TRANSACTIONS of the PHILADELPHIA ACADEMY OF SURGERY

1969 - 7
1971 - 7
1973 - 7
1975 ...

ACADEMIA CHIRURGIAE PHILADELPHIENSIS
ARTI ET DOCTRINAE CHIRURGIAE
INSTIT.
A.D.
MDCCCLXXIX

Transactions of the

Philadelphia Academy of Surgery

VOLUME XXXII

1969 – 1975

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1976

NOTICE

The thirty-second volume of the TRANSACTIONS OF THE PHILADELPHIA ACADEMY OF SURGERY covers the 7 years from 1969 to 1975 inclusive.

Joseph W. Stayman, Jr., M.D.
Recorder

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Contents

Constitution

ARTICLE I

The name of the Society shall be "THE PHILADELPHIA ACADEMY OF SURGERY."

ARTICLE II

The objects of the Academy shall be the Cultivation and Improvement of the Science and Art of Surgery, the Elevation of the Medical Profession, the Promotion of the Public Health, and such other matters as may come legitimately within its sphere.

ARTICLE III

Section 1. The Society shall consist of Active, Senior, Nonresident, Government Service, and Honorary and Inactive Fellows.

Section 2. The Active Membership shall be limited to one hundred and fifty (150) Fellows.

Section 3. Active Fellows shall automatically become Senior Fellows of the Academy after they have been members for twenty (20) years or have reached the age of sixty (60). Senior Members shall have all the privileges of Active Fellows.

Section 4. Upon request, any Fellow in good standing, who may remove from the City of Philadelphia, to reside at a distance exceeding thirty (30) miles from the City Hall, may be made a Nonresident Fellow of the Academy, by recommendation of the Council and a two-thirds vote of the Fellows present at any regular meeting of the Academy. Nonresident Fellows shall have all the privileges of Active Fellows.

Section 5. Officers of the Government Services stationed in Philadelphia may be elected as Government Fellows of the Philadelphia Academy of Surgery for the period of their stay in Philadelphia. Such Fellows shall have all the rights and privileges of Active Fellows but shall be ineligible to vote or hold office.

Section 6. Honorary Fellows, to the number of thirty (30), may from time to time be elected. They shall not be eligible for election as Officers.

Section 7. Inactive Fellows. This consists of Active Fellows or Senior Fellows

no longer in active practice of Surgery but who wish to participate in the activities of the Philadelphia Academy of Surgery. These Fellows will be subject to reduced dues and will not be subject to assessments.

ARTICLE IV

The Officers of the Academy shall consist of the President, the First Vice-President, the Second Vice-President, the Secretary, the Treasurer, the Recorder, and the Chairman of the Committee on Scientific Business.

ARTICLE V

These Officers shall be elected by a ballot each year and shall be eligible for re-election. A Fellow may serve as President for only two (2) terms.

ARTICLE VI

There shall be a standing Committee on Scientific Business.

The Committee on Scientific Business shall consist of a Chairman, who is an elected Officer of the Society, the Recorder, and one (1) Fellow appointed by the President. The duties of this Committee shall be to organize the Scientific Programs of the Society.

ARTICLE VII

A Council shall be established consisting of the President, the Vice-Presidents, the Secretary, the Treasurer, the Chairman of the Business Committee, and three (3) Fellows-at-large elected by the Society annually, one (1) of whom will whenever possible be a previous President. The President of the Academy shall act as Chairman of the Council. The duties of the Council shall be three:

1. To act as an Executive Committee for the Academy between meetings,
2. To receive all nominations for Fellowship and to report names for election to the Academy after due investigation.
3. To act as a Board of Censors as required by the Academy.

ARTICLE VIII

At the stated meeting in February every fifth year, three (3) Fellows shall be appointed by the President to serve for five (5) years, or until their successors are appointed, as Trustees of the S. D. Gross Prize Fund and Library. It shall be the duty of the Trustees to keep charge of the Fund, to attend to its safe investment, and to submit a report to each annual meeting of the Academy of their work during the year, which shall be entered upon the minutes of the Academy. The Trustees shall have, on behalf of the Academy, charge of the S. D. Gross Library, which is, in accordance with the will of the Testator, in the custody of the College of Physicians of Philadelphia. They shall each year make such additions to the collection of Surgical Books in the Library as may be deemed advisable, and as the funds contributed to the care and support of the Library may permit. They shall have charge of the distribution of the S. D. Gross Prize. It shall be their

duty to publish in the medical journals the conditions on which the Prize is offered, to receive all essays submitted for competition, and upon approval of their decision by the Academy, to make award of the Prize to the successful competitor.

ARTICLE IX

To become a Fellow of the Academy, a physician must be a Doctor of Medicine who has graduated from a reputable School of Medicine at least ten (10) years before he is proposed. He must be proposed by at least three (3) Fellows of the Academy, who shall write letters to the Secretary in support of the proposal. The candidate for Fellowship must receive the approval of the Council before his name may be presented to the Academy as a candidate for election. He must meet such other requirements as are from time to time stipulated in the By-Laws and must be elected by the Fellows in accordance with the By-Laws.

ARTICLE X

Any Fellow having complied with the requirements of the Constitution and By-Laws may resign his Fellowship by presenting at a stated meeting a communication to that effect, with the Treasurer's certificate that he is not indebted to the Academy, and such resignation shall become valid on acceptance by the Academy.

Any violations of the regulations of the Academy, and of the Code of Medical Ethics adopted by it, shall be punished by reprimand, suspension, or expulsion after a full hearing by the Council of the Academy or upon the request of the Fellow in question by the Academy itself.

ARTICLE XI

This Constitution may be amended by a two-thirds vote of the Fellows, after such amendment has been presented in writing to the Secretary and read at the two previous meetings of the Academy, and circulated with the call to the meeting at which action is to be taken.

By-Laws

SECTION I

MEETINGS

The stated meetings of the Academy shall be held at eight-fifteen o'clock P.M., on the first Monday of each month, except June, July, August and September. The date of any stated meeting may be changed at the discretion of the Council by giving notice to the Fellows at least two (2) weeks before the meeting.

SECTION II

SPECIAL MEETINGS

A special meeting may be called at any time by the President, and it shall be his duty to do so upon the requisition, in writing, of any ten (10) Fellows.

SECTION III

QUORUM

For the transaction of ordinary business any number of Fellows shall, at any meeting, constitute a quorum. For all elections, changes in the Constitution and By-Laws, for ordering assessments, or for the appropriation or expenditure of any sum of money exceeding one hundred dollars ($100.00), or for any other business affecting the interests of the Academy, or of its individual Fellows, fifteen (15) shall be required to be present.

SECTION IV

DUTIES OF OFFICERS—PRESIDENT AND VICE-PRESIDENTS

The President shall preside at the meetings, regulate debates, sign Certificates of Fellowship, appoint committees not otherwise provided for, announce the results of elections, and perform all other duties pertaining to his office. The Vice-Presidents shall assist the President in the discharge of his functions, and in his absence preside in the order of seniority.

SECTION V

SECRETARY

The Secretary shall keep the minutes of the meetings of the Academy, one copy of which he shall send to the Recorder. He shall notify the Fellows of the meetings, announcing on the notices the business to be transacted, with the names of candidates for Fellowship to be balloted upon by the Academy, attest all official acts requiring certificates in connection with, or independently of, the President, notify the Officers and Fellows of their election, acquaint newly elected Fellows with the requirements of the By-Laws concerning admission, receive the signatures of newly elected Fellows, take charge of papers not otherwise provided for, shall keep in his custody the seal of the Academy, and affix it to any documents or papers that the Academy may direct.

SECTION VI

TREASURER

It shall be the duty of the Treasurer to receive all moneys and funds belonging to the Academy, unless otherwise provided for; he shall pay bills for all expenses properly incurred by the Academy; collect all dues and assessments as promptly as possible, and present an annual account for audit. Two auditors shall be appointed by the President at the Annual Meeting to audit these accounts.

At the December meeting, the Treasurer shall propose suitable honoraria for the secretaries of the following officers: the Secretary, the Treasurer, the Recorder, the Chairman of the Committee on Scientific Business, and upon affirmative vote of the Fellows shall send such honoraria before Christmas.

SECTION VII

RECORDER

The Recorder shall serve as a Member of the Committee on Scientific Business. He shall receive copies of the Annual Oration. He shall maintain the archives of the Academy, including copies of the minutes, and he shall consult with Fellows who present Annual Orations and Memoirs before the Academy in regard to publication. He shall maintain the material required for publication of the *Transactions of the Philadelphia Academy of Surgery*, and shall act as Editor for the *Transactions*, arranging for their publication at intervals of approximately four (4) years as required by the Academy.

SECTION VIII

COUNCIL

The Council of the Academy shall hold meetings for the transaction of routine business upon notice from the Secretary and special meetings shall be held on call of the President or on the call of any two (2) of its own number. A quorum shall consist of not less than four (4) of its members, and notice of any unusual business or any routine business having unusual significance for the Academy shall be sent to members at least five (5) days prior to a meeting.

SECTION IX

THE COMMITTEE ON SCIENTIFIC BUSINESS

The Committee on Scientific Business shall consist of three (3) Fellows, a Chairman elected by the Academy, the Recorder, and one (1) additional Fellow appointed by the President. It shall have charge of the scientific business of the meetings, it shall be its duty to provide for the presentation of papers and discussions of subjects for each meeting, it shall arrange, at such times as may deem proper, for the discussion of scientific subjects by the Fellows of the Academy, and it shall, when authorized by the Academy, invite members of the profession, resident or nonresident, to read papers before the Academy, or to present topics for discussion. It shall act as a committee on publication, and shall present at the annual meeting a report of the work done during the year, which shall be entered upon the minutes of the Academy.

SECTION X

ANNUAL ORATION

There shall be appointed by the President at the stated meeting in February of each year, a Fellow whose duty it shall be to deliver at a stated meeting, usually December, of that year, an address in Surgery. This address shall be delivered to the Recorder in writing at the time of its presentation, and it shall be published in the *Transactions* of the Academy. After consultation with the Recorder, it may be published in any other reputable scientific journal so long as it is identified as the Annual Oration of the Philadelphia Academy of Surgery, and so long as permission is obtained for its subsequent publication in the *Transactions* of the Academy.

SECTION XI

ELECTION OF OFFICERS

At the November meeting of the Academy, the President shall nominate three (3) Fellows to act as a Nominating Committee. Insofar as possible, these shall be previous Presidents of the Academy. This Committee shall report at the December meeting each year. Additional Fellows may be nominated for any office from the floor. The Officers of the Academy shall be elected at the January meeting. The election shall be by ballot whenever more than one (1) candidate has been nominated for any office, and a majority of all those present shall be necessary to a choice. Where there is no contest, election may be by acclamation.

SECTION XII

PROPOSALS FOR FELLOWSHIP

Proposals for Fellowship shall be in writing signed by three (3) Fellows with a letter from each vouching for the character of the candidate. Completed nominations shall be considered by the Council at its next meeting. In the event action is deferred for more than three (3) meetings of Council, the President shall communicate with one or more of the candidate's sponsors.

No candidate may be proposed for Fellowship who has not made at least one (1) presentation before the Academy. The names of candidates who are to be recommended by the Council shall be published with the notices of the meeting immediately preceding consideration by the Fellows. Certification by the candidate's specialty board is not a requirement, but the case of an individual who is not certified must be especially strong to justify his election. It is expected that a candidate proposed for Fellowship will have attained some reputation in surgical practice, research and/or teaching.

SECTION XIII

ELECTION OF FELLOWS

The names of candidates proposed for Fellowship, who are approved by Council, shall be read with supporting letters from each of the three (3) proposers at a stated meeting of the Academy. Their names shall be read at a second meeting, and sent out with a call to the following meeting at which the election shall be held. Election of candidates for Fellowship who have been reported upon by the Council may take place at any stated meeting and shall be by ballot. A two-thirds vote of those present shall be necessary to elect the candidate to Fellowship.

A candidate for Fellowship failing to obtain the requisite number of votes in his favor may not again be nominated before the expiration of two (2) years.

SECTION XIV

SIGNING THE CONSTITUTION

Every person elected to be a Fellow shall pay the initiation fee and shall sign the Constitution and By-Laws. No person shall acquire the rights of Fellowship unless he makes payment of the initiation fee and signs the Constitution and By-Laws by the third meeting following his election.

SECTION XV

INITIATION FEE

Every Fellow shall, on admission, pay an initiation fee of twenty-five dollars ($25.00).

SECTION XVI

ANNUAL DUES

There shall be an annual assessment of fifteen dollars ($15.00), to be paid within four (4) months after the meeting in January. Fellows elected in November or December shall not be subject to the annual assessment for that year. The annual assessment for Nonresident Fellows shall be five dollars ($5.00). The dues for Senior Fellows who have retired from practice may be reduced or permanently remitted by a two-thirds vote of Council. Government Fellows shall be assessed annual dues of $15.00. Inactive Fellows will be subject to reduced dues and will not be subject to assessments. Dues of Active Fellows who go on active duty with the government may be remitted temporarily by action of Council.

Any Fellow who requests relief from the payment of dues and assessments may, at the discretion of the Council, be relieved of such dues and assessments, without loss of his Fellowship or other rights.

SECTION XVII

Any Fellow in arrears for one (1) year, being notified of the fact by the Treasurer, in writing, and not paying his dues within two (2) months thereafter, shall forfeit his Fellowship; and it shall be the duty of the Treasurer to notify the Academy of such forfeiture, which shall be entered on the minutes, and the name stricken from the list of Fellows. The notice aforesaid shall contain a copy of this section.

Any active Fellow not attending at least two (2) of the Stated Meetings in any one (1) year (October through May) shall state in writing to the Secretary the reasons for this failure. The names of such Active Fellows shall then be read to the members of Council by the Secretary. The members of Council may then take whatever action they deem necessary as follows: excuse, reprimand, or expel the offending Fellow.

SECTION XVIII

GUESTS

The Scientific Programs of the Society shall be open to any members of the medical profession and individuals in ancillary fields, including medical students and graduate students in the medical sciences, unless attendance is specifically restricted by vote of the Academy. Any Fellow may invite any medical man in good standing to a meeting of the Academy as an official guest. Such an official guest shall be introduced to the President, and to the Academy by the President, and his name entered upon the minutes. The President may invite any such person to participate in the discussion.

Business meetings shall be limited to Fellows of the Academy, except when a non-Fellow shall be invited to attend some portion of a business meeting for a particular purpose at the request of the President, who shall make known the presence of such an individual at the beginning of the meeting.

SECTION XIX

SEAL AND CERTIFICATE OF FELLOWSHIP

The Academy shall have a distinct seal, as well as a Certificate of Fellowship, to a copy of which, signed by the President and Secretary, every Fellow shall be entitled.

SECTION XX

ORDER OF BUSINESS

The order of business shall be as follows unless modified by the President:

I. Scientific Proceedings:
   1. Call to order.
   2. Introduction of guests.
   3. Introduction of new Fellows.
   4. Reading of scientific papers, including the discussion of each.

II. Business Session:
   1. Reading of minutes of the last meeting.
   2. Reports of committees.
   3. Unfinished business.
   4. New business.
   5. Election of officers.
   6. Election of Fellows.
   7. Adjournment.

SECTION XXI

RULES OF ORDER

The proceedings of the Academy shall be conducted according to *Robert's Rules of Order*.

SECTION XXII

ALTERATIONS OF THE BY-LAWS

Amendments to the By-Laws may be made at any stated meeting at which a quorum is present, providing that notice of the proposed amendment shall have been sent to the members with the call to the meeting at least five (5) days in advance. A majority vote shall suffice for amendment to the By-Laws.

Founders

Founded April 21, 1879

Incorporated December 27, 1879

*SAMUEL D. GROSS, M.D., LL.D., D.C.L., Oxon

*D. HAYES AGNEW, M.D., LL.D.

*ADDINELL HEWSON, M.D.

*RICHARD J. LEVIS, M.D.

*THOMAS G. MORTON, M.D.

*JOHN H. PACKARD, M.D.

*JOHN H. BRINTON, M.D.

*WILLIAM H. PANCOAST, M.D.

*J. EWING MEARS, M.D.

*SAMUEL W. GROSS, M.D., LL.D.

*Deceased

List of Officers, 1974

President

DR. JOHN Y. TEMPLETON, III

First Vice-President

DR. H. TAYLOR CASWELL

Second Vice-President

DR. DONALD R. COOPER

Secretary

DR. PAUL NEMIR, JR.

Treasurer

DR. WILLIAM T. FITTS, JR.

Recorder

DR. EDWIN W. SHEARBURN

Council

DR. WILLIAM H. ERB

DR. CHARLES C. WOLFERTH, JR.

DR. JOSEPH W. STAYMAN, JR.

With the President, First and Second Vice-Presidents, Secretary, Treasurer and Chairman of the Business Committee

Business Committee

DR. BROOKE ROBERTS

(Chairman, Committee on Scientific Business)

Samuel D. Gross Prize Fund

DR. PAUL NEMIR, JR. (Fund Chairman)

Philadelphia Academy of Surgery

Founded April 21, 1879

Incorporated December 27, 1879

Officers

1879

Temporary Chairman ..... ADDINELL HEWSON

Temporary Secretary ..... J. EWING MEARS

Temporary Treasurer ..... WILLIAM HUNT

Temporary Recorder ..... JOHN B. ROBERTS

PRESIDENT

ELECTED		ELECTED	
1880	SAMUEL D. GROSS	1934	WALTER ESTELL LEE
1884	D. HAYES AGNEW	1936	DAMON B. PFEIFFER
1891	WILLIAM HUNT	1938	J. STEWART RODMAN
1895	THOMAS G. MORTON	1940	ELDRIDGE L. ELIASON
1898	DEFOREST WILLARD	1942	ROBERT H. IVY
1902	RICHARD H. HARTE	1944	HUBLEY R. OWEN
1904	HENRY R. WHARTON	1946	JOHN B. FLICK
1906	JOHN B. ROBERTS	1948	THOMAS A. SHALLOW
1908	WILLIAM J. TAYLOR	1950	CALVIN M. SMYTH
1910	ROBERT G. LECONTE	1952	I. S. RAVDIN
1912	GWILYM G. DAVIS	1954	L. K. FERGUSON
1914	JOHN H. GIBBON	1956	JOHN GIBBON, JR.
1916	CHARLES H. FRAZIER	1958	ADOLPH WALKLING
1918	EDWARD MARTIN	1960	W. EMORY BURNETT
1920	GEORGE G. ROSS	1962	J. MONTGOMERY DEAVER
1922	JOHN H. JOPSON	1964	JONATHAN E. RHOADS
1924	EDWARD B. HODGE	1965	GEORGE J. WILLAUER
1926	CHARLES F. MITCHELL	1967	GEORGE P. ROSEMOND
1928	ASTLEY P. C. ASHHURST	1970	JULIAN JOHNSON
1930	GEORGE P. MULLER	1972	WILLIAM H. ERB
1932	JOHN SPEESE	1974	JOHN Y. TEMPLETON, III

VICE-PRESIDENT

ELECTED		ELECTED	
1880	D. HAYES AGNEW	1884	SAMUEL W. GROSS
1880	R. J. LEVIS	1889	JOHN H. PACKARD

ELECTED		ELECTED	
1891	WILLIAM W. KEEN	1928	JOHN SPEESE
1891	J. EWING MEARS	1930	WALTER ESTELL LEE
1898	JOHN ASHHURST, JR.	1932	DAMON B. PFEIFFER
1900	RICHARD H. HARTE	1934	J. STEWART RODMAN
1900	HENRY R. WHARTON	1936	E. J. KLOPP
1902	JOHN B. DEAVER	1938	ELDRIDGE L. ELIASON
1904	JOHN B. ROBERTS	1938	ROBERT H. IVY
1905	WILLIAM J. TAYLOR	1940	HUBLEY R. OWEN
1906	ROBERT G. LECONTE	1942	JOHN B. FLICK
1908	G. G. DAVIS	1943	THOMAS A. SHALLOW
1910	JOHN H. GIBBON	1945	CALVIN M. SMYTH
1912	CHARLES H. FRAZIER	1948	L. KRAEER FERGUSON
1914	EDWARD MARTIN	1950	I. S. RAVDIN
1916	GEORGE G. ROSS	1952	L. K. FERGUSON
1918	JOHN H. JOPSON	1954	JOHN H. GIBBON, JR.
1919	H. C. DEAVER	1956	ADOLPH WALKLING
1920	JOHN H. JOPSON	1958	W. EMORY BURNETT
1920	EDWARD B. HODGE	1960	J. MONTGOMERY DEAVER
1922	CHARLES F. MITCHELL	1962	JONATHAN E. RHOADS
1924	ASTLEY P. C. ASHHURST	1964	GEORGE J. WILLAUER
1926	ASTLEY P. C. ASHHURST	1965	GEORGE P. ROSEMOND
1926	GEORGE P. MULLER	1967	JULIAN JOHNSON

SECRETARY

ELECTED		ELECTED	
1880	J. EWING MEARS	1940	JOHN B. FLICK
1885	J. HENRY C. SIMES	1942	L. KRAEER FERGUSON
1893	THOMAS R. NEILSON	1943	CALVIN M. SMYTH
1896	WILLIAM J. TAYLOR	1945	L. KRAEER FERGUSON
1905	JOHN H. GIBBON	1948	J. MONTGOMERY DEAVER
1909	CHARLES F. MITCHELL	1958	WILLIAM B. FITTS
1915	GEORGE P. MULLER	1960	HENRY P. ROYSTER
1920	J. STEWART RODMAN	1964	THOMAS F. NEALON
1922	HUBLEY R. OWEN	1967	DONALD R. COOPER
1930	DEFOREST P. WILLARD	1974	PAUL NEMIR, JR., M.D.
1935	HENRY P. BROWN, JR.		

TREASURER

ELECTED		ELECTED	
1880	WILLIAM HUNT	1935	L. KRAEER FERGUSON
1891	WILLIAM G. PORTER	1938	HARRY E. KNOX
1904	JAMES P. HUTCHINSON	1947	S. DANA WEEDER
1911	EDWARD B. HODGE	1960	ORVILLE C. KING
1920	DUNCAN L. DESPARD	1965	EDWIN W. SHEARBURN
1922	WILLIAM B. SWARTLEY	1974	WILLIAM T. FITTS, JR.

