

Dr. Shopner.

DR. SHOPNER: In regard to tourniquets, wouldn't it be easier to say, teach medical students sometimes, stop bleeding with firm pressure over the bleeding point, if possible. Then, if that does not work, use the tourniquet.

That is the general teaching, I think, of the Red Cross, and has been since World War II. That may solve the problem of Dr. Dowd.

DR. I. GOLDOWSKY: I don't know. That may be all right with medical students, but I think within two months they would forget their bleeding points. Then tourniquets are put on, and then forgotten about. I think constrictive bandage leaves room for tourniquet if it is there to be used or felt or whatever means tied or covered the situation.

Dr. Knowles.

DR. J. R. KNOWLES (Chief Surgeon, Boston and Maine Railroad, Boston, Massachusetts): It says on page 2, "control bleeding and apply a pressure

bandage." In burns, also, a pressure bandage is often of value. Would that be feasible to control bleeding and apply a pressure bandage?

DR. E. C. OLSON: Yes.

DR. I. GOLDOWSKY: All right. Dr. Olson has that recommendation. If there are no others, I will call for a raising of hands.

DR. R. J. BENNETT: In other words, I understand that if we use these pseudo-isochromatic color plates, it depends on which set we use. They are not accurate unless you use a McBeth lamp. In other words, if you use a light from a yellow source or other sources, those cards are not accurate. They must be used with a McBeth lamp. It has a certain angstrom rating.

My second thought was, how often are the lanterns and the skeins used?

We actually, personally, have found that the isochromatic color plates are the most accurate means of determining whether the men are colorblind or not, for red or for green.

DR. J. M. L. JENSEN: Does anybody else have any further discussion on that point?

DR. STOCKWELL: (Off the Record.)

DR. I. GOLDOWSKY: I am going to agree with that very much. I think that should be changed that an "engineer with myocardio-infarction should never be allowed to return to work until some suitable work is found for him," and not designate yard service or anything else.

If you can by any stretch of the imagination find a job where he would be sitting at a desk, you could probably put him in it. But, I don't like to designate a job in train service for a man with a coronary, although many of them probably could do it.

As you say, if we say they are able to do it, we are going to have the brotherhood men push our own rules down our throats. And, we may get into trouble, if anything happens we say should be done.

DR. HOLLO: (Off the Record.)

DR. J. M. L. JENSEN: That's correct.

DR. HOLLO: (Off the Record.)

DR. J. M. L. JENSEN: Will you read it?

DR. HOLLO: (Off the Record)

DR. J. M. L. JENSEN: And then delete the rest of it?

DR. HOLLO: (Off the Record.)

DR. G. F. CUSHMAN (Chief Surgeon, Western Pacific Railroad, San Francisco, California): Would you consider electro-cardiograph changes as being residual?

DR. HOLLO: (Off the Record.)

DR. WIGHT: (Off the Record.)

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DR. C. F. HOLTON:

DR. I. GOLDOWSKY:

DR. J. M. L. JENSEN: I should like to make a comment about the use of lanterns for testing color perception. I believe it would be very difficult on many of the railroads to insist upon your local examiners procuring the necessary equipment for a different type of color sense examination. Some use lanterns, some use plates and some skeins. What is your opinion, Mr. Chairman?

DR. I. GOLDOWSKY: I think that is a problem the railroads have to face individually where they have outside-line doctors. I solved that on my railroad by buying these isochromatic plates and sending it to them. I made sure that they used it.

With the new applicant coming into service, if he fails on the isochromatic plates, he is just out for that type of service. We have come across the old-time employe that lacked color vision or proper color perception. With brotherhood agreement, we sat down; and they are given the benefit of the lantern and skein test, but they have to pass both of them. If they fail, that's an old employe, then we try and put him in a position where there would be no trouble.

I am going back to this line on this coronary. I think an employe with coronary occlusion should be removed from service until he presents satisfactory evidence of recovery. Leave the residual damage out, because you are going to run into difficulty. You are going to take those standardized recovery by your EKG which isn't proper. There are other factors in coronary. The coronary person may have some hypertension. He may have eye ground changes. Let's take the body as a whole and not just stick to the coronary occlusion. Leave it rather broad for the Chief Medical Officer of the railroads to feel that he puts everything together, if the man has sufficient recovery, maybe he will put that man back in yard service. Maybe he will give him a job as a clerk somewhere.

I think, though, even leaving the word "residual damage" in leaves us with a problem because I dare say if you take fifteen internists and have them all figure this out, each one is going to give you a different opinion on what residual damages are in coronary attack.

I think I would just go a little further and leave that "residual damage" out. I would say: "Remove from service until he presents satisfactory evidence of recovery," and leave that to the Chief Medical Examiner of the railroad to determine to his liking or to his satisfaction that the man is recovered enough to put him back in some service.

DR. J. M. L. JENSEN: Dr. Goldowsky further recommended that on the Medical Examiner's Report Form there be printed in heavy black lettering on right hand side "Describe fully on back of form any abnormal findings."

DR. I. GOLDOWSKY: I recommended that, I think, from Dr. Eckbert's talk where one of our medical examiners, of course, this is more or less a check-off examination form, and he checked off spine or something deformed. He signed his name to it; and it finally reaches your desk, and you are trying to figure out what the deformity is. I think if we put in black, bold print on the side, "Describe on the back of the form," which is blank, any abnormality will help us later on, probably in court or otherwise, or even when it comes to us personally to be making a decision.

DR. C. F. HOLTON: Mr. Chairman.

DR. I. GOLDOWSKY: Dr. Holton.

DR. C. F. HOLTON: Let's go back. Are we going to delete that new recommendation in there about an engineer with myocardio-infarction?

DR. I. GOLDOWSKY: I would recommend we delete all and just say: "An employe with cornary occlusion should be removed from service until he presents satisfactory evidence of recovery." Leave it there.

DR. C. F. HOLTON: The reason I bring it up, it is getting more and more difficult for us to restrict a man to yard work. The unions fuss about it, and they say, "If he is able to run an engine, he is able to do anything." It is almost impossible to say Jim Jones can only do yard work any more.

Then, another thing is, there is a movement all over on railroads trying to abolish the position of a fireman on this little yard engine where one man runs that yard engine. We are getting into a little dangerous territory with the brotherhoods on that particular thing.

DR. I. GOLDOWSKY: You agree with me then, we should stop after the words "evidence of recovery," and let it go at that. That is up then to the Chief Medical Officer to decide whether a man is recovered enough to go back in regular service, yard service or even get a desk job for him, if possible.

DR. J. M. L. JENSEN: Is there any further discussion on these recommendation-?

DR. HARVEY NELSON: I am glad to see a more simple form of examination blank. I think there still are things that can be deleted. We have found it quite helpful to have a check system throughout most of our blank. It is much simpler to fill out and much simpler to review. The things we have deleted from our blank are time consuming findings which we feel would not be disqualifying factors as for example measurements of the chest and abdomen. We have arranged to have room at the end of the examination report for the comments that Dr. Goldowsky spoke about. We have also combined our report so that it is all on one sheet. The history and vision on the front side and the physical findings, on the back.

DR. I. GOLDOWSKY: Dr. Longeway's Committee, including Dr. Jensen, have worked a great deal on this form. This form is more or less a combination of many forms of all the railroads over the country plus a form that, I believe, Ken Carney can tell us more about that the Research Bureau in Chicago worked on. Although some of these things may seem out of order for the applicant for employment, we wouldn't reject him, it is nice to know they have these things when we later go into court.

I would like to have Mr. Carney give us just a couple of minutes on that.

As far as the two pages go, that again was made up with the idea you could leave it as two pages. You could put it as one page, that the history form be more or less filled out by the employe. It need not be done in the medical department. It could be done in the personnel department, as I contemplate doing it. He brings that over with him. I have found a great deal of help when, as we find later, falsification on these histories that the employes give. It is a great help not only in court, but in saving good-love to that employe without any come-back.

Carney, will you make a few remarks.

MR. K. A. CARNEY (Executive Vice-Chairman, General Claims Division, Director, Claims Research Bureau, Association of American Railroads,

Chicago, Illinois): That is our purpose in making the application and the information called for on there rather broad and general, and not particularly to demonstrate to the doctor that the man is able to do this work, but to provide a good background in the event you do not find anything on your examination and we do later find some things; that would be helpful in a law suit.

As you know, we have very little chance of winning a law suit today on the facts of an accident. And, the suits are being won involving employes who allege very serious consequences from very minor injuries because of the deception he practiced when he entered your service.

Now, it is not desired to get this information to use against him except where he tries to take advantage of a situation for his benefit to which he is not really entitled. And, it can do demonstrate that a man has falsified his application in any material respect, you can get rid of that man from your service at any time you wish whether it is one year or ten years or thirty years. The only qualification being that you act after you find the truth of the situation, and you find that he has misrepresented in some major premise. Then it does give a lawyer, as Mr. Hackbert here can tell you, something to work with. He used one of those. Unfortunately, it was not written in the man's own hand.

It is important that somebody do answer all of the questions that are listed so that when he does testify, and you do give him this paper that he has answered, he is the one who has checked it off or it has been checked off in somebody's presence, preferably a clerk.

That is, generally, our feeling about the form.

DR. R. S. KIEFFER: I notice at the top of the examination form is a space designated for the full name of the examinee, but it doesn't indicate that the examinee himself is supposed to sign that sheet.

We have discovered unhappily this is a very important thing.

Just recently, within the past year, we had an incident where a twenty-eight year old switchman, who had been furloughed by us and went to work for the T&P, hired a man to take his examination because he had previously been rejected by the Santa Fe because of a congenital back defect. We did not know about it at the time we had hired him. This man wrote a letter to somebody, a copy of which fell into our hands by means unknown to me, and the fraud was picked up by the fact that his signature did not compare with the one he had signed for employment for us.

So, I think that could be a very important point later on for your own protection.

DR. I. GOLDOWSKY: I think Dr. Stockwell or Dr. Dowd paid a little more than eighteen thousand in a similar case where they had returned a known coronary to work.

DR. J. M. L. JENSEN: Is there any further discussion?

DR. WIGHT: (Off the Record.)

DR. J. M. L. JENSEN: Thank you, Dr. Wight.

MR. HARLAN HACKBERT (Counsel, Elgin, Joliet and Eastern Railway, Chicago, Illinois): I would like to suggest that this form contain some more specific reference to the man's military service, his identification number, and also the question as to whether or not he has ever been where he has had any

treatment through the Veterans' Administration. That is a very fertile source of information. In the defense of law suits, if you have the identification number, and you have the identifying information as to where, if at all, he has received treatment from the Veterans' Administration, it facilitates your access to the Veterans' Administration records.

You can get the Veterans' Administration records by subpoena.

DR. C. F. HOLTON: It is so much easier if you have the man sign the release at that time.

DR. J. M. L. JENSEN: Is there any further discussion of this matter?

DR. NELSON: (Off the Record.)

DR. J. M. L. JENSEN: Would this be on the history sheet?

DR. I. GOLDOWSKY: No, on the physical.

DR. J. M. L. JENSEN: Is there any further discussion?

DR. V. M. STRANGE (Chief Surgeon, Southern Pacific Company, San Francisco, California): I would like to bring out we have a very similar form to this we have been using in United States Steel. We found it to be very satisfactory. Our men examiners have been signing this for about five years now. Where it says here: "Have you ever had X-rays taken?" We have "Why," "When," "Where," and "Whate date." Underneath that we have, "Have you ever been admitted to a hospital?" Ask, "Why," "When," "Where," and the date. Under that we ask for an authorization for release of any records that have been made available. So far we have been able to get the records on this authorization.

DR. I. GOLDOWSKY: Any other comments?
Doctor Niles.

DR. J. S. NILES, JR. (Chief Surgeon, Lehigh Valley Railroad, Sayre, Pennsylvania): If this is a periodic examination, shouldn't there be something about diabetes and insulin?

DR. I. GOLDOWSKY: I believe this form is really to cover all exams, all applications for employment, new employment, retiring, furloughs, special periodic and promotion.

You recommend there be a note?

DR. J. S. NILES, JR.: There must be some diabetics employed. I thought we should know whether they are taking insulin or Orinase, how much and so forth.

DR. I. GOLDOWSKY: I think that belongs somewhere on the second page for the examiner when he examines the examinee to elicit and put on this form. I certainly agree with that. That is an ever-present problem. The man may not have it when he comes in for employment: may develop it through the years. We certainly should have a record of it.

DR. S. LEIGH, JR.: We have recently run into the question of giving privileged information brought up by this type of lawyers. We have just had a good-sized judgment in Richmond because the doctor that treated the man

for compound fracture of his arm gave the information to the railroad company that was paying him all of his bills. And, he was disclosing privileged information.

I am just wondering if there would be any way in your pre-employment application to allow that, if necessary. Mr. Hackbert, could you tell us something about that?

MR. HACKBERT: I think that is being taken care of in the general application form for employment that is being worked out by the committees of the General Claims Division. As I recall, the suggested form of application for employment, which instead of just going into the medical history of the man like this suggested form does, goes into the question of where he was previously employed and all that sort of thing. In the standard clauses that are recommended there are rather general provisions for the release of information by any treating doctors. Now that I think of it, there is also a good deal more information there as to the military history.

DR. J. M. L. JENSEN: Yes, I think they have their identification numbers.

MR. K. CARNEY: Every privileged communication statutes in the states in which they have such statutes in that form specifically waives the applicability of that statute in the employment form.

DR. J. M. L. JENSEN: Thank you, Mr. Chairman.

DR. I. GOLDOWSKY: Thank you, Dr. Jensen, for pinch-hitting for Doctor Longeway.

This really has been a two-year work-up or more, and I certainly want a raising of hands. This again will have to be corrected and referred back after correction to the Committee of Direction for final vote for adoption.

This is a most important problem, as Ken Carney has told you, and Mr. Hackbert has told you at previous meetings.

It has been two years' work. Let's not raise our hands. Let's not adopt this and then say we are not going to use it. We want to standardize this for the railroad industry because we don't want you to come along later and say, "Well, you fellows are using it. Why do you have such a form, when someone else has one of the old forms?"

Probably you will want to let your present printing run out. That is perfectly permissible. If we adopt this, let's adopt it for the whole railroad industry and everyone use it because most of our forms were good in their times, but they are certainly now out dated and no use to our legal departments or claim departments.

So, I would like to have a vote. All those in favor of, after the corrections and additions have been made, referring this back to the Committee of Direction for final adoption raise your hand. I don't see enough hands. Then it is passed that this be again reviewed by the Committee of Direction prior to final printing.

Now, that brings us to our last topic. We are running a little bit late. It is 12:40, but, we will continue.

DR. WAGNER: May I correct you, Dr. Goldowsky?

DR. I. GOLDOWSKY: You may.

DR. WAGNER: There was no mention made requesting your motion. There was none made?

DR. I. GOLDOWSKY: I tried to slip one over fast.

DR. WAGNER: Just to make it legal, I so move.

DR. I. GOLDOWSKY: To make it legal, you have heard the motion from the floor.

DR. C. F. HOLTON: I second the motion.

DR. I. GOLDOWSKY: We will have to keep it legal and vote again.

All those in favor of the motion. So moved.

It is time for lunch, but we just have one more item on this morning's program.

We will now have an off-the-record discussion.

. . . Whereupon, the meeting concluded with an off-the-record discussion. . . .

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DR. I. GOLDOW
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(Announcements.)

DR. DUNCAN EVE:
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Dr. R. M. Gra
Dr. C. F. Holt
Dr. J. K. Stark
Dr. G. F. Cush

At our meeting we

TUESDAY MORNING SESSION

March 25, 1958

The Tuesday Morning Session of the Thirty-Eighth Annual Meeting, Medical and Surgical Section, Association of American Railroads, convened in the Edgewater Gulf Hotel, Edgewater Park, Mississippi, at nine o'clock, a.m., Dr. I. Goldowsky, Chairman, presiding.

DR. I. GOLDOWSKY: Before we undertake the real order of business this morning, I do have a few announcements.

I have a telegram here:

"Due to pressing professional duties, I am unable to attend meeting. Best wishes for a successful meeting.

"J. R. Gandy, Chief Surgeon, Southern Pacific Hospital."

I also have a letter.

"Dear Ira:

"My wife just brought me your most welcome letter. To prove I am doing well, I want to answer it myself.

"Yes, I had a mild coronary three weeks ago. The evidences are that I am healing real well and in the near future will be back in the swing of things.

"I think missing the meeting hurt as much as anything. Remember, I do want to help wherever possible. I sincerely enjoy the AAR. Again, let me offer my services and cooperation.

"I do hope the report of my committee will make for interesting discussion on your program.

"I pray this is the only one I will miss for another dozen years.

"Sincerely, Walter Longeway."

Our first order of business this morning is our report from our Committee on Nominations. I will call on our Chairman, Dr. Duncan Eve for his report, however, before doing so, I have a few more announcements.

(Announcements.)

DR. DUNCAN EVE: Mr. Chairman, Members:

The Committee on Nominations met in Secretary Parker's office on March 7, and the following are the members of the Committee of Direction whose terms of office expire with the close of the 1958 Annual Meeting.

Dr. R. M. Graham;
Dr. C. F. Holton;
Dr. J. K. Stack; and
Dr. G. F. Cushman.

At our meeting we selected the following for the race, so to speak:

ASSOCIATION OF AMERICAN RAILROADS

MEDICAL AND SURGICAL SECTION

ANNUAL MEETING—MARCH 24-26, 1958

BALLOT FOR MEMBERS OF COMMITTEE OF DIRECTION

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

Southern Territory (3 Year Terms—Vote for One)

	Dr. J. M. Emmett, Chief Surgeon, Chesapeake and Ohio Railway, Richmond 10, Va.
	Dr. C. T. Holton, Chief Surgeon, Central of Georgia Railway, Savannah, Georgia.
	Dr. Southgate Leigh, Jr., Chief Surgeon, Seaboard Air Line Railroad, Norfolk 10, Va.

Western Territory (3 Year Terms—Vote for Three)

	Dr. G. F. Cushman, Chief Surgeon, Western Pacific Railroad, San Francisco, Calif.
	Dr. B. I. Derauf, Chief Surgeon, Northern Pacific Railway, St. Paul, Minn.
	Dr. J. R. Gandy, Chief Surgeon, Texas and New Orleans Railroad, Houston 1, Texas.
	Dr. R. M. Graham, Director, Department of Medicine and Sanitation, The Pullman Company, Chicago 6, Ill.
	Dr. W. J. Longeway, Chief Surgeon, Colorado and Southern Railway, Denver, Colo.
	Dr. Harvey Nelson, Chief Surgeon, Soo Line Railroad, Minneapolis 2, Minn.
	Dr. J. K. Stack, Chief Surgeon, Chicago and North Western Railway, Chicago 6, Ill.
	Dr. J. R. Winston, System Medical Director, Atchison, Topeka and Santa Fe Railway, Chicago, Ill.

DR. I. GOLDOWSKY: Thank you, Dr. Eve, and your committee.

We will have the ballots passed out now. While they are being passed out, I am going to appoint tellers and election members. As Chairman of the tellers, Dr. Derauf. On his Committee, Dr. Ellis, Dr. Niles and Dr. McLean. Are they all present?

Dr. Derauf, I am sorry. I have to remove you from your position as Chairman of the tellers because we just noticed you are up for election to the Committee of Direction, and according to our rules, you cannot serve as a teller

Dr. Shaffner, is he here? All right, you will serve with Dr. Ellis, Dr. Niles, Dr. McLean, as tellers, and we will appoint Dr. Ellis as Chairman of this group.

Now, for the newer members, I am going to take a minute just to explain something for those here that may be voting for the first time in our group. I don't want you to be confused the way I was years ago.

Your votes count for more than one vote. I think that is the easiest way to explain it.

The voting is based on the mileage of the railroad you represent. So, if you can't figure things out later, you will know why.

I will turn this over to Mr. Parker.

MR. F. J. PARKER: As Doctor explained here, you are entitled to one vote for every thousand miles of railroad you operate. Now, if you represent more than one road, who are members of the A.A.R., indicate that on your ballot so that we will give you credit for any of the roads that you do represent.
Is that understandable now?

Now, I would appreciate if the tellers would collect the ballots, and we will retire from the room for the purpose of counting the ballots. Put your name and road on the envelope.

DR. I. GOLDOWSKY: Will the tellers please come forward and pick up your ballots.
(Voting.)

DR. DOWD: Would it be in order to suggest we write a letter to Dr. Longeway expressing our regrets of his absence because of his illness?

DR. I. GOLDOWSKY: I think a note from friends and people who have been associated with you during the years would be very welcome. I will give you Dr. Longeway's address, and I am sure anything you write to him will be gratefully appreciated and will be forwarded to him. I sent him an official letter before. That is what he is answering here. If somebody has the time when you go back, he will probably be convalescing for quite a while; I think he would appreciate anything from our group.

He is in Saint Joseph Hospital in Denver.

Would anyone care to make a motion? Dr. Dowd, would you like to make a motion we send an official telegram or letter to Dr. Longeway?

DR. DOWD: I so move.

. . . The motion was duly seconded. . . .

DR. I. GOLDOWSKY: It has been moved and seconded that an official letter be sent from this Section to Dr. Longeway expressing our prayers for a speedy recovery. I think Mr. Parker will take care of that.

While the tellers are busy with counting these ballots in the next room, we will go in reverse, if I might say so. I have to go backwards now for the report of our Committee on Disability and Rehabilitation, our Chairman, Dr. James K. Stack, Chief Surgeon, Chicago & North Western Railway.

Again, you had his report sent to you a few weeks ago and I hope you have any comments ready. I believe Dr. Stack intends reading some of the high points, changes that are made and will answer any questions.

DR. JAMES K. STACK (Chief Surgeon, Chicago and North Western Railway, Chicago, Illinois): Mr. Chairman, Gentlemen: You have our report as given last year, and it is now, as I understand it, open for the draft as we have it here. It is open for general discussion before it goes to the Committee of Direction for their final evaluations.

Is that right?

DR. I. GOLDOWSKY: I think so.

DR. JAMES K. STACK: Dr. Wight had some comment to make, I believe, on the advisability of having something in there about the management of diabetes by the new oral preparations.

Earle, would you like to comment on that as a member of this Committee?

DR. WIGHT: (Off the Record.)

DR. JAMES K. STACK: Doctor Graham had some comment about the control by the U. S. Public Health Service of the itinerant restaurant, which the dining car is, rather than the local county, state or provincial government.

DR. R. M. GRAHAM: (Off the Record.)

DR. K. E. DOWD: (Off the Record.)

DR. JAMES K. STACK: I think it was a very hard thing to define. We thought we would leave it flexible for those who want to examine a man again after he had a cold and had been home for three days. That is their privilege. Those of us who do not, it is our privilege not to.

To put a definite time on it would be very difficult. So, we thought we would leave it open.

DR. I. GOLDOWSKY: To the individual railroad?

DR. JAMES K. STACK: Yes. The minimum requirement is up to the individual road.

Those, I think, are the only comments that came to me during the period since the publication of this new committee report.

DR. B. W. STOCKWELL: (Off the Record.)

DR. E. T. STAHL (Chief Surgeon, Monon Railroad, Lafayette, Indiana): I wonder how many of us here could say under this diabetic problem that we do not allow diabetics to serve on train operations? I would hate to face the task of trying to weed out the known diabetics I have serving. Not that I am defending the diabetics working in train operations, but just the mechanics of getting them out would, I am sure, lead to an awful lot of difficulty; at least in my opinion.

DR. JAMES K. STACK: There is a considerable difference of opinion there, and that is why the committee chose—this is on page 8 under "Diabetes"—the expression "hazardous occupation," as against a definite statement that a man should not work on the road, in the yard, in the office and so on. So, we leave it up to the individual medical examiner or chief surgeon to decide whether or not the diabetic's work is truly hazardous to himself or to others.

Yes, Doctor Stahl.

DR. E. T. STAHL: This statement is very positive. I just wonder how many of us actually insist on taking all the diabetics out. I mean, I am in open admission we don't. I just wonder how many can say they do.

DR. I. GOLDOWSKY: I may be fortunate. I would like a raising of hands to answer your question. On our road, any man in train service taking insulin or as Doctor Wight says an oral hyperglycemic agent is not permitted in any train service, and I have not been against any three-man board. I have had no trouble at all.

DR. E. T. STAHL: Regardless of how much insulin he is taking?

DR. I. GOLDOWSKY: It doesn't make any difference if he is taking five units. He is out of service because he is taking insulin, and we know it. Now, I imagine there are probably a few that got by us, and we don't know it. We do pick them up; they are taken out of service immediately. I have had no trouble anywhere. Maybe I am lucky.

How about raising of hands? How many abide by that rule? Maybe we can answer doctor's question a little more specifically. Raise your hands.

DR. E. T. STAHL: In train service?

DR. I. GOLDOWSKY: In train service.

How many don't allow them, as we don't, in train service completely, taking insulin or hyperglycemic agent? Nobody has had any trouble?

How many don't, yes, let them run an engine, but allow them in other services on the road? Got a few there.

Again, we have a difference of opinion. That is liable to hang us some day.

How many permit them to run engines if they are taking hyperglycemic agents?

Doctor Winston you wanted to say something on this?

DR. J. R. WINSTON (System Medical Director, Atchison, Topeka and Santa Fe Railway, Chicago, Illinois): Yes.

First, I want to ask a question and, what I have to say applies not only to this report but the reports that were made yesterday.

Do I understand correctly that what we are proposing will supersede Bulletins 216, 300, First Aid Instructions, perhaps others? Am I correct in that the final report will supersede the present bulletins?

DR. JAMES K. STACK: That is right.

DR. I. GOLDOWSKY: I don't know it by number, Dr. Winston, but anything voted on here today is going to the Committee of Direction for final approval. If passed by them, it will be standard for the industry.

DR. J. R. WINSTON: When we, in this body, passed on a bulletin as being standard for the industry, more and more we are, as individuals representing railroads, being subjected to review and criticism if we do not follow what is ultimately shown in print in the bulletin.

Therefore, it is pretty evident on the subject that you just mentioned, about insulin and train service, that we are not all in accord. Further, it would be extremely difficult for us to all get in accord in any reasonable amount of time.

So, I want to suggest to the Committee of Direction that they keep in mind that more and more areas of limitation are coming before us, and we are going to have to live by the bulletin. So, if the bulletin says that a man taking insulin should not be in train service, we should be prepared to accept that challenge when it comes toward us in court, that we have erred in permitting such to happen.

Not too long ago I had a rather trying experience which I, as the Chief Medical Officer of the Santa Fe, was called before an august body, and in this instance being the Grand Jury, to tell them why we permitted such and such a man to operate a locomotive with all of these problems that he had. Incidentally, none of them were of any significance, which was most important for us. But, I want to admonish the group that we are not the only ones who are aware of the various bulletins that this group sponsors. So, let's be extremely careful what we put into them and be careful that we do not make it sound mandatory.

I understand now that we will be given an opportunity to write to the Committee of Direction and recommend certain changes and additions and deletions in addition to those that have been discussed?

DR. I. GOLDOWSKY: Instead of writing it to the Committee of Direction, I would write it to the Chairman of the Committee whose name you have. There will have to be further committee meetings to rehash and go over these recommendations before the final draft is submitted by the Chairman to the Committee of Direction. The Committee of Direction, in turn, will go over it with a fine comb again.

DR. J. R. WINSTON: Fine.

DR. I. GOLDOWSKY: I would write anything further to the Committee. Naturally these things, both the papers yesterday—Dr. Olson's Committee on First aid, and Dr. Longeway's Committee on Developments resulting from Physical Examinations, and Dr. Stack's Committee—will have to have Committee meetings. All papers again will have to be submitted to the Committee of Direction for final passage.

You still have time, quite a few months. There probably won't be a Committee of Direction meeting before August. You have a few months to rehash these things in your own office and make any further recommendations to the chairmen.

DR. J. R. WINSTON: Fine.

DR. I. GOLDOWSKY: Dr. Knowles.

DR. KNOWLES: I would like to tell a story real quick.

Saint Peter and Saint Paul were playing golf. Saint Peter tees off and makes a hole-in-one. Saint Paul follows, and tees off, and makes a hole-in-one. When they are walking down the fairway, Saint Peter says to Saint Paul, "Now let's

DR. I. GOLDOWSKY: I accept the qualification.
Dr. Kepner.

DR. R. B. KEPNER (Chief Medical Officer, Chicago, Burlington and Quincy Railroad, Chicago, Illinois): On the Burlington Railroad years ago, certain types of anti-glare colored lens was approved and furnished to employes at cost, but in recent years the use of such colored glasses or goggles is not encouraged.

At present, with the increased speed of our trains, the increasing establishment of centralized traffic control and fewer train orders being given, the prompt and accurate recognition of colored signals is of increased importance.

When you say they must not be used and a trainman is found to be wearing colored glasses while on duty, even though in his particular case they may be indicated, disciplinary action is called for with possible repercussions.

I wonder if any of the railroads here represented have written rules or regulations either flatly prohibiting the use of glasses with colored lenses or specifying any certain type of colored lens that may be permitted.

DR. I. GOLDOWSKY: I am going to have Dr. Bennett answer that. I think I have a little recollection that there was only one lens that we might approve if there were to be any approval from this Section.

I think Dr. Bennett can tell you more about it than I can.

DR. R. J. BENNETT: Our committee worked on that for five years. I went up to New Haven, Connecticut, and also corresponded with the Air Force, Navy and Army, and got all their qualifications. We ended up with the specifications used by the U. S. Navy. That lens at that time was put out only by Bausch & Lomb. Since then other companies have put similar lenses out.

That is a gray lens. Back as far as the Savannah meeting, that was the time we read those specifications and recommended they be used as a basis for comparison.

DR. WIGHT: (Off the Record.)

DR. R. J. BENNETT: G-15 which is Government or the N-15 which is Neutral. And the "15" means that it allows fifteen per cent of the visible light to come through.

DR. I. GOLDOWSKY: I wonder if Mr. Hackbert would give us a word on the legal implications if we have four or five roads that are allowing men to use tinted lenses and the rest of the system again is saying they shouldn't be used.

MR. HACKBERT: I suppose that is no different than any other safety practice or medical practice on which the roads disagree. If you get into a law suit on it, you have a train accident where the contention is that the engineer couldn't see the signals because he was wearing colored glasses, and you will run into the same conflict of testimony. The plaintiff will put on his experts that they don't do that on other railroads. The railroad may defend on the ground that certain railroads do. I don't think the rules make much difference on that.

DR. I. GOLDOWSKY: Thank you.

Are our tellers back, or do they have a long count out there? Mr. Parker is not back, so I am just going to continue right ahead until they come back.

At this time I am going to call upon an old favorite of ours. I think if we didn't see him at a meeting, we really would miss him.

He is going to address us on Claim and Litigation Problems concerning the Heart, by Mr. K. A. Carney, Executive Vice-Chairman, General Claims Division and Director of Claims Research Bureau, A.A.R., Chicago, Illinois.

Ken.

MR. K. A. CARNEY: I am going to be awful careful in what I say in view of the comments which have come to me in this meeting, particularly from this Southgate Lehigh. (Laughter) His country-doctor approach has about ruined my reputation for astuteness. Then Dr. Bennett has compounded it still further in a recent trip into my office into which he disrupted the entire force for one full day, on behalf of the Medical and Surgical Section of the A.A.R.

But, sincerely, I am delighted to be here; I wouldn't want to miss one of these if I could help because I really see some wonderful opportunities for us to be of service to each other. And, of course, we are a service organization. It helps us to understand your problems a little better when we do show up here.

I don't know why Hackbert comes except that we find he is very helpful in giving legal opinions. I'm not a lawyer; I'll be involved in illegal practice of law if I attempt to answer too many of these questions. So, we hope he keeps coming because he is very helpful.

Now, the topic that I have here, I don't think you are going to learn anything much. I can give you, perhaps, a few ideas as to why we ought to be interested in the heart problem from the claim and legal standpoint.

We started to make a study of what has happened to the railroad both from the claim and litigation standpoint. While we don't have all the reports in here as yet, I think you might be a little surprised to hear what we do have.

We now have a study of, I guess, around a hundred and some odd cases where compensation has already been paid either voluntarily or through the medium of a verdict and judgment in court, and the highest verdict is $72,000. The highest amount paid is $50,000. There have been $45,000, $35,000, and the lowest settlement was $750.

Now, the different members of the various crafts involved in these problems have been well scattered throughout the entire industry. I mean, there is everybody. Everybody except claim agents, doctors and lawyers' are apparently involved in some form of heart condition which has been compensable.

The largest group happens to be in the enginemen. There are twelve enginemen and five firemen, eleven conductors, four switchmen, twelve brakemen, two yard masters, thirty mechanical department employes, seventeen maintenance-of-way, two store keepers, two baggagemen and ten miscellaneous groups.

But, the factor, the precipitating factor, has generally been kind of interesting, and what you might expect, I presume, although some of them seem to be a little far reaching from a claim point of view.

For example, you have six exposures to heat or cold. You have fourteen inhalation of fumes. You have six that collected because of the condition being brought on in their ordinary work without any extra hazard or extra lifting or extra effort being involved; three from nervousness, and six from im-

proper care or work, and one while working while sick; one from fright and one from a fight; falls, pushing, effort and all those things. Extreme lifting effort are in thirteen; nineteen indirect trauma of the chest out of a hundred some odd cases.

There have even been some interesting things happening outside of the industry. How many have heard of this Marlin Commission report in New York? Any of you? It may be of interest to read at least a part of it to you because it does highlight some of the things we are going to be interested in.

This Commission was established to determine what was happening to compensation out of the New York Workmen's Compensation Act. Governor Harriman selected Judge Callihan as a Commissioner to investigate the situation. The conclusions on heart cases were kind of interesting. For example, he said:

> "Briefly, the conclusions reached were that work does not produce heart disease. Coronary occlusion is preceded by coronary sclerosis. A coronary occlusion occurring during moderately heavy work without engaging in unusual exertion is not causally related to employment. The medical profession is about evenly divided on whether strenuous exertion or emotional disturbance can produce an occlusion, with the emotional factor being considered to play a more important role than the physical, and the time spread between exertion also being of material importance. Subsequent infarctions are not related to earlier ones.
>
> "It will be seen that many awards have been made upon the theory at variance with these conclusions. It is also affirmed that many claims involve physical strain or emotional disturbance and pre-existing pathology and to the extent of the latter are illogically charged to the cost of compensation. They determine that the degree comparative causation between the two appears ever in the present state of scientific knowledge, completely speculative except perhaps in death cases where autopsy is possible.
>
> "Until some instrument or criteria for measurement are developed, any allocation must necessarily be arbitrary. This, however, is no reason for dogmatically saying that the entire cost must be borne by the compensation system.
>
> "The economic pattern of business is seriously affected by having compensation costs thus improperly expended."