RECORDER

ELECTED		ELECTED	
1880	JOHN B. ROBERTS	1922	J. WILLIAM BRANSFIELD
1881	DEFOREST WILLARD	1926	CALVIN M. SMYTH, JR.
1884	C. B. G. DENANCREDE	1937	ADOLPH A. WALKLING
1884	J. EWING MEARS	1950	JONATHAN E. RHOADS
1891	LEWIS W. STEINBACH	1952	W. EMORY BURNETT
1902	JOHN H. GIBBON	1956	FREDERICK A. BOTHE
1905	JOHN H. JOPSON	1960	H. TAYLOR CASWELL
1915	JOHN SPEESE	1966	WILLIAM S. BLAKEMORE
1920	HENRY P. BROWN, JR.	1974	EDWIN W. SHEARBURN

COUNCIL

ELECTED		ELECTED	
1880	JOHN ASHHURST, JR.	1942	THOMAS A. SHALLOW
1880	JOHN H. BRINTON	1942	ELDRIDGE L. ELIASON
1894	WILLIAM B. HOPKINS	1943	ROBERT H. IVY
1895	HENRY R. WHARTON	1946	HUBLEY R. OWEN
1898	THOMAS R. NEILSON	1947	CHARLES F. MITCHELL
1900	W. JOSEPH HEARN	1948	FRANCIS C. GRANT
1902	ROBERT G. LECONTE	1950	THOMAS A. SHALLOW
1906	THOMAS R. NEILSON	1952	ADOLPH WALKLING
1910	J. CHALMERS DE COSTA	1952	CALVIN M. SMYTH
1920	CHARLES F. MITCHELL	1954	I. S. RAVDIN
1922	GEORGE G. ROSS	1954	FREDERICK A. BOTHE
1922	JAMES H. BALDWIN	1956	FREDERICK ROBBINS
1923	WILLIAM J. TAYLOR	1956	L. KRAEER FERGUSON
1924	JOHN H. JOPSON	1957	FREDERICK ROBBINS
1924	JOHN SPEESE	1958	JOHN H. GIBBON, JR.
1925	EDWARD B. HODGE	1959	ORVILLE C. KING
1926	DAMON B. PFEIFFER	1960	ADOLPH WALKLING
1927	CHARLES F. MITCHELL	1960	JONATHAN E. RHOADS
1930	ASTLEY P. C. ASHHURST	1962	DONALD K. COOPER
1930	HUBLEY R. OWEN	1962	W. EMORY BURNETT
1932	GEORGE P. MULLER	1964	J. MONTGOMERY DEAVER
1935	DEFOREST P. WILLARD	1965	JONATHAN E. RHOADS
1936	WALTER ESTELL LEE	1967	JOHN Y. TEMPLETON
1936	ROBERT H. IVY	1967	GEORGE WILLAUER
1940	J. STEWART RODMAN	1974	WILLIAM H. ERB
1940	DAMON B. PFEIFFER	1974	CHARLES C. WOLFERTH, JR.
1941	EDWARD B. HODGE	1974	JOSEPH W. STAYMAN, JR.

With President, Vice-President, Secretary and Treasurer

BUSINESS COMMITTEE

ELECTED		ELECTED	
1895	WILLIAM J. TAYLOR	1895	DEFOREST WILLARD

ELECTED

1896	RICHARD H. HARTE
1897	ROBERT G. LECONTE
1900	G. G. DAVIS
1902	JOHN H. JOPSON
1905	GEORGE G. ROSS
1908	FRANCIS T. STEWART
1914	JOHN SPEESE
1916	WALTER ESTELL LEE
1916	MORRIS BOOTH MILLER
1917	DAMON B. PFEIFFER
1917	ASTLEY P. C. ASHHURST
1919	A. BRUCE GILL
1919	J. STEWART RODMAN
1920	ARTHUR BILLINGS
1922	DAMON B. PFEIFFER
1924	DEFOREST P. WILLARD
1928	WALTER ESTELL LEE
1930	EDWARD T. CROSSAN
1930	JOHN B. FLICK

ELECTED

1931	HENRY P. BROWN, JR.
1932	EDWARD T. CROSSAN
1935	B. FRANKLIN BUZBY
1936	JOHN B. FLICK
1938	L. KRAEER FERGUSON
1940	J. MONTGOMERY DEAVER
1942	CALVIN M. SMYTH
1943	FREDERICK A. BOTHE
1943	W. EMORY BURNETT
1944	ADOLPH A. WALKLING
1946	J. MONTGOMERY DEAVER
1949	FREDERICK A. BOTHE
1950	JOHN H. GIBBON, JR.
1950	JONATHAN E. RHOADS
1951	FRANK ALLBRITTEN, JR.
1954	EDWIN W. SHEARBURN
1960	JOHN Y. TEMPLETON, III
1964	BROOKE ROBERTS
1974	BROOKE ROBERTS

With the Recorder

Officers

TRUSTEES OF THE SAMUEL D. GROSS PRIZE FUND AND LIBRARY

1894

J. EWING MEARS JOHN ASHHURST, JR. WILLIAM W. KEEN

With Samuel Ashhurst and William Hunt to serve with them on distribution of prize.

1895-1899	
J. EWING MEARS	
JOHN ASHHURST, JR.	
WILLIAM W. KEEN	
1900-1901	
WILLIAM W. KEEN	
J. EWING MEARS	
J. CHALMERS DACOSTA	
1902-1904	
WILLIAM J. TAYLOR	
WILLIAM L. RODMAN	
JOHN B. ROBERTS	
1905	
WILLIAM J. TAYLOR	
RICHARD H. HARTE	
DEFOREST WILLARD	
1910	
WILLIAM J. TAYLOR	
RICHARD H. HARTE	
JOHN H. GIBBON	
1915	
WILLIAM J. TAYLOR	
JOHN H. JOPSON	
EDWARD B. HODGE	
1920	
WILLIAM J. TAYLOR	
JOHN H. JOPSON	
EDWARD B. HODGE	
1925	
WILLIAM J. TAYLOR	
JOHN H. JOPSON	
EDWARD B. HODGE	

1930	
WILLIAM J. TAYLOR	
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EDWARD B. HODGE	
1935	
EDWARD B. HODGE	
CHARLES F. MITCHELL	
CALVIN M. SMYTH, JR.	
1940	
EDWARD B. HODGE	
CHARLES F. MITCHELL	
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1945	
DAMON B. PFEIFFER	
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1975 PECORA, DAVID V., 4747 Hogan Drive, Wilmington, Delaware 19808. Professor of Surgery, Jefferson Medical College; Chief, Surgical Service, Veterans Administration Hospital, Wilmington, Delaware.

1972 PERLMAN, MORTON H., M.D., Associate Professor of Surgery, Hahnemann Medical College; Active Staff Hahnemann Hospital.

1965 PIERUCCI, LOUIS, JR., M.D., 1025 Walnut Street, Philadelphia, Pennsylvania 19107. Associate Professor of Surgery, Jefferson Medical College; Chief Attending Surgeon, Cooper Medical Center, Camden, New Jersey; Attending Surgeon, Jefferson Medical College Hospital.

1958 PILLING, GEORGE PLATT, M.D., F.A.C.S., 2600 N. Lawrence Street, Philadelphia, Pennsylvania 19133. Attending Surgeon, St. Christopher's Hospital for Children; Assistant Professor of Surgery, Temple University School of Medicine; American Academy of Pediatrics, Affiliate in Surgery.

1960 PITT, LELDON P., M.D., F.A.C.S., 811 Spruce Street, Philadelphia, Pennsylvania 19107. Instructor, University of Pennsylvania; Associate Surgeon, Pennsylvania Hospital; Consultant Surgeon, Rush Hospital.

1962 RANDALL, PETER, M.D., F.A.C.S., Hospital of the University of Pennsylvania, 3400 Spruce Street, Philadelphia, Pennsylvania 19104. Professor of Plastic Surgery, School of Medicine, University of Pennsylvania Hospital; Senior Surgeon, Children's Hospital of Philadelphia.

*Senior Fellow.

1951 *RANIERI, TITO A., M.D., M.Sc., 2320 S. Broad Street, Philadelphia, Pennsylvania 19145. Associate in Surgery, University of Pennsylvania School of Medicine; Attending Surgeon, Methodist Hospital.

1953 REAGAN, LINDLEY B., M.D., F.A.C.S., 131 Madison Avenue, Mount Holly, New Jersey 08060. Chief, Department of Surgery, Burlington County Memorial Hospital; Instructor, Burlington County Memorial Hospital.

1943 *RHOADS, JONATHAN E., M.D., D.Sc. (Med.), LL.D. (Hon.), D.Sc. (Hon.), F.A.C.S., 3400 Spruce Street, Philadelphia, Pennsylvania 19104. Professor of Surgery, University of Pennsylvania School of Medicine.

1941 *RISTINE, EDWIN R., M.D., F.A.C.S., 17 Clinton Avenue, Mantua, New Jersey. Emeritus Surgeon, Cooper Hospital, Camden, New Jersey.

1954 *ROBERTS, BROOKE, M.D., F.A.C.S., 3400 Spruce Street, Philadelphia, Pennsylvania 19104. Professor of Surgery, University of Pennsylvania.

1964 ROBERTS, JOHN M., M.D., 8815 Germantown Avenue, Philadelphia, Pennsylvania 19118. Assistant Clinical Professor of Surgery, School of Medicine, Jefferson University; Attending Surgeon, Chestnut Hill Hospital.

1945 *ROSEMOND, GEORGE P., M.D., M.S. (Surg.), F.A.C.S., 3401 N. Broad Street, Philadelphia, Pennsylvania 19140. Chairman of the Department of Surgery, Temple University School of Medicine; Chief of Surgery, Temple University Hospital; Associate Attending Surgeon, St. Christopher's Hospital for Children.

1950 *ROYSTER, HENRY PAGE, M.D., F.A.C.S., Room 1000, Ravdin Building, University Hospital, 3400 Spruce Street, Philadelphia, Pennsylvania 19104. Professor of Surgery, School of Medicine, University of Pennsylvania; The Children's Hospital of Philadelphia; Consultant in Plastic Surgery, Veterans Administration Hospital; Consultant in Plastic Surgery, Naval Hospital.

1967 SACKS, CHARLES LOUIS, M.D., 245 N. Broad Street, Philadelphia, Pennsylvania 19102. Associate Clinical Professor of Surgery, Hahnemann Medical College; Associate in Surgery, Albert Einstein Medical Center.

1960 SAIN, FLETCHER D., M.D., F.A.C.S., 1245 Highland Avenue, Abington, Pennsylvania 19001. Visiting Lecturer, Temple University Medical School; Director, Department of Surgery, Lower Bucks County Hospital; Visiting Surgeon, Abington Memorial Hospital.

1965 SARIS, DEMETRIUS S., M.D., 230 N. Broad Street, Philadelphia, Pennsylvania 19102. Associate Professor of Surgery, Hahnemann Medical College and Hospital and Associate Director of Surgical Education.

1962 *SCHUMANN, FRANCIS, M.D., F.A.C.S., 8815 Germantown Avenue, Philadelphia, Pennsylvania 19118. Clinical Associate Professor of Surgery, Medical College of Pennsylvania; Senior Attending Surgeon, Chestnut Hill Hospital.

1951 SCHWEGMAN, C. W., M.D., F.A.C.S., 3400 Spruce Street, Philadelphia, Pennsylvania 19104. Associate Professor of Surgery, University of Pennsylvania; Associate Professor of Surgery, Graduate School of Medicine; Associate Surgeon, Hospital of the University of Pennsylvania.

*Senior Fellow.

1953 SCOTT, MICHAEL, M.D., F.A.C.S., 3401 N. Broad Street, Philadelphia, Pennsylvania, 19140. Professor and Chairman, Department of Neurosurgery, Temple University Hospital.

1965 SENCINDIVER, PAIGE VICTOR, M.D., F.A.C.S., 2301 S. Broad Street, Philadelphia, Pennsylvania 19145. Attending Surgeon, Methodist Hospital; Assistant Surgeon, Jefferson Hospital.

1947 *SHEARBURN, EDWIN W., M.D., M.S., F.A.C.S., 233 Lankenau Medical Building, Philadelphia, Pennsylvania 19151. Professor of Surgery, Jefferson Medical College; Director, Division of Surgery and Chief, Lankenau Hospital.

1965 SIGEL, BERNARD, M.D., 3300 Henry Avenue, Philadelphia, Pennsylvania 19129. Associate Professor of Surgery and Chief, Surgical Service, Woman's Medical College; Veteran's Administration Hospital.

1957 SINGMASTER, LAWRENCE, M.D., F.A.C.S., 106 W. Front Street, Media, Pennsylvania. Associate Professor, Surgery, Jefferson Medical College; Assistant Director of Surgery, Riddle Memorial Hospital, Media, Pennsylvania; Assistant Professor of Clinical Surgery, Graduate School, University of Pennsylvania.

1972 SMULLENS, STANTON N., M.D., 130 S. 9th Street, Suite 1930, Philadelphia, Pennsylvania 19107. Assistant Professor of Surgery, Jefferson Medical College.

1974 SOLIT, ROBERT W., M.D., 130 S. 9th Street, Philadelphia, Pennsylvania 19107. Assistant Professor of Surgery and Attending Surgeon, Thomas Jefferson University.

1972 SPAGNA, PASCHAL, M., M.D., Associate Professor of Surgery, Temple University Health Sciences Center; Chief, Section of Cardiovascular Surgery, Episcopal Hospital.

1954 SPITZ, EUGENE B., M.D., F.A.C.S., 40-50 W. Front Street, Media, Pennsylvania. Fellow of American Academy of Pediatrics; Professor of Biomedical Engineering, Pennsylvania Military College; Chief, Division of Neurosurgery, Broad Street Hospital and Medical Center.

1960 STAHLGREN, LEROY H., M.D., F.A.C.S., Episcopal Hospital, Front Street and Lehigh Avenue, Philadelphia, Pennsylvania 19125. Director of Surgery, Episcopal Hospital; Professor of Surgery, School of Medicine, Temple University.

1957 STAINBACK, WILLIAM C., M.D., F.A.C.S., Bryn Mawr Medical Building, Bryn Mawr, Pennsylvania 19010. Director of Surgery, Jefferson Medical College; Director, Department of Surgery, The Bryn Mawr Hospital.

1950 STAYMAN, JOSEPH W., JR., M.D., F.A.C.S., 8815 Germantown Avenue, Philadelphia, Pennsylvania 19118. Thoracic Surgical Association; Associate Professor of Clinical Surgery, Jefferson Medical College; Director of Surgery, Chestnut Hill Hospital; Surgeon, All Saints Hospital; Attending Surgeon, Jefferson Medical College Hospital.

1968 STEEL, HOWARD HALDEMAN, M.D., M.S., 3401 N. Broad Street, Philadelphia, Pennsylvania 19140. Chief Surgeon, Shriners Hospital for Crippled Children; Orthopedic Consultant, Walson Army Hospital, Fort Dix; Professor of Orthopedic Surgery, Temple University Hospital and St. Christopher's Hospital.

*Senior Fellow.

1948 *STEVENS, LLOYD W., M.D., F.A.C.S., 133 S. 36th Street, Philadelphia, Pennsylvania 19104. Professor of Clinical Surgery, University of Pennsylvania; Director of Surgery, Presbyterian Hospital; Consultant Surgeon, Riddle Memorial, Philadelphia General, and Taylor Hospitals.

1956 *STRONG, GEORGE H., M.D., F.A.C.S., 255 S. 17th Street, Philadelphia, Pennsylvania 19103. Clinical Professor of Urology, Jefferson Medical College.

1957 SWARTLEY, ROBERT NORMAN, M.D., 50 Bethlehem Pike, Philadelphia, Pennsylvania 19118. Instructor in Surgery, Jefferson Medical College; Senior Attending Surgeon, Chestnut Hill Hospital.

1954 *TEMPLETON, JOHN Y., III, M.D., F.A.C.S., 130 S. 9th Street, Philadelphia, Pennsylvania 19107. Professor of Surgery, Jefferson Medical College; Attending Surgeon, Jefferson Medical College Hospital.

1970 TRONCELLITI, M.A., M.D., DeKalb Fornance Professional Building, Suite 101, Norristown, Pennsylvania 19401.

1958 TROPEA, FRANK, JR., M.D., 1422 Race Street, Philadelphia, Pennsylvania 19102. Clinical Professor of Surgery, Hahnemann Medical College and Hospital; Director of Surgery, St. Agnes Hospital; Consultant Surgeon, Philadelphia General Hospital.

1969 TROUT, ROBERT G., M.D., Clinical Assistant Professor of Surgery, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania; Attending Thoracic and Cardiac Surgeon. Presbyterian-University of Pennsylvania Medical Center, Philadelphia.

1954 TYSON, R. ROBERT, M.D., M.S., F.A.C.S., 3401 N. Broad Street, Philadelphia, Pennsylvania 19140. Professor of Surgery, Temple University School of Medicine; Chief Vascular Surgery Section, Temple University Hospital; Associate Surgeon, Episcopal and St. Christopher's Hospitals; Consultant, Veterans Administration Hospital, Wilkes-Barre.

1955 *ULIN, ALEX W., M.D., F.A.C.S., 1420 Race Street, Philadelphia, Pennsylvania 19102. Clinical Professor of Surgery, Hahnemann Medical College and Hospital; Director, Medical and Surgical Research, Ethicon, Inc.

1956 VON DEILEN, ARTHUR W., M.D., D.D.S., F.A.C.S., 501 White Horse Pike, W. Collingswood, New Jersey. Assistant Professor of Plastic and Reconstructive Surgery in Medical Schools, University of Pennsylvania; Chief of Plastic and Reconstructive Surgery, Presbyterian Hospital.

1952 WAGNER, FREDERICK B., JR., M.D., F.A.C.S., 255 S. 17th Street, Philadelphia, Pennsylvania 19103. Fellow, American College of Angiology; Clinical Professor of Surgery, Jefferson Medical College; Attending Surgeon, Jefferson Medical College Hospital; Director of Surgery, William B. Kessler Memorial Hospital, Hammonton, New Jersey.

1974 WALLACE, HERBERT W., M.D., Graduate Hospital of the University of Pennsylvania, 19th and Lombard Streets, Philadelphia, Pennsylvania 19146. Associate Professor of Surgery, University of Pennsylvania School of Medicine.

1960 WEST, CLIFTON F., JR., M.D., Lankenau Medical Building, Philadelphia, Pennsylvania 19151. Instructor in Surgery, Jefferson Medical College; Associate Surgeon, Lankenau Hospital.

*Senior Fellow.

1975 WHITAKER, LINTON A., M.D., Assistant Professor Surgery (Plastic), University of Pennsylvania; Attending Surgeon, Hospital of University of Pennsylvania; Assistant Surgeon, Children's Hospital of Philadelphia; Chief of Plastic Surgery, Graduate Hospital; Consultant in Surgery, Lankenau Hospital.

1972 WHITE, JACK C., M.D., Paoli Memorial Medical Building, Paoli, Pennsylvania 19301. Chairman, Department of Surgery, Paoli Memorial Hospital; Clinical Assistant Professor, Hahnemann; Active Surgical Staff, Chester County Hospital.

1972 WILLIAMS KIRKLEY R., M.D., Bryn Mawr Medical Building, Bryn Mawr, Pennsylvania 19010. Associate Professor of Surgery, Jefferson Medical College; Attending Surgeon in Charge of Cardiovascular Surgery, Bryn Mawr Hospital.

1939 *WILLAUER, GEORGE, M.D., D.Sc., LL.D., F.A.C.S., 6129 Greene Street, Philadelphia, Pennsylvania 19144.. Founder, American Board of Thoracic Surgery; Clinical Professor of Surgery (Hon.), Jefferson Medical College.

1927 *WILLIAMSON, ERNEST, G., M.D., F.A.C.S., F.R.C.S. (Edin.), 6353 Woodbine Avenue, Philadelphia, Pennsylvania 19151. Surgeon, Presbyterian Hospital and Children's Hospital.

1965 WOLFERTH, CHARLES C., JR., M.D., Suite 2045, The Philadelphian, 2401 Pennsylvania Avenue, Philadelphia, Pennsylvania, 19130. Professor of Surgery, Hahnemann Medical College; Associate Surgeon, Abington Hospital; Consultant in Surgery, United States Naval Hospital.

1974 YUM, KEUK Y., 334 Lankenau Medical Building, Philadelphia, Pennsylvania 19151. Assistant, Department of Surgery, Lankenau Hospital; Instructor, Department of Surgery, Jefferson Medical College.

1958 ZASLOW, JERRY, M.D., M.S., F.A.C.S., F.I.C.S. Associate Clinical Professor of Surgery, Temple University Hospital; Instructor in Law, Temple University Law School.

NON-RESIDENT FELLOWS

ALBRITTEN, FRANK F., JR., M.D., 39th and Rainbow Boulevard, Kansas City, Kansas 66103. General and Thoracic Surgery.

AUSTIN, GEORGE, M.D., M.Sc., Loma Linda University Medical School, Loma Linda, California. Neurosurgery.

BAILEY, CHARLES P., M.D., M.Sc., D.Sc. (Med.), F.A.C.S., 34 E. 67th Street, New York, New York 10021. General and Thoracic Surgery.

BLAKEMORE, WILLIAM S., Medical College of Ohio, Toledo, Ohio.

DE PALMA, ANTHONY F., M.D., University of Miami, School of Medicine, Miami, Florida.

EHRLICH, EDWARD W., M.D., F.A.C.S., 1000 Ryland Street, Reno, Nevada 89502. General Surgery.

FRY, KENNETH EVANS, M.D., F.A.C.S., Health Department, Court House, Wala Wala, Washington 99362. General Surgery.

HOWARD, JOHN M., M.D., Medical College of Ohio, Toledo, Ohio.

MANGES, LEWIS C., JR., M.D., F.A.C.S., Medical Center, Windsor, New York 13865. General Surgery.

*Senior Fellow.

MASON, JAMES BRYANT, M.D., M.Sc. (Surg.), F.A.C.S., 1730 S. Jackson Avenue, Tacoma, Washington 98465. General Surgery.

MEADE, RICHARD H., M.D., F.A.C.S., 750 San Jose Drive, SE, Grand Rapids, Michigan. General and Thoracic Surgery.

NEALON, THOMAS F., JR., M.D., F.A.C.S., St. Vincent's Hospital and Medical Center of New York, 170 W. 12th Street, New York, New York 10011. General Surgery.

NORTH, JOHN P., M.D., F.A.C.S., 55 E. Erie Street, Chicago, Illinois 60611. General Surgery.

PAREIRA, MORTON G., M.D., Deputy Director of Surgery, The Veterans Administration.

SCHELL, JAMES F., M.D., F.A.C.S., 506 Sharpley Lane, Bellewood, Wilmington, Delaware 19803. General Surgery.

THOMAS, PAUL A., M.D., Associate Professor of Surgery, University of Illinois.

THOMPSON, JAMES CHARLES, M.D., F.A.C.S., 1000 W. Carson Street, Torrance, California 90509. General Surgery.

WEBER, EDGAR H., M.D., F.A.C.S., 123 SE Second Street, Evansville, Indiana. General Surgery.