Now, in the survey, these are the general statistics they quoted: There were 398 physicians who answered a questionnaire sent out by this group for the purpose of determining their theories in connection with the problems that will be related here: (1) Work does not produce heart disease, 99.9 per cent against 1.5 per cent; (2) coronaries from arterio sclerosis or some other form of coronary disease must pre-exist in an individual who suffers a coronary occlusion or myocardial infarction, 93.4 per cent against 6.3 per cent; (3) performas same type of moderately heavy work without engaging in unusual exertion or strain has no injurious effect upon the heart, a myocardial infarction occurring during such work does not causally relate to the employment, 88.6 against 7.1 per cent; (4) subsequent attacks of myocardial infarction are not causally related to the first attack, the underlying pathology of the coronary vessels of the heart, 82.9 against 12.9 per cent; (5) opinion on the effects of strenuous physical exertion or emotional disturbance upon the heart, divided, 46.6 per cent considered that there was a causal relationship between strenuous work and an ensuing myocardial infarction; 49.5 per cent did not.

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The general opinion was the emotional factor plays a more important role in bringing on such an infarction than the physical. Opinion was divided on whether a person has a permanent-partial disability after he has recovered from his myocardial infarction and return to work and is asymptomatic. 45.8 per cent felt there was a disability; 47.9 per cent that there was not.

Anybody who might be interested in these conclusions and so forth, we will be happy if you will indicate to Mr. Parker that you are interested in that. We will be glad to furnish you copies of it.

Another comment that will be interesting by the Bar Association of the State of New York, because the lawyers were getting conscious of this tremendous problem, was rather interesting and may be interesting to you. The Board's decision indicates that they have in recent years placed in the accident category such injuries as riding over rough roads which causes back injuries, a restrained sneeze which resulted in a fractured rib, criticism of an employe by his employer causing emotional upset followed by a coronary occlusion, and a bite from an insect which produced a rash.

In the court decisions, the two most pronounced examples of the turning away from the earlier requirement of a strenuous physical act or occurrence are the cases of routine exposure resulting in disease and the so-called "heart" cases involving the concepts of strain and exertion.

I am going to quit talking about the heart because I don't know a thing about it. I do mention these things to you so that you may know there is a fund of material being collected by our office.

Now, some of you, perhaps, in my conversations with you have indicated a lack of awareness of some of the things we are set up to do, and I would like to take just about ten minutes to give you a little bit of background material and information, as to where you might come for some help, and how you might be of some help to us.

Our basic philosophy in connection with this particular phase of our work has to do with the fact that the railroad industry today is suffering from a problem that is not different than the insurance or any other group. Plaintiffs' lawyers have set out to make more injuries, to make more conditions subject to interpretation of injuries. And, they have asked the doctor to be an advocate to rehabilitate his patient financially as well as physically.

That is certainly foreign to the theories of medical practice as we have all known it.

The thing that we are interested in as an industry, of course, is the fact a doctor must be completely honest and objective; he shouldn't favor the railroad company or his employer any more than he does his patient. It is possible to serve two masters because, as I have repeatedly told you, the attitude of the industry is that we want to compensate people for what has actually been done to them, but we don't want to pay them for those things which we have not done. You should be honest with yourselves, and, if you are honest with yourselves, you are being honest with both parties. You can serve, therefore, two masters superseded by one desire to do right.

Our bureau has a clearing house. We get reports of all the cases settled in the industry. That clearing house has been very helpful in clearing applicants for employment. Most of the railroads are doing that now. Last year we picked up six hundred prior records on the reports we got. You have been given information. We don't think you ought to disqualify merely because somebody else disqualified them. We don't think you ought to reject them

because they had some condition two or three years ago. It is information to you on which you should base your further examination, determination whether or not that man is a proper physical specimen for the job that he is going to be required to do. We don't want to do anything to keep men out of work unless taking that man on will be a danger to himself or danger to his fellow worker.

We are making all sorts of investigations with regard to all the serious injuries to determine how these miraculous recoveries happen that you hear about from time to time. We are finding out that these men who have alleged total and permanent disability do make these miraculous recoveries, are working, and are engaging in occupations comparable to that which they were engaged in at the time of the accident and at the time they made the representation of permanent injuries to the court.

Recently in Chicago, it might be of interest to you to know, and why I was glad to hear these comments about being careful about what we print in these meetings, we are using these spoken words of many medical-legal men from the plaintiff's side who have spoken to groups, who have published papers on various subjects. Two doctors in Chicago in a recent trial who are very professional witnesses and who were recently involved in a case against the New York Central were confronted with material we had gathered upon their prior speeches, their prior testimony, and jury didn't believe them after they got through testifying because they testified exactly contrary to what they had delivered in papers and other scientific gatherings.

That is the sort of thing lawyers need today in defending railroad cases, information about what doctors who are eventually used by plaintiffs are testifying to. We ask the railroads when they report these cases to us, we send them an additional form asking for all of the material, how the report of the plaintiff's doctor differs from the report of your own medical department, and in what sense is that report wrong. We can't determine that as laymen. You, as doctors, have got to do that.

Unfortunately, I don't believe many of you doctors have had those things referred to you by your own companies for appraisal. I would like to say this to you: I think there ought to be a better liaison between your claim-legal and medical departments to the point where any employe or any claimant that you have had under your care collects damages for a cause that is unrelated to the injuries you treated the man for or is over-exaggerated, I think you ought to know about that. You ought to document it. I think you ought to make it available to us. You are the only ones who can do it in an adequate manner.

Our statistics have been very helpful to them. We are not taking any particular side in the thing, but we do think we ought to know what is going on from a practical standpoint. There has been too much theory advanced without anything in back of it. We are trying to document those things.

I would like to see further here, and I would like to be a little more of service to you. I think we failed you in one respect. It occurs to me, and I was reminded of it the other day, we promised to send you some information some time ago about the decisions of the National Railroad Adjustment Board as they pertain to the various phases in which you might be interested in returning men to work under certain conditions, what you had to do about a three-man board. That is really not your business in one respect, but it would be helpful if you knew what the board was doing.

I think we can get that material again together and separate it, the medical part from the other parts, and see that you do get it if you express a desire

and an interest in that. We will be glad to do that. Please don't use that as an authoratative thing. You have got to clear with your own law and personnel departments.

On your application forms and things like that, please don't do anything with that part of the examination form that has relation to asking questions of the individual's past record. That is the most important thing that the railroads have got to have done today on which to keep from being defrauded. Our purpose in having this information is not for the purpose of taking advantage of an honorable claimant, but it is to keep ourselves from being defrauded in these claims. It is not an accident that we are now spending one and a half times as much for our claim settlements over and above the increase in the cost of living that we were ten years ago. It is due to this medical-legal extortion more than any other single factor.

I am going to go on to one more thing that is interesting and is not going to be in a preaching line, but I know that some of you may be interested in the B of RT.

I don't know how many of you know how the B of RT operates, but I want to give you a thumb-nail sketch of it because I have heard some words today or since I have been here which indicates a lack of appreciation as to just what they are doing.

The Legal Aid Department of the B of RT is not supported by the dues of the members of the legal aid problem of the switchmen. The only way that they get their money is through the lawyers. They have eighteen regional counsels throughout the country. They take a case on a twenty-five per cent basis. There is a regional investigator appointed in each section of the country. That regional investigator is paid a salary. He is paid a salary by the Grand Lodge of the Brotherhood, but the lawyer, regional counsel, who supports this regional investigator reimburses the Grand Lodge for his salary. It doesn't come out of the Brotherhood at all. It doesn't enter into their accounts at all. He is supported by the lawyer. If this man is paid five thousand a year, he charges off against those advances (and they are called advances or salary) as his commission on cases, ten per cent of the lawyer's fee.

Now, in proceedings in Chicago here recently, I am going to read you part of that opinion, they have outlawed all of that kind of activity completely.

Originally the B of RT took a five per cent cut of the twenty-five per cent leaving the lawyer twenty per cent. But since Young versus GM&O in St. Louis, they have abandoned that. Now they handled it through this assessment between regional counsel; regional counsel supports the entire Legal Aid Department on the basis that I have mentioned here.

In closing, I want you to know that the Medical-Legal Committee which has been jointly set up by your section and our division is functioning very well. We are all very happy about it and particularly with the interest taken by the doctors. I urge you to continue to support it because I expect in the next couple years we will have something that we will all be immensely proud of.

Thank you very much. (Applause)

DR. I. GOLDOWSKY: Now you know why I say we can't do without Ken Carney at our meetings.

Harvey.

DR. NELSON: Might I ask Ken Carney one question: I understand you get information on cases that come to trial. Do you get information on the doctors and attorneys on cases that are settled without coming to trial?

DR. NELSON: All of them?

MR. K. A. CARNEY: All of them, whether they have lawyers, whether they are tried or not. We have the name of the doctor, nature of the injury, the disability, whether total or permanent, or what percentage.

DR. NELSON: What the doctor claims?

MR. K. A. CARNEY: What the doctor claims. Then, if the doctor claims there is a disparity between the two, there is a question that says: "Was plaintiff's medical grossly exaggerated?" If they answer "yes," we send them an additional form. What they will do is consult you at that time.

DR. I. GOLDOWSKY: Your Chairman is going to take a prerogative at this time. We do have an address later on the role of trauma in cardiac disease. Rather than have you interrupting right now and ask Ken Carney questions, I think we will wait 'til later. We will get Ken Carney up here. We will have Dr. Burch up here. We'll let them tear each other's hair out.

I am going to give you the report of the tellers of the election, and then I am going to call a fifteen-minute recess for meeting of the new Committee of Direction.

The report of the tellers of the election: Dr. Southgate Leigh representing the Seaboard Air Line, elected to the Southern territory; Dr. Harvey Nelson representing the Soo Line Railroad, elected for Western Territory; Dr. R. M. Graham representing the Pullman Company, and Dr. J. K. Stack representing the Chicago & Northwestern Railroad have been elected to the Committee of Direction each for a term of three years. (Applause)

We will have a recess of fifteen minutes, and I would like to make it fifteen minutes. Be back here because we want to get on with the show. We must finish around twelve-thirty or twelve forty-five at the latest.

DR. I. GOLDOWSKY: I am going to take a minute before I have the next speaker to just announce to you at this time that at a meeting of your Committee of Direction, Dr. Ben Stockwell was elected Chairman for the next year. (Applause) And, Dr. Jim Stack was elected Vice-Chairman. (Applause)

Now, as long as they got rid of me, I am not going to give this job up. I'm going to continue for a while.

I do have one little important thing. The Committee of Direction has discussed the meeting place for next year. You have a choice, not a big choice, of Detroit or Chicago. That was done for very obvious reasons. We have been away from Chicago a long while. I think we had better get back close to it. Otherwise we may not have any meeting. So, you have a choice of Detroit or Chicago.

All those in favor of Chicago raise their hands. Raise them up high because I got in trouble last year. Sixteen as I count. All those in favor of Detroit. I'd better appoint tellers here. Thirteen; am I correct? Sixteen to thirteen, we will meet in Chicago in 1959. The time of the meeting will be decided by the Committee of Direction at some later date. You will have some further notice at that time.

At this time it gives me great pleasure to call on our next speaker who will address us on Lesions of the Cecum, Dr. Julian K. Quattlebaum, Central of Georgia Railway Hospital, Savannah, Georgia.

I am not going to give Dr. Quattlebaum a swell head, but Dr. Holton said some awfully nice things about you.

Dr. Quattlebaum. (Applause)

Dr. Quattlebaum: Mr. Chairman and Gentlemen:

For all practical purposes, the colon may be considered a dual organ. The right colon differs from the left embryologically, anatomically and physiologically. That part of the bowel extending from the ampulla of Vater as far as the mid point of the transverse colon arises from the midgut. The left, of course, arises from the hind gut. The right colon receives its blood supply from the superior mesenteric vessels along with that of the small bowel, and its lymphatics drain along these vessels while that of the left colon is from the inferior mesenteric vessels. The right colon is much larger. Its walls are thinner and more permeable; the diameter is greater, and its fecal content is more liquid; consequently symptoms arising from the right colon are apt to be diverse in character and are more numerous. Pathologic conditions more often manifest themselves by systemic disturbances such as profound anemia, loss of weight and strength and prostration while those of the left colon are more apt to make themselves known by the appearance of gross bleeding and obstructive symptoms.

In addition, there are three anatomical factors which play a part in conditions that affect the right colon. We consider the cecum and right colon as one organ. These anatomical factors are: (1) The appendix; (2) The ileocecal valve, and (3) The mobility of the colon and cecum.

LESIONS OF THE RIGHT COLON

The appendix may at times produce symptoms related to the right lower abdomen that cannot be differentiated from those of cancer. In elderly people, appendicitis may be the first manifestation of carcinoma of the cecum. In operating for appendicitis in elderly people, one should remember that cancer of the cecum may be the primary lesion, and the appendix secondarily involved by obstruction of its opening into the bowel. If the findings in the appendix are not sufficiently advanced to explain the symptoms, the patient should be kept under constant observation and X-ray studies made after a few months.

The competency or incompetency of the ileocecal valve is important in evaluating and treating obstructive symptoms arising from the colon. The ileocecal valve may also be the site of new growth. Carcinoma involving the ileocecal valve may give symptoms simulating appendicitis, or low bowel obstruction. This type of lesion may also precipitate acute ileocecal intussusception.

In eighty per cent of individuals the right colon is fixed, and the cecum has a very limited range of motion, but in twenty per cent the right colon may have a mesentery, and the cecum may become so mobile it can be placed anywhere within the abdominal cavity. In some instances the cecum becomes greatly dilated, the so called Giant Cecum, and it may give gastrointestinal symptoms frequently referred to the upper abdomen and confused with those of peptic ulcer or cholecystitis. Fixation of the cecum and right colon or hemicolectomy may be indicated. Volvulus of the cecum may occur and is said to cause one per cent of all the cases of acute intestinal obstruction. Prompt

surgical intervention is imperative for ileocecal volvulus, as it is a very lethal condition in contrast to volvulus of the sigmoid which may be handled more conservatively. Ileocecal volvulus may also complicate pregnancy. This condition can usually be diagnosed by roentgenograms.

MECHANICAL FACTORS

The right colon may be involved in wounds, perforations, and adhesions. In twenty per cent of individuals the cecum and right colon have little fixation and a penetrating wound in any part of the abdomen may result in injury to this part of the bowel. Obstructions caused by tumors, inflammatory bands or adhesions, either postoperative or otherwise in the presence of a competent ileocecal valve may progress to such a degree that gangrene and perforation of the cecum may occur, the result of intraluminal pressure.

SPECIFIC INFECTIONS

Tuberculosis, amoebiasis, actinomycosis and typhoid fever may also involve the right colon. Tuberculosis forms the involved the intestinal tract in fifty per cent of all the cases of advanced pulmonary disease. However, with modern care ulceration of the cecum and the ilium is rather rare. Medical care is the treatment of choice. Amoebiasis of the cecum occurs more often than realized. The condition may be confused with carcinoma. However, X-ray studies often make the diagnosis. Actinomycosis occurs in the abdominal cavity in approximately twenty-five per cent of cases. It is usually in the terminal ileum or in the cecum. It may exist for months without symptoms other than a palpable tumor. It is only when explored surgically or a sinus develops which produces the typical sulphur granules that one can make the diagnosis. In the past actinomycosis was treated with potassium iodide. Now the accepted treatment of choice is excision of as much of the involved tissue as possible followed by enormous doses of penicillin; as heavy as twenty million units a day. In days gone by, typhoid fever was prevalent, and perforation of typhoid ulcers was not uncommon. It is well to remember that in twelve per cent of the perforations the ulcer was in the cecum.

INFLAMMATORY LESIONS

Inflammatory lesions of the cecum include diverticulitis, typhylitis, peri-typhylitis, non-specific granuloma, entero-colitis, and ulcerative colitis. Diverticulitis may involve any part of the intestinal tract from the esophagus to the recto-sigmoid junction. The cecum is no exception. Diverticulae in the cecum usually take the form of a solitary lesion, and are most often encountered during routine exploration. They may become inflamed and a large inflammatory mass indistinguishable from carcinoma may be palpable. Typhylitis, peri-typhylitis and non-specific granuloma present as masses found in the right side of the abdomen for which no cause can usually be ascribed. Most often, typhylitis is caused by appendicitis in which the appendix is buried in the wall of the bowel. Occasionally these granulomatous masses arise through perforations of the bowel by a foreign body. Masses of mesenteric nodes in close proximity and secondary to ulceration within the cecum may produce a huge tumor in the right lower quadrant and such a tumor may be confused with carcinoma, but an experienced roentgenologist can probably make the diagnosis by recognizing the deformity to be from extrinsic pressure rather than intrinsic. The cecum is involved in twenty-five per cent of cases of ileitis

of the terminal ilium. Treatment may be excisional or diversionary. Ulcerative-colitis may arise in the cecum and in rare instances remain limited to that part of the bowel. Most often it represents a stage of a condition that will certainly progress and involve the entire colon. If conservative therapy fails, hemicolectomy is the treatment of choice.

BENIGN TUMORS

Benign tumors of the cecum include lipoma, leiomyoma, polyps and others. Lipoma of the cecum sometimes reaches great size. It may be submucous or subserous in character, and is often mistaken for a malignancy. Whenever correctly diagnosed, it can be resected or enucleated. Leiomyoma is a benign tumor most frequently found in the stomach. It usually manifests itself by gross gastrointestinal hemorrhage, the result of ulceration. It is rarely found in the cecum where resection is usually carried out. Polyps involve not only the cecum, but all other portions of the intestinal tract. The relationship between polyps and cancer, particularly of the colon, is recognized. It has been estimated that seventy-five per cent of all cancers of the colon arise in polyps. They may exist at any age, but they are most frequently found in middle life or beyond. Polyps should be removed as they are found, and the cecum is no exception. However, it is very difficult to make a diagnosis of a polyp of the cecum before it has become malignant.

MALIGNANT TUMORS

Carcinoma, carcinoid and sarcoma are the most frequent malignant tumors of the right colon in that order. Carcinoma of the right colon is usually a very insidious disease. Any patient who has profound anemia for which no cause can be found, who is losing weight for no known reason or who is simply sick without explanation, is to be suspected of having carcinoma of the right colon. This lesion usually exists as a large, flat, bulky type of growth covered with protuberances that look very much like granulation tissue. The normally thin wall of the cecum rapidly absorbes and toxemia is very pronounced. Carcinoid tumors occasionally arise in the cecum and sometimes produce an intractable diarrhea without bleeding. Carcinoid tumors are supposed to be rather mildly malignant, but they do metastasize and cause death. Lymphosarcoma is most frequently seen in the stomach, and it, too, is itself very well to surgical excision. It also occurs in the cecum. The diagnosis can usually be made by X-ray studies and treatment by surgery or X-rays is often satisfactory.

COMMENT

Excisional therapy is the treatment of choice for most pathological conditions involving the cecum and right colon. It often can be carried out as a one stage hemicolectomy with end-to-end or side-to-side reconstruction of the bowel continuity. Diversionary procedures such as ilio-transverse colostomy may occasionally be indicated as definitive procedures or as the first stage of a more radical removal; when the patient's condition warrants. Thorough preoperative preparation is mandatory in all elective cases. Correction of the anemic state, restoration of blood volume, fluid and electrolyte balance, the vigorous use of antibiotics and careful mechanical cleansing of the colon insure success. Emergency cases can be greatly safeguarded by massive antibiotic therapy postoperatively. The type of incision, method of anastomosis, choice of suture materials, are matters of choice for the individual surgeon and are secondary

in importance to observing the well-founded surgical principles of perfect hemostasis, gentleness, protection against soiling, attaching healthy bowel to healthy bowel, and proper evaluation of the patient's capacity for recovery. (Applause)

DR. I. GOLDOWSKY: Thank you very much, Dr. Quattlebaum.

Usually at home, at meetings that I attend, I never know in the discussion period who talks longer, the surgeons or the internists. Being an internist, myself, I am going to say the surgeons talk longer. I am going to try and keep this railroad on time here today. I am going to take my prerogative again of limiting the discussion to three minutes per person. So, if you hear the gavel bang, you know you have to get off the floor.

Is there any discussion now of Dr. Quattlebaum's paper? We must have some surgeons here. I know you are all not internists.

Any discussion?

Dr. Nelson.

DR. HARVEY NELSON: I would like to ask Dr. Quattlebaum what type of antibiotics he uses preoperatively. We have been limiting ourselves to Neomycin twenty-four hours beforehand.

DR. QUATTLEBAUM: (Off the Record.)

DR. I. GOLDOWSKY: Is there any other discussion?

If not, again I want to thank you, Dr. Quattlebaum, for a very fine and interesting paper.

We will go on with an address that I know is going to create discussion. I don't think it is going to be discussion. I know it is going to be an argument. I haven't even heard the address yet.

The Role of Trauma in Cardiac Disease by Dr. G. E. Burch, who is Head and Professor of the Department of Medicine, Tulane University School of Medicine; Physician and Chief, Tulane University, Charity Hospital of Louisiana; Visiting Physician, Touro Infirmary; Consulting in Internal Medicine and Cardiology, Hotel Dieu; Veteran's Administration and Illinois Central Hospitals.

Dr. Burch. (Applause)

DR. G. E. BURCH (Ochsner Foundation, New Orleans, Louisiana): Mr. Chairman, Gentlemen: The relationship of employment to heart disease is so extensive that only selected aspects can be presented. With the increasing life span of man the number of people with cardiovascular disease increases. This may be related to chronologic aging, wear and tear of life processes, accumulated injury, and degeneration of complicated metabolic processes. There has been considerable interest in the effects of stress and strain on the heart from the standpoint of preventive medicine and therapy as well as job placement. From his beginning on earth man has been subjected to stress and strain or wear and tear. Furthermore, he will never be entirely free from physical and psychic trauma, whether he develops heart disease as a result of it or not. With this realization man must be given advice in his choice of work and in his care during periods of acute, chronic or irreversible illness, in an attempt to preserve his health.

With the recent rapid growth in industry, there developed a period of manpower shortage which brought about the employment of a number of other-

wise unemployable, ill people, of whom many were actively and irreversibly ill. These people were a continuous, serious health risk and became a responsibility and often a burden to the employer and labor groups. Of course, there are the obligations of management and labor to an employe who has become irreversably ill after many years of faithful and effective service to his employer. Too often, to the detriment of the employe and or the employer, emotions are allowed to enter into decisions concerning employability and job placement of these people. Even with strict adherence to clinical data, it is difficult to render a satisfactory decision.

The American Heart Association and its affiliates have been interested in job placement and rehabilitation. They have attempted to define the difficulties and to advise the employer and employe properly. Even the medico-legal experts find it difficult to reach precise, fair and satisfactory answers to such questions as: Was the health of the employe aggravated, accelerated or altered detrimentally in any way during the course of his work?

Knowing that exercise is beneficial for every healthy person and many ill people, the question remains: How shall we define what is satisfactory and advisable for a particular person? It is not possible to generalize for everyone with heart disease and still do justice to each person with cardiovascular illness. The problems are complicated and the variables many. Each person must be carefully individualized. The outlining of graded, properly planned exercise and work for each particular patient should be the responsibility of the physician. A good physician always does that which is best for his patient and his advice must vary to meet the needs of each person. Sudden exertion, especially when sustained and extreme, is probably more detrimental than gradual, continuous exertion. An older person who is sedentary all week and works hard or plays vigorously on a weekend may develop serious difficulty, especially if there is underlying cardiovascular disease. However, it is too often inferred for convenience in arguments and decisions concerning a man's job that exercise is dangerous for anyone with heart disease. Because physicians place patients with heart disease in bed for prolonged periods of time, it is assumed by many that any exercise aggravates cardiac disease. It is considered inconsistent to state in a specific case that a man's work did not nor will not aggravate his cardiac state and precipitate death. Lay people, especially, do not understand the physiological situations nor the circumstances which justify such variations in opinions.

Fortunately, many patients with heart disease are well protected by their symptoms. If the physician carefully and meticulously elicits and properly evaluates the symptoms presented, most people can be protected from serious difficulties produced by overexertion and psychic disturbances associated with work and living. However, inadequate consideration of cardiovascular symptoms may lead to serious difficulties in spite of the subtle, naturally provided warnings. Until the patient learns a great deal about his particular disease and its peculiarities of behavior, he should be instructed to contact his physician when in doubt about symptoms. He must learn how to live and work with his heart disease without precipitating difficulties. To be sure, certain calculated risks are frequently taken by a person with serious heart disease, as he contends with his environment and with his job, but most of these risks are not worse than those encountered at home.

The person with cardiovascular disease should do no more than his symptoms will permit. He should not test himself until he develops serious difficulty. The man with angina pectoris should do nothing that precipitates pain,

the same time, however, it is necessary that the physician be careful always to advise his patient without producing an anxiety state.

Labor and management must cooperate to ensure proper job placement. Labor and industrial organizations should provide jobs for the chronically ill. Job facilities and opportunities need to be studied by both labor and management in an effort to help the ill. Physicians working with industry and medical organizations, such as the American Heart Association, need to study further the effects of jobs upon workmen with cardiovascular lesions.

Remember, a person without work often is under greater stress and strain than one who is relaxed at work. It is far easier to control physical exertion than it is to control mental stress or psychological disturbances. A man can, on advice, refrain from physical activity, but it is often very difficult for him not to worry or be overly anxious even when lying in bed. Also, remember, a foreman sitting at his desk worrying over problems frequently expends more calories and works more strenuously than the man who is sitting at a lathe peacefully working with a simple routine procedure (1).

The environment itself, may produce cardiovascular stress. We have shown that hot and humid environments increase cardiac output (2, 3, 4). At high temperatures and humidity (116° F. and 75% relative humidity) cardiac work can be increased several fold. The effect is less at lower temperatures. Patients with cardiac disease may develop acute congestive heart failure when placed in a hot and humid environment. A cool and comfortable atmosphere is less distressing. The influence of temperature and humidity is dependent primarily upon the rate of thermal loss and the rate of heat production, or the needs for heat loss in order to maintain thermal balance. Exercise increases the rate of heat production and, therefore, necessitates a lower environmental temperature and humidity to maintain a sufficient rate of heat lost. The heat load is less when the person is at rest. Air-conditioning during the warm months can be extremely beneficial in ensuring rapid and satisfactory rates of heat loss. Patients with angina pectoris or impaired cardiac reserve should not work strenuously in a hot and humid environment.

As stated above, sudden strenuous exertion is much more distressful than mild exertion or exertion which is gradually increased. This is not only true for the man with cardiac disease but also for the old person or the person with most major illnesses. Older people can do anything that young people can do if allowed sufficient time in which to do it. The man with heart disease, likewise, must never be in a hurry or in a rush. Long fatiguing hours of work should be avoided, and infections, including the common cold, should be treated promptly with emphasis on rest.

The value of the periodic or follow-up health examinations of employes with cardiac disease cannot be over-emphasized. The employer would be wise to make sure that at least all ill employes are carefully examined periodically. The patients with large hearts are the most vulnerable and have the worse prognoses, i.e., the larger the heart, the worse the prognosis, all else being equal. A man with a large heart, a gallop rhythm and a tendency to the associated low pulse pressure which usually exists (a low systolic pressure and elevated diastolic pressure), is seriously ill. Such a person should not work and usually is not able to work. Certainly, the person with obvious congestive heart failure should not work. A person with angina pectoris who knows his limitation and restrictions and heeds them can usually get along extremely well at work. On the other hand, the man who has anginal pain that is easily and frequently precipitated is a poor risk at work.

Persons with certain non-fatal cardiac irregularities are poor work-risks

WEDNESDAY MORNING SESSION

March 26, 1958

The Wednesday Morning Session of the Thirty-Eighth Annual Meeting, Medical and Surgical Section, Association of American Railroads, convened in the Edgewater Gulf Hotel, Edgewater Park, Mississippi, at nine o'clock, A.M., Dr. I. Goldowsky, Chairman, presiding.

DR. I. GOLDOWSKY: Gentlemen, I am going to get on with the meeting because we have some additional content to our meeting this morning that is not marked in your program.

We have with us the men from the Railroad Retirement Board who are going to give us a talk later: To Keep Experience at Work which has to do with the present stabilization of employment.

So, if you will bear with us and bear with them, we will go on with the program.

Now, at this time it gives me a great deal of pleasure to kick myself out of office, and I want to induct our new Chairman into the office the first thing this morning. Will Dr. Bennett and Dr. Olson escort Dr. Stockwell up to the the front. (Applause)

DR. B. W. STOCKWELL: Thank you, gentlemen.

DR. I. GOLDOWSKY: Dr. Ben, it is a pleasure for me to turn over this gavel to you to start to break you into the headaches of this job.

There are not too many headaches because I am sure that you will have the same co-operation that I have had the past year of every member of the Section and all your Committee Chairmen.

So, without making any more speeches, the job is yours.

DR. B. W. STOCKWELL: Thank you very much, Dr. Goldowsky, and members of the Medical and Surgical Section:

It is indeed an honor to be elected your Chairman, and I certainly do appreciate it.

I think, first, we should comment on the way that Dr. Goldowsky has handled things during the past year. He has been an excellent Chairman. He has done a lot of hard work, and he has accomplished many things. He should definitely be complimented on the performance of a job well done. (Applause)

This year the Committee of Direction will meet for the first time sometime in the summer, and the various standing committees will be appointed at that time. The committees, as you are all aware, do the work of the Section. As soon as the appointments are made, we will try to get a news letter out to all of the members of the Section as to who they are and what to expect.

I think it would be well, if we can, to let you know during the year what is going on instead of having that knowledge chiefly in the minds of the members of the Committee of Direction only.

As I said, it is an honor and they tell me that there is some work connected with it. I certainly hope that I can do half as good a job as Dr. Goldowsky.

If any of you during the year have any questions concerning the operation of the Section or have any suggestions concerning our program for next year, we would welcome very much hearing from any of you at any time.

Thank you very much. (Applause)

Now, Dr. Goldowsky said that he was relinquishing his job. I don't quite agree with that. This is still the meeting that was arranged by our ex-Chairman. I think that it is only fitting that he continue on until we are through here at Edgewater Park this year.

So, Dr. Goldowsky, you didn't get out of the job. I will give you your gavel back for the rest of the day. (Applause)

DR. GOLDOWSKY: Our first committee report, and our most important committee this morning, is our Medical-Legal Research Committee; and our good Chairman, Dr. Mishler, Chief Surgeon, Erie Railroad, Cleveland, Ohio, will tell you a little about what has been going on the past year.

DR. W. E. MISHLER: The Medical-Legal Committee which was appointed during the past year is made up of Drs. R. J. Bennett, Chief Surgeon, E. J. & E. Ry.; Harvey Nelson, Chief Surgeon, Soo Line, and myself; also, Messrs. Ewing, General Claim Atchison, Topeka & Santa Fe; W. H. Kelly, General Claims Attorney of the Chicago, Northwestern Railway; and R. R. Minor, General Claims Agent of Illinois Central.

Two meetings have been held. While the Committee did not have a specific aim or purpose when it was formed, it was intended to aid and assist, if possible, the solution of some of the problems affecting railroads that are common to both departments.

As our first project, it was felt that the Impartial Medical Plan as adopted at New York and Baltimore had merit. If possible, its adoption in other centers would be advantageous.

The principal characteristics of the New York plan for those who are unfamiliar with it are: (1) The fees of the impartial medical experts were originally paid by a foundation, but later on a showing of economies effected by the Plan, these fees were and are being paid by public funds; (2) The panel of Medical Experts were set up by local medical societies with a number of doctors appointed to the various specialities that were considered appropriate. A list of these experts were kept confidential and were selected in rotation and without prior knowledge of their identity by the court or counsel. Only senior experts were selected, and usually they were men who do not make a practice of testifying for either plaintiff or defendant; (3) Cases which were to be submitted to the impartial medical experts are determined by the trial judges on his own motion or at the suggestion of either party and usually at the time of the pretrial hearing. The judge determines which specialty or specialities are required in the particular cases before him; (4) When a case is selected for expert handling, the clerk determines from a confidential list the expert next in order and the specialty required and makes all arrangements necessary for the examination by the doctor; (5) The expert in every instance is given a free hand to make a physical examination and make all laboratory tests and take all X-rays he feels necessary. He is also furnished with the reports of the doctors employed by the parties and results of laboratory tests. X-rays and hospital records, if any; (6) After examination, the expert witness makes his report to the court and copies are furnished to both parties; (7) At the trial the expert may be called by the court or either party, and his examination is conducted in the same manner as any other expert except that the party called is usually not considered bound by the testimony; and the impartial appointment of compensation expert is made clear to the jury.

At our meeting it was suggested that Minneapolis and Pittsburgh were centers to be considered.

I might say here at this point that this committee has had immeasurable help from Mr. Ken Carney and his Research Bureau. I might say that Ken Carney has done most of the leg work for this committee.

He reports as follows as relative to Pittsburgh:

"Pursuant to the understanding we had at the last meeting of the Medical-Legal Committee, I have gone into the situation at Pittsburgh, Allegheny County, Pennsylvania, with a view of determining whether or not there would be sufficient interest in the institution of the Impartial Medical Testimony Plan following generally the one in New York.

"First of all, I have had a meeting of the heads of the claim departments of the various railroads operating in Pittsburgh, and found an overwhelming sentiment in favor of the plan.

"In addition, I also learned two outstanding orthopedic men, Drs. Kenig and Mazoni, had already started to get a resolution through the medical society for the adoption of such a plan.

"It was also learned that Federal Judge Gorley had been in favor of some plan to provide impartial medical testimony.

"At the suggestion of Mr. Peter G. Edward, I talked to Drs. Kenig and Mazoni and found they were under the impression it would be necessary to go to the legislature for relief for adoption of such a plan.

"We further understood the matter had not been progressed to any appreciable degree, would probably hog down unless some stimulation is provided.

"Dr. David Cass of the Century Building, Pittsburgh, Pennsylvania, is the current President of the Medical Society and general claims agent.

"The Allegheny Bar Association would, in our judgment, respond favorably to requests from the medical society to jointly sponsor such a plan.

"The current and incoming presidents are both members of a defense law firm, however, and might be suspect, but I believe there would be enough influence brought to bear for such a plan that we would probably have no real trouble with the Bar as a whole.

"I have not proceeded beyond this point as it now appears that Pittsburgh would provide a likely place to adopt the plan, and if handled in an intelligent manner, would likely be adopted.

"All those interviewed in this matter are pledged to secrecy as it was made known to them that any knowledge that we were interested in sponsoring such a plan would do more to defeat its acceptance than any other single factor.

"My attention was called to the fact the real need of the railroads in Allegheny County in connection with a plan of this kind is in the Federal District Court, and that the court probably has no funds available to put into operation such a plan unless the costs were assessed against both the plaintiff and defendant on a fifty-fifty basis to avoid any tendency towards favoritism toward the plaintiff or defendant.

"If I can be of further service to you or your committee in this matter, I trust you will advise me of your wishes."