WELLS, J. RALSTON, M.D., F.A.C.S., De Land, Florida. General Surgery.

INACTIVE FELLOWS

BUCHER, ROBERT, M., M.D., M.S. (Surg.), F.A.C.S., 3401 N. Broad Street, Philadelphia, Pennsylvania 19140. General Surgery.

DAVIS, DAVID M., M.D., 818 Pennstone Road, Bryn Mawr, Pennsylvania 19010. Urology.

GREENE, LLOYD B., M.D., 326 S. 19th Street, Philadelphia, Pennsylvania 19103.

MOORE, ROBERT MILO, M.D., 1617 John F. Kennedy Boulevard, Philadelphia, Pennsylvania 19103. General Surgery.

SCOTT, MICHAEL, M.D., Temple University Hospital, 3401 N. Broad Street, Philadelphia, Pennsylvania 19140.

SHANDS, ALFRED RIVES, JR., M.D., Box 269, Wilmington, Delaware. Orthopedic Surgery.

GOVERNMENT SERVICE FELLOWS

CALES, ROBERT J., CAPTAIN, (MC), USN, U.S. Naval Hospital, Philadelphia, Pennsylvania 19145.

CUSTIS, DONALD L., CAPTAIN, (MC), USN, U.S. Naval Hospital, Philadelphia, Pennsylvania 19145.

MAHIN, HARRY P., CAPTAIN, (MC), USN, 740 Coronado Avenue, Coronado, California 92118.

MUCHA, STEPHEN J., M.D., Chairman, Department of Surgery, Naval Regional Medical Center, Philadelphia, Pennsylvania.

SERLIN, OSCAR, M.D., Professor of Surgery, College of Medicine and Dentistry of New Jersey.

THOMAS, PAUL A., COLONEL, (MC), USA, Valley Forge General Hospital, Phoenixville, Pennsylvania 19460.

*Senior Fellow.

NEW FELLOWS

1969

DR. MORTON D. PAREIRA
DR. LEONARD I. GOLDMAN
DR. RICHARD A. DAVIS
DR. WILLIAM K. GORHAM, III
GOVERNMENT SERVICE FELLOW
CAPT. ROBERT J. CALES
DR. HENRY H. SHERK
DR. EDWARD D. COPPOLA
DR. DAVID K. WAGNER
DR. HARVEY J. LERNER
DR. EDWARD D. McLAUGHLIN
DR. ROBERT W. CRICHLOW
DR. ROBERT G. TROUT

1970

DR. PETER V. MOULDER
DR. JOHN J. GOSTIGIAN
DR. WILLIS P. MAIER
DR. MANRICO A. TRONCELLITI
DR. CHARLES S. KRUEGER
DR. LEONARD D. MILLER
DR. WILLIAM P. LIGHTFOOT
DR. GERALD J. MARKS
DR. HORACE MacVAUGH, III
DR. JOEL DEUTSCH

1971

DR. PAUL A. THOMAS
DR. CHIJEN CHEN
DR. BENJAMIN BACHARACH
DR. HARRY C. BISHOP
GOVERNMENT SERVICE FELLOW
CAPT. STEPHEN J. MUCHA
DR. FREDERICK A. REICHLE
DR. FRANCIS E. ROSATO

1972

DR. MORTON H. PERLMAN
DR. TERUO MATSUMOTO
DR. HARRY M. NELSON, JR.
DR. HARRY S. GOLDSMITH
DR. ARTHUR G. BAKER, JR.
DR. STANTON N. SMULLENS
DR. KIRKLEY R. WILLIAMS
DR. PASCHAL M. SPAGNA
DR. EOIN ABERDEEN
DR. JACK C. WHITE
DR. SAMUEL S. LYNESS

1973

DR. EDWIN T. LONG
DR. A. MONEIM A. FADALI

1974

DR. GERALD M. LEMOLE
DR. JOHN J. GARTLAND
DR. MOREYE NUSBAUM
DR. SERGIUS P. PECHIN
DR. ERWIN A. COHEN
DR. ALMA DEA MORANI
DR. RICHARD H. GROSS
DR. JOHN P. COSSA
DR. PAUL GONICK
DR. L. HENRY EDMUNDS
DR. ERNEST F. ROSATO
DR. STANLEY BROCKMAN
DR. KEUK K. YUM
DR. PAUL D. ZIMSKIND
DR. ROBERT W. SOLIT
DR. HERBERT W. WALLACE
DR. JAMES O. FINNEGAN
DR. JEWELL L. OSTERHOLM
DR. DONALD DE SANTIS

1975

DR. LINTON A. WHITAKER
DR. WILLIAM A. BUCHHEIT
DR. DAVID V. PECORA
DR. HENRY D. BERKOWITZ
DR. MANOUCHER FALLAH-NEJAD
DR. ROBERT A. CHASE

Honorary Fellows

ELECTED		DIED
1881	SIR JAMES PAGET, London, England	December 30, 1899
1881	THEODORE BILLROTH, Vienna, Austria	January 5, 1894
1881	BERNHARD VON LANGENBECK, Berlin, Germany	September 30, 1887
1881	WILLARD PARKER, New York, N. Y.	April 25, 1884
1881	LEWIS A. SAYRE, New York, N. Y.	September 21, 1900
1881	MOSES GUNN, Chicago, Ill.	November 4, 1887
1881	JOHN T. HODGEN, St. Louis, Mo.	April 28, 1882
1881	W. W. DAWSON, Cincinnati, Ohio	February 16, 1893
1881	T. G. RICHARDSON, New Orleans, La.	May 26, 1892
1881	J. COLLINS WARREN, Boston, Mass.	1927
1881	W. T. BRIGGS, Nashville, Tenn.	June 13, 1894
1881	CHRISTOPHER JOHNSTON, Baltimore, Md.	October 11, 1891
1881	D. W. YANDELL, Louisville, Ky.	May 2, 1898
1898	MAURICE H. RICHARDSON, Boston, Mass.	July 31, 1912
1898	GEORGE M. STERNBERG, Washington, D. C.	November 3, 1915
1898	CHARLES W. McBURNEY, New York, N. Y.	November 7, 1913
1898	NICHOLAS SENN, Chicago, Ill.	January 2, 1908
1898	THEODORE F. PREWITT, St. Louis, Mo.	October 17, 1904
1898	L. McLANE TIFFANY, Baltimore, Md.	October 23, 1916
1898	NATHANIEL P. DANDRIDGE, Cincinnati, Ohio	1910
1898	ROSWELL PARK, Buffalo, N. Y.	February 15, 1914
1898	ROBERT F. WEIR, New York, N. Y.	1927
1898	FREDERICK S. DENNIS, New York, N. Y.	March 8, 1934
1900	W. H. A. JACOBSON, London, England	July 27, 1917
1900	THEODORE KOCHER, Berne, Switzerland	October 3, 1916
1900	VINCENZ CZERNY, Heidelberg, Germany	October 3, 1916
1906	DUDLEY P. ALLEN, Cleveland, Ohio	January 6, 1915
1906	WILLIAM J. MAYO, Rochester, Minn.	July 28, 1939
1906	ROBERT ABBE, New York, N. Y.	March 7, 1928
1906	C. B. G. DENANCREDE, Ann Arbor, Mich.	May 6, 1921
1907	JOHN C. MUNRO, Boston, Mass.	December 6, 1910
1908	J. EWING MEARS, Philadelphia, Pa.	May 28, 1919
1909	LEWIS STEPHEN PILCHER, Brooklyn, N. Y.	December 24, 1934
1916	W. W. KEEN, Philadelphia, Pa.	June 7, 1932
1920	HENRY R. WHARTON, Philadelphia, Pa.	December 3, 1925
1927	JOHN CHALMERS DACOSTA, Philadelphia, Pa.	May 16, 1933
1929	D'ARCY POWER, London, England	May 18, 1941
1929	ALBIN LAMBOTTE, Esneux, Belgium	
1929	HENRI HARTMANN, Paris, France	
1929	TH. TUFFIER, Paris, France	October 27, 1929
1929	JOSEPH GUYOT, Bordeaux, France	
1929	GEORGES JEANNENEY, Bordeaux, France	
1929	F. DEQUERVAIN, Berne, Switzerland	January 23, 1940

ELECTED		DIED
1929	BERKELEY MOYNIHAN, Leeds, England	September 7, 1936
1929	HARVEY CUSHING, Boston, Mass.	October 7, 1939
1929	EDWARD W. ARCHIBALD, Montreal, Canada	1945
1929	JOHN M. T. FINNEY, Baltimore, Md.	May 30, 1942
1929	EVARTS GRAHAM, St. Louis, Mo.	March 4, 1957
1929	ELLISWORTH ELIOT, JR., New York, N. Y.	November 2, 1945
1929	RUDOLPH MATAS, New Orleans, La.	September 23, 1957
1929	DEAN D. LEWIS, Baltimore, Md.	1941
1929	EUGENE H. POOL, New York, N. Y.	1949
1929	GEORGE W. CRILE, Cleveland, Ohio	January 7, 1943
1929	EDWARD STARR JUDD, Rochester, Minn.	November 30, 1935
1929	DALLAS B. PHEMISTER, Chicago, Ill.	1951
1933	JOHN H. JOPSON, Mills, N. C.	December 4, 1954
1954	HAROLD FOSS, Danville, Pa.	
1954	DIGBY CHAMBERLAIN, Leeds, England	
1954	FREDERICK COLLER, Ann Arbor, Mich.	November 5, 1964
1954	HOWARD NAFZIGER, San Francisco, Calif.	1961
1954	ARTHUR ALLEN, Boston, Mass.	March 18, 1958
1954	ERIK HUSFELDT, Copenhagen, Denmark	
1954	ALLEN WHIPPLE, New York, N. Y.	April 16, 1963
1954	SIR JAMES PATTERSON ROSS, London, England	

Winners of the Samuel D. Gross Prize

1895 "Inquiry into the Difficulties Encountered in the Reduction of Dislocations of the Hip."—Dr. Oscar H. Allis, Philadelphia, Pa.

1902 "Treatment of Certain Malignant Growths by Excision of the External Carotids."—Dr. Robert H. W. Dawbarn, New York, N. Y.

1905 "The Biology of the Micro-organisms of Actinomycosis."—Dr. James Homer Wright, Boston, Mass.

1910 "An Anatomical and Surgical Study of Fractures of the Lower End of the Humerus."—Dr. Astley P. C. Ashhurst, Philadelphia, Pa.

1915 "Surgery in the Treatment of Hodgkin's Disease."—Dr. John Lawrence Yates, Milwaukee, Wis.*

1920 "Some Fundamental Considerations in the Treatment of Empyema Thoracis."—Dr. Evarts A. Graham, St. Louis, Mo.

1925 "The Surgery of Pulmonary Tuberculosis."—Dr. John Alexander, Saranac Lake, N. Y.

1930 "Abnormal Arteriovenous Communications."—Dr. Emile Holman, Stanford University, San Francisco, Calif.

1935 "The Therapeutic Problems in Bowel Obstruction."—Dr. Owen H. Wangensteen, Minneapolis, Minn.

1940 "The Role of the Liver in Surgery."—Dr. Frederick Fitzherbert Boyce, New Orleans, La.

1945 "Parenteral Alimentation in Surgery with Special Reference to Protein and Amino Acids."—Dr. Robert Elman, St. Louis, Mo.

1950 "Localization of Brain Tumors with Radio-Active Agents."—Dr. George E. Moore, Minneapolis, Minn.

1955 "Liquid Plasma—Its Safety and Usefulness in Shock and Hypoproteinemia."—Dr. J. Garrott Allen, Chicago, Ill.

1962—"The Pathogenesis of Gastric and Duodenal Ulcers."—Dr. Lester Dragstedt, Gainesville, Fla.

1967 "Cholesterol Metabolism and Atherosclerosis as Influenced by Partial Small Bowel Intestinal Exclusion."—Dr. Henry Buchwald, University of Minnesota, Minneapolis, Minn.

1972 "Hepatic Metabolism in Human Cirrhosis: The Effect of Portacaval Shunt on Liver and Brain Metabolism."—Dr. Frederick A. Reichle, Temple University, Philadelphia, Pa.

*This essay has never been published by the author as required under the terms of the award.

Fellows Who Have Delivered The Annual Oration

1881	S. D. Gross	1913	William L. Rodman	1945	Adolph A. Walkling
1882	D. Hayes Agnew	1914	Alfred C. Wood	1946	John H. Gibbon, Jr.
1883	William Hunt	1915	Frances T. Stewart	1947	L. Kraeer Ferguson
1884	John H. Brinton	1916	Edward B. Hodge	1948	Jonathan E. Rhoads
1885	John H. Packard	1917	J. Edwin Sweet	1949	Francis C. Grant
1886	R. J. Levis	1918	None	1950	W. Emory Burnett
1887	J. Ewing Mears	1919	None	1951	J. Montgomery Deaver
1888	C. B. G. deNancrede	1920	John G. Clark	1952	Herbert R. Hawthorne
1889	John B. Roberts	1921	J. Torrance Rugh	1953	Julian Johnson
1890	DeForest P. Willard	1922	George P. Muller	1954	George Rosemond
1891	William G. Porter	1923	Walter Estell Lee	1955	William H. Erb
1892	T. G. Morton	1924	Robert H. Ivy	1956	George Willauer
1893	C. W. Dulles	1925	John Speese	1957	Irvin E. Deibert
1894	W. B. Hopkins	1926	Damon B. Pfeiffer	1958	Orville C. King
1895	John B. Deaver	1927	Emory G. Alexander	1959	James R. Jaeger
1896	James M. Barton	1928	Edward J. Klopp	1960	H. Taylor Caswell
1897	Thomas R. Neilson	1929	Edward T. Crossan	1961	Donald R. Cooper
1898	O. H. Allis	1930	J. Stewart Rodman	1962	John Y. Templeton, III
1899	William J. Taylor	1931	Hubley R. Owen	1963	Edwin W. Shearburn
1900	None	1932	Eldridge L. Eliason	1964	Henry P. Royster
1901	H. R. Wharton	1933	George M. Dorrance	1965	C. Everett Koop
1902	J. M. Spellissy	1934	DeForest P. Willard	1966	Kenneth E. Fry
1903	R. G. LeConte	1935	A. Bruce Gill	1967	Thomas F. Nealon, Jr.
1904	G. G. Davis	1936	Alexander Randall	1968	R. Robert Tyson
1905	J. Chalmers DaCosta	1937	Henry P. Brown, Jr.	1969	H. L. Stahlgren
1906	Richard H. Harte	1938	Isidor S. Ravdin	1970	Brooke Roberts
1907	Edward Martin	1939	John B. Flick	1971	William T. Fitts, Jr.
1908	Charles H. Frazier	1940	Francis C. Grant	1972	Joseph G. Bassett
1909	John H. Gibbon	1941	William Bates	1973	Lloyd W. Stevens
1910	Astley P. C. Ashhurst	1942	S. Dana Weeder	1974	Joseph W. Stayman
1911	John H. Jopson	1943	Frederick A. Bothe	1975	Charles Fineberg
1912	George C. Ross	1944	Calvin M. Smyth		

Annual Oration for 1969

An Extensive Laboratory Study of The Dumping Syndrome*

L. H. STAHLGREN, M.D.

The many conflicting clinical and laboratory reports of investigations of the dumping syndrome have led us to an extensive study of induced dumping in trained, conscious dogs. We will focus our attention on the hemodynamic responses because these are unique, among postgastrectomy disorders, to the dumping syndrome.

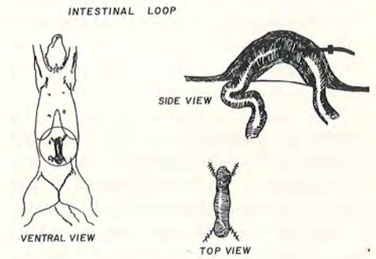

FIGURE 1

Method

Three operative stages were carried out to prepare a large group of dogs for chronic study. The first operative procedure consisted of the exteriorization of an intact loop of upper jejunum covered by a doubly attached pedicle of skin and subcutaneous tissue–Biebl loop[1] (Fig. 1). After complete healing of the Biebl loop, two additional stages were required to implant electromagnetic flo-probes on the ascending aorta and on the juxta-aortic segment of the superior mesenteric artery, and to insert catheters into the thoracic aorta, and portal vein (Fig. 2).

Hemodynamic variables were measured at frequent intervals in conscious, resting animals after a period of training. No restraints or sedatives were required. The base line values listed below are within the range reported by other investigators.[3]

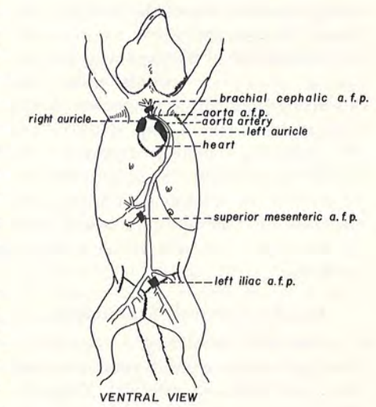

FIGURE 2

Splanchnic: Superior mesenteric artery flow (SMAQ), 181 ml/min ± 12, or, 14.9 ml/kg/min ± 1.2; portal venous

* This study was partially supported by NIH Grant 13255, U. S. Public Health Service, and by the Gastrointestinal Surgery Research Fund, Episcopal Hospital.

pressure (PVP), 13 cm water ± 1.5; mesenteric vascular resistance (MRR), 0.575 resistance units (RU) ± 0.078; SMAQ/cardiac output (CO) ratio 9.6% ± 1.2.

Systemic: CO, 1920 ml/min ± 150, or, 178.5 ml/kg/min ± 14.3; heart rate (HR) 96 beats/min ± 3.7; mean arterial blood pressure (BP) 113 mm Hg ± 3.3; total peripheral resistance (TPR), 0.058 RU ± 0.004.

Induced Dumping: The dumping syndrome was induced by the instillation of 100 cc 50% glucose into the jejunum through the Biebl loop. No sedatives or anesthetics were used.

The observed manifestation of the dumping syndrome included increased salivation, hyperperistalsis, restlessness, and agitation. Diarrhea occurred in 53% of the control experiments (18 of 34).

Hemodynamic changes were measured for 90 minutes after the induction of the dumping syndrome in 34 experiments in 15 dogs. These experiments represent the control response. Various pharmacologic modifications of the dumping syndrome were carried out in an additional 80 experiments in 38 dogs with the following objectives: to determine the effectiveness of drug treatment of the dumping syndrome in dogs with the aim of improving clinical treatment; to clarify the basic physiologic mechanisms at work in the dumping syndrome with the hope that newer approaches could be developed to control the dumping syndrome.

Results: Control Experiments

Mesenteric circulatory response. Changes in mesenteric resistance and flow were triphasic (Fig. 3). Phase I—There was an immediate decrease in MRR and increase in SMAQ reaching maximum levels within 5 minutes. Phase II—A reversal in direction of MRR and SMAQ changes occurred over a 30 minute period, approaching, but not reaching, control values. Symptoms of dumping were most intense during Phase II. In experiments in which diarrhea was noted (18 of 34), the increase in resistance observed in Phase II was more intense (Fig. 4). Phase III consisted of a return toward Phase I values, followed by gradual recovery to control values within 90 minutes.

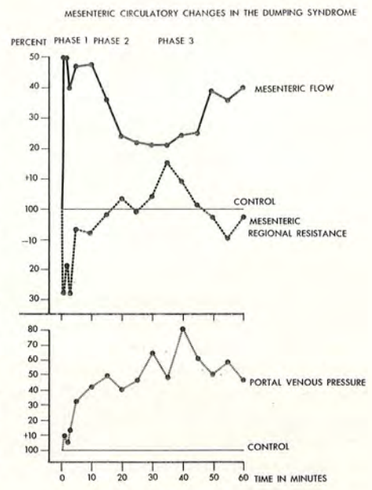

FIGURE 3

Portal pressures did not follow a triphasic curve. There was a progressive increase in PVP, reaching peak values between 30 and 40 minutes. Gradual recovery occurred thereafter (Fig. 3).

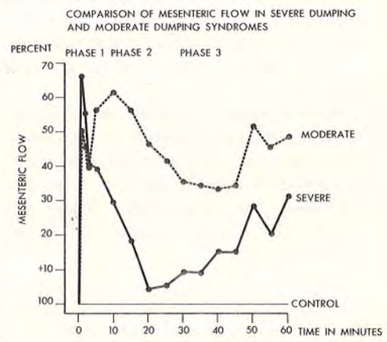

FIGURE 4

The increased mesenteric flow and increased PVP was associated with a significant redistribution of CO from the systemic to the mesenteric circuits. The proportion of CO flowing into the mesenteric circuit increased from a control value of 9.6% to 13.8% in Phase I (Fig. 5).

The data suggest that mesenteric "pooling" occurs which leads to a reduction in functional blood volume, and decreased venous return to the heart. The hemodynamic consequences are seen in the systemic circulation.

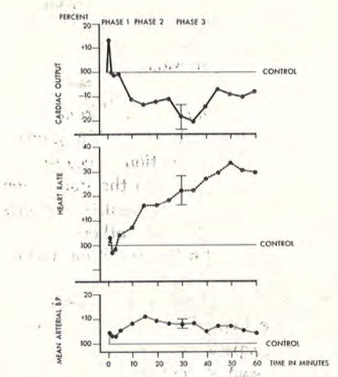

FIGURE 6

Systemic circulatory changes. The major systemic circulatory responses consisted of intense peripheral vasoconstriction, reduced CO, and tachycardia. Blood pressure was maintained (Fig. 6). In a small group of experiments in which the brachiocephalic artery flow was measured, the cerebral blood flow was reduced coincidentally with the greatest reduction in CO. Cerebral ischemia probably accounts for the clinical observations of light headedness and fainting.

These experiments suggest that the systemic circulatory response is secondary to the mesenteric circulatory changes. The significant effect on systemic hemodynamics of changes in the mesenteric vasculature can be appreciated in the observations of Bradley et al. that 19% of the blood volume is contained within the mesenteric vascular bed.[2]

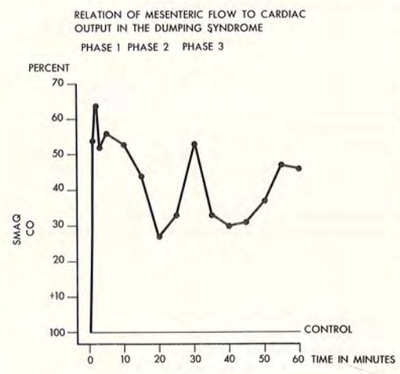

FIGURE 5

Our findings are in opposition to those of Hinshaw, Johnson, Coxe and their co-workers who reported plethysmographic studies which revealed peripheral vasodilatation.[7, 9, 10]

Experiments were designed to clarify some of the physiologic disturbance in the dumping syndrome. The following questions were considered: 1. What is the primary hemodynamic response in the dumping syndrome? 2. What initiates the hemodynamic response? 3. What mechanisms are involved in Phase II mesenteric resistance and flow changes?