I have a communication here to Dr. Nelson by the law department of the Soo Line:

"Dear Dr. Nelson:

"Enclosed is a copy of the resolution adopted by the American Bar Association relative to the Impartial Testimony and also a letter from the Bar Association in response to a letter of mine inquiring about what activity had been undertaken to expedite the adoption of such a plan.

"After you read the same, return the same to me."

The resolution adopted by the American Bar Association is as follows:

"RESOLVED that the American Bar Association adopt a national program to be implemented at the local level for fostering the creation of panels of impartial medical experts under court aegis in the pre-trial consideration and trial of personal injury cases, especially in those communities where there is a volume of personal-injury litigation in the court and where there is sufficient number of qualified doctors available to constitute a panel; that the panel be selected by professional bodies on the basis of professional qualifications; that the panel be employed in the pre-trial and trial stage of such cases and that the copies of this resolution together with the attached report of the Section's Committee on Impartial Medical testimony dated August, 1956, be forwarded to all state and local bar associations represented in the House of Delegates with the recommendation that this program be adopted."

The Section on Publications and Services of the American Bar Association wrote to Mr. Beckman of the Soo Line as follows:

"This acknowledges your letter of March 5th with regard to the report of the Committee of Impartial Medical Testimony. This report contained a resolution on the subject which was presented as amended upon recommendation of the Board of Governors to the House of Delegates and adopted by the House.

"We enclose the attached," which I just read.

"You will note copies of resolutions together with the report of the committee before to all state, local bar associations represented in the House of Delegates with a recommendation that this program be adopted. This has been done.

"The State Bar Associations of the States you mentioned, Illinois, Wisconsin, Michigan, Minnesota and North Dakota were included. We were unable to tell you what committees of these associations were contacted; nor, are we able to tell you whether the Section of Judicial Administration has received word from any of these organizations. This office has not.

"We are sending a copy of this letter to Justice Clark of the Supreme Court, Washington, D. C., who is Chairman of the Section."

That handles Minnesota.

Shortly before this meeting, another member of this committee has contacted the federal judges of another district other than Minnesota or Pittsburgh on the merits of this plan, and it is anticipated that a meeting of them which is to be held shortly will be fruitful in the adoption of such a plan.

At the last Committee of Direction meeting—and this is changing the subject—the Pennsylvania Railroad proposed to the A.A.R. a study of the problem of the effects of diesel fuel in locomotive cabs and in shops. The subject has been referred to this committee, also. However, nothing has been done to date.

As I mentioned before, Mr. Carney has given this committee a great deal of help, and I hope he will continue to do so because without him I don't think we would get very far.

However, in conclusion, in spite of the fact we have only had two meetings, I want to say that this committee in my mind is going to be a very active, useful and busy one.

Thank you. (Applause)

DR. I. GOLDOWSKY: Thank you, Dr. Mishler.

I just wanted to bring some of the men up to date. If they didn't know what Doctor was talking about when he talked about the Impartial Medical Testimony, there is an Impartial Medical Panel in the City of New York. The works have been published, and those that are interested in getting some of the basic facts about this, I would refer to the title of the book which is: "Impartial Medical Testimony," published by McMillan and Company, New York.

I gave you the basic book. I think it is well worth reading. I think there is much which could be changed in it which would be of benefit. Like everything new, it is only improved by aging.

Now, if you will bear with me, I am going to ask Ken Carney if he wants to say a few words on this. Ken has done all the leg work. As Dr. Mishler explained to you, he has been the engine and spark plug in this.

Ken, would you want to say anything on this?

MR. K. A. CARNEY: I don't think I have anything to add, Mr. Chairman.

I think it is a very vital committee. I think they are going to make real progress. I am tickled to death with the way all of the doctors have taken hold of it.

It looks good to us right now.

DR. I. GOLDOWSKY: The legal group has named their own chairman; and Dr. Mishler is our Chairman from this Section.

Are there any of you gentlemen who have any problems you think not only of interest locally, your own road, or some neighboring road, that you know is going to affect us nationally that needs some research, give it to the Committee of Direction; Ben Stockwell your new Chairman; or to Frank Parker. We will put it in the proper hands.

Are there any other questions on this, or is there any other discussion?

Dr. Nelson.

DR. HARVEY NELSON: Dr. Mishler mentioned Kermit Johnson's letter. I think we are going to have to contend with a certain amount of complacency in which many are willing to accept our medical situation as it is.

The thing that I would like to urge is that this is at least half, and I would say more than half, a doctor's problem, a matter of cleaning house, of getting a better type of medical testimony.

I don't agree with Kermit Johnson at all on several points as I indicated in the letter to our group. This Medical Ethics Committee that we have in Minnesota has functioned but it hasn't had any teeth. Some things have been going on that those of us who are in the practice of medicine in Minnesota are ashamed of.

I don't know if it has been quite made clear to the group here just exactly what this plan consists of. The thinking is that the state societies or the local

societies will select panels in the various specialties. These panels are to be kept secret as far as the court is concerned. The Impartial Medical Testimony expert will be selected in rotation so the court will not have jurisdiction as to whom is going to be the one that is to be selected.

Obviously, with such a plan, we are going to have much better type of testimony. We are going to have men who are going to come in as neutrals and be willing to spend their time and effort in making an examination. And, a lot of our cases are going to be settled before they ever come to court.

I would like to quote four results of the New York Plan that Mr. Ewing has mentioned. The project has improved the process of obtaining medical facts in litigation cases. It has helped to relieve court congestion. I think it has been shown that many of the cases in the pre-trial period are settled because of a neutral medical opinion. It has had a wholesome prophylactic effect upon the presentation of medical testimony in court. The modest expenditure involved has effected a large saving in court costs by reducing the number of cases coming to trial. It has pointed the way to better diagnosis in the field of traumatic medicine.

Doctors with eminent qualifications who were unwilling to testify before, willingly served on the panel of Impartial Medical Experts.

We know that this plan can be put in effect. The attorneys themselves have recognized the problem by passing a ruling which apparently they are to a large extent ignoring.

We have a very enthusiastic committee, and we may be asking for some help from some of you in different localities. We feel, and I think I am correct in this, that the Federal courts even now have the power of appointing impartial medical experts. From there on it may get into the district courts.

I am not in favor of dropping the matter in Minnesota. I think we have the same problem there as we have everywhere else. I think merely because we have some of our plaintiffs' men on certain committees is not a reason for dropping this thing at all.

DR. I. GOLDOWSKY: Carter.

DR. WHITE: Union-Pacific.

Mr. Chairman: We had in Utah a number of years ago a plan that worked very well in helping to tone down some of this testimony that was coming from doctors, you know, adverse to facts and things that we think are not right.

Under the Medical Ethics Committee of the State Medical Association, they had a very aggressive group of doctors of about six who made it their practice to attend the court sessions when medical testimony was given in liability cases based on physical or mental problems. When the doctors that were giving this testimony saw this group of six prominent doctors from the state society sitting there in the front row of the court to hear them give their testimony, it had a very salutary effect, and the vicious type of testimony which had been the practice was practically eliminated.

Now, our committee wouldn't hesitate to travel throughout the state and attend these things where major trials were being held. They had people who were willing to give their time, and people who were members of the Association such as this and in other industrial practices as members of that committee. They just sat in the front row, and the doctor then going to give the testimony toned down very much what he might have to say.

DR. I. GOLDOWSKY: Thank you very much.

I can tell you for sure this committee and Mr. Carney have studied fully, and as part of the program not only the New York Plan, but the Baltimore Plan, and also the Utah Plan, as each has its kinks, but we are throwing a pebble into the calm lake, and hoping the ripples spread.

I am going to just make two more announcements.

(Announcements.)

DR. I. GOLDOWSKY: Now, the next is not in the nature of any apology, but Dr. Clayton has gone. I imagine you all know that he was our Vice-Chairman last year. Maybe some of you have wondered why he has not been elected Chairman for this ensuing year.

He was nominated for the position, however, Dr. Clayton because of pressing things that he knows are coming up and feeling he would not have the time for about five or six months felt that it was his duty and it was his desire to withdraw his name from nomination as Chairman. As such, the Committee of Direction had to look around for a new Chairman, and Dr. Stockwell was chosen.

Now, for our next part of the program, it gives me a great deal of pleasure to introduce a world-famed physician, I should say surgeon.

MR. FRANK PARKER: I don't think Dr. Ochsner is here yet.

DR. GOLDOWSKY: Is Dr. Crawford here? Dr. Crawford, are you ready to go on?

While waiting for Dr. Ochsner, I am going to proceed with the program.

We have an address of "The Use of Replacement Grafts in Arterial Diseases and Traumatic Lesions," by Dr. Stanley Crawford, Assistant Professor of Surgery, Baylor University, Houston, Texas.

Dr. Crawford. (Applause)

DR. STANLEY CRAWFORD: Mr. President, Ladies and Gentlemen:

First I would like to thank you very much for the opportunity to come to this nice area for some vacation. I gather that I am not alone in that feeling because it seems to me there are some mighty good golfers in this group.

Unfortunately, my talk is made up around slides, and Dr. Ochsner had a different type of slides. They are going to have to change the projectors.

You know the disease arteriosclerosis for many years has been considered to be a diffused disease. And, with this concept, it was impossible to do anything about it, but recently it has been realized that it is a localized disease, and consequent to this, newer techniques of surgery have made it possible to approach these lesions directly.

One of the common lesions that is produced by arteriosclerosis is aneurysm. It is, perhaps, one of the oldest known lesions in medicine. It is often a challenge to physicians and has been for a good many years.

With the developments in Boston of about ten or eleven years ago, Dr. Huffnagel and Dr. Gross, in redoing some of the work that Dr. Correl did in the dog many years ago, were able to show that materials or tissues from one person could be taken, prepared, sterilized and put into another in replacing segments of the vascular system.

Coarctation of the aorta when the gap produced by this lesion was so long that an end-to-end anastamosis could not be performed, led to the development of these techniques that are being presented here today.

Many other surgeons have contributed to this field, and, of course, we are grateful to them. And, many, many physicians have referred us patients that have given us a great deal of experience, and, of course, we are extremely grateful to those people.

There are a number of locations in the vascular system in which aneurysms occur: the thoracic aorta, the abdominal aorta, the femoral artery and in the popliteal artery. As you know, the complications that these lesions produce are very serious. Perhaps the most common one is rupture, and, of course, along with that death.

Fortunately, the patients live for several days after the lesion begins to rupture or after the first rupture takes place, either located behind the pleura or behind the peritoneum or in the groin or behind the knee, there is enough tissue surrounding these lesions to tamponade the first hemorrhage that comes about. At this time, even after rupture occurs, before final exsanguination takes place, the opportunity is available in most instances to excise these lesions and replace them with a graft.

We read in the newspaper about very famous people very recently dying of these diseases, and, as you will also recall from reading your newspapers, they did live for a number of days before they did finally die.

If I may have the first slide, please, in the thorax several problems are posed by the application of excision and graft to the lesions. We have to maintain circulation during the operation.

This is an X-ray of a patient in whom a routine chest X-ray showed an enlargement in the mediastinum and by special X-ray techniques and injecting radiopaque substance into the arm vein and catching it in the aorta, we can demonstrate this aneurysm here. It also demonstrates another thing, and that is it is clotted. An aneurysm is not just a big empty sac or a big sac filled with liquid blood; it clots, laminated clot occurs in the aneurysm. The liquid part is just the size that a normal aorta would be. Of course, the wiring operations are not too good. It was intended to produce a clot, but, actually, they already had a clot.

You can see this one extends throughout the descending aorta from the origin of the subclavian artery to the diaphragm.

Now, excising this aneurysm, one would have to maintain circulation beyond the aneurysm while one is excising this in order to maintain circulation of the vital organs beyond the clamp, the spinal cord, the kidneys and so forth.

Next slide. Again, if the aneurysm is in the arch of the aorta, say it is here (indicating) in the transverse segment of the arch of the aorta, the main branches, as you see, going to the brain are involved. So, not only would we have to maintain circulation beyond to nourish the spinal cord and the kidneys and so forth, but we would have to supply blood to the innominate and carotid arteries here in order to nourish the brain in the operation. The brain can't do without blood but for about four or five minutes without some difficulties occurring.

But in this situation here (indicating), the aorta is normal both proximal and distal. There is enough aorta that is of normal size between the heart and the aneurysm that a shunt can be sutured on as you see diagrammed here.

With such a shunt in place, delivering blood beyond the aneurysm to the descending aorta and the vessels of the head, then clamps can be safely applied here, aneurysm removed, and the graft put back in its place.

Next slide.

Now, in other situations, in other aneurysms, this situation does not prevail. This slide is reversed, but in this situation here, there is not enough normal

aorta between the heart and the aneurysm to put on a by-pass shunt as previously diagrammed. In this case here we have to use the artificial heart-lung preparation. The blood is removed from the superior-inferior vena cava. It is unoxygenated blood returning to the heart. It is put into this pump by-pass oxygenator. Some of the blood is pumped back to the femoral artery to the body distal to this clamp and then through another tube into the innominate and carotid artery to supply oxygenated blood to the brain.

With that set up in operation, then one can safely clamp the aneurysm this distance to the heart and branches coming off of it. It can be excised and a graft re-inserted.

Next slide. This is an example of the descending thoracic aneurysm which has been excised and replaced by homograft.

This is the subclavian artery here. This is the descending thoracic aorta. And this is a homograft in place following the excision of a rather large aneurysm of the descending thoracic aorta.

Next slide. Now, one of the most common sites of origin of an aneurysm in the aorta is the abdominal aorta or where the patients complain of abdominal pain or pulsating mass in the abdomen. With the late publicity regarding aneurysms, the most common complaint our patients have is they can feel their heart beating in their abdomen. They, themselves, do spot it, a pulsating mass in the abdomen, or else they have pain in the stomach when they lie on the abdomen and have found it; or they have pain, and their doctor has found it, or their doctor finds it on routine examination.

To confirm the diagnosis (I don't know whether you can see it or not), we frequently see by an ordinary flat film of the abdomen a soft tissue mass in the retroperitoneal area here (indicating). As you can see here, there is a little rim of calcium; maybe the next slide will show it better. Then you can see here the lateral. This is a lateral film of the abdomen. You can see a little calcified rim on this mass, retroperitoneal mass here (indicating).

This is the abdominal aneurysm when it has been removed. You can see it corresponds quite nicely to this calcified ring in the region of the abdominal aorta.

Next slide.

This is an example of an abdominal aortic aneurysm exposed at operation. This is a photograph taken at operation. It emphasizes one of the pathologic characteristics of this lesion.

Above the aneurysm, the aorta is reasonably normal. There is a normal segment of aorta between the renal arteries and the aneurysm, making it quite a simple affair to control hemorrhage by applying clamps both proximally and distally to the aneurysm for which it can be excised and replaced by a homograft or some plastic material.

This is, indeed, a fortunate situation, that is, in most instances the major channels in the abdomen are not involved. Occasionally they are. We have had twenty-six patients in whom the renal and superior mesenteric and colliac have been involved, but again because of the concentration of experience the patients who have been exposed elsewhere, in many instances, and sent down.

By and large, this is the setup, and occasionally they do involve the big vessels. Even so, they can be excised and replaced.

If a patient has one of these lesions here and has symptoms from it, we know enough about the condition now to be able to make certain predictions. Once the diagnosis is made and the patient has symptoms from his abdominal aortic aneurysm, we know that he will be dead within six to eighteen months, somewhere along in there. Exactly when, it is just hard to predict. It might be

the next day, twenty four hours later, three months later, it is just hard to predict. We have had some patients drop dead in the air plane station on their way to Houston or coming up from the admitting office or down in X-ray.

It is a highly unpredictable lesion except in a general way; so that once symptoms occur, they are dead within six to eighteen months.

Next slide.

As indicated, they can be excised easily and replaced by a suitable replacement. It is in contrast to the bad prognosis the patients are now being treated almost routinely at home, and the operating mortality is less than four per cent. If they are sixty-five years or younger and do not have heart disease, we have done consecutive series, sometimes a hundred and twenty without a death. If they have heart disease, of course, the mortality goes up considerably, and it is fifteen per cent. If they have ruptured already, that is about thirty per cent of those die. A third of our entire mortality has been in the ruptured group, but this condition previously had led to death in all cases. Being able to get two-thirds of those patients through operation to be discharged reflects well upon this operation.

This is an example of an aneurysm elsewhere. This man had two femoral aneurysms. You see they are quite small and will appear rather innocuous. They are in the sense when they rupture, they do not cause the patient to exsanguinate and die as one in the thorax or abdomen would.

But, because the artery is surrounded by tissues that will hold the blood clot there, when rupture occurs, hematoma forms under pressure and occlusion takes place. The other complication is thrombosis. Because of its small, lumen thrombus formation which occurs inside of it, obstruction takes place.

In summary, all the complications of the small, peripheral aneurysm is arterial insufficiency of the extremity.

In a study of the natural course of the disease of the femoral and popliteal aneurysms, sooner or later they will develop a complication that will lead to amputation in the majority of instances. Because of such complications, death can occur.

In a group at the Massachusetts General Hospital, they were treated without removal; and a quarter of them eventually died as a result of their complications.

As you can see here through two small incisions these aneurysms have been removed and vessel continuity has been re-established by the insertion of these grafts, making it quite a simple operation and preventing the development of these complications that lead to disability.

Next slide.

This is just an example of popliteal aneurysms. These, sometimes, are difficult to feel. In any routine physical examination, the pulses should be felt in the characteristic location, in the femoral, popliteal and the feet. Not only does it give you some idea as to the adequacy of their circulation, but it also will help to pick up these lesions which may be silent at the time. This is an aneurysm behind the knee, and it has been excised and replaced by this synthetic substitute. The one that we are using routinely at the present is a knitted dacron substitute.

Next slide.

Now, the next, and perhaps the most common, arteriosclerotic and vascular that we see is an arteriosclerotic lesion that produces poor circulation, arterial insufficiency of the lower extremity.

Again, you know, up until not too long ago we thought a fellow had poor circulation in his feet, that all of his arteries down his legs and feet were shut

off with arteriosclerosis; there wasn't much we could do about it except a lumbarsympathectomy. Since that increased the circulation of the skin, and, after all, that is the way many of the lesions that lead to amputation originated from, we got some help from a lumbarsympathectomy.

But, all too often symptoms were not relieved; in the more advanced cases, amputation was not averted. As time went along, it was discovered even here it is a localized lesion. I think you can see here this patient with symptoms in both legs and with absent pulses in both legs and on arteriographic examination, a complete obstruction just beyond the renal arteries here, but distally there was good filling of normal iliac arteries on both sides as you can see here thus quite nicely demonstrating the localized nature of this occlusive lesion.

This shows another more advanced type of lesion with thrombosis ascending up to the renal arteries, partially obstructing the renal artery on one side.

Next slide.

Due to the localized nature of this disease, it is also treatable by the direct surgical techniques; in this instance here the diseased area was excised and replaced by a graft, thus allowing normal blood flow to go to the lower legs.

And in this situation here the obstruction was not excised. It was merely by-passed, using this new vascular replacement in an effort not to disturb the collateral circulation that he had and also to simplify the operation; in this instance the end of the graft was sutured to the side or above the occlusion and then down below the occlusion the ends of the two iliac limbs of the graft were sutured to the patient's iliac arteries beyond the occlusion, thus allowing the by-pass route around the obstruction to restore circulation.

Next slide.

In this situation here, again, the end of the graft was sutured above the occlusion, and then the two iliac limbs were brought through tunnels made by blood dissection down to the groin, thus by-passing a long, extensive occlusion in the iliac system bilaterally. In this way a rather simple, not too major, operation was performed and immediate pulsatile circulation was restored to the lower legs and the feet.

Next slide.

This is another example of the type of operation that can be performed. The lesion was excised here. This part of the lesion was excised because an aneurysm was in the process of developing as well as the obstruction. On one side an end-to-end anastomosis was made between the iliac artery and the iliac end of the graft. On the other side it was by-passed down the groin.

Next slide.

In all of the occlusions in the abdominal aorta and iliac arteries are susceptable to these techniques. And, given a patient with arterial insufficiency of the lower extremities, whether it is pain at rest or ischemic lesions, early gangrene or whatnot, if he does not have femoral pulses in every single case a normal circulation can be restored by these techniques. Consequently, just the mere demonstration is all that is necessary to say that he is a candidate for an operation.

Now, in not quite half of all of the patients with arterial insufficiency, the lesion is not in the abdominal aorta; it is out in the thigh, out in the leg, as it is demonstrated here.

This is an arteriogram of a patient with a segment of an occlusion in the superficial femoral artery. This is the femur, and you can see this gap in the column of dyes. That is a localized occlusion in the femoral artery.

Patients who have the milder forms of arterial insufficiency will have such a set up like this in ninety per cent of the cases. If they have advanced

arterial insufficiency with a lesion localized to the thigh, that is, they will have a good femoral pulsation but nothing beyond, only about half of them will have this. When they do have this, they are a candidate for operation. Those who do not have a good distal segment like this are apt to have an arteriogram like this over here. As you can see, there is no distal segment of sufficient size in which the graft can be connected. Consequently, in the thigh, all the patients are not candidates for this direct operative maneuver. But, in the majority of them they are. The only way it can be determined is by an arteriogram because some of the most severe forms of arterial insufficiency will have a nice setup like this. Yet, some of the mildest forms of arterial insufficiency will have a setup like this. We have to do an arteriogram in order to select the patient.

Next slide.

The operations we prefer in the thigh will make it a simple operation. It is not much more of a cutting sort of operation than the varicose vein operation.

The arteries are exposed through two incisions, one is up in the groin, and the common femoral artery is exposed here. After controlling the vessel proximal and distal to where the incision is to be made, the incision is made, following which the end of the graft is sutured by a simple over-and-over suture to the side of the vessel, following which an instrument like a vein stripper is passed by blunt dissection to the other incision which has been made in the popliteal space over the normal distal segment.

The free end of the graft is tied to the end of that vein stripper and is pulled down to the other incision. The exposed artery then is open, and the end of that graft is sutured to the side of the normal vessel.

Thus, the operation, then, is designed merely just as to insert a collateral channel immediately of the size of the vessel that is plugged up. So, it is quite a natural sort of operation. The patients own collateral channels are not interferred with. This is the desirable feature of any operation in as much if something happens and it fails, it doesn't make the circulation worse.

Next slide.

This shows such a graft in place in such an operation. This is a plastic tube sutured to the common femoral here. It is under the skin down to here. The other end of it is sutured to the popliteal artery.

Next slide.

This is another example. You see the two smaller incisions here. In this incision, this plastic tube has been sutured to the femoral artery, to the side, above the occlusion and down here the other end has been sutured to the side of the patent vessel below.

Next slide.

Now, it isn't the leg and the abdominal aorta and iliac arteries that are attacked by this lesion. The carotid arteries are also involved. I am thinking now and speaking now of the stroke syndrome, CVA, stroke, hemiplegia, many common terms for patients, old folks, who develop strokes. The average doctor even today thinks that a patient has a lesion inside of his skull. He has just got a degenerative lesion, and that is tough. Do the best we can. Give him anticoagulants to keep him from getting worse. But since it is inside the skull and dealing with small vessels, it is felt that there is just nothing much to be done about it. Well, that is an erroneous concept because in a quarter of the cases of patients who have strokes, the lesion is not inside the skull; it is out of the skull in the carotid artery. This is the internal carotid; this is the common carotid. You will notice in this patient here there is almost complete obstruction in the internal carotid artery.

This patient was having these transient strokes, and in some quarters they have been called "chills" lately. This patient was having intermittent strokes. He had been completely paralyzed on the right side of his body and couldn't talk. They would last anywhere from five minutes to a half a day.

You can see this localized area, occlusion, here in the carotid artery.

Next slide.

As I say, a quarter of the patients with strokes have such a lesion as this accounting for their condition. Now, a quarter of those patients seem to get by. The reason they get by is because they get collateral circulation on the other side. Here is a cerebral arteriogram showing filling of the brain on the opposite side of the occlusion. It is filling through the intercranial vessels, and this patient, although he had an occlusion, had survived a stroke and had no neurologic deficit.

Next slide.

Here is another such patient. Because of good circulation through the external carotid through his eye, he had good circulation inside of his head. You can see these cerebral vessels being filled through the external carotid artery. That fellow got by.

Next slide.

Unfortunately, from this lesion only a quarter of them get by, the residual neurological defect persists in a third of the patients. And, in a third of them, the institution of care is required. Somewhere around ten per cent of the patients die.

Consequently, therefore, it is important to realize in patients with strokes the lesion is outside the skull in the neck. Even so, the prognosis is poor.

Next slide.

Because of the localized nature of this lesion to a vessel of sufficient size that we can perform an arthrotomy and close it without producing undue narrowing, it is susceptible to operation, and in most of these cases a very simple operation.

In the first place, they are selected for operation by a carotid arteriogram which is done under local anesthesia using a small amount of dye on an outpatient basis, if necessary. If they are selected for operation for the localized lesion, it is done under local anesthesia. An incision is made in the neck, and the carotid, common carotid, external carotid and internal carotid arteries are mobilized like this. They are temporarily occluded. We feel that circulation does not have to be maintained during this period of planting nor do we have to use hypothermia because patients have chronic arterial insufficiency. If the operation does not take long, it is not necessary to maintain circulation.

We cut across proximally this which we have shaded here, and the normal arteries peal back from over the athero-sclerotic material. Continuity is restored by an end-to-end anastamosis.

Next slide.

It is more important, we feel, to make certain air bubbles and debris do not get into the brain. We feel it is important to make certain that does not occur. We do it in this way: The clamp next to the brain is removed first, and the backflow of blood compresses the air and pushes it out through the suture line. Then we re-apply that clamp right near the suture line. Again the air is compressed, and the proximal one is removed, and goes out through the suture line. And, as a last gesture, the internal carotid is temporarily clamped when the proximal clamp is removed permitting air bubbles and debris to go into the external carotid artery.

Next side.

This is the appearance of the artery in an actual operation at the end of the procedure. You can see here is a simple anastamosis, and this is the material that was removed that was obstructing the blood from this patient's brain.

Next slide.

This is before operation, you see the common carotid and the internal carotid almost completely occluded. Here is the situation after operation. For all practical purposes he has a normal channel taking blood to the brain. In this case it relieved it. It has been over a year now, and he has not had a stroke since operation.

Next slide.

This is the material removed from another case. You can see how it beaded down to a very small lumin.

Next slide.

This is a photo micrograph of lesion to emphasize the localized nature of this lesion. This is an atheroma. As you know, when we cut it with a knife, a lot of it fragments and drops out. This is an atheroma right in here, almost completely obliterating the internal carotid artery. See how beautifully it is localized in contrast to the early thought that when a vessel was sclerotic it was just a little pipe stem.

Next slide.

In other cases we have to use a graft and arterectomy. By the technique I have just described, it is not applicable. In such a case we use a graft. In this case here a graft was used to by-pass an obstruction in the origin of the internal carotid artery.

Next slide.

This is such a patient; you see here the internal carotid artery being partially obstructed by this hardened plaque. When this artery was exposed, it was found to be a type of artery that does not lend itself to endarterectomy, consequently a by-pass graft was inserted. You can see it in place functioning in this slide here.

Next slide.

This patient was having eye symptoms, temporarily blind in the eye and temporarily paralyzed. Following the operation, he has not had any difficulty further.

Next slide.

The second common site of the lesions producing arterial insufficiency to the brain is where it originates from the aorta. Here is an example where it originated at the origin of the innominate which is the artery that carries blood to the brain on the right. It had extended on to the subclavian and the carotid.

In this case, through three incisions, two in the neck and one in the chest, we were able to anastamose a graft on to the ascending aorta, one limb of the subclavian and one limb of the carotid and restore circulation to the arm and the brain.

We have had three such cases as this, and circulation was successfully restored in all three of these patients. In fact, one patient had obstruction to both carotids.

Next slide.

This is a photograph of that case. You can see what it is. This is the diagram here, what I have just described. This photograph is where that square is. This is the ascending aorta with the stump of the graft here.

Next slide.

Now, this is the limb that is anastamosed to the subclavian artery, and this is the limb that is going into the neck.

Next slide.

This is an anastamosis on the common carotid artery, this point here, restoring circulation to the arm and the head.

Next slide.

This is angio-aortogram following the operation demonstrating patency of this graft. You have a photogram here demonstrating dyes flowing through this graft carrying blood to the arm and the brain.

Next slide.

Now, this is another condition. If it isn't arteriosclerosis, it is certainly related to it. That is a localized, segmental occlusion of the renal artery. This is a renal artery here. You can see it looks like a chain of beads or something of that sort. What that is multiple, localized occlusions with dilitations beyond the narrowed area. That is the phenomenon that always occurs whether it is an arteriosclerotic artery. There's a dilitation beyond. That is what gives that appearance there.

This is a young woman, thirty years old. She had severe hypertension. Her doctor heard a bruit over this kidney, and prompted us to give us the chance to do this study which we did, and demonstrated this lesion. By removing that localized lesion and inserting a little graft, the kidney was saved, and her hypertension was relieved.

So, it is our feeling that many patients with unexplained hypertension actually in the young-middle-aged group should be studied by this technique. Already hundreds of patients have been demonstrated to have such a lesion, and the hypertension can be cured either by removing the kidney or by restored circulation to the kidney.

Next slide.

I am sure that anyone associated with any industry is interested in traumatic lesions. Well, the traumatic lesions are easy because we are, in most instances, dealing with normal vessels, and they sew well; they do sutures well. And, usually, the person is in good shape. He wouldn't be working if he wasn't in pretty good shape.

It is important if the person has an arterial injury to have that repaired just as soon as possible. The only limit on the success of operation is undue delay of any operation. For example, if muscle tissue goes without blood for a sufficient period of time, it develops irreversible changes.

If the lower leg becomes swollen and tense and anesthetic, the chances of restoring circulation, although possible, are not too good. It is essential to have them operate upon it just as soon as possible.

Now, in most instances, a graft is not necessary because the injury is a laceration or a stab, either by some sharp instrument or by a bone, and it is just a mere debriding or cleaning of the local area and bringing the lacerated edges together.

Even in those instances where a considerable defect in the artery was produced by the injury, a graft still is not necessary, in most instances, because after the wound is properly debrided, the artery, being an elastic tube, can be mobilized and brought together under tension. It is essential that these vessels be put together under tension in contrast to the bowel. In the bowel, we are very careful to make certain there is no tension. It is the direct opposite in these vessels. They have to be under tension.

By mobilizing sufficient length proximal and distal to the cut areas, the two ends can be brought together and sutured in practically all instances. That should be done because all extremities, practically, can be saved in contrast to in olden times when ligation was the common form of therapy.

For example, in World War II, when the femoral artery was injured and ligated, half of the legs were lost. In this day and time with our city and county hospital, this injury is not uncommon. Our residents repair those, and we don't lose any legs from laceration of the femoral artery.

If the popliteal artery was lacerated and ligated, better than seventy-five per cent of those legs would drop off, where our residents repair popliteal lacerations. They don't lose any legs.

Consequently, it is a form of therapy that is associated with preservation of the extremity, and the prevention of deformity.

Next slide.

This is where we might speak, though, of some delayed traumatic lesions. This individual had a laceration of the brachial artery at this level here. It was repaired at some hospital. Not too long after discharge, he developed a mass. He noticed that it throbbed and pulsated.

Next slide.

It was for that reason that he was admitted to University Hospital in Houston. You can see at operation what had happened. Here is a blister or a mass on the artery, and it was made up of clot. What happened was the artery had pierced by a sharp instrument. It bled, and he developed a pulsating hematoma or a false aneurysm.

Next slide.

In this X-ray is demonstrated quite nicely the axillary or brachial artery here with this glob of dye in this particular area here which is in the aneurysm.

Next slide.

That was simply excised, and you can see it was several inches of excision which were required to get rid of that lesion. Having mobilized it proximally and distally, it could be brought together. It was sutured by a simple over-and-over suture.

Next slide.

This is a summary of the operations up to several months ago in our department in Houston in spite of the large number. It is presented merely to indicate that in our opinion it is a field of surgery that is safely established. We feel as though this has permitted restoration of function and prevention of loss of both life and limb.

I am going to pass around one of these new synthetic tubes that we have been using. It has a number of desirable characteristics. It is flexible. It is very tough, strong, and it lasts certainly for a long, long time. It does not fray. It can be cut with the scissors and sutured without having it frayed. You can make an incision in the side and sew another graft on the side of it without it fraying. The only unsound characteristic of this tube is like that of all synthetic materials, and that is it is porous. One has to be quite careful in the use of it as in all of them that new bleeding does not take place. But, by soaking them in the patients blood, preclotting is reduced to a safe minimum.

Thank you very much. (Applause)

DR. I. GOLDOWSKY: Thank you very much, Dr. Crawford.

Are there any questions from the floor, any discussion?

Dr. Bennett.

DR. R. J. BENNETT: What is the longest period of time that one of these has been in place and found satisfactory?

DR. STANLEY CRAWFORD: The longest period of time for a synthetic tube, to my knowledge, to be in place and use in human beings is approximately four years. The one that I have here of this substance, the dacron, the longest we have is about three years. Now, this particular brand and manner that we have treated this, about a year and a half.

In laboratory animals, they have been in, I think, about six years now.

DR. R. J. BENNETT: When you do an aortic, do your patients have a lot of pain? If so, how do you control that?

DR. S. CRAWFORD: What we do is give the patient a barbiturate to prevent the development of convulsions, and also give them a good shot of demerol. They have at the time of the injection the contrast material, we use fifty per cent Hyopaque, about eight ccs. which is injected in the common carotid artery.

Patients have a warm feeling in the face and the eye and the throat, in most instances. It is not too disagreeable, although they don't particularly like it.

We have followed these cases along, as I said, on an out-patient basis for a good many months following operation. I think the fact that they still come from considerable distances and permit this type examination to be done over and over as a follow-up indicates to me it is not too bad.

DR. I. GOLDOWSKY: Dr. Cushman.

DR. G. F. CUSHMAN: I would like to know if Dr. Crawford has had any success in demonstrating mesenteric insufficiency, and so, susceptible to treatment.

DR. S. CRAWFORD: We have not had a patient with chronic arterial insufficiency of the superior mesenteric artery. We have not had but one patient with acute arterial insufficiency of the superior mesenteric artery.

The latter patient was one due to dissecting aortic aneurysm, although we were successful in restoring circulation to the bowel of the patient, he did not survive his disease.

I am sure you are familiar with Dr. Robert Shaw's work in the chronic arterial insufficiency of the superior mesenteric artery, and the Massachusetts General Hospital where they have a very active gastro-intestinal clinic. They have quite a number of patients with the Sprue syndrome there. Knowing the patients have an embolus of the superior mesenteric artery or mesenteric thrombosis or what have you, frequently have diarrhea and so on. He studied some of these patients, these techniques, our arteriography and were able to demonstrate in some of them that they had occlusions of the superior mesenteric artery. As I understand, he has operated on two of those patients now and has been using these direct techniques and has been able to restore circulation and relieve them of their digestive disorders.