Primary Hemodynamic Response. The primary hemodynamic response to the dumping syndrome is mesenteric vasodilatation. Mesenteric flow is increased at the expense of the systemic circulation. A significant redistribution of CO occurs. Studies in conscious dogs by Fronek and Stahlgren, have demonstrated mesenteric vasodilatation occur-

ring after the ingestion of food. The circulatory changes in the dumping syndrome are a pathologic exaggeration of this normal physiologic response[14] (Fig. 7).

Initiation of Dumping Syndrome. Machella demonstrated that HOs glucose causes jejunal distention because of plasma fluid transfer into the gut lumen due to the osmolar gradient.[12] Roberts and co-workers,[13] and others,[6] have called attention to the resulting reduction in plasma volume.

Polyethylene glycol (PEG) was substituted for hyperosmolar glucose in 14 additional experiments in 6 dogs. PEG creates jejunal distention, but no fluid transfer.[4] As an inert substance, it creates no osmotic gradient and is not absorbed. The same quantity (100 cc) of physiologic saline was instilled in 6 experiments as controls.

Results

Changes in SMAQ and MRR were similar to controls but differed in some respects (Table I and Fig. 8). Phase I response was more prompt and more vigorous demonstrating that distention, alone, can initiate the same type of mesenteric vascular changes seen in the dumping syndrome. The somewhat slower response to hyperosmolar glucose (HOs–glucose) suggests a lag period during which plasma fluid is transferred into the jejunal lumen.

Another difference was noted: Phase II changes were diminished or absent. These findings correlate with the observation that diarrhea occurred infrequently after PEG induced dumping syndrome. The diarrhea noted after HOs–glucose dumping syndrome may be influenced by the degree of plasma fluid transfer into the gut lumen.

Systemic Changes. CO was reduced and TPR increased following PEG instillation, but not to the levels observed with 50% glucose. These findings suggest that jejunal distention due to PEG causes only a reduction in functional blood volume (through mesenteric pooling), whereas jejunal distention by plasma fluid transfer due to HOs–glucose reduces the actual blood volume, as well, causing more pronounced systemic circulatory changes. The compensatory hemodynamic mechanisms are more severely stressed after HOs solutions than after PEG, lending support

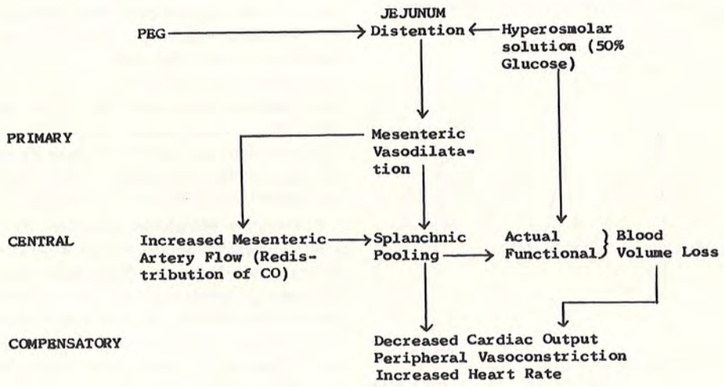

FIGURE 7—Schema of Integrated Hemodynamic Responses in the Dumping Syndrome.

Table I - Comparison of Mesenteric Circulatory Changes after PEG & 50% Glucose

△ SMAQ (ml/min)

Time (min)	1	3	5	10	20	30	40	50	60	75
HOs	+6.6	4.8	5.4	5	1.9	2.8	3.2	4.8	4.3	5.4
Significance	s	s	s	s						
PEG	+10.8	6.1	5.5	5.4	7.2	7.1	8.3	8.3	7.3	6.3
Significance - all significant										

△ PVP (Cm H_2O)

HOs	+2.2	2	4.1	4.4	3.9	5.5	6.9	4.5	4.0	2.0
Significance	s		s	s	s	s	s	s	s	
PEG	+3.7	3.3	3.4	5.1	5.1	4.5	3.7	5.6	6.2	4.7
Significance - all significant										

△ - Mean of difference in actual values from base line in each experiment.

Significance - Greater than 95%.

HOs - Control (hyperosmolar glucose).

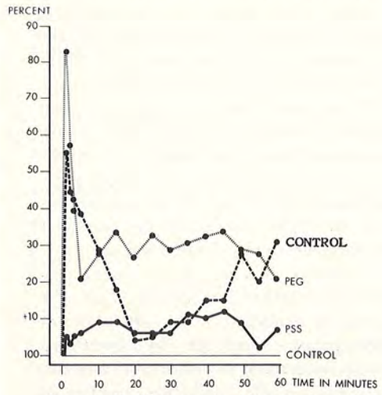

FIGURE 8—Changes in Mesenteric Artery Flow After Intrajejunal PEG, PSS, and 50% Glucose.

to the observations of Roberts et al. and others.

Physiologic Mechanisms in Phase II MRR and SMAQ Changes. Among the possible explanations of a relatively increased MRR and decreased SMAQ in Phase II are: (1) decreased CO (2) mesenteric vasoconstriction neurally mediated by adrenergic receptors (3) passive or extravascular effect, such as increased intestinal motor activity.

1. *Effect of CO.* The CO curve did not resemble the SMAQ curve. Furthermore, there was a decrease in the SMAQ/CO ratio at 20 minutes which corresponds to the depth of Phase II, demonstrating that mesenteric flow changes are primary, not secondary, to CO changes.

2. *Effect of Active Vasoconstriction.* Vasoconstriction due to autonomic nerve stimulation is mediated by the adrenergic receptors. The alpha adrenergic blocker, phenoxybenzamine, was injected intravenously 30 minutes before induction of the dumping syndrome in 10 experiments (6 dogs). Following a

dose of 1 mg/kg which reduced base line BP by 21%, TPR by 11%, and MRR by 18%, there was no suppression of the expected increase in resistance. It is unlikely, therefore, that the increased mesenteric resistance noted during Phase II is mediated over the sympathetic nervous system. Indeed, neural mediation over any known pathway is unlikely.

Phenoxybenzamine exerted a striking effect on PVP; the expected progressive rise in PVP after HOs–glucose was suppressed. A significant rise in PVP occurred within 1 minute, reaching a peak of + 20% in 5 minutes. Thereafter, a plateau of + 10% to 15% was maintained throughout the experiment. In contrast, the PVP in the control dumping syndrome reached levels as high as + 65% to + 77% during the peak of the dumping response–30–40 minutes (Fig. 3). These experiments suggest that alpha adrenergic block reduced splanchnic pooling by the inhibition of vasoconstriction of the hepato-portal veins or of hepatic venous sphincters. Attention has been called to sphincteric activity in the hepatic venous outflow in the dog.[8, 11] The stimulus for constriction of such sphincters probably arises from a functional hypovolemia and may represent a part of the sympathetic response noted in the systemic circuit.

3. *Passive Increase, MRR.* Intestinal hypermotility and diarrhea are prominent features of the dumping syndrome. Experiments were carried out to determine the effect on MRR of the inhibition of intestinal motor activity. The dumping syndrome was modified by pretreatment with the following drugs: a) intravenous atropine; b) barbiturate general anesthesia; c) intrajejunal 1% procaine.

a) Atropine. Thirty minutes before induction of the dumping syndrome, atropine 0.3 mg (0.025 mg/kg) was injected intravenously in 9 experiments in 3 dogs. The hemodynamic effects of atropine are shown in Table II. There were significant alterations in both the mesenteric and peripheral circulation after atropinization.

The Phase II increase in MRR was eliminated. Diarrhea was eliminated, as well. These changes are probably due to a reduction in intestinal motor activity resulting from the anticholinergic effect of atropine. These findings would support the clinical use of large doses of atropine except for its effects on the systemic circulation.

CO was more substantially decreased after atropinization than in controls. The greater stress to the systemic circulation probably arose because of the continued high rate of SMAQ during Phase II. Therefore, elimination of Phase II may exert a paradoxically deleterious effect.

b) Anesthesia. The dumping syndrome was induced in 10 experiments in 5 dogs during general anesthesia (Nembutal 22 mg/kg 1–0) (Table III). Phase II of the mesenteric response was eliminated.

Mesenteric flow was maintained at a greatly increased rate throughout the experiment, when compared to controls. These findings substantiated the atropine and procaine studies, suggesting that Phase II resistance changes are passive and result from intestinal hypermotility. PVP rose slowly, and was significantly increased during the 20–60 minute period after glucose, during the period of greatest mesenteric arterial inflow.

Diarrhea did not occur during the general anesthetic modification of the dumping syndrome. The alteration of hemodynamic changes by anesthesia when compared to conscious animals, may explain the conflicting findings of certain experimental studies of the dumping syndrome which were carried out in anesthetized or heavily sedated animals.

c) Procaine. The instillation into the jejunum of 25 cc 1% procaine just before inducing the dumping syndrome significantly modified the hemodynamic response, particularly in the mesenteric circulation (Fig. 9). Phase II was eliminated; the mesenteric response was a simple curve, reaching peak flow more slowly when compared to the control dumping syndrome (between 40–45 minutes rather than in 1–3 minutes). PVP increased more slowly and attained a peak well below that noted in the control dumping syndrome. See Figure 10 for a comparison of PVP responses in "severe" control dumping syndrome and procaine modified dumping syndrome.

The systemic circulatory changes were greatly modified: after procaine, CO was protected; HR and BP was increased insignificantly; TPR was increased less significantly; and the SMAQ/CO was

Table II – Systemic Hemodynamic Response in the Dumping Syndrome after Atropine, compared with controls.

△ CO (ml/kg/min)										
Time (min)	1	3	5	10	20	30	40	50	60	75
Control	+7.9	8.1	8.4	-31.3	-27.9	-35.9	-28.1	-27.1	-28.5	-22.3
Significance				s		s	s	s		
Atropine	+2.8	-6.9	-21.4	-47.8	-45.2	-51	-44.1	-49	-51.3	-44.9
Significance				s	s	s	s	s	s	
△ HR (beats/min)										
Control	+5.1	+5	+2.9	11.5	12.6	17.9	23.1	21.7	20.5	20.3
Significance				s	s	s	s	s	s	s
Atropine	+11.7	+4.4	+0.6	-17.2	-11.7	-25.6	-22.8	-31.1	-27.2	-32.8
Significance	s			s						
△ $\overline{BP}$ (mm Hg)										
Control	+2	+2.5	7.2	9.2	9.6	8.1	7.5	6.3	3.3	0.2
Significance				s	s	s	s			
Atropine	-8	+4.0	+.9	-2.7	-1.3	-0.4	-0.9	-3.1	-4.0	-4.9
Significance	s	s		s						s
△ TPR (Resistance Units)										
Control	-.004	+.005	+.011	.023	.019	.022	.016	.013	.012	.006
Significance			s	s	s	s	s		s	
Atropine	.002	.002	.008	.017	.014	.018	.015	.015	.016	.011
Significance				s	s	s	s	s	s	s

Table III - Response of SMAQ & PVP to HOs - Glucose during Anesthesia, compared with controls.

△ SMAQ (ml/min)

Time (min)	1	3	5	10	20	30	40	50	60	75
Control	+6.6	4.8	5.4	5	1.9	2.8	3.2	4.8	4.3	5.4
Significance	s	s	s	s				s	s	s
Anesthesia	+7.9	7.9	9.2	10.6	11.8	12.9	13.2	12.4	12.6	11.
Significance	s	s	s	s	s	s	s	s	s	s

△ PVP (cm H_2O)

Time	1	3	5	10	20	30	40	50	60	75
Control	2.2	2	4.1	4.4	3.9	5.5	6.9	4.5	4.0	2.0
Significance	s		s	s	s	s	s	s	s	
Anesthesia	0.5	0.25	0.90	1.9	4.0	5.3	5.4	4.4	4.5	4.1
Significance					s	s	s		s	

maintained at a higher level (Table IV). Diarrhea was noted in only 3 of 19 experiments.

Meurling has reported the successful clinical use of procaine in the treatment of the dumping syndrome. Our studies provide some basis for the reported results and suggest the need for further investigation.

Mucosal surface procaine may reduce the sensitivity of the mucosal cells to the stimulus of distention. A neural inhibition is suggested but not proved.

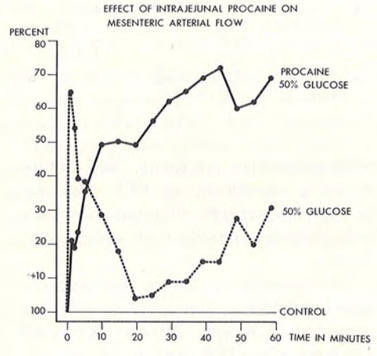

FIGURE 9

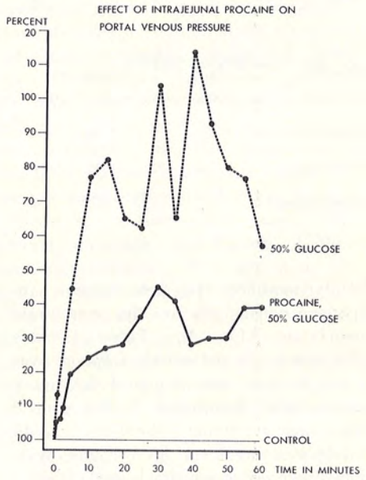

FIGURE 10

Table IV - Comparison of Procaine Modified Dumping Syndrome with Controls

△ CO

Time (min)	1	3	5	10	20	30	40	50	60	7
Control	+7.9	-8.1	-8.4	-31.3	-27.9	-35.9	-28.1	-27.1	-28.5	-22.
Significance				s		s	s	s		
Procaine	+2.6	-3.4	-10.8	-9.3	-14.7	-12	-10.4	-11.2	-7.4	-11.
Significance - not significant										

△ HR (beats/min)

Control	+5.1	+5	+2.9	+11.5	+12.6	+17.9	+23.1	+21.7	+20.5	+20.
Significance				s	s	s	s	s	s	
Procaine	+3.3	-1.7	-3.2	-3.8	-0.6	+1.5	+10	+9.7	+9.4	+16.
Significance										

△ $\overline{BP}$ (mm Hg)

Control	+2.	+2.5	+7.2	+9.2	+9.6	+8.1	+7.5	+6.3	+3.3	+0.
Significance				s	s	s	s			
Procaine	+5.9	+4.4	+1.6	+2.6	+1.9	+5.4	+5.2	+1.1	+1.1	+2.
Significance - not significant										

△ TPR (Resistance Units)

Control	-.004	+.005	+.011	+.023	+.019	+.022	+.016	+.013	+.012	+.00
Significance			s	s	s	s	s		s	
Procaine	+.002	+.004	+.007	+.007	+.011	+.009	+.008	+.007	+.005	+.00
Significance			s		s	s				

△ SMAQ/CO (percent)

Control	+3.3	+4.2	+2.8	+3.7	+1.7	+3.2	+2.2	+2.4	+2.5	+1.6
Significance	s	s	s	s		s		s		
Procaine	+3.2	+3.7	+6.7	+8.2	+9.5	+10.	+10.6	+10.4	+10.1	+9.7
Significance	s	s	s	s	s	s	s	s	s	s

S - Significance

△ - Difference in absolute values from base line (control) recording.

Control Dumping Syndrome - Response to 100cc 50% Glucose.

Procaine Dumping Syndrome - Preceded by instillation of 25cc 1% Procaine.

Summary and Conclusions

The hemodynamic response to hyperosmolar glucose is initiated by jejunal distention.

The primary effect of jejunal distention is reduced mesenteric vascular resistance, leading to a redistribution of cardiac output into the mesenteric circuit. Mesenteric flow changes are triphasic.

The central hemodynamic consequence of the above is splanchnic pooling, leading to a reduction in functional blood volume.

The systemic circulatory changes, which include increased peripheral resistance, reduced cardiac output, and increased heart rate, represent a compensatory response to the mesenteric vascular changes.

An important feature noted at the height of the dumping syndrome is intestinal hypermotility; a passive increase in mesenteric resistance results. Intestinal hypermotility is suppressed by atropine, barbiturate anesthesia, and mucosal procaine. Mucosal local anesthetics reduce the mesenteric and systemic hemodynamic responses to jejunal distention.

References

1. Biebl, M.: Grophische Darstellung der Darinbewegungen an der in einen Haut schlauch ex ventierten Darnshlinge. Klin Wochenschrift 9:1674, 1930.
2. Bradley, S. E., Marks, P. A., Reynell, P. C., and Meltzer, J.: The Circulating Splanchnic Blood Volume in Dog and Man. Trans. Assn. Amer. Physicians 66:294, 1953.
3. Burns, G. P. and Schenk, W. G.: Intestinal Blood Flow in the Conscious Dog. Surg. Forum XVIII:313, 1967.
4. Chou, C. C., King, O. N., and Dabney, J. M.: Intestinal Blood Flow with Glucose in the Lumen. Fed. Proc. 26:715, 1967.
5. Christoffersson, E.: Studies on Intestinal and Circulatory Reactions in Provoked Dumping Attack. Acta Chir. Scand. Suppl. 349, 1965.
6. Coxe, H. T. and Allan, W. R.: The Dumping Syndrome. Lancet II:672, 1961.
7. Fronek, L. and Stahlgren, L. H.: Systemic and Regional Hemodynamics in Non-anesthetized Dogs During Digestion. Fed. Proc. 27:940, March-April, 1968.
8. Green, H. D., Hall, L. S., Sexton, J., and Deal, C. P.: Autonomic Vasomotor Responses in the Canine Hepatic Arterial and Venous Beds. Amer. J. Physiol. 196:196, 1959.
9. Hinshaw, D. B., Joergensen, E. J., Davis, H. A., and Stafford, C. E.: Peripheral Blood Flow and Blood Volume Studies in the Dumping Syndrome. Arch. Surg. 74:686, 1957.
10. Johnson, L. P., Sloop, R. D., Jessep, J. E., and Harkins, H. N.: Serotonin Antagonists in Experimental and Clinical Dumping. Ann. Surg. 156: 537, 1962.
11. Katz, L. N. and Rodbard, S.: The Integration of the Vasomotor Responses in the Liver with Those in Other Systemic Vessels. J. Pharmacol. Exptl. Therap. 67:407, 1955.
12. Machella, T. E.: Mechanism of the Post-Gastrectomy Dumping Syndrome. Gastroenterology 14:237, 1950.
13. Roberts, K. E., Randall, H. T., Farr, H. W., Kidwell, A. P., McNeer, G. P., and Pack, G. T.: Cardiovascular and Blood Volume Alterations Resulting from Intrajejunal Administration of Hypertonic Solutions to Gastrectomized Patients: The Relationship of These Changes to the Dumping Syndrome. Ann. Surg. 140: 631, 1954.
14. Stahlgren, L. H.: The Mechanism and Surgical Treatment of the Dumping Syndrome. Modern Gastroenterology 460-61, 1968. Editors: Gregor and Riedl, Publisher: F. K. Schatteauer Verlag.

Annual Oration for 1970

The Future of Teaching Hospitals in Philadelphia

BROOKE ROBERTS, M.D.

When asked to speak tonight, I thought first of speaking on some aspect of vascular surgery, that segment of surgery in which I have spent most of my time for the last 15 years, but then I had the feeling that this would be a bit parochial and probably not of much interest to the majority in this Academy who do not concentrate in this field. I therefore decided to speak on a subject which I hope might be of a little broader interest and perhaps hit a responsive cord in all of us who, of necessity, depend on hospitals in our practice, namely, the future of teaching hospitals in this city. It might well be somewhat presumptuous of me to undertake to speak on this subject. Because of local circumstances, however, I have recently been on the Budget Planning Committee of our hospital and involved in many more of the financial matters relative to the running of our own hospital than I ever have previously. This experience has made me speculate about the future of institutions such as our own, in view of some of the fiscal pressures and trends of these days. That I am not endowed with any powers of clairvoyance is abundantly clear to all who know me, so I make no pretence of access to a crystal ball or other means of detecting the future but will merely try to project some of the effects of present trends as they come into conflict with present day activities and take a guess at where we are heading.

First of all, I believe the teaching hospitals in this country will continue and will be preserved. As things now stand, they appear to be a vital link in the training of physicians and paramedical personnel and, in this sense, are a national resource which cannot be permitted to be destroyed. A few such hospitals may become bankrupt and go under but I feel confident that some steps would then be taken by government to prevent the widespread loss of such institutions. That we are heading into a period of change, however, I have little doubt and many changes will be brought about through fiscal pressures.

Review of Problems and Functions

Let me review with you some of the problems that presently face hospitals and some of the background of their functioning.

This country is now spending well over 60 billion dollars a year on medical care in the broadest sense. If we reduce this to a more comprehensible figure, this comes to approximately $300.00 for every citizen of our land. Of this entire 60 plus billion, more than 1/3 is spent on hospitalization or, more than $100.00 for every man, woman and child in our country. This total figure represents something in the neighborhood of 6.7% of our gross national product and is a greater percentage of national product than is spent by most countries having a nationalized health system. This means, of course, that we are already not only spending more in absolute fig-

ures but more in proportion to our resources than such countries as Sweden and England.

The cost of hospitalization in this country has been rising at a rate greatly in excess of the rise in the general cost of living. This is perhaps most clearly shown in the figures which I have taken from the article by the insurance commissioner of this state, George Reed, which he wrote a few months ago and which I have updated to include this year (Table I). Incidentally, the average daily cost of the Medical School hospitals at the present time is approximately $110.00. The figures in Table II refer to the hospitals of this city. Figure 1 shows the rise in hospitalization compared to the cost of living. Although the steepest part of the rising curve in this figure may now be past, since hospital employees are at present not so far behind the national average in their wages as before and the house staffs are now being paid reasonably well, I have no doubt the costs will continue to rise. This will be particularly true if unionization of employees and even house staff occurs and continued refinements in medicine enable us to preserve lives that otherwise would be lost.

As we well know, none of us is immortal nor, for that matter, likely to become so. The further refinements that are developed in medicine do not prevent death in the true sense, they only delay it and, by so doing, usually increase the ultimate cost of caring for the individual. Most medical advances in recent years have been in the area of therapy rather than in prevention, and these are the ones that continue to push up the cost of care. A ready example of such an item is the innovation that has developed with regard to the coronary intensive care units. There is no doubt that these units have saved lives and are thoroughly worthwhile. There is likewise no doubt that they have greatly increased the cost of the medical care of these patients. Examples of this sort are too numerous to mention and come to the mind of all of us. Despite these changes in medical care which increase costs, however, one should realize that approximately 65% of total hospital expense comes in the form of salaries to hospital employees. With inflation and rising salaries, it is unrealistic to expect hospital costs not to continue to rise. If unionization occurs in professional personnel or if a 40-hour work week comes for them or a shorter work week for all, it will further compound the cost. It is likewise of interest to note the gradually increasing number of employees per patient in hospitals. This change, of course, in part reflects the greater complexity of medicine today but it also reflects more vacations, coffee breaks, etc. (Table III).