UNIDENTIFIED VOICE: Is there any occasion now to use the old wiring of the aneurysm?

DR. STANLEY CRAWFORD: I wouldn't. I am highly doubtful there is an occasion for the use of the wiring operation at the present time, but I certainly

would want to be very careful in making such a statement as that saying never, because I was fortunate enough to be in surgery when that operation was still being done. I can recall patients who had severe bronchial obstruction, say with collapsed lung on one side and having a great deal of trouble, and we would wire the aneurysm; something would happen right afterwards; it would permit a better airway. This bronchus would open up, and the lung would become inflated. They would just be better, although their total life didn't seem to be extended a great deal. The aneurysm went ahead and ruptured a few months later.

I have seen in some instances improved aneurysms, appear to be, by what was done; whether it was the wiring or not, I don't know.

I can visualize the possibility of a patient with a large thoracic aneurysm that was obstructing the trachea of the bronchus, and the patient's age or general condition or something would not permit the excision and graft. I would think that there would be times when one would from the local anesthesia wire such an aneurysm, possibly. I don't know, but I think it would be a possibility.

DR. I. GOLDOWSKY: Any other questions?

DR. F. S. MORRISON: Dr. Crawford, that was a very nice paper. I would like to ask when do you recommend carotid arteriogram to check for these carotid obstructions? right after the CVA or after they have recovered from them or had something to do with the extent of the original accident? In other words, if they have had a severe one, complete hemiplegic, do you recommend it at all?

DR. STANLEY CRAWFORD: In my opinion, there is no definite way of making the diagnosis—there is no way that I know of—that you can be certain of telling whether or not the lesion is inside or outside the skull. In other words, there is no way that I know of you can tell whether this patient is suitable for operation that will relieve him, short of an arteriogram. The only way you can be safe as to whether or not this patient is a candidate for an operation which in my opinion is being established. As far as I am concerned, it is established. But, more and more referring physicians are being convinced of it which is a good sign, and I think they should be routinely performed on all patients who have strokes.

Now, once the internal carotid artery occlusion becomes complete, although it is localized, the atheroma clot; a thrombus develops on top of it. There are no branches of it; there is a long segment of internal carotid outside of the skull. But, it has no branches.

Even though this little short thing blocks off that, blood doesn't stay liquid in that big long segment; it clots. And, the lesion then does extend inside of the head. Under those circumstances it does become an impossible situation from a surgical point of view unless they operated upon him very early. Of the completely obstructed arteries of the internal carotid group that success was obtained was in one operation upon a patient right away. We were able not only to take out the atheroma but pull the clot out like pulling an angleworm out of a hole. Since this patient did not have a severe stroke and consequently had not had irreversible changes in his brain, he recovered.

Now, there is no question but what the best group of those in which the occlusion is incomplete because it is still discrete and localized, and it is in that group that the syndrome is more apt to be the small stroke, the transient one. The longer it takes to recover from it temporarily.

The fact that they have had this little thing and they have recovered, they think they might not have it again. But, the majority of them will have them over and over whether they are given anticoagulants or not. It will eventually become complete and what I said would happen to them on that slide.

I think that you have to appraise all these cases with an arteriogram, every single one of them.

A fellow comes in with a bad leg, there isn't a doctor, certainly in Texas, that has a patient with a bad-looking leg that doesn't jump on his white charger and have something done about it because he thinks his leg can be saved. I think the same thing about the strokes.

I think it is a bad thing about the old CVA in a stroke patient. All the hospitals I have ever worked in, it has been a fight as to who is going to be saddled with those patients, the medical service trying to get the neurologic service to take them. Now they are very happy that the surgery service would like to take some of them. It is condemning to doctors to attend to patients who ordinarily are not too agreeable.

It reminds me a little bit of one of my chemistry professors during the war was assigned to making booby traps for the army in North Africa. He looked around, and he made a very effective one. As you know, there are a lot of donkeys in North Africa. At that particular time it was covered with donkey droplet. Well, my buddy devised a booby trap that looked just like a donkey droplet. He said that the greatest thing he got out of this war was that he condemned the Germans to contemplating and inspecting every horse droplet in North Africa.

I think these patients with the CVA's and what not are sometimes disagreeable, and perhaps we are condemned to taking care of the type of patients that have not been very popular in the past.

I think since something can be done about these to relieve them, it is no longer an incurable disease, and in many instances they will not be disagreeable.

DR. I. GOLDOWSKY: No more questions.

I want to thank you very much Dr. Crawford for a very fine presentation. (Applause)

Has Dr. Ochsner arrived?

I have one little item I want to talk about. We have had quite a bit of off-the-record discussion here. I want you to know that all these proceedings are very carefully edited before they go into final print. We have made arrangements for Mrs. Gore to make a separate typing or transcription. It will not be put in the proceedings at all, but it will be available from Mr. Parker's office in Chicago for reference only.

If anyone is in disagreement with that, please say so. If you do have something that was said off the record that you want to refer back to, you will be able to get it from Mr. Parker.

Dr. Ochsner is still delayed, so I am going to go on. At this time I am going to call on our Railroad Retirement Board, Mr. Eugene E. Koch and Mr. Walter R. Knolle. Will they come up here? I think they have a machine to be put in order.

While they are marching up here and getting ready, we will take a short recess.

(Short recess.)

DR. I. GOLDOWSKY: Gentlemen, will you kindly be seated so we can proceed with our program?

At this time I want to introduce Mr. Eugene E. Koch of the Railroad Retirement Board.

MR. EUGENE E. KOCH (Assistant Director of Unemployment and Sickness Insurance, Railroad Retirement Board, Chicago, Illinois): We are going to show you an audio-visual presentation about unemployment insurance.

This presentation has been developed by the Railroad Retirement Board and has been approved by the Association of American Railroads.

As you know, the Railroad Retirement Board pays unemployment insurance benefits. These benefits are financed entirely by contributions made by the railroads.

The management of the railroads have been increasingly concerned over the cost of unemployment benefits and measures that can be taken to keep experienced people working.

This presentation which we are about to show you indicates the accomplishments that have been achieved by the railroads, by the Railroad Retirement Board, working together. It gives some indication of what we might hope for in the future.

We are ready to show now.

(Presentation "Keep Experience at Work.")

DR. I. GOLDOWSKY: I believe Mr. Walter Knolle has a few words.

MR. W. KNOLLE (Railroad Retirement Board, Chicago, Illinois): I will let Mr. Koch speak for me.

MR. EUGENE E. KOCH: Gentlemen, I really have nothing more to say. The film and soundtrack speak for themselves, but Mr. Knolle and I will be glad to answer any questions that you might have. That takes care of that part of the program.

DR. I. GOLDOWSKY: Any questions from the floor? Does anyone desire to ask Mr. Koch any questions?

If not, that is it. I would like to assure the Railroad Retirement Board the Medical and Surgical Section will do all it can to help keep the men on the job and off the job in other jobs.

MR. EUGENE KOCH: Thank you very much, Dr. Goldowsky. (Applause) Thank you all.

DR. I. GOLDOWSKY: Now, at this time I want to proceed with our meeting, and we will have our address on "Noxious Substances as a Causative Factor in Carcinoma of the Lungs," by Dr. Alton Ochsner, Professor of Surgery, School of Medicine, Tulane University; Director of Surgery, Ochsner Clinic and Foundation Hospital; Dean of Visiting Surgeons, Charity Hospital; Consulting, Illinois Central Hospital, and Southern Pacific Railway.

I can assure you, Dr. Ochsner, you may not have spoken to such a small group, but you probably have never spoken to such a select group.

DR. ALTON OCHSNER (Ochsner Foundation, New Orleans, Louisiana): Thank you, Mr. Chairman.

It is indeed a pleasure for me to be here. When Dr. Olson called me and asked me if I would talk, of course, I was very happy to because I am extremely

grateful to the two railroads with which I am affiliated. I don't know that I have much to do with them, but I have enjoyed my affiliation with the Illinois Central and the Southern Pacific. I have been with them for a number of years.

As many of you know, I have been very interested in the question of carcinoma of the lung for a long time. My interest was started about twenty-five years ago, and I have had the rather unique experience of probably having seen and operated upon more patients with carcinoma than any other person. The only reason for that is I started my surgical career just at the time when thoracic surgery was being developed.

We know that radioactive substances produce carcinoma of the lung. As a matter of fact, the first evidence of carcinoma of the lung was produced by a carcinogen was shown in the mines in Schelesia and Czechoslovakia where the Schneeberg and the Joachimsthal miners were found to have a high incidence of the cariconoma of the lung.

This is due to radio-active substances, particularly uranium and cobalt.

Chromates are also known to produce carcinoma of the lung, particularly the monochromates. In the United States chromates are accepted as a cause of carcinoma of the lung, although it is not compensable by law. It is in Germany.

There is very good proof that asbestos is a cause of carcinoma. This is seen in individuals working with asbestos, particularly miners. It is also seen among plumbers who work with asbestos, seamfitters, particularly.

Probably the most important carcinogenic agent in lung cancer is cigarette smoke. It is a known carcinogen, although there are some people who still doubt that there is a causal relationship between smoking and cancer.

The above mentioned factors are proven carcinogen agents, I would like, now, to consider factors in which there is a suggested relationship in that lung cancer occurs with slightly greater frequency among these workers than the general population.

Exposure to certain metals (welders, for instance), Boiler Scalers, grain dockerers (have a higher incidence, particularly in England).

And beryllium workers, there is a suggestion of a higher incidence of lung cancer than the general population.

Blast furnacemen, and particularly steel furnacemen, have been shown by the Japanese to have a greater incidence of lung cancer. And, steps have been taken to prevent it.

Other occupations are painters and varnishers, lubricating oil workers, arsenic workers, nickel workers, tobacco manufacturers, lithographic and process engravers, tailors' clothing workers, drapers, bartenders, butchers, university staffs, office staffs, commercial travellers, porters, and diamond cutters.

All of the above mentioned occupations have been mentioned as having a higher incidence of bronchogenic cancer than the general population. It is obvious that few if any of them have anything in common as far as their occupations are concerned. There is only one thing, I think, that they probably have in common, cigarette smoking.

Aside from the first group I gave in which there is a very definite relationship between the occupation and lung cancer, there is no occupation in which there is apparently a relationship.

I attempted because I was talking to railroad surgeons to find out if there was any study in which the railroads might be incriminated because I am sure that is the thing you people want to know about.

There is only one study that I could find; that was by Heuber who, as you know, is a member of our National Health Laboratories and who has done a great deal of work on occupational cancer.

Heuber did a study in which he showed there was a higher incidence of cancer among the operating staffs of the railroads than among the non-operating staffs. But, this was very incomplete because there was nothing in this study said concerning their smoking habits. Obviously, among the operating staffs of the railroads, there are very few women; most of them are men. The women are mostly in the offices. I think that that is probably the reason why the incidence of cancer of the lung was higher among the operating staff than among the non-operating staffs.

I think if the smoking habits were known, it would be shown that the individuals who have the cancer of the lung are smokers. I am convinced that whenever you see cancer of the lung aside from those working with radioactive substances or those working with chromates, or asbestos, that the individual who develops cancer of the lung is probably a very heavy smoker, and that his smoking habit is the thing that is responsible for his cancer and not his occupation.

Now, just a word about the incidence of cancer of the lung. It is something about which you and I must be concerned. In Massachusetts cancer of the lung is the most frequent cancer—superseding since 1950 even cancer of the breast.

It increased from 3.08 per 100,000 in 1930 to 42.16 in 1955!

Cancer of the lung is now the most frequent visceral cancer in both sexes. It has outstripped everything else.

In 1930 twenty-five hundred people died of cancer of the lung; in 1956 twenty-nine thousand died of cancer of the lung. That isn't coincidental.

We know that cancer of the lung is much more frequent among men than among women. It is thought to be due or said to be due to a sexual relationship. It isn't at all. Until the mid '30's the incidence of cancer of the lung was the same in both sexes. About 1934 there was a tremendous increase in cancer of the lung of men, and there has been a slight increase in the incidence of cancer of the lung in women.

Why is this? In 1914 at the start of the First World War, men began smoking cigarettes heavily. The twenty-year-long period from the First World War until the mid '30's is just about the length of time for the cancer-producing affects of cigarette smoking to produce its effects.

In New York State where the vital statistics are also valid, from 1931 to 1950 there has been a 385 per cent increase in the incidence of cancer of the lung in men. And, during this same period of time, all other cancers increased only two per cent.

In women the increase in cancer of the lung was sixty-eight per cent during which time all other cancers decreased fifteen per cent.

Cancer of the lung is the only cancer that is increasing in both sexes.

This has been true not only in our own country, but it has been true in other civilized countries where people smoke. In Holland from 1924 to 1951 there has been a tenfold increase in the incidence of cancer of the lung in women, and a twenty-four-fold increase in the incidence of cancer of the lung in men.

In England from 1920 to 1954 there was a thirty-eight-fold increase in the incidence of cancer of the lung in men. In fact, in England, 1953, of all the men who died from all causes between the ages of forty-five and fifty-five, the most productive years of a man's life, ten per cent died of cancer of the lung.

The statement is frequently made: There can be no causal relationship between smoking and cancer because, if there were, we should have a higher incidence of cancer of the lung in the U. S. than in England because we smoke more than the English. This is a truth, but it is only a half truth. It is true that the incidence in cancer of the lung is higher in England than here in the United States, and it is true that we smoke more than the British do. But, we have smoked more than the British only for the past nine years. Prior to nine years ago, they smoked much more than we; and they are now paying the terrific price for their tremendous smoking for the past twenty-five and thirty years. It is frightening to me to think what is going to happen to us in another ten or fifteen years when our smoking habits catch up with us. It is going to be almost a catastrophe.

Cancer is a disease of older age; of all the persons ninety years of age, a greater percentage will have cancer than those eighty. Of those eighty, a greater percentage will have cancer than those seventy, and so on.

This is true of every cancer except one. The one exception is cancer of the lung. Cancer of the lung increases very sharply to reach a peak at the age of fifty-five following which with advancing age, there is a decrease. Cancer of the lung is the only cancer that doesn't follow the pattern of all other cancers.

Why does it behave differently? It behaves differently for one reason, and one reason only: The individuals who have smoked heavily and subjected their heart and blood vessels to the deleterious affects of tobacco, develop coronary thrombosis, die and don't live long enough to develop cancer of the lung.

A dubious advantage of smoking, therefore, is that one can spare himself a cancer-of-the-lung death by smoking heavily and dying early of coronary disease. One might carry analogy a little further and say that one might spare himself a death from both these causes by shooting himself at forty which no one would suggest, of course.

It is a slow form of suicide, but it is just as certain as shooting ones self.

There have been several statistical studies made, which Dr. Little who is the Chairman of the Tobacco Committee outwages because they are statistical. The basis of all our knowledge is statistics and everything in medicine, I don't have to tell you, is based upon statistics, ultimately. I am sure that the railroads are run by statistical analyses. To poo-poo statistics as not being worthwhile, is simply dodging the question.

There are two types of statistical studies in a problem such as this: One is retrospective, which consists of the determination of the number of smokers among a group of patients with cancer.

There is some criticism to this method because it is a selected group.

Prospective studies consist of determining the smoking habits of a large number of individuals and following them for a number of years and determining what happens to them. There is no selection here.

There are two studies which have been reported so far. A third one, I understand, is to be reported very soon. That is being carried out by the Veterans' Service.

But the two that I want to speak about today, one was done by the American Cancer Society here in the United States, and the other done in England by two physicians, Doll and Hill.

The British study was concerned with the medical profession. It was done by having the physicians fill out a questionnaire concerning their smoking habits and then following them. And, this is the result of that study.

The incidence of cancer of the lung per hundred thousand population, in the non-smokers was seven; in the pipe smokers, thirty-eight; in the pipe and

cigarette smokers, sixty-eight; and the cigarette smokers, a pack or more a day, 125.

This study shows that there is a relationship between smoking and cancer. It further shows that not only was there a relationship, but the relationship varied according to the amount smoked; the non-smokers seven; up to fourteen cigarettes a day, forty-seven; from fifteen to twenty-four cigarettes a day, eighty-six; and more than twenty-five cigarettes a day, 166.

It is almost like a mileage figure. One can determine how soon one wants to develop cancer of the lung by the amount that he smokes. If he doesn't want to develop it at all, don't smoke as I don't. If he wants to develop it soon, smoke heavily, because he is going to develop it soon.

I am frequently told: Well, it won't do me any good because I have smoked too long, and the die has been cast. Dr. Graham said this several years ago and he used to chide me about my belief concerning the relationship of smoking to cancer. But then he became convinced that there was, and he became quite intolerant of the people who smoked. The tragic fact is that Dr. Graham who did the first successful pneumonectomy for cancer of the lung died of cancer of the lung himself.

It is not necessarily true that the heavy smoker is doomed and that he can't be benefited if he stops because the pre-cancerous changes are reversible we know now. And the studies by Doll and Hill show it. They show that in those that continued smoking, the incidence of cancer of the lung was 103; in those that discontinued smoking, but had discontinued less than ten years, it was fifty-nine; in those who had discontinued over ten years, it was thirty-three; as contrasted with seven in which the group had never smoked.

The American Cancer Society study consisted of twenty-two thousand voluntary workers, young workers in the United States, interviewing two hundred thousand men between the ages of fifty and seventy. These are the ages of which cancer of the lung are found.