At this time, all major city hospitals and certainly those in this city, are saddled with a burden of care for the indigent and uninsured patient for which, at present, they are either wholly uncompensated or only partially compensated. For example, the City of Phila-

TABLE I.
Philadelphia Hospitals Average Remittance Per Diem

Year	Blue Cross	% Increase Over Previous Year
1963	$27.95	5.4
1964	29.52	5.6
1965	31.77	7.6
1966	35.66	12.2
1967	41.72	17.0
1968	49.94	19.7
1969	60.82	21.8
1970	68.15	12.0

TABLE II.
Hospital Occupancy Percentage

	Year		
	1967-8	1968-9	1969-70
Hahnemann	86.4	89.3	87.2
Med. Coll. of Pa.	87.4	85.8	86.8
Graduate	87.5	86.0	84.5
Temple	86.2	84.3*	81.2
Univ. of Pa.	81.1	83.1	78.5
Jefferson	78.8	72.2	77.0
Presbyterian	85.7	81.4	76.6

* No. of beds reduced.

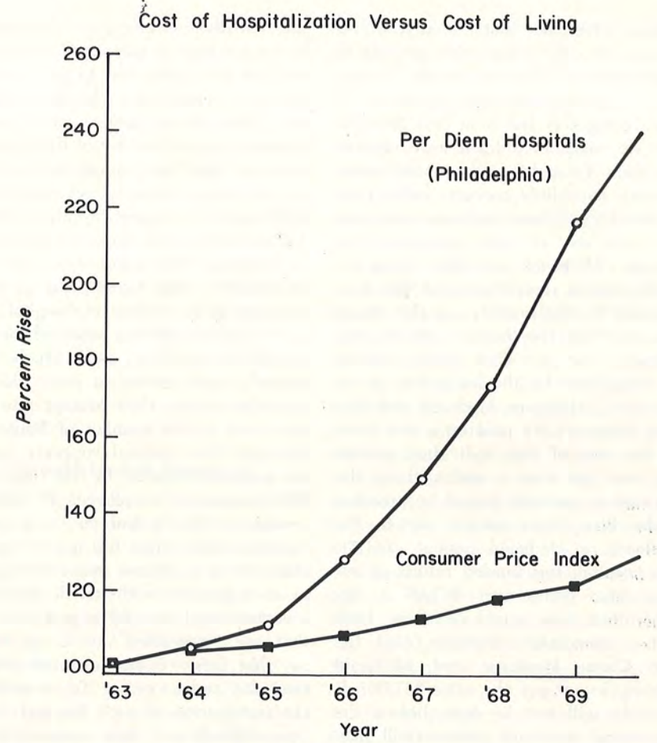

FIGURE 1.

TABLE III.
Ratio of Hospital Employees to Patients

Year	Number of Hospital Employees per 100 Patients
1963	241
1964	242
1965	246
1966	261
1967	265
1968	272

Source: *Hospitals, Guide Issue,* August 1, 1969.

delphia, which had stated that it would pay for the care of indigent patients in effect paid the Hospital of the University of Pennsylvania for six weeks of care during this last year and left the other 46 weeks of indigent care uncompensated. To make up for these losses, hospitals have little recourse other than to overcharge those patients who pay their own way or have commercial insurance. Medicare and Blue Cross insured patients receive none of this burden and it falls entirely on the others who constitute less than 1/4 of the total patients. This is a fact which is often not recognized by the lay public or by physicians. Medicare, Medicaid and Blue Cross contracts are paid on a cost basis for the care of that individual patient and, any loss that is sustained on the free care of patients cannot be prorated to the Blue Cross patient nor to the Medicare or Medicaid patient. In our own hospital, this burden results in our room rates being over $47.00 a day higher than they would otherwise have to be. Remember, however, that the Blue Cross, Medicare and Medicaid patients do not pay the extra $47.00. It probably will not be long before the commercial insurance carriers will likewise refuse to be burdened with a portion of the hospital debts in the same way that Blue Cross already has. If so, the situation will be even worse. I do not wish to paint Blue Cross, however, as a villain in this picture, for Blue Cross plans in general and in particular the one in Philadelphia, are in a very difficult predicament. The Blue Cross Plan of Greater Philadelphia, in the last few years, has been paying out more than it has received in premiums and is in the position of having had its reserves depleted to a point where the reserves can now only cover the normal expenses for 27/100 of a month or essentially a one week period. The Blue Cross Plan cannot raise the premiums without permission of the State Insurance Commissioner and yet they have had to pay the hospitals on a cost basis. As we all know, they have been under strong public pressure, as well as that of the Commissioner, to keep their premiums down and yet they do not have direct control over the expenses incurred by their clients, the patients in the hospitals. Their expenses have been rising at a rapid rate. Of necessity, Blue Cross plans have had to resort to a scrutiny of hospital costs in the hope of finding some which they thought unjustified and which they properly could refuse to pay. This has inevitably led to their looking into subjects such as the number of house officers that the hospital supports and/or the expenses relative to full time staff. The number of employees in administration is also bound to come under scrutiny. Blue Cross has in essence two alternatives: 1. to look into each expense in each hospital with which they have a contract and then try to pick out those that are "unjustified" or 2. to simply say that they will pay so much per patient day and no more. To try to assess the justification of each hospital cost is very difficult and time consuming and inevitably leads to a sort of bickering over how much is justified. On the other hand, to simply pick a given figure is easier, but may work serious injustice and result in lowering of the level of care. At this point, Blue Cross is taking the second alternative, at least in our own case, and has taken a figure which they feel should be adequate to meet the needs of the Hospital of the University of Pennsylvania but which is approximately fourteen dollars per patient day below the cost as calculated by the hospital.

Whenever any institution is in the position of not being able to survive without payment by a single person or company, it is in an exceedingly vulnerable position and, this is where our hospitals are today. Blue Cross, Medicaid and Medicare payments today constitute approximately 60% of our hospitals' income and this is fairly typical of hospitals in this city. Since it is virtually impossible for a hospital in this city to survive without Medicare and Blue Cross patients, and their contracts, Blue Cross is moving into a position where it is beginning to "call the shots." They can say that a certain given cost is justified and any costs beyond that are not. The old adage that "he who pays the piper calls the tune" is now beginning to be seen in hospitals with the third party payers calling the tune.

National Health Insurance

In this regard, let me digress a little and speak of National Health Insurance. Whether or not we will have some form of National Health Insurance in the next few years, I have no more idea than you but, I am willing to wager that we will. Our national government has in effect stated that every citizen has a right to first class medical care. Whether or not you and I personally agree that such is an inborn right, we would agree that such is desirable as a goal. I believe we can state that this position of its being considered a right is now firmly set in government pronouncements. It seems to me that if the government is to see that this "right" is fulfilled, the inevitable corollary is to have either nationalization of medicine or a National Health Insurance. I personally would greatly prefer the latter and think this is the direction in which we are moving. If we have a form of national health insurance in a few years, we can be certain that the government will be the one "to call the tune" in the hospitals. On the other hand, such insurance would completely relieve the hospitals of the need to pass on their bad debts to the relatively small number of patients who now absorb them. Under such a plan, the nominal cost of rooms might drop. It would not, however, lower the overall cost of medicine or hospitals by one penny but merely spread it out. In fact, it probably would further increase the administrative costs which are already excessive.

Another change which I believe will inevitably follow if there is a National Health Insurance, is that all patients will, in effect, be on a private or semi-private status. The loss of so-called service patients will have profound effects on some teaching programs as they are now constituted. That surgical residents require operative experience in their training I think we all agree. Some method of providing this experience that is generally acceptable to all concerned will have to be worked out in all teaching hospitals. Non-surgical specialties will not find this to be a problem but there are definite surgical difficulties in this regard which are recognized by all of us. The problem of experience for the residents is not a new one, however, and the use of private and semi-private patients in teaching has been discussed many times before. The total absence of service patients will, of course, necessitate a complete shift to the use of private and semi-private patients for all teaching.

In addition to not being concerned with the care of the indigent, Blue Cross is likewise relatively little concerned with the care of the out-patient at the present time. It has become increasingly apparent that it is very much less expensive to care for a patient outside of the hospital than inside and, as we all know, there is increasing emphasis now on out-patient care. This trend, I believe, will accelerate in the next few years and the insurance companies, be

they, government or private, in their own defense will have to give some incentives toward out-patient handling of patients. A few early signs of this are apparent already but, these incentives will have to be expanded. Surgery may be less affected by this than some other specialties but we will see reduced length of hospital stay. Prepayment groups such as The Kaiser Permanente Group, have such incentives for out-patient care built into them and this, no doubt, is one of the features that our government finds attractive in such plans. I believe it fair to say that the government will continue to encourage further development of such plans and Blue Cross is beginning to show real interest in them. In any event, it appears likely that there will be an increasing amount of patient study and evaluation done on an out-patient basis. As we are all aware at the present time, there is a tendency to bring patients into the hospital for study when it is not absolutely essential but when it is more convenient both for the patient and the doctor. The Blue Cross insurance coverage for such expense is usually allowed as an in-patient and often disallowed as an out-patient. Parenthetically, when disallowed as an in-patient, the hospital seldom can collect these bills from the patient. Likewise, we are all under pressure at times to keep patients in the hospital a day or two longer than essential, because of difficulties in transportation to the patient's home or in the home itself. If these problems are solved by the use of study and convalescent beds and the only patients who are then in the hospital are those who truly require hospitalization on that day, we should require fewer hospital beds per unit of population. If so, the average hospitalized patient will require more intensive care than he is getting today when a portion of the patients require little care. The cost will increase accordingly. Out-patient care, however, constitutes a very real saving and will almost certainly increase.

Staffing Teaching Hospitals

What of the problem of staffing teaching hospitals in the future? If we are to assume patients will have freedom of choice of doctors and hospitals, a freedom which I believe there will be a conscious effort of our own legislatures to protect, the teaching hospitals will, of necessity, continue to be in competition with other hospitals in their area. To survive as teaching institutions, they must have men interested in teaching and men interested in research but, to survive as hospitals, they must also have patients. There cannot be teaching without patients; there cannot be clinical research without patients and, there certainly cannot be financial survival without patients. In the modern vernacular, patients are what it is all about. To attract patients, there must be men who are genuinely interested in the care of the sick and not just in the study of disease. If a patient's insurance is to pay only for his care, it follows that the support of teaching and research will have to come from other sources. Research is now largely supported by grants and probably will continue to be so. It is entirely possible that teaching in the future may also be supported on this basis but, until such time as teaching grants are made, I believe a large portion of the teaching load will have to be borne by clinicians who are essentially self-supporting. The insurance companies, be they Blue Cross or Government, are bound to question the practice of teaching staffs' costs being charged to patient care, as is now being done under various guises. When this practice is questioned there will be, almost of necessity, some sort of limitation

both of the numbers and recompense of such individuals. If a strictly full time staff has insufficient patient load to generate at least as much income as their cost to the institution, the institution will have to obtain adequate income from other sources or reduce the staff. It is for this reason that I believe the trend toward constantly increasing numbers of full time salaried staff positions cannot long continue unless these individuals have relatively heavy clinical loads. With few exceptions, there has been a tendency for these individuals not to carry heavy clinical loads. I believe fiscal pressures will prevent this trend toward salaries and low patient loads from going much further.

The teaching hospitals in Philadelphia are numerous and, in many instances, relatively close to each other geographically. As things stand at present, they are in every sense in direct competition with each other and with non-teaching hospitals. Most hospitals, in order to break even financially, have to run approximately 85% occupied at all times and thus they are in direct competition for patients (Table II). When competing for patients, one cannot expect the patient to go to a teaching hospital if he feels that he can more conveniently obtain equally satisfactory care elsewhere. There is much to be said for the old free enterprise system and it is quite apparent that patients tend to go to the hospital of their choice. The reasons for their choice may vary from such things as convenience and accessible parking, to the reputation of the hospital or even accommodations within the hospital. But, to many, and probably most, the predominant reason for choosing a given hospital is still the physician within the institution. In this regard, I cannot avoid the conclusion that the anonymity that tends to surround many of our clinical teaching services today, where there is little in the way of personal continuity with patients or personal interest in the patients, is not a satisfactory arrangement from the patient's point of view. I personally believe that this is a major cause of the decrease in admissions which we have witnessed in some services in our major teaching hospitals. Although it is not a necessary accompaniment of increasing numbers of strictly full time hospital physicians, the parallelism is often striking. This is particularly true in the non-surgical specialties. The diminishing clinical activity of strict full time physicians who have no incentives to give clinical care, is clearly shown in the article by Maloney, published in Surgery in July of this year. This is a most revealing article and I think it may well have profound effect on the pattern of recompense and of staffing in teaching hospitals in the future.

Summary

If my reading of the present trends is correct, we are heading into a period when the hospitals will come under a definite form of control by third party payers. For the next few years, these will be in the form of Blue Cross and Medicare but, in the not too distant future, it will be in the form of the Federal Government through some type of National Health Insurance. In order to keep medical costs in proper relationship to other governmental costs, there will be many controls and definite limits imposed on our hospitals in all areas of expense. Of necessity, these controls will flow over into the professional areas where, among other things, the numbers of house staff and full time senior staff who are paid by the hospitals, will be limited and related to the clinical care they give. There will be greater concern with and enticements for out-patient care and, as a result, those who

are actually hospitalized will on an average require more intense care than is true at the present. Because of regulations being imposed, administrators may well tend to assume more authority in the running of the professional side of our hospitals as well as the administrative. I believe, that it is imperative for us as physicians to be flexible enough to move with the times and to exert a guiding force on the changes which are going to occur. If we fail to keep the patient's interest as a primary concern or, if we simply resist all change, we will have changes imposed upon us that are less than desirable. It is essential for us to help in the formulation of these changes so that they will be, insofar as possible, in the best interests of medicine and the public.

Annual Oration for 1971

The Surgeon and Emergency Medicine

WILLIAM T. FITTS, JR., M.D., F.A.C.S.

I believe the present revolution in emergency departments of our hospitals, and the emergence of a new type of physician—the Emergency Physician—will have a profound influence on surgeons. Many emergencies in medicine have traditionally been managed by the surgeon. Injuries have clearly been within his domain, and the study and treatment of trauma have attracted surgeons throughout history, and probably never more so than at the present time. Because of the surgeon's ability to care for the critically injured and other desperately ill patients, he has played a leading role in the direction of emergency departments.

However, radical changes have occurred in emergency departments in America in the last ten to fifteen years. Not only are the acutely injured treated there, but also an increasing number of patients with medical disease, both emergent and non-emergent. These changes are having a striking influence on the staffing patterns of emergency departments and have produced the full-time emergency physician. These changes are proceeding at a rapid rate.

I do not know what the future will bring and I have no master plan for what it should be. However, I make no apology for bringing this subject before you tonight, since I believe that if the best interests of our patients are to be served in the future, surgeons must take the lead in the further development of emergency medicine. My own interest in the problem derives from my work with the Committee on Trauma of the American College of Surgeons, with The American Association for the Surgery of Trauma, and, for the last three years, as Editor of the *Journal of Trauma*. From this vantage point I have viewed the impressive changes in the national scene.

Needs of the Consumer Have Demanded Radical Changes in Emergency Departments of Hospitals

Many studies have documented the rapid growth and changing character of emergency departments.[1, 2] Between 1954 and 1969, the number of emergency department visits in this country increased by 312%—a much greater increase than for any other measure of hospital utilization. In 1958, emergency department visits represented less than 1/5 of all out-patient visits; by 1969 they represented over a third.

Not all of the increase in emergency department visits is accounted for by motor vehicular accidents, although trauma is an ever increasing problem in our society. There are other and more important factors.

Probably the single most important factor is the great increase in patients with non-emergency conditions who are treated in emergency departments. Particular attention must be paid to these non-emergency "walk-ins."

Another factor is the rapid growth and increasing geographic mobility of the population. At a time when the

medical profession has been steadily working towards quality care in larger hospitals, the population in the United States has been increasing rapidly, and becoming much more mobile. Over 20% of the population makes a change in address each year.[2] This up-rooting of families at a time when more and more doctors are tending towards specialization has served to disconnect the public from its normal contacts, and leaves serious and unexpected gaps in medical care.

Family physicians have been steadily decreasing in number and availability.[3] In 1950 general practitioners made up 48% of all physicians; now they comprise only 17%. Either because the patient could not find a family doctor, or because he did not want to bother him, he has headed for the emergency department of a hospital. The availability of care 24 hours a day is attractive to patients since many physicians no longer make house calls or encourage office visits other than by appointment. Patient responses to a study by Blue Cross[4] revealed that 40% of those who went to an emergency department had attempted to call a physician prior to coming to the hospital. One fourth were unable to reach their physician, and the remainder were told to seek care on their own, or to meet the physician at the hospital. Fifty-four per cent did not try to contact their physicians. Over half did not have a private physician, and did not believe that one would be available, or considered the hospital more convenient.

The Changing Staffing Patterns in Emergency Departments and the Development of the Emergency Physician

The rapid growth and changing pattern of emergency departments have necessitated a change in their staffing. The change has produced a physician who practices full-time emergency medicine. He has been defined as "a physician striving for identity within the hospital structure, seeking the administrative and major medical and fiscal responsibility within his area, wanting to have a body of defined knowledge which could be used as a basis for a Board in Emergency Medicine, and working to design what must ultimately be regarded as a new variety of specialist."

The traditional method of staffing the emergency room by rotation of the attending staff has, over the last decade, become more and more difficult. Attending staff members are more reluctant to take their turn, while others doubt whether certain specialists—for example, psychiatrists or ophthalmologists—are properly trained for tour duty in the emergency department. The time was obviously right and the need required new staffing patterns. It is not difficult to see why this new physician could find his place in the emergency department. Generalists were steadily decreasing in proportion to population. At the same time, the consumer was demanding prompt medical care, both for emergency and non-emergency conditions. Experience has shown that he or his insurance carrier has been willing to pay for it.

The full-time emergency department physician was the logical answer to the need. By forming groups such physicians could set up convenient time schedules. Hospital administrators were pleased because their emergency departments could be completely covered 24 hours a day. Such services established good public relations with the hospital's community.

Why are physicians attracted to this type of practice? There are probably many reasons. One is economic. There seems little doubt that at the present time this type of practice is economically attractive. About two years ago, Dr. Robert H. Kennedy[5] stated that many of these men have been guaranteed a minimum salary from $25,000.00 to $35,000.00 annually. I believe that since that time their salaries have been rapidly increasing. In preparation for this oration, I recently spoke with the chairman of a surgical department in a midwestern medical school, a man who has studied this problem extensively. He told me that one of his most promising young academic surgeons, two years out of his residency, is being paid a salary of $25,000.00 by the medical school. Last month he was offered a position in a full-time emergency department group, at a salary of $75,000.00 a year. If the group paid for his fringe benefits and malpractice insurance his "take-home" pay would be $60,000.00.

It is difficult for me to reconcile the universal experience of hospitals in losing money in the care of the critically injured patient, and the obvious economic success of the groups of emergency physicians. It may be that the difference lies in the large volume of non-emergency patients treated by those groups. In my opinion, the pay for the practice of this type of medicine seems out of line with income from other types of practice. However, I believe that the lesson is crystal clear. The money must be there, because the need is there, and we physicians must have been remiss in not planning and meeting this need other than by such economic incentives. The consumer would appear to be over-paying for what we should have supplied him for a more reasonable cost.

It is my opinion that the economic incentive is only one of several factors in the rapid growth of the full-time emergency physician. At a recent meeting on the care of the critically injured in Montreal, I spoke with several young physicians in general practice who were considering joining groups of full-time emergency physicians. Contrary to the experience of specialists in Quebec, whose income has been cut by their National Health Plan, I was told that the general practitioner in Quebec was making at least twice as much money as he had previously. Yet these men were being attracted to emergency medicine, and I think for two reasons. As contrasted with family practice—where they felt they were literally working themselves to death—they would have regular hours of work. And second they believe that they will get more personal satisfaction from this type of practice, since they would have a better chance of giving their patients quality medical care, care that they feel is becoming almost impossible to provide in general practice.

The drive towards categorization of emergency departments of hospitals will probably increase the need for emergency physicians. The Commission on Emergency Medical Services of the American Medical Association is recommending four categories, with the most recent descriptions given below.[6] Such categorization will challenge hospitals to up-grade their emergency departments.

Categorization of Hospitals for Emergency Services

Category I—Comprehensive Emergency Service

Scope of Capabilities. The hospital shall be fully equipped, prepared and staffed to provide immediate, complete medical care for all emergencies including those requiring the most complex and specialized services. It shall have a capacity adequate to accommodate the direct and referred patient loads of the region served and be capable of providing consultative support to professional personnel of other hospitals in the same region.

Category II—Major Emergency Service

Scope of Capabilities. The hospital shall be equipped, prepared, and staffed

in all medical and surgical specialties to render resuscitation and life-support to patients as needed. It shall also supply definitive care for all such patients except for the occasional patient who requires follow-through care in very specialized units. Transfer may be necessary and shall be under agreement with other hospitals.

Category III—General Emergency Service

Scope of Capabilities. The hospital shall be equipped, prepared, and staffed in most medical and surgical specialties to render resuscitative and life-support care of persons critically ill or injured. Additional services by prearranged agreements should be made with non-staff specialists. Transfer may be necessary and shall be under agreement with other hospitals.

Category IV—Standard Emergency Service

Scope of Capabilities. The hospital shall be equipped, prepared, and adequately staffed to render emergency resuscitative and life-support medical services pending transfer of critically ill or injured persons to other hospitals. Transfer when necessary shall be under agreement with other hospitals. It shall also be capable of rendering adequate medical services for non-critical illnesses or injuries.

Is Emergency Medicine a True Medical Specialty?

At present, great concern exists over whether emergency medicine is a true specialty. Is it a separate discipline to be recognized by a separate department in our schools of medicine, with its own faculty and educational programs? Are the graduates of such a program to be certified by an American Board of Emergency Medicine? These questions will be answered in the next few years.

Some believe that the present emergency department physician may be the family practitioner of the future. He would practice in groups in a hospital setting, nearly identical to our present emergency departments. He would not attend hospitalized patients, but would be the prime physician for treating patients with acute episodic disease. Under this scheme the present general practitioner would become the specialist for preventive medicine and for chronic disease.