These young ladies had each of the men fill out an elaborate questionnaire concerning their smoking habits: whether they smoked at all, what they smoked, how long they had smoked, how much they had smoked, and if they have ever stopped.

These questionnaries were filed at the Cancer Society Headquarters, and each year each of the young ladies reinterviewed each of the men whom she had interviewed the year before. There was almost a ninety-nine per cent follow-up.

After a six-year period of time, a little over twelve thousand men had died. In those that died, she got a photostat of the death certificate and sent it to the Cancer Society Headquarters. If they had died of cancer and had an autopsy or biopsy, she got a piece of the tissue and sent that in to the Cancer Society.

The results of this study showed that the overall death rate was 105% higher among cigarette smokers than non-smokers; the death rate from heart disease was 115% higher among cigarette smokers than among non-smokers; and, the death rate from lung cancer was 800% higher among cigarette smokers than among non-smokers.

I have yet to see the physician who doubts that there is a relationship except two individuals: One is an individual who is an employe of the tobacco companies, and the other individual is the individual who is addicted to tobacco himself. Naturally, I am going to try to excuse that which I do. I am not willing to admit that anything I do is harmful to me.

Several years ago while attending a Cancer of the Lung Committee meeting of the American Cancer Society, I was distressed because someone said, "There can be no causal relationship between smoking and cancer because, if there were, why do we not see pre-cancerous lesions?"

Of course, not being a pathologist, I couldn't answer this. I came home and talked to Dr. Dunlap, our Professor of Pathology at Tulane, and asked him about it. He thought for a moment. He said, "We don't look for it." They then started one of our senior students on a piece of investigation, a man by the name of Costello. This work demonstrated that although the mucous membrane of the tubes was normal in non-smokers, definite changes occurred in smokers—they were most marked in heavy smokers with precancerous changes leading to cancer.

We have become a cigarette-smoking nation. In 1880 the per capita consumption in all persons fifteen years of age and over, annual, was sixteen; whereas, in 1953, it was 3,556. The only solace one gets is that in 1956 it had dropped down to 3,193.

There is a parallelism between the incidence of cancer of the lung and the consumption of cigarettes.

Many more men smoke than women. Among the non-smokers in the United States, only twenty-three per cent of them are men, and sixty-seven per cent are women.

Smoking is common among teenagers. Of the teenagers from thirteen to fifteen, inclusive, thirty-seven per cent smoke at the present time. Of those from sixteen to nineteen, inclusive, sixty-seven per cent smoke.

Dr. Graham who originally thought there was no causal relationship between smoking and cancer finally with Dr. Wiegner did the most conclusive work showing that there was a carcinogen in the smoking of cigarettes.

They used a smoking machine which looks like a giant candelabra. It smoked sixty cigarettes at a time, just as a human would. Every sixty seconds a drag for two seconds was taken. The smoke was collected, cooled and a tar residue was obtained. The tarred residue was added to a solvent acetone and this combination of the tar and acetone was applied to the skin of animals three times a week.

At the end of eight months, one non-cancerous tumor developed at the site of application of the tar. At the end of a year, one real cancer developed at the site of the application of the tar. At the end of two years, forty-four per cent of the animals developed at the site of application of the tar a cancer which was indistinguishable from human cancer in that it metastasized and killed the animals.

In the control group to which only the solvent was applied, not one animal at the end of two years developed either a non-cancerous or cancerous tumor.

I emphasize this latter part because the statement is frequently made that Dr. Graham's work is of no value because he used cancer susceptible animals. He did not, because in the control group, not one animal developed cancer.

The statement is also frequently made that one cannot compare animal cancer with human cancer. No attempt is made to do so in this experimentation. It simply shows there is, without any question of a doubt, a cancer-producing agent in the smoke from cigarettes.

Since we know that cancer of the lung is increasing more than any other cancer, that it is the most frequent visceral cancer today, and since we know there is a cancer producing agent in the smoke from cigarettes, and since we know there is a parallelism between the consumption of cigarettes and the

incidence of cancer of the lung, the only logical conclusion is there is a causal relationship.

I am frequently asked if filters help. I always answer in the affirmative. They help sell more cigarettes. That is all they do.

In 1954 we spent per capita in the United States eight cents for the control of heart disease, and we spent fourteen cents for the control of cancer. We spent twenty-two cents per capita to control the two principal killers. During the same time we spent thirty dollars per capita for cigarettes. In other words, we spent 136 times as much to cause or aggravate the two principal killers as we did to prevent them.

The British are more courageous than we. The following is the inscription via large yellow posters—displayed in all public places in England.

"To all smokers:

"There are now the strongest reasons to believe that smokers, particularly of cigarettes, run a greater risk of lung cancer than non-smokers; the more cigarettes consumed, the greater the risk."

I mention this simply to show the courage that the British Government has in posting in all public places this poster. It shows that they have assumed the obligation which I think government should.

I am sure what I have said to you isn't going to make any difference in your smoking habits, but I hope that when and if anybody makes a claim against any of your railroads because of cancer of the lung, they have gotten on the job, that you go and find out what their smoking habits are. If they have an adenocarcinoma, it has not been produced by smoking because it is not related to smoking. I believe that smoking is the most valuable diagnostic criteria we have as far as carcinoma of the lung is concerned.

Six years ago I made the statement that any person who has a lesion of the lung that might be cancer, if they do not smoke, it is either not cancer or it is an adenocarcinoma.

In the six years, I have been wrong only twice. There is no other diagnostic criteria that is that accurate.

Whenever a claim is made against the railroad because a patient has developed carcinoma of the lung, inquire into his smoking habits. And, I can assure you that man, if he has an epidermoid or undifferentiated carcinoma, which he is most likely to have because adenocarcinoma is rare (only about twelve per cent of all carcinomas among adenocarcinomas), has been a heavy smoker. He may not be a smoker at that time. But, he will have been a heavy smoker, and I can assure you that his cancer of the lung has been produced by his smoking and not by his occupation.

I would urge those of you who treat patients and those of you who smoke to have a chest plate done at least every six months so when you do develop cancer, it can be detected at a time while it is still operable. Because I am just as convinced as I am standing here, if you don't die of something else first, you are going to develop cancer of the lung. The only thing that will save you is that you might die of something else.

Thank you very much. (Applause)

DR. I. GOLDOWSKY: Thank you very much, Dr. Ochsner. I think it is a pleasure for our group to hear that there is one illness not blamed on the railroad industry. I think we have been blamed for most everything else and have suits and claims against us.

I think it is a compliment to your crusading spirit that I cast my eye over your audience, and I didn't see a cigarette being lighted during your whole talk.

Are there any questions from the floor?

Harlan Hackbert.

MR. HACKBERT: I would like to ask the Doctor about the incidence of chromates and carcinoma of the lung.

Chromates are used in the railroad industry in two forms; one in a powdered form as it is used in mixing cooling solution used in the diesel locomotives; and the other as the chromate is found in the cooling solution.

Can you tell us something about the manner in which chromates affect cancer of the lung?

DR. ALTON OCHSNER: I have had no experience with chromates or carcinoma of the lungs produced by chromates at all. I can only give you what I have gotten from my reading.

As far as I can determine, it is found only in individuals working with a very high atmosphere of chromates, and then only monochromates.

It is not extremely common, but I think it is found only in where it is mined and in the factories; that is as far as I have been able to determine.

MR. HACKBERT: In the production rather than the use?

DR. ALTON OCHSNER: In the production of it.

I have never found anyone calling attention to the fact in its use. It is a monochromate that is responsible; I think everyone is agreed to that.

UNIDENTIFIED VOICE: Am I right in that Dr. Little of Bar Harbor is being discredited at this time; he is not a clinician. He is only a laboratory man. He lost his first mice in the fire up there, but his work was based wholly on laboratory and not on clinical findings?

DR. ALTON OCHSNER: Dr. Little has done no work at all on cancer of the lung. He knows nothing about cancer of the lung. I doubt that he has ever seen a case.

As you said, he is not a physician. He is a Ph. D. He is a geneticist. Dr. Little is talking about something he knows nothing about. He is the front man. He is paid a salary of twenty-five thousand dollars, and, of course, I suppose persons will do a lot for twenty-five thousand dollars.

UNIDENTIFIED VOICE: Dr. Ochsner, what possibility exists for removing the carcinogenic factor from tobacco? What is being done along that line?

DR. ALTON OCHSNER: Of course, that is the thing that distresses me about the tobacco people.

I feel that something can be done.

There are two factors in tobacco which are harmful: One is nicotine. Nicotine produces heart disease. There isn't any question about that. There are available today nicotine-free tobaccos. Those are not the so-called denicotinized cigarettes. Because, the denicotinized cigarettes have almost as much nicotine as do the other cigarettes.

The denicotinized cigarettes advertise they have less than one per cent nicotine, implying they have removed ninety-nine per cent of the nicotine.

The average cigarette has only about one per cent. They have removed so little, it actually makes no difference.

But, there are available today, which can be grown, tobaccos which have no nicotines at all.

The thing that causes cancer is not nicotine; it is tar. Whether this carcinogen can be removed or not, I don't know. I think it possibly can. But, there has been no attempt to do so; that is the thing that distresses me. There has been no attempt to do it. They haven't assumed any obligation at all.

The industry and their Research Committee have spent their money trying to confuse the issue.

For instance, they are trying to blame it on smog. One might accept smog. For instance, they say the reason for the high incidence in London is because of smog. There is a terrific smog in London, as everyone knows. But, immediately across the English Channel in Denmark about thirty miles away where the people smoke the same as they do in England and where the incidence of cancer is the same as it is in England (as a matter of fact, it has assumed epidemic proportions in Denmark), there is no smog whatsoever. The incidence of cancer of the lung is higher in New Orleans than it is in any other city. New Orleans is first; Pittsburgh, eighth.

Now, you might ask me why. The reason is in New Orleans for years people have smoked these Picayune cigarettes. For those of you who don't know what a Picayune cigarette is, it is a very strong cigarette.

The final reason why smog has nothing to do with it is that if smog had something to do with it, women ought to have the same incidence. We always admit that their minds are purer than ours, but they breathe the same putrid air we do.

The reason is the man-made smog that he himself takes in; and I believe that this thing can be solved. I think they ought to be spending their money, a part of that hundred million dollars that they are spending, for advertising, trying to find out what this thing is and giving those of you who have the infantile urge, the suckling reflex, a cigarette that is safe.

That is all it is.

UNIDENTIFIED VOICE: Why the difference between cigar smoking and cigarettes?

DR. ALTON OCHSNER: There are several reasons: One is that the cigar smoker doesn't smoke as much. The cigar smoker does not inhale. One must get the carcinogen in contact with the tissue to produce cancer. There is a third reason which the tobacco people have not made use of. I suppose they won't because of the cost. The third reason is that there is less of the noxious alkaloids in cigars than the other tobaccos because of the way in which it is cured.

You people who come from the tobacco areas know more about this than I.

The tobaccos for cigars are what they call "shed cured." The leaf is picked, and it is kept in a shed for many years. I happen to know the man who makes the King Edward Cigar, which you know is a cheap cigar. They keep the tobacco for the King Edward Cigar for three years. This is kept at room temperature.

As a result, there is an enzymatic process which occurs in the leaf which tends to break down nicotine and other alkaloids.

All the other tobaccos are picked, put in the shed and heated to 140 degrees. That immediately stops the enzymatic process. That is the reason why the

cigar tobacco actually has fewer of the noxious substances than do all the other types.

UNIDENTIFIED VOICE: What percentage have you operated on that did not smoke?

DR. ALTON OCHSNER: Those of the persons that had an epidermoid or undifferentiating carcinoma, ninety-eight and a half per cent were cigarette smokers.

MR. HACKBERT: You speak of tars carcinogenic factor; that term doesn't mean much to me. I happen to be a lawyer, not a doctor like the rest of you here.

In what other substances are we going to find that same tar element? In other words, what other causal factors may the railroad look to as being a possible cause of inhalation causing lung cancers?

DR. ALTON OCHSNER: Well, I suppose there are other areas; but as I tried to bring out this morning, I explored all these areas, and could find none of them. I gave you here those occupations in which it was admitted there was a causal relationship, those factors. Then I gave you twenty-odd of where there had been a supposed increase. There is not a thing in common between them.

MR. HACKBERT: What other substances have the tar in them?

DR. ALTON OCHSNER: There are many carcinogens.

The first carcinogen we knew was coal tar. The chimney-sweep type which Percival Pott described two or three hundred years ago is a type of tar cancer.

Some of the textile workers developed carcinoma of the genitalia because their clothes became impregnated with oil if they didn't keep clean. But, that is a lack of cleanliness, and so it is with chimney-sweep cancer.

There are many cancer-producing agents.

I didn't go into this, but there are a number of carcinogens that have been extracted from tar.

I think what the industry ought to do is to find out what these factors are and remove them, which they are not doing now.

DR. J. R. KNOWLES: The leaf put in the paper to produce slow burning would have absolutely nothing to do with it at all; would it?

DR. ALTON OCHSNER: I don't think so. I am convinced there is a carcinogen in tobacco itself.

I am sure some of you, as we do here in New Orleans, see a rather large number of people that have a snuff cancer. Now, snuff, of course, isn't burnt at all. It is put in the mouth. The most vicious type of cancer we can get. If one finds a very small lesion, we have to do a very wide excision. That is just pure tobacco. It is not burned at all.

I think the carcinogen is in the tobacco. I don't think it is just a product of combustion.

UNIDENTIFIED VOICE: Snuff cancer is seen in the nose, as well; isn't it?

DR. ALTON OCHSNER: That is right.

DR. I. GOLDOWSKY: Thank you again. (Applause)

I am going to take the liberty at this time to take a minute or two of Dr. Ochsner's time to maybe expound a little more on the chromates as a cause of cancer of the lung.

Twenty-five years ago I was associated with the chrome industry in Jersey City, and the Mutual Chemical Company of America and its manufacturers. I wasn't long with the company when it was my unfortunate experience to run into a small epidemic of carcinoma of the lung. I started delving into the literature. About that time, about the only thing I came up with, as Dr. Ochsner has told you, was in Germany it was compensable.

We had three problems which I had to face as a physician with the chromates, that was the chrome sores that hit these men. The amount of chromates they used in the glass industry, they developed real chrome holes that used to look like a collar button hole. It was a fine hole, and then it would branch out into a collar button. You really had to scrape them out, dig them out, to get them cleaned up.

But, in my years with them, we never ran into any carcinoma of the skin as a result of the chrome sores. Again, we had the chrome holes in the nasal septums. It didn't take more than about four months of a man's known employment with our company before he had no septum left. That stuff is better than any ear, nose and throat man can do. It really tore a hole through them.

As far as the carcinoma of the lungs, I think to expound further, in Germany it was compensable. They found that this type of cancer produced by the monochromates was a slow-forming cancer. I think it was recognized only in the compensation cases that a man had to be employed in the Schneeberg mines at least twenty years. If they were employed two or three years, it wasn't recognized as an early form of cancer.

I don't know if that will help you in your problem. I know it is a dichromate in the chrome you are concerned with the compounds that were used. We merely have trouble as far as claims, but we are going to leave it to you lawyers to defend them.

Now, if you will just bear with me a few minutes, we are going to finish this three-day session.

Dr. Graham had to leave, but he left me a report that he had that he would like to have read:

"Mr. Chairman and Members of the Section:

"Several changes in the organizational setup of the Joint Committee on Railway Sanitation have occurred in the past year, which are reported to you as a matter of interest.

"The Joint Committee's brief summary report for the year 1957 was included as a paragraph in the Medical and Surgical Section Annual Report for the Association.

"As many of you know the Sanitation Research Committee of the A.A.R. Research Laboratory in Chicago was started in 1951 on the recommendation of the Joint Committee and placed under its jurisdiction. In December, 1957, by action of the A.A.R. Board of Directors, Mr. W. M. Keller, formerly Director of Research in the Mechanical Division of the A.A.R. was appointed to be Vice-President of Research in the Operations and Maintenance Department of the A.A.R. and to have supervision of research in that department, including the office of Sanitation, Research and Development.

"The Joint Committee will continue to report to Vice-President May and be called on to offer suggestions to Mr. Keller on the problems of sanitation research.

"It is contemplated that the Medical and Surgical Section will continue to exhibit an interest in matters relating to railroad sanitation problems and work jointly with the United States Public Health Service."

"R. M. Graham, Chairman, A.A.R. Joint Committee on Railway Sanitation."

I don't have a quorum present. I don't even know if I can close this meeting.

Do we have any unfinished business? Is there any new business?

DR. C. F. HOLTON: I move the necessary thanks be extended to the hotel, et cetera.

. . . The motion was duly seconded. . . .

DR. I. GOLDOWSKY: Moved and seconded everybody be thanked around the hotel that helped us.

Is there any motion for adjournment?

. . . The motion was made and duly seconded that the meeting be adjourned. . . .

DR. I. GOLDOWSKY: It has been moved and seconded that the Thirty-Eighth Annual Meeting of the Medical-Surgical Section of the A.A.R. be adjourned.

While I have a little speaking voice left, I hereby say "goodbye, God speed 'til we meet next year."

. . . Whereupon, the meeting was then adjourned. . . .

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Dr. B. W. Stockwell, Chairman
Dr. J. K. Stack, Vice-Chairman
F. J. Parker, Secretary

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Dr. B. W. Stockwell, Chairman
Dr. J. K. Stack, Vice-Chairman

(Term expires in 1959)

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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.

(Term expires in 1960)

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

Dr. W. E. Mishler, Chief Surgeon, Erie Railroad, 608 Republic Building, Cleveland 15, Ohio.

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Dr. B. I. Derauf, 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.

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