As far as I know, only one medical school has established a department of emergency medicine. This has recently been done in the School of Medicine of the University of Southern California in Los Angeles. Dr. Leonard Rosoff,[7] Chairman of the Department of Surgery there, has kindly supplied me with information about this new department. Dr. Rosoff assured me that the department was a separate one, and that the chairman had full status, just as the chairmen of surgery and medicine. The surgical faculty is supporting the educational programs of the Department of Emergency Medicine, which are based at the Los Angeles County Hospital. Dr. Rosoff stated that many bright young graduates of their school were being attracted into this program, and evidently intend to make it a life's profession.

My own bias is that emergency medicine is not a logical discipline or a true specialty. It would seem to me to be a specialty that must always be taught by a committee of other specialists. I do not believe that it has its own unique body of knowledge. However, the rapid growth of full-time practitioners of this type of medicine indicates that my view is probably incorrect. I feel strongly that experimentation in staffing patterns in medical schools and large hospitals for emergency care is greatly needed, and I hope that such studies will be carried out in other medical schools. In this way we can answer these problems more quickly. In the end the patient will gain most by such experiments.

New Organizations Interested in Emergency Medicine

All of you are familiar with the excellent work done in the care of the injured by established organizations, such as the Committee on Trauma of the American College of Surgeons, The American Association for the Surgery of Trauma, the American Academy of Orthopedic Surgeons, and the AMA's Commission on Emergency Medical Services. However, the establishment of three new organizations interested in emergency and critical care medicine is important. I would like to describe them briefly.

The American College of Emergency Physicians. This organization was chartered in August of 1968. Its members describe this new specialty of emergency medicine. They state that it has evolved primarily because of an ever increasing number of patients who seek professional service in hospital emergency departments. Dr. William T. Haeck of Jacksonville, Florida, the Chairman of the Membership and Credentials Committee,[8] states: "The emergency department physician must be well equipped by training to deal with a wide spectrum of illness or trauma. In a sense he is a full-time triage physician. We feel strongly that the trend is toward the ability to sort and treat a large volume of patients who present with the full spectrum of 'emergencies, from minor to major; from head to toe.' This medical ability plus his ability to organize and run an efficient emergency department will, we feel, eventually gain him 'specialty status'."

The American College of Emergency Physicians is growing rapidly. According to its last quarterly report,[9] its members now number over 2,000, and represent all 50 states—almost double the number a year ago. Dr. John G. Wiegenstein, Chairman of the Board of the ACEP, states[10]: "In the state of Michigan, we have more than 800 physicians employed, either full or part time, on a regular basis in our state's emergency departments. Although a national survey has yet to be conducted, it can be conservatively estimated that 10,000 physicians in this country are devoting a significant portion of their career to emergency medicine." Although this number may be too high, I believe there is no question but that full-time emergency physicians are increasing rapidly. Since this type of practice has not yet been given official specialty status, it is not listed in questionnaires sent out by the American Medical Association. However, the number of "write-ins" found on an AMA survey during the last two years is interesting. In 1970 there were 67 write-ins for this type of practice, and thus far in 1971 there have been 670, a tenfold increase.[11]

Some believe that this new type of practice is attracting only physicians in the older age groups—retired, or semi-retired. Data on age of the members of the ACEP, supplied to me by Mr. Arthur E. Auer,[11] Managing Editor of the ACEP Quarterly Report, are given in Table I. You will note that almost half of their members are below the age of 40, and only 6% are over 60. Approximately 53% of the members are full time, and work singly or in groups of between two and six members.

TABLE I.

Age of Members of ACEP

Age	Per Cent
< 40	44
41-50	30
51-60	20
> 60	6

The University Association for Emergency Medical Services. During late 1969, six young university emergency department directors met to discuss their common problems.[12] It is interesting that they were all surgeons. They felt the need for an organization concerned with planning and delivery of emergency medical services, especially in universities. At an organizational meeting in Birmingham, Alabama, in October, 1969, the attendance of 138 individuals representing 96 of 119 medical schools in the United States and Canada showed great interest in such an organization.

The University Association for Emergency Medical Services is composed of university surgeons, anesthesiologists, internists, and other specialists. The major objective is the improvement of the care of the acutely ill or injured. The organizers feel that these activities are not receiving adequate academic recognition, and that the university emergency department director has need of assistance in establishing the academic basis for his activities. The University Association for Emergency Medical Services is attempting to complement rather than to compete with other groups having similar aims. The charter meeting of the Association was held in Denver, Colorado, November 18, 1970, and the proceedings were published in the April, 1971, issue of The Journal of Trauma. The first annual meeting was held in Ann Arbor, Michigan, on May 14th and 15th of this year. Both of these meetings were well attended, and this Association appears to be growing rapidly, both in membership and in influence.

The American Society for Critical Care in Medicine. A conference group in Critical Care Medicine met in February of last year in Los Angeles under the Chairmanship of Dr. Max H. Weil to try to bring order to the new field of Critical Care Medicine. As a result, the American Society for Critical Care Medicine was formally established. The members include surgeons, internists, and anesthesiologists. At the conference, leaders in the field recognized the formidable organizational problems that have evolved from the segmentation of critical care services. They stress the important role of nursing and paramedical staff and urge a close liaison with engineering, computer technology, and related technical resources. Uniform agreement was expressed on the advantages of a formally based interdisciplinary approach to the treatment of the critically ill. The formidable problems of training directors for critical care facilities were recognized. Young physicians entering this field from various specialties fear the loss of traditional identification and the potential isolation that might stem from their continuing relationship with other colleagues.

The birth and flourishing of intensive care units in hospitals throughout this country in the last several years have been good for the injured patient, for no patient needs superb critical care more than he. A special problem for the injured, however, is the lack of availability of such units where the severely injured patient is apt to be—namely in a rural area not close to a hospital with such units. Research and contributions to knowledge from such units will help him as much, or more, than any one else. Yet, is not this area, too, best manned by a team? Is critical care medicine a true discipline of medicine? If there comes into being a board certified specialist in critical care medicine (staffing the intensive care unit), is not the logical development this: to have specialists for preoperative care, operative care, and postoperative care: specialists classified according to time sequence of a disease, or possibly classified by the area of the hospital involved—a new definition of a "geographical full time specialist?"

What is the Surgeon's Role in Emergency Medicine?

Under our present system of medical care, I view the full-time emergency department physician as fulfilling a need, and I think we as surgeons must support them and help train them. Surgeons have a vital role to play in emergency departments. A recent survey by Dr. Spencer T. Snedecor[13] showed that the directors of emergency departments are most commonly general surgeons, next orthopedic surgeons, and next general practitioners. It seems obvious to me that surgeons must bear a large part of the responsibility for training emergency physicians to render expert immediate resuscitation in surgical emergencies, to treat minor surgical problems, and to diagnose and refer complicated surgical problems. I believe that in most academic institutions at the present time, the job of designing and carrying out such programs will require a group of specialists, and surgeons will be among the most important members of the group. In the Philadelphia area, we should recognize the excellent work that has been carried out by Dr. William F. Bouzarth and his committees, first through the Philadelphia County Medical Society, and now through the Pennsylvania State Medical Society. Dr. Bouzarth's committee is planning a three-week course to be given in Pennsylvania, probably in May of 1972, for the training of emergency department physicians. Shorter courses are being sponsored throughout the country by the Committee on Trauma of the American College of Surgeons, through a grant from Johnson and Johnson, and under the direction of Dr. Oscar P. Hampton, Jr., Director of the Trauma Affairs of the College.

If formal educational programs for emergency physicians are to be set up, the surgical departments of our schools of medicine must play a large role. In recognition of this, the Society of Surgical Department Chairmen appointed a committee to study the problem, composed of Drs. Curtis P. Artz, Richard Myers, Leonard Rosoff, G. Tom Shires, and chaired by Dr. Robert J. Freeark. In October of this year, Dr. Freeark's committee reported and recommended the following[14]:

1. The membership of the Society of Surgical Chairmen recognize the existence of a developing field of medical practice called Emergency Medicine and acknowledge that a growing number of physicians wish to confine their activities to the care of the acute short term illness or injury. For the present time such physicians are generalists with a special interest in emergency medicine which extends up to the point of admission to a hospital bed.

2. The membership support the educational efforts of any organization interested in improving emergency medical services to include the following: a. Active participation in the post graduate programs of established or developing organizations. b. Encourage undergraduate medical students to investigate careers in emergency medicine and encourage the assignment of medical students to those emergency departments which provide excellent care and adequate supervision. c. Include in the undergraduate surgical curriculum sufficient instruction to assure an adequate preparation for the surgical problems confronting the emergency department physician. d. Establish postgraduate courses in surgery designed to upgrade the knowledge and experience of physicians working in emergency departments. e. Encourage and assist those interested in practicing emergency medicine in their efforts to develop and train paramedical personnel. f. Seek membership in national organizations concerned with Emergency Medical Services.

3. The membership concern themselves

with the establishment of qualifications and requirements for the practice of emergency medicine and insist the recognition of this field as a specialty of medicine await a commitment to limit practice to this field following a period of specified training of sufficient breadth and scope to assure a high quality of emergency care to all who seek it.

4. The membership vigorously support the activities of the University Association of Emergency Medical Services as: a. A means of upgrading the training of the undergraduate and practicing physician in emergency medicine. b. A means to encourage medical schools and their affiliated hospital to redirect their academic, physical, and financial resources to this important area of health care.

5. The membership support the continuing efforts toward categorization of emergency departments with the hope that patients with critical illnesses or injury will be promptly and preferentially taken to those facilities which are equipped and staffed to meet their needs.

6. The committee feels that official recognition of Associations of Physicians interested in emergency medicine as well as matters of departmental status and curriculum for this field requires further study.

From this report came a resolution, recommended by Dr. Jonathan E. Rhoads:

> "Where well supervised residency programs are large enough to provide continuous coverage in the major fields of medicine in the receiving ward (emergency department), we believe this to be optimal, but where this is not possible, or where a triage officer is needed, a well defined training program for emergency department physicians is needed to provide suitable personnel and we recommend that the Graduate Educational Committee of the American College of Surgeons and the Graduate Education Committee of the AMA Council on Medical Education be asked to form a joint committee, to formulate criteria for training programs and standards for emergency department physicians."

Dr. Rhoads' resolution was amended as follows, as recommended by Dr. William Altemeier:

> "The Society reaffirms its belief that surgical care should be the responsibility of the surgical service from the moment of arrival in the emergency room, or as soon thereafter as the possible surgical nature of the case was recognized."

Following the passage of the amended resolution proposed by Dr. Rhoads, Dr. Freeark's Committee is reconsidering the problem, and will make a new report in March of 1972. At present it appears that our surgical chairmen do not agree on the place of the emergency physicians and how they should be trained.

Although there are numerous areas of potential conflict between training programs for emergency physicians and for surgeons, I believe that if the best interests of our patients are to be served, surgeons must have an important role, and probably the greatest, in the training of the emergency physician, unless they themselves become the emergency physician. It is clear that this specialty is here to stay, at least for a time. It is rapidly growing in interest and in numbers. What its future will be, I don't know. However, I am certain of one thing: in the training of physicians and allied health personnel for the care of the critically injured or sick, none has more to offer than surgeons.

References

1. Canizaro, Peter C.: Management of the Non-emergent Patient. The Journal of Trauma, 11:544-551, 1971.
2. Gibson, Geoffrey, Bugbee, George, and Anderson, Odin W.: Emergency Services in the Chicago Area. Chicago, Center For Health Administration Studies, University of Chicago, 1970.
3. Bureau of Census Reports. 1970.
4. Vaughan, H. F. and Garnester, C. E.: Why Patients Use Hospital Emergency Departments. Hospitals 40: 59-62, 1966.
5. Kennedy, R. H.: A Dilemma In Emergency Department Coverage. The Journal of Trauma, 9:821-822, 1969.
6. Hendryson, Irvin E.: The Revolution in Emergency Medical Services: Categorization of Hospitals: The Impact on You. The Journal of Trauma, In press.
7. Rosoff, Leonard: Personal Communication.
8. Haeck, William T.: Personal Communication.
9. ACEP Quarterly Report. Volume III, Number 2, September, 1971.
10. Wiegenstein, John G.: The Need for Training Physicians in Emergency Medicine. The Journal of Trauma, In Press.
11. Auer, Arthur E.: Personal Communication.
12. Frey, C. F., Dimick, A. R., Johnson, G., Jr., et al.: Organizing to Improve Emergencies: Birth of the University Association for Emergency Medical Services. The Journal of Trauma, 10:806-810, 1970.
13. Snedecor, Spencer T.: The Director of the Emergency Department. The Journal of Trauma, In Press.
14. Freeark, Robert J.: Personal Communication.

Annual Oration for 1972

True and False in the World of Wounds

JAMES G. BASSETT, M.D.

Probably, the single, most important chain of events affecting us as surgeons is the capacity of the human body to heal its wounds. Since Ambrose Paré and before, it has been our concern as we pursue our daily work. And yet to the present time, the precise nature of the events occurring in a wound or in an incision which we create, remains largely unknown to us. It is only in the past 20 years that much of the mystery associated with wounds has been elucidated.

During the academic year of 1970–1971, I had the good fortune to be granted a sabbatical leave from the Department of Surgery and the Medical College of Pennsylvania. I spent the time studying one aspect of wound healing. This work was carried on in Dr. Theodore Gillman's Department of Experimental Pathology at the Agricultural Research Council's Institute of Animal Physiology at Babraham, Cambridgeshire, England. This evening's discussion on wound healing is derived from my experiences at the institute.

Certainly, our concerns as practicing surgeons have been largely pragmatic, and yet, the laboratory has increasingly offered us much which can be applied to patient care. We have, in general, accepted the events which are known to occur in the healing wound as unchangeable as the tides, and yet if we look back only 100 years to Lister's work, we learn of the conquest of "laudable pus." Certainly, this was a major breakthrough in wound care, for what had been regarded as a "normal" event in a healing wound, was shown to be eradicable. Still later, Halstead in his research, demonstrated that wound healing could be expedited further. His definition of the fundamental principle of gentle handling of tissues proved to be another great advance in wound management. Up to this time, the early 20th Century, the study of wounds had been predominantly at a gross level; to be sure, some of the microscopic anatomy was appreciated, but attempts to define the process at any more fundamental level were rather feeble. Assuredly, there were several limitations which prevented this, not the least of which was the lack of technical equipment and techniques available for the work. Early in this century, Alexis Carrel attempted to define more clearly the nature of the healing process. He observed the contraction which takes place following the creation of a standard wound. Modern wound research can be dated from this time. The changes occurring were defined largely in terms of morphology and its alterations, gross and microscopic. However, the first glimmer of appreciation of the dynamic nature of the process had appeared. Carrel described four stages of healing: 1) A lag or quiescent stage of 1 to 5 days; 2) A period of granular retraction; 3) A period of epidermization; and 4) A cicatricial stage.

World War II—A New Emphasis

Following World War II, a new emphasis in the wound healing process developed. Basic problems in wound management had been tested an infinite number of times in the war wounded, and in an empiric sense, wound care had been well defined. It was known what would and what would not work; delayed wound closure, and diversionary colostomy are but two examples.

Early in the 1950's, Dunphy began his series of investigations into this problem which he has continued to the present. Under his stimulus, the surgical community has come to know more of the nature of the wound healing process than ever before. Other investigators have become interested and added their talents to solving the problem. Today, there is an immense body of ongoing work, and a large volume of accumulated knowledge. Probably the most significant change in our appreciation of the process is the alteration from emphasis on anatomy and microscopic anatomy to an emphasis on what a healing wound really is: an enormously complex biochemical and biophysical process of which the morphologic findings are but a visible manifestation.

What are the events of repair occurring in a wound from its inception to completion? What is true and what is false in this arena? We may consider the events in any one of a number of ways, but I want first to outline briefly for you the histologic changes, then what is known of the physicochemical reactions, and the events which affect it, and what we as surgeons may do to alter it. Lastly, I propose to outline what remains to be done before we can come to a complete understanding of the healing wound. As yet, there is more to be known than is known, and much remains to be defined.

Histologic Changes

Direct observations made in skin wounds, both in the laboratory and in the clinical setting, support four general stages of development in the life of a wound:

1) Initially, there is an outpouring of tissue fluid and fibrinogen which converts to fibrin. It dehydrates and provides a shield of protection for the underlying wound. 2) Next, the inflammatory phase develops in the wound. There is an increased capillary permeability with an outpouring of fluid into the tissues. After six hours, the inflammatory cells in the form of polymorphonuclear leukocytes enter the wound and begin the phagocytosis of bacteria. Upon completion of the phagocytosis, they die and leave the contents of their lysosomes locally. This release of lysosomes is thought to prepare the tissue for the propagation of the epidermal cells. 3) The circulating monocytes appear 6 to 12 hours following the polymorphonuclear leukocytes. Shortly, their endoplasmic reticulum and ribosomes synthesize their proteins which are the enzymes that aid in the phagocytosis of wound debris. The macrophages phagocytose the dead tissue as well as the dead polymorphonuclear leukocytes. 4) Now, the fibroblasts advance in the wound, first appearing at about 24 hours and reaching their peak concentration at 6 days. They arrange themselves along strands of fibrin. The fibroblast is crammed with organelles and vigorously produces protein under appropriate conditions. It is responsible for the mucopolysaccharide component of the ground substance and is the sole producer of collagen. It is always present at the site of collagen formation. Collagen production does not begin until the capillaries are moved into the wounded area.

Biochemical Alterations

In concert with the foregoing chain of cellular events which can be identified microscopically, a series of reparative biochemical alterations is underway. Earlier, I alluded to the fact that a healing incision is a complex biochemical and biophysical chain of events. This is the heart of the matter. The events taking place are beyond the reach of ordinary light microscopy. It is only with electron microscopy that we have been able to visualize them in part. None of us regards ourselves as a biochemist, and yet in one sense, we may, for we do manipulate and partially control this reaction. Immediately after wounding, there is an outpouring of tissue fluid rich in glycoprotein. These substances contribute to the formation of the mucopolysaccharides which are nothing more than "large micromolecules composed primarily of carbohydrates associated with varying amounts of protein." These mucopolysaccharides behave differently for different tissues, but in general it can be said that substances such as hyaluronic acid decrease early after wounding, whilst others with carboxyl and sulfate groups (the chondroitin sulfates) increase. These substances stimulate collagen formation by fibroblasts, as has been documented in laboratory tissue culture studies. In addition, the mucopolysaccharide appears to influence the size and orientation of collagen fibers.

Collagen synthesis presents special problems. It is synthesized on the polyribosomes and is ten times the length of the ribosome. The creation of hydroxyproline and hydroxylysine involves reactions different from other protein synthesis. Protocollagen chains are created within the cell by a combination of amino acid chains; these then are released into the cellular cytoplasm following which hydroxylation (requiring oxygen, ascorbic acid, iron, and alpha ketoglutarate) and glycolysation take place intracellularly. The resultant collagen is secreted through the fibroblast cell membrane as an extracellular collagen fiber. Briefly stated, three discrete steps take place:

1) Protocollagen synthesis on the ribosomal complexes of the endoplasmic reticulum. 2) Release of polypeptides into the ground cytoplasm and hydroxylation of proline and lysine residues in the protocollagen. 3) Glycosylation of selective hydroxylysyl residues in the collagen molecule.

Cross linkages with other collagen fibers and with elastin are developed. In their initial deposition, the collagen molecules lie in many planes without apparent order. As natural stresses develop, the molecules line up along the axis of stress. The synthesis of elastin remains a mystery. Its exact role is unknown. This deposition of collagen begins in the 4th to 6th day after wounding and increases to a maximum from about the 7th to the 21st days. Such activity continues, though at a reduced rate, up to 56 days. Now the first appearance of elastin fibers occurs.

Natural Events and Other Factors

This constitutes a necessarily gross description of events occurring in a wound as it is presently understood. Many naturally occurring events affect it, and more importantly for us as surgeons, many things which we may do will alter the natural course of events. These may be divided into three general categories: 1) Those factors created by operation; 2) Those factors created by the patient's disease; 3) Those factors created by the environment.

In the first instance, very briefly, we seek to expedite wound healing by avoiding excessive tissue damage, contamination, and blood loss. We use the appropriate suture material for the job at hand. Excessive tissue destruction prolongs the second phase of wound repair, the clearing away of debris. If too much destruction has occurred, not only is phagocytosis prolonged, but a good medium for bacterial growth is established.

It has been demonstrated both in the laboratory and in the clinical setting that inflammation prolongs wound healing. Suture materials which excite strong, inflammatory response should be avoided where possible. Too tightly tied sutures produce avascular necrosis. The smaller the bites of tissue caught in a hemostat, the less tissue destruction. These fundamental principles are well known to us. We understand them very well from long and repeated association in our daily work.

But there is a host of things which we do both in postoperative wound care as well as in general care, with which we are less familiar, or at least less familiar with the consequences of our action.

Each of us has operated on patients with anemia due to varying causes and found that their wounds healed perfectly well. Laboratory studies in animals support this observation, at least in the measurable parameters of tensile strength and hydroxyproline levels which are a reflection of collagen production. In anemic animals, there may be some delay in the formation of the ground substance, but collagen production is not impaired. Anemia does not impede wound healing.

Hypoproteinemia, from whatever cause, may exert an adverse effect on the strength of a healing wound. Our colleagues in this academy have demonstrated recently that as the duration of protein depletion and the percentage of weight loss in laboratory animals increases, the bursting strength of a standard colonic anastomosis and the total circulating serum albumin decrease linearly. Hypoproteinemia does obstruct wound healing.

High ambient environmental temperatures have been shown to speed wound healing. This is thought to result from local increases in blood flow and skin temperature which such an increase in environmental temperatures produces.

Similarly, it is true that oxygen and carbon dioxide tensions of inspired air exert a direct effect on collagen production. As the concentration of carbon dioxide in the inspired air increases, the tensile strength of wounds diminishes. Conversely, increased oxygen tensions produce an increase in collagen production. The rate of collagen production is directly proportional to the oxygen pressure of blood delivered to the wound. There is also a corresponding increase in the wound tensile strength with this increase in oxygen pressure. As one might expect, reduced oxygen tensions produce a significant reduction in wound tensile strength. These events are only partially controllable; nevertheless, we should make every effort to provide optimum conditions at the local wound site by assuring maximum oxygen tensions and adequate nutrition.

Medication

Much more easily controlled and subject to titration, are the medications which we may prescribe on occasion because we believe they enhance patient care. Antimicrobial drugs, anticoagulants, ascorbic acid, steroids, Vitamin A, trypsin, immunosuppressants (such as azathioprine), and certain mineral compounds exert some varying effects on a healing wound.

The use of steroids in a variety of disease entities is commonplace today, and we are confronted frequently with the necessity of operating on patients receiving cortisone. It has been known for 20 years that cortisone alters wound healing in some way. Baker, working with rats, made the initial observations on this phenomenon. It was not clear

how or where such alterations took place. Now it appears that steroid therapy delays the onset of all of the cellular events in wound healing, thereby prolonging the healing time. It also appears that there may be a reduction in hydroxyproline as well as in the cross-linkages in the collagen molecule. Animal experiments show that if steroid therapy is delayed for three days following wounding, then there is no reduction in tensile strength. Clinical observations tend to support these laboratory results, for it is reported that patients undergoing operation while on steroid therapy, may have a 29 per cent wound complication rate, as opposed to a 5 per cent wound complication rate in those not so treated. This problem has concerned all of us at one time or another. What is less well known is that this effect of steroids is preventable, even reversible. Again in the laboratory, Dunphy's group has shown that Vitamin A given systemically prevents and also will reverse this effect of cortisone. Vitamin A does not accelerate healing in the absence of cortisone. It is postulated that this action is at the lysosome level and occurs in the wound itself. Clinical application of this therapy supports the laboratory results. Beta-carotene, a precursor of Vitamin A, produces the same results.

Of all the vitamins at our disposal, Vitamin C probably contributes most to wound healing. At least its role is better documented than the others. Its importance is threefold: First, phagocytosis cannot proceed at a normal rate without it. The clearing of debris and bacteria is reduced in ascorbic acid deficiency. Secondly, the hydroxylation of proline and lysine necessary for collagen production cannot occur in Vitamin C deficiency. Lastly, if ascorbic acid deficiency is absolute and prolonged, previously healed wounds will break down. All of our patients should receive it, but particularly those with very large defects such as burns. A dose of 250 mg. twice daily is more than adequate.

Frequently, we may find it necessary to use antimicrobial drugs in the course of a patient's illness. Do they delay wound healing? In the laboratory testing of tetracycline and chloramphenicol, no delay was encountered in wound healing unless a toxic dose of a drug was utilized. This magnitude of drug dosage does not occur in our clinical practices.

Heparin may be used in patients undergoing vascular surgical procedures, or suffering from deep venous thrombosis. The drug may affect wound healing because it delays collagen synthesis. This synthesis is delayed so that its peak production occurs at about 10 days. However, heparin does not have any effect on the net collagen synthesis, so that wounds are only weaker in tensile strength up to a 10-day period.

Each of us is interested in expediting healing process, and from time to time various substances with varying activities are reported as effective in enhancing wound healing—egg white is the most recent compound added to the list. As in so many other instances, probably its effects are produced by the increased attention to wound care that is provided in the clinical experimental setting.

Prudden believed that ground cartilage added to a wound hastened healing. Not so, say other investigators in objective studies. His observations were subjective.

Frequently we hear that chymotrypsin is of value in trauma, and the plastic surgeons have been quick to advocate its use. Objective laboratory studies of total tissue water, extracellular water, intracellular water, and wound tensile strength show no alteration in the experimental animal by the use of this drug. Apparently, there is no justification for its clinical use.

Zinc has been advanced as an accelerator of healing. Pories thought that healing was enhanced by doubling the oral intake of this metal. Yet, subsequent studies by several other investigators fail to confirm this observation. Its presence is required for certain enzyme systems, and it is essential for healing; however, in excess, it does not speed the healing process.

For many years, we have utilized radiation therapy in conjunction with surgery, particularly for cancer control. The radiotherapist may begin his work after the wound has healed, or we may operate following the completion of radiotherapy. In the latter situation, we prefer deferring the operation for approximately 6 weeks. X-radiation modifies the rate of blood vessel development in a wound and delays it. However, it does not alter the end response. At two weeks after radiation, vascularization of x-radiated wounds is greater than that in the control. X-radiation does delay collagen proliferation and diminishes its production. Antimicrobial drugs do not alter this situation.

Pulsed, high frequency electromagnetic energy has been advocated to speed wound healing. Laboratory studies reveal that it has no effect either on tensile strength or the epithelialization of wounds.

One of the common problems confronting us is that of the contaminated wound. Studies have shown that the use of phisohex and betadine increases rather than diminishes the susceptibility of these wounds to infection. Apparently, the detergent effect is a harmful one. This finding refers to the chronic wound which is contaminated and does not bear any relationship to skin preparations and scrubbing in the acute injury.

Immunosuppressants such as azathioprine actually appear to enhance wound healing, or at least this is true in the laboratory. Here tensile strength is increased in the experimental animal over the control animal wound.

Wound Disruption

Occasionally, we are confronted with wound disruption. This is a poorly understood phenomenon, for it may happen in the absence of distention, bleeding, malnutrition, and infection. Studies on the resutured, disrupted wound in animals show it to be at least three times as strong as the primary wound. This is thought by some investigators to be due to new collagen formation, and by other investigators, to new blood vessel formation crossing the wound margins. None of these situations which I have related is common, but each of us has had to deal with them at one time or another.

What of the routine care of uncomplicated wounds? This has been studied in the laboratory with the result that there are some things which we appear to be doing properly. Dunphy has shown that rats allowed to run free have stronger wounds than those which are confined; those without dressings have stronger wounds than those with dressings; and finally, that early suture removal (at three days), creates stronger wounds than late removal of sutures (at seven days). Interestingly enough, when all three situations are combined, the wounds are still stronger. However, some major dehiscences may occur. Here a paradox exists, wound disruption in the face of increased strength of a wound. In segmental disruption, that part of the wound which remains intact is demonstrably stronger than that in the control animal.

These are the major areas of information which we have about wound healing. What are the major problems confronting us, both in the laboratory and in the clinical arena? There remain large gaps in our knowledge; for example, what initiates cellular proliferation and the whole chain of events leading to re-

pair? What is the function of the inflammatory response? What is the complete picture of protein synthesis? What are the total nutritional needs of repair? These and many other questions remain to be answered. To further our information, we have need to develop methods for studying the human. Just how this may be achieved is not clear presently.

In a technical sense, few, if any, of the measurements which I have reported to you are made in the intact animal. We must achieve techniques of measurement which will allow us to record the true state of affairs directly. I am confident that such technical progress can be achieved in the near future, and new solutions fitted into the puzzle piece by piece until we have eradicated much of the mystery about wounds.

For the present, we know these things to be effective in the healing of all wounds: 1) Minimum tissue destruction reduces the time and energy required for wound clearance and minimizes inflammation; 2) Adequate oxygen tension expedites collagen production; 3) Avoidance of infection speeds healing; 4) Good nutrition with adequate protein, carbohydrate, and vitamin intake expedites phagocytosis and collagen deposition; 5) Avoiding the use of steroids unless absolutely necessary, and if so, counteracting their effect by the use of Vitamin A prevents the slowing of collagen production.

Steroids and x-radiation exert a variable and detrimental effect on wound healing, and specifically on collagen. Antimicrobial drugs, zinc, egg white, copper, and proteolytic enzymes do not speed wound healing.

Ideally, maximum wound healing will be achieved when one performs an operation on a child free of any chronic disease utilizing sharp dissection throughout and suture material which produces the least tissue reaction.

In conclusion, is it unreasonable for us to expect to develop greater biologic control of a process which is already very efficient? I believe that it is not. The application of what is already known produces excellent results for us most of the time, and is, whether we realize it or not, already partial control of a basic biologic system, wound healing. The application of newer knowledge may not enable us to shorten this process, but it may enable us to alter and improve it as required. The day may yet come when we exert as great an influence on the healing wound as we exert on infection by utilizing antimicrobial drugs.

Bibliography

1. *Repair and Regeneration: The Scientific Basis for Surgical Practice*; a Centennial Symposium held at the University of California, 1968, Editors, J. E. Dunphy and W. VanWinkle, New York, McGraw-Hill, 1969.

American Journal of Surgery

2. 119:560-4, May, 1970.
3. 121:460-6, April, 1971.
4. 121:566-8, May, 1971.
5. 121:572-5, May, 1971.
6. 121:665-7, June, 1971.
7. 122:78-80, July, 1971.

Annals of Surgery

8. 167:324, 1968.
9. 170:633-41, October, 1969.
10. 172:72-5, July, 1970.
11. 172:1048-50, December, 1970.
12. 173:214:-8, February, 1971.
13. 173:515-9, April, 1971.

Archives of Surgery

14. 102:49-52, January, 1971.
15. 102:132-5, February, 1971.
16. 103:167-74, August, 1971.
17. British Journal of Experimental Pathology, 50:490-3, October, 1969.
18. British Journal of Surgery, 52:523, 1965.
19. Experimental Molecular Pathology, 13: 51-65, August, 1970.
20. Journal of Pathology, 102:61-8, October, 1970.

Journal of Surgical Research

21. 10:1-5, January, 1970.
22. 10:485-91, October, 1970.
23. 10:597-9, December, 1970.
24. 11:163-72, April, 1971.
25. 11:254-71, May, 1971.
26. 11:277-83, June, 1971.

Journal of Trauma

27. 10:1001-9, November, 1970.
28. 10:1062-64, November, 1970.
29. New England Journal of Medicine, 253:847, 1955.
30. Plastic and Reconstructive Surgery, 46: 287-93, September, 1970.

Proc. Soc. Exp. Biol. Med.

31. 136:664-7, February, 1971.
32. 136:1336-9, April, 1971.
33. 137:936-8, July, 1971.
34. Science, 152:1335, 1966.

Surgery

35. 36:362, 1954.
36. 66:741-5, October, 1969.
37. 69:792-6, May, 1971.

Surgery, Gynecology and Obstetrics

38. 130:431-8, March, 1970.
39. 130:487-93, March, 1970.
40. 130:685-90, April, 1970.
41. 130:875-8, May, 1970.
42. 132:1005-8, May, 1970.
43. 133:72-4, July, 1971.
44. 134:15, January, 1972.
45. 134:22, January, 1972.
46. 135:561, October, 1972.

Surgical Forum

47. 20:65-6, 1969.
48. 20:496-7, 1969.
49. 21:58-9, 1970.
50. 21:71-3, 1970.

Annual Oration for 1973

Ulcerative Colitis—At This Point in Time

LLOYD W. STEVENS, M.D.

This paper was presented by title only.

Annual Oration for 1974

Thoracic Outlet Syndrome

JOSEPH W. STAYMAN, JR., M.D.

The purpose of this presentation is twofold. First is a discussion of Thoracic Outlet Syndrome. Second is an analysis of 50 cases operated at the Chestnut Hill Hospital.

SLIDE 1
NEUROVASCULAR-COMPRESSION SYNDROMES

1. Thoracic Outlet Syndrome
2. Scalenus Anticus Syndrome
3. Cervical Rib Syndrome
4. Costoclavicular Syndrome
5. Hyperabduction Syndrome
6. Pectoralis Syndrome
7. Carpal-Tunnel Syndrome

Unfortunately, there is some confusion as to the definition of thoracic outlet syndrome. This slide lists the various neurovascular compression syndromes of the shoulder girdle. Some authors have classified all of these syndromes under the heading of thoracic outlet syndrome. I prefer to consider thoracic outlet syndrome as a definite and separate entity, albeit this includes scalenus anticus syndrome, hyperabduction syndrome, and cervical rib syndrome. I feel that scalenus anticus syndrome should be discarded, cervical rib syndrome should read "thoracic outlet syndrome with cervical rib," and hyperabduction syndrome should be discarded. The other syndromes listed here are separate entities and have nothing whatsoever to do with thoracic outlet syndrome.

SLIDE 2
HISTORICAL

1. Adson and Coffey (1927)
2. Rob and Standeven (1958)
3. Clagett (1962)
4. Roos and Owens (1966)
5. Lord and Rosati (1971)

Historically, these are the authors who have made the most significant contributions as to diagnosis and management of this syndrome. Adson and Coffey in 1927 were responsible for describing the scalenus anticus syndrome and its management. Rob and Standeven in 1958 coined the name "thoracic outlet syndrome." Clagett in 1962 felt that resection of the first rib was the operative procedure of choice. Roos and Owens in 1966 described the axillary approach for removal of the first rib, and Lord and Rosati are responsible for a clear understanding of the neurovascular compression syndromes of the shoulder girdle.

Figure 1 is a sketch of the thoracic outlet. You will note that it is bounded posteriorly by the first thoracic vertebra, anteriorly by the sternum, and laterally by the first rib. It is a solid, fixed, bony ring.

Figure 2 is a sketch by Netter taken from the CIBA *Clinical Symposia* describing the anatomy we are concerned with in thoracic outlet syndrome. We are concerned with the subclavian vein, artery, and brachial plexus where they cross the first rib. One notes that the

FIGURE 1.

insertion of the scalenus anticus muscle is between the vein and artery. In most instances the compression occurs posterior to the scalenus anticus muscle and involves the artery and the brachial plexus which includes the ulnar nerve. This sketch shows poststenotic dilatation of the artery, which is occasionally seen.

SLIDE 3
HISTORY

1. Middle Aged Female
   (housewife with children)
2. Occupational
3. Trauma
4. Congenital
   (cervical rib, etc.)

The typical patient is a middle-aged housewife with children. These women work hard, have well-developed shoulder and neck muscles, but about this age their posture begins to deteriorate and things begin to sag. Occupation often plays a role in the development of this syndrome, occupations that require abduction of the upper extremity such as painting, truck driving, hairdressing. There is often the history of trauma involving the neck and shoulder girdle. Congenital anomalies such as cervical rib and malformations of the first rib may be contributing factors.

Symptoms may be neurologic or vascular, either arterial or venous. Most

SLIDE 4

1. Neurologic
2. Vascular { Arterial / Venous
3. Combination

likely the symptoms are a combination of arterial and neurological symptoms. The prime neurological symptom is pain. Pain may involve the neck, shoulder girdle, and entire upper extremity. Pain is aggravated by activity, in particular, hyperabduction. There may be associated numbness and tingling with definite sensory loss. The neurological symptoms are most likely to be distributed along the course of the ulnar nerve, due to compression of the lower cord of the brachial plexus C_8 and T_1. Arterial symptoms are due to partial or complete occlusion of the subclavian artery at the level of the first rib. These consist of pallor, ischemic pain, associated with pulse deficit. Venous compression invariably results in edema.

SLIDE 5
DIAGNOSIS

1. History
2. Physical Exam
3. X-rays { Chest / Cervical Spine
4. Myelogram–67%
5. E.M.G.–53%
6. Arteriogram (Sutton's law)

Diagnosis–I've already alluded to the history and the typical case of the middle-aged housewife, and the possibility of trauma, congenital, and occupational factors. Physical examination usually shows a patient with poor posture, demonstrated by a slightly flexed neck and drooping shoulders. The extremity involved is usually the dominant one, and physical examination is focused on this extremity. There may be loss of strength and muscular atrophy, particularly in the hand. Symptoms are usually aggravated

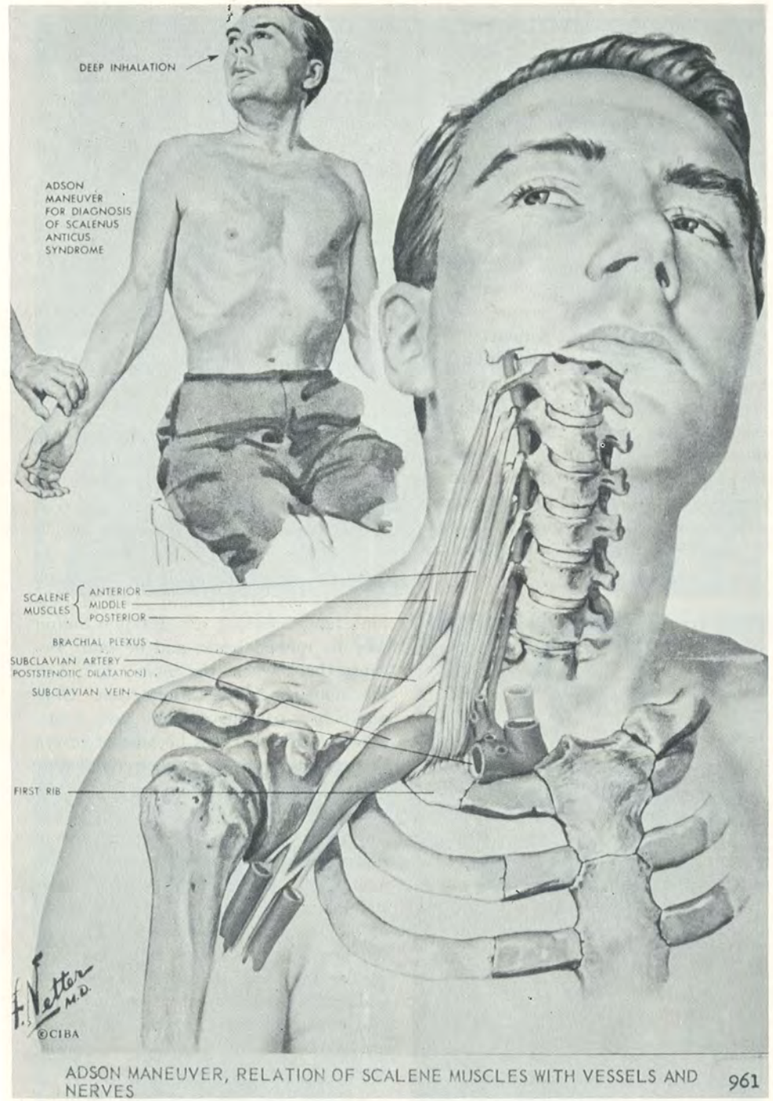

FIGURE 2.

by hyperabduction. Adson's sign may be positive, but the radial pulse is either dampened or obliterated on hyperabduction. There may be temperature changes and a differential in blood pressure readings in the upper extremities. X-rays of the chest and the cervical spine are made. If these are negative and the clinical diagnosis of thoracic outlet syndrome seems likely, the patient is placed on conservative therapy. Our physiotherapy department has worked out a series of exercises and posture correcting measures for these patients.

Figure 3 shows a patient fitted with two canvas bags suspended across the shoulders with straps. Gradually increased weights are placed in these bags and the patient is exercised by having him raise his shoulders. Patients are given instruction in the department and are able to carry out the exercises at home. The patients are given two weeks of physiotherapy. If they show improvement, conservative treatment is continued indefinitely. Approximately 50% of patients respond to conservative treatment. If there is no improvement, the patient is admitted for further evaluation.

Figure 3.

Slide 6
DIAGNOSIS

1. History
2. Physical Exam
3. X-rays — Chest; Cervical Spine
4. Myelogram—67%
5. E.M.G.—53%
6. Arteriogram (Sutton's law)

Neurological and orthopedic consultations are procured. As a result, 67% of the patients had myelograms to rule out cord involvement. Fifty-three per cent of the patients had electromyograms to localize the level of irritability. In my opinion, the most important diagnostic study is the arteriogram. This is Sutton's law. Someone asked Willie Sutton why he robbed banks and he said "Because that's where the money is." And the money is in the arteriogram. Only one of our patients did not have arteriography, and that was because of severe dye sensitivity. The arteriogram must be made by a radiologist who knows what to look for, and how to perform the procedure. He must be able to reproduce the patient's symptoms by manipulating the extremity and he must simultaneously demonstrate compression of the subclavian artery at the level of the first rib. Just because compression is demonstrated does not necessarily make the diagnosis—the patient must also have symptoms. I would not operate on a patient who had a normal arteriogram.

Figure 4 is an arch study showing bilateral compression of the subclavian arteries at the level of the first rib.

Figure 5 is a selective subclavian ar-

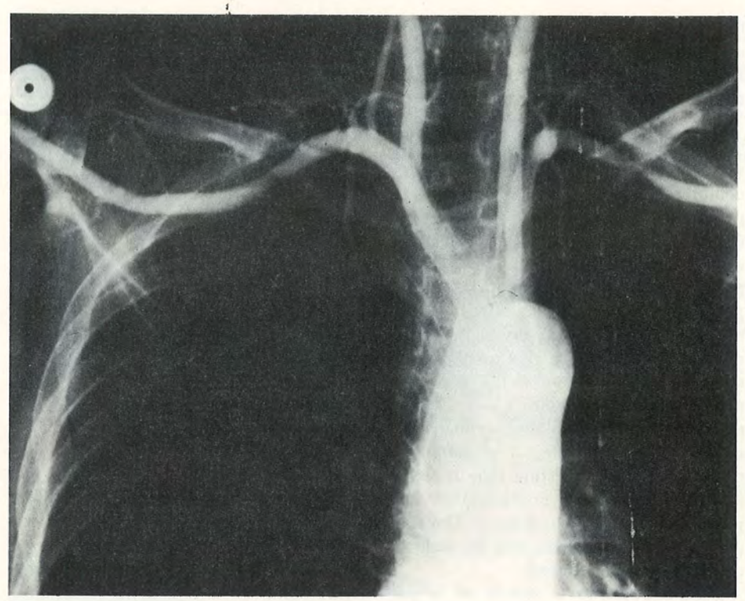

Figure 4.

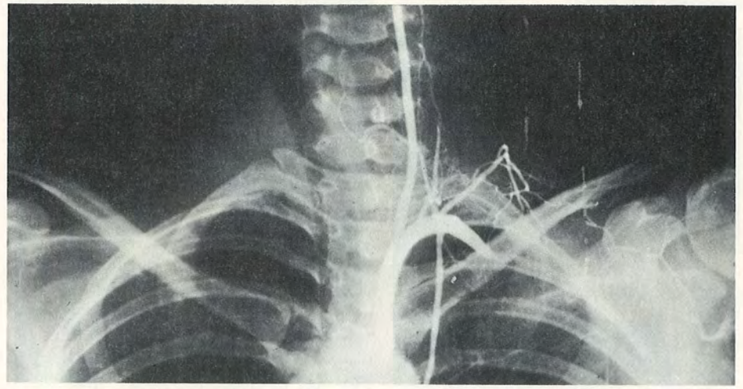

Figure 5.

teriogram showing complete occlusion of the artery at the level of the first rib. If the diagnosis is confirmed, then resection of the first rib is recommended. There are several approaches employed for resection of the first rib. First is the supraclavicular approach which I condemn. There is the subclavicular approach, as recommended by Dr. Pecora of this Society. I have had no experience with this approach. There is the posterior or thoracoplasty approach. Exposure is excellent and it affords ample room for carrying out any vascular or reconstructive surgery that may be indicated. The objections to this approach are the increased morbidity and the cosmetic result. The axillary approach, as recommended by Roos, is preferred in most cases. The operating time is short, about one-half hour. Postoperative hospitalization is only 3 to 4 days. The cosmetic result is excellent, and the time of convalescence is reduced.

Figure 6 shows a sketch of a patient being prepared for the axillary approach.

Figure 7 shows the hammer-lock grip on the arm by an assistant. This is most important so that the arm can be manipulated during the procedure to obtain adequate exposure.

FIGURE 6.

FIGURE 7.

Figure 8 is a sketch showing the skin incision which is made just at the lower margin of the axillary hairline.

Figure 9 is a sketch of the anatomy encountered at the time of operation, showing the subclavian vein, scalenus anticus muscle, subclavian artery, brachial plexus and first rib.

Figure 10, this shows the finished product.

Figure 11 is a photograph of the instruments which have been most useful. The Sauerbruch first rib hook is very helpful, particularly if one has been trained in its use by Dr. George Willauer. Below are Semb periosteal instruments, alligator forceps, Bethune rib shear, right-angle rib shear, and two sizes of rongeurs.

FIGURE 8.

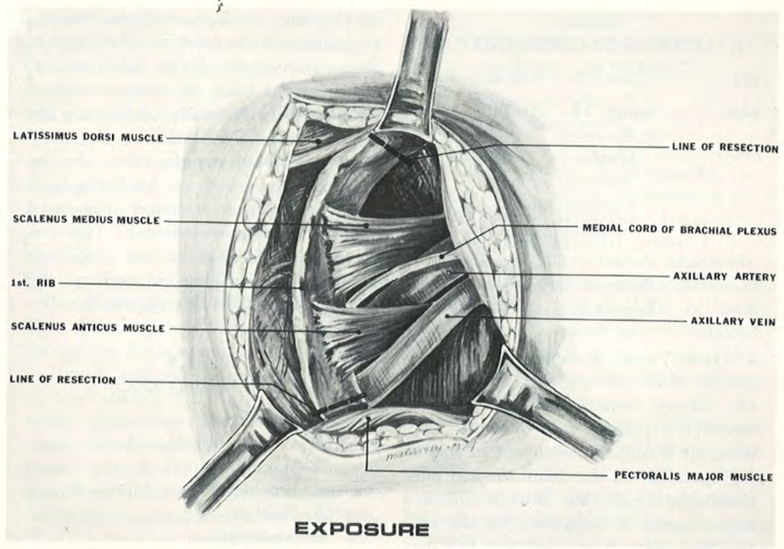

FIGURE 9.

FIGURE 10.

FIGURE 11.

Postoperatively, these patients are allowed to ambulate as soon as they are able. They are encouraged to use their arms. They are discharged on the third or fourth day and are usually back to full activity in about two weeks.

This gives an analysis of the 50 operated cases at Chestnut Hill Hospital—10 males and 40 females. The ages range from 19 to 53 years, average being 34 years. There is a history of trauma in 6 cases, previous surgery in

SLIDE 7
ANALYSIS OF 50 OPERATED CASES

SEX: Males—10 Females—40

AGE: Range 19 to 53 years Average: 34 yrs.
History of Trauma—6
Previous Surgery—4
Cervical Rib—5
Bilateral Symptoms—23

APPROACH: Posterior—26 Axillary—24
Bilateral Surgery—4
Repeat Surgery—1 (x3)

4 (these were scalenus anticus divisions). Five (5) patients had cervical rib. Always remove first rib. Twenty-three (23) patients had bilateral symptoms. It is quite interesting that following operation on the dominant and most symptomatic side, the patients obtained improvement of symptoms on the contralateral side. I presume that this may be due to increasing the size of the thoracic outlet, and it may take pressure off the contralateral side. Twenty-six (26) patients had the posterior approach and 24 had the axillary approach. At the present time, the axillary approach is being used almost entirely. Four (4) patients had bilateral surgery. These patients all returned and asked to be operated upon because of the severity of the symptoms. There is one patient who has been operated upon 3 times. This is a very interesting case—a young girl who had a history of trauma. She was a hairdresser and on the first admission she had an acute massive venous thrombosis of her right upper extremity. She was treated with anticoagulants and improved. A venogram showed a partial obstruction of the vein at the level of the first rib; an arteriogram showed obstruction of the subclavian artery at this same point. The diagnosis of thoracic outlet syndrome was made and her first rib removed. Approximately one year after operation she returned with edema of the arm. Venogram showed venous occlusion at the level of the first rib. She was re-explored and was found to have a tight band of residual scalenus anticus tendon partially obstructing the subclavian vein. She did very well for approximately 6 months when she developed recurrence of her symptoms, and she was again operated upon and a similar situation was found. This was corrected. The patient was placed on long-term anticoagulation therapy and at the present time is asymptomatic.

SLIDE 8
COMPLICATIONS

1. No Mortality
2. Wound Infection—1
3. Wound Seroma—2
4. Brachial Plexus Injury—1
5. Phlebitis—2
6. Atelectasis—1
7. Pneumothorax—3

Complications: There was no mortality; there was one wound infection, occurring in a posterior approach; there were two seromas, both in posterior approaches. There was one brachial plexus injury; this was in an axillary approach, and was due to retraction on the brachial plexus. The patient made a complete recovery from partial paralysis within about 6 months. Two patients developed postoperative thrombophlebitis in the upper extremity. There was one case of atelectasis, and there were 3 cases of pneumothorax.

These are the results: The first case was operated upon in January 1967. All

SLIDE 9
RESULTS

Follow-up January 1967 to present
Good—40
Fair — 5
Poor — 5

patients have been followed. Forty (40) of the 50 patients have obtained good results. That is, they have few or no symptoms, and are able to carry out full physical activities. Five (5) patients had fair results. They have shown improvement postoperatively; however, they still have symptoms and they are somewhat impaired in their physical activity. These patients have all stated that they would have the operation again. Five (5) patients had poor results. Even though they met the criteria for diagnosis they were not improved by the operation.

Here is a list of diseases that were uncovered during the course of the diagnostic screening. Cervical arthritis—6 cases; central nervous system disease—2 cases; pulmonary cyst—1 case; carpal tunnel syndrome—4 cases; pectoralis minor syndrome—4 cases; occlusion of subclavian artery—4 cases; and occlusion of brachial artery—1 case. Most of these patients were operated on and obtained good results. It is quite obvious that resection of the first rib would not have cured any of these cases.

SLIDE 10
DISEASES DISCOVERED
DURING SCREENING

1. Cervical Arthritis—6
2. C.N.S. Disease—2
3. Pulmonary Cyst—1
4. Carpal Tunnel Syndrome—4
5. Pectoralis Minor Syndrome—4
6. Occlusion Subclavian Artery—4
7. Occlusion Brachial Artery—1

In closing, I would like to thank all of those physicians and technicians who participated in this work and to thank the Academy of Surgery for the privilege of presenting this oration.

Annual Oration for 1975

Personal Concepts in Treatment of Breast Carcinoma

CHARLES FINEBERG, M.D.

Dr. Templeton, Dr. Nemir, Members of the Academy of Surgery, Ladies and Gentlemen. It was the age of wisdom. It was the age of foolishness. It was the epoch of belief. It was the epoch of incredulity. It was the season of light. It was the season of darkness. It was the Spring of hope. It was the Winter of despair. We had everything before us. We had nothing before us. Some of its noisiest authorities insisted upon being received in heaven for good or evil, in the superlative degree of compassion only.

Tale of Two Cities
Charles Dickens

Carcinoma of the breast is the most prevalent cancer in women today. There will be 30,000 deaths caused by carcinoma of the breast this year in the United States. No other subject in surgery has been subjected to so much controversy. Anyone with an interest in carcinoma of the breast realizes with dismay the many different opinions, the extremely controversial statistics that have been published regarding the optimal method of treatment of carcinoma of the breast.

As a practitioner who has been personally interested in this subject both in the research laboratory and in my clinical practice for the past 25 years, I am somewhat dismayed and saddened by the ever-increasing acceptance by surgeons in the United States of lesser and varied methods for the treatment of primary breast cancer. The disturbing trend which Dr. Cushman Haagenson most recently, I think, accurately described as "the great step backwards" has been reinforced by several statistical analyses in this country and abroad of individuals treated with lesser operations than radical mastectomy. Of even greater significance is the fact that individuals championing these methods of therapy have publicized widely in the lay literature—namely—Ladies Home Journal, Readers Digest, and Family Circle—so that the great proportion of our population, especially women who are primarily interested in this disease, have been unfairly influenced as to the proper method of therapy. This trend has reached such great proportions that it is impossible to see a patient in consultation without having that patient not only question the proposed therapy, but also insist upon methods of therapy other than what the attending surgeon thinks appropriate for the lesion he has diagnosed.

It is a great disappointment to me that no one in our profession has come forward to try to combat this onslaught of powerful propaganda and very questionable statistics in a similar manner, by publications of the opposite end of the coin in lay language, in lay journals, so that the public would better understand the problem without a completely one-sided biased opinion. This change of rationale offered for lesser operative procedures, sadly reminds me of the trend

which has occurred in the treatment of bronchogenic carcinoma in this country today. It is the very aura of defeatism which has seen a marked decrease in the number of exploratory thoracotomies and resections for bronchogenic carcinoma which has occurred in this country over the past 15 years. As an example, I have seen practitioners who have stated that they have never seen a case of cured bronchogenic carcinoma in their entire professional career. Therefore they feel that exploratory thoracotomy and possible resection is indeed a harmful procedure without any hope of cure. This, of course, we know is completely unacceptable and there are many substantial and well-established studies which show a 20 to 25% five-year survival in individuals who have had total resection or lobectomy for carcinoma of the lung.

I would like this evening to relate to you my personal concepts in the treatment of breast cancer. It should be obvious to all those who are interested in this subject that the statistics presented by proponents on both sides of the conflict are open to question. It can be most readily said about this particular subject that when we refer to statistics, there are liars, damned liars, and statisticians. Statistics can readily portray whatever the investigator compiling them wants to emphasize. Statistics are of little value when they are compiled by computers or taken from the record room based on the surgical procedure performed by various individuals of different technical ability and judgment. Most of these statistics do not differentiate clinical evaluation and histologic morphology. I do not intend to dwell on statistics this evening because they are meaningless.

I would like to start briefly on the subject of diagnosis. There is nothing in the treatment of breast carcinoma which directly influences the ultimate survival of the patient as does early diagnosis. We have made tremendous advancement in the early diagnosis of breast carcinoma by primary education of the physicians treating this disease, by adequate public relations acquainting women with self breast examination, by the establishment of breast diagnostic clinics, and by the use of mammography as a screening procedure.

I am amazed at the number of patients that I have seen who relate to being examined through brassieres, sheets, examining robes, etc. I am amazed at the number of patients that I have seen who have obvious axillary involvement in whom physicians first examining the patient felt nothing in the axilla. I am amazed at the number of patients who have had a negative examination of their breasts and do have lesions of surgical significance present on repeat examinations. The only real advancement that we have made in the last 50 years in the treatment of breast carcinoma can be readily attributable to the earlier diagnosis of the lesion, especially the lesion which has not metastasized to the axilla.

Since there is nothing at present which influences survival more than early diagnosis, its importance is obvious. Very careful repeated proper examination of the supraclavicular and axillary areas as well as the breast are mandatory. (Mammography—slides. Needle Placement—slides. 52 needle localizations—non palpable tumors, carcinoma confirmed in 13 or 25%. 12 carcinomas in situ in personal practice by this technique in three years.)

Various concepts presented for treatment of breast carcinoma vary so greatly so as to completely confuse not only the surgeon but all physicians who deal with it. As an example, the standard radical mastectomy which has been utilized for close to 100 years is now being severely challenged by individ-

uals who really have no substitute for it, but advance various theories as to what might be better than radical mastectomy. Led by Dr. McWhirter in the early 40's and supported by Dr. Crile, the English and Nordic schools of surgery have championed simple mastectomy and irradiation and more recently have advanced to lumpectomy and the so-called modified radical mastectomy.

Proponents of lesser procedures than radical mastectomy for carcinoma of the breast have also clouded the horizon with a multiplicity of terminology which is more than confusing. The word total mastectomy actually referring to simple removal of the breast in contradistinction to radical mastectomy with en bloc resection of the breast, underlying musculature and regional nodes. Modified radical mastectomy: Some individuals refer to sacrifice of the pectoralis major with preservation of the pectoralis minor muscle. Some individuals refer to preservation of both muscles and removal of lymph nodes without any concern about the lymphatic channels or the surrounding fat in the axilla.

Completely forgetting statistics for the moment, let us examine the basic simple anatomical and surgical aspects of the difference of the two operations which have been promulgated as being better than the other for treatment of cancer of the breast. The lymphatics draining the breast are a known established anatomical fact. These lymphatics pierce the underlying musculature. There are intra-pectoral lymph nodes and these drain into the common area of the axilla before reaching the thoracic duct. The direct extension of lymphatics through the pectoralis major muscle in the medial quadrants drain into the internal mammary chain to the lateral thoracic chain and to the chain of lymphatics underneath the fascia of the rectus abdominal muscle. It is difficult for me to understand how any scientifically-trained individual would champion a surgical procedure which completely negates the proven anatomical routes of lymphatic drainage, especially with the disease which primarily is spread via the lymphatics. Would a competent surgeon resect a colon carcinoma, remove the aortic nodes and leave the mesentery?

Removal of the lymph nodes, no matter how complete, and I doubt very much that it ever can be complete through the routes that have been promulgated, negates the fact that you have left lymphatics behind which pierce and permeate the musculature of the pectoralis major and minor muscle. Our pathologists who have the in vitro specimen on their laboratory table for approximately four days to a week cannot readily identify all of the lymph nodes in the axilla without completely clearing the specimen. Are they less endowed than the individual who states that he has removed all of the lymph nodes from the axilla in vivo without sacrificing either the pectoralis major or minor muscles?

The incidence of microscopic deposits in the lymph nodes involved is quite high. The incidence of axillary metastasis in all cases approaches approximately 50% and I therefore feel very strongly that until some method is devised that will afford the surgeon both a gross and a microscopic ability to discern this pathology, all patients must be subjected to complete removal of the pectoralis major and minor muscles and lymph nodes. I do except those individuals with in situ carcinoma whether lobular or ductal, and also those individuals who have medical or other contraindications to radical surgery. I personally question McWhirter's statistics which have really catapulted this subject into its everyday performance in this country today. McWhirter's statistics are completely unacceptable to me as a practitioner on the basis of his inadequacy of follow-up, his non-reporting of severe complications of radiation therapy, and most important—his complete lack of candor in denoting that almost two-thirds of the individuals so treated in his group of patients originally reported had either ancillary hormonal therapy or radiation ablation of their ovaries. I object to Dr. Crile's statistics on the basis of his marked selectivity of individuals with solitary lesions under 2 cm. in size, the marked statistical inadequacy in the number of patients involved, and his statements as to the immune mechanism of the axillary nodes which are based upon experiments performed in mice. I do not object to the principle of adjuvant study groups, but to the publication of those study groups of statistics which are based on two and three year follow-up in breast cancer, which we know is meaningless. I do object to the known fact that the double-blind studies in adjuvant groups are readily broken almost on a daily basis throughout the country when the particular member of the family of a physician, friend, etc., is brought in for surgery.

Surgical Treatment of Breast Carcinoma

Contraindications

1. Obvious metastatic disease
   Bone scan—advantages over skeletal survey
   Liver scan
2. Medical Contraindications
3. Criteria of Haagenson and Stout
4. Inflammatory Carcinoma
5. Pre-malignant lesions
   Lobular Carcinoma in situ
   Florid Intraductal Papillomatosis
   Fibrocystic Disease?

Adequate dissection of the axilla is the most important aspect of mastectomy. Many residents state to me that they have participated in so-called radical mastectomy without ever visualizing the neurovascular bundle of the axilla. This to me is an indication of a poorly performed radical mastectomy. I have always emphasized the adequate complete removal of the neurovascular sheath and complete isolation and ligation of all tributaries directly on the vessels from which they originate or drain. En bloc resection means exactly that. Complete and adequate removal of all lymph nodes, all fat, all lymphatics, and all muscle en bloc in a systematic, orderly and anatomical fashion.

Technique—electrosurgical—Stewart incision. Indications and techniques of post-operative radiation. External quadrant lesion—less than 4 nodes involved; apex not involved.

Ipsilateral internal mammary. Supraclavicular and infraclavicular portals—4500 rads tumor rose as 3 cm.—17 treatments. Internal Quadrant Lesion—no axillary involvement. The ipsilateral and contralateral hockey stick portal—same tumor dose—17 treatment. If primary is 5 cm. or larger—capsular invasion of lymph nodes—additional treatment of chest wall—medial and lateral tangents—5000 rads—5 weeks. Slow down treatment of internal mammary area.

Treatment of Patients with Metastatic Breast Carcinoma

Some 30 years ago the American College of Surgeons in order to establish a more orderly method in the treatment of metastatic breast carcinoma, advocated the division of patients into two categories. Those who were actively menstruating, and the patients in the menopausal group. Its criterion for separation of these two groups was the absence of active menstruation for a five year period. We have readily demonstrated in the laboratory that women who have

not menstruated in 15 years may have a significant circulating body estrogen and we have even measured 1500 units of TZO estrogen in women who have not menstruated in 10 to 15 years. We would more readily separate these two groups of patients and differentiate between these two groups as far as palliative management is concerned, by the use of urinary estrogen determination and vaginal smear. One might also use the follicular stimulating hormonal levels which are directly reciprocal to the urinary estrogen levels in patients in the two groups. A patient who has practically no urinary estrogen and has a negative cytologic index should be categorized as in the menopausal group, no matter what her age, and can be followed throughout the palliative period by measuring urinary estrogen and the follicular stimulating hormone level.

Hormonal Aspects of Breast Carcinoma

Throughout my association with patients with breast carcinoma, I have been impressed with the hormonal aspects of this disease. I do know that the particular feelings and theories that I have, relating to estrogen and breast carcinoma, are not readily accepted by members of the medical profession. I feel, however, obliged to state my opinion regarding it. Certain basic facts are well-known and established. We know that approximately 50% of individuals with metastatic disease respond to either ablative therapy or additive therapy. We know that approximately 50% of the patients with metastatic tumors demonstrate clinically and in the laboratory, hormonal dependence. The patient with a hormonal dependent tumor will excrete excessive amounts of calcium when subjected to diethylstilbestrol stimulation. We do know that carcinoma of the breast is more prevalent in non-lactating and nulliparous females who have been subjected to estrogen stimulation over a longer period than other patients who have breast-fed and have borne children. We do not know that carcinoma of the breast is more prevalent in individuals who have a prolonged menstrual history and whose menopause is delayed. We do know that Telogh and Sommers have demonstrated that in the 100 postmenopausal women who died of metastatic carcinoma, 83% of them were shown to have stromal hyperplasia of the ovary. We know from Dr. Israel's very interesting studies that approximately 30% of women in the active menstrual period of their lives who died of breast carcinoma demonstrated occult metastasis to the ovary. We know that Collins some 40 years ago at the Charity Hospital in New Orleans published his findings on 301 women who were subjected to total hysterectomy and oophorectomy under the age of 35. These women were followed for over 15 years. None of them ever demonstrated carcinoma of the breast, none of them ever demonstrated fibrocystic changes in the breast. Not a single woman in this category demonstrated a benign lesion of the breast.

I do know from personal experience in following patients closely over a long period of time, especially high suspect patients with definite benign disease of the breast, that the administration of hormones such as Premarin for osteoporosis and contraceptive pills in younger women, that there are obvious and definite clinical changes which occur. Definite decrease in the pathology and the clinical findings occur when patients are taken off of hormonal therapy.

It is my opinion that all breast carcinomas are estrogen dependent and the disparity of metastatic patients responding to ablative therapy is on the basis of the tumor developing autonomy or becoming hormonally resistant after metastasis has occurred.

There is a definite need for the determination of hormonal dependence of breast carcinomas so that possibly ablative therapy in those individuals who are still actively menstruating, who still have a significant body estrogen level, can be treated in the most advantageous method, namely obliteration of estrogen secretion or oophorectomy.

The work of Maguire on estrogen receptor binding is a great step forward and his most recent work concerning progesterone and estrogen binding is to be looked at with great hope in the future. Along this particular vein, in 1959, working in the laboratory, we too were anxious to determine a method of hormonal dependence of breast tumors. In this regard, we transplanted 41 human mammary carcinomas into the anterior chamber of the guinea pig's eye which is an excellent medium for growth of human cancers. At that time we believed that this was an antigen-free chamber which blocked immunologic responses. We know that that is not true at the present time, but nevertheless, these tumors can be grown. It is of interest and I would like to present to you some of our findings in this regard. We transplanted 41 human primary mammary carcinomas into 286 guinea pigs. These were female-male-females with supplementary estrogen—and oophorectomized females. Twenty of these carcinomas grew in the female, would not grow in the male, grew much more rapidly and to a greater extent in the female with estrogen and would not grow in the oophorectomized female. Twenty-one of the carcinomas did not grow at all. We graded the growth on quartering the orbit. Growth of one-half of the orbit was considered one plus and the entire orbit or extra-orbital extension was considered two plus. It is obvious that the 20 carcinomas that grew in the female and grew rapidly in the estrogenized female could be termed estrogen dependent. The problem that we encountered was the identification of the tumors by microscopy in the sacrificed animal. Invariably, these tumors were scirrhous, the large component of our tumors—intraductal carcinoma—are scirrhous and set up a very desmoplastic reaction. This finding has been verified by several other laboratory groups and we could get no one to identify them as growing tumors despite the fact that the gross growth was very apparent and in several instances the tumor invaded the bony orbit. Of greater interest in the following of these patients as far as five-year survival is concerned, is that the 20 who had positive growth had a five year survival rate of 30% while the 21 without growth had a five-year survival rate of 67% and this in no way could be correlated with or without axillary involvement.

Chemotherapy

It is obvious to most people treating this disease that we have done a great injustice to the tremendous contribution that has been made and is being made by our oncologists. Most of the patients that we refer to oncologists are failures of both surgical and radiation therapy and the patient is of an advanced type when seen. Notwithstanding, even in patients with widespread disease, I have been impressed by multiple drug chemotherapy in the palliation of individuals with hopeless metastatic problems. This has been so dramatic to me personally that I am now thinking very seriously of selected patients who clinically have advanced disease being treated preoperatively with chemotherapy in hopes of neutralizing or slowing down the systemic spread of carcinoma. I think that this is an interesting avenue that we all must entertain. We all probably should have not only our colleagues in radiation therapy see the patient in the primary phase, prior to surgery, but

also the chemotherapist and the endocrinologist in attendance so that a combined approach to the treatment of patients with breast cancer can be afforded a fair and just evaluation.

Chemotherapy Schedule

Coopers Regimen

Response rate of 65%

Cytoxan
Methotrexate
5 FU
Onconin
Prednisone

Response rate of 40%

Adriamycin alone
Best single agent
Combination of adriamycin and drugs from Coopers Regimen

Conclusion

In conclusion, I would like to state that there is no optimal method of treatment of breast carcinoma. We do not use the word cure in breast carcinoma—we use the word survival and this is completely justified since many of us have seen patients with recurrent disease up to 18 years. Until we obtain methods of determining the presence of systemic disease, that until this time has not been distinguishable by routine ancillary testing, or we are provided with a method of treating the systemic disease with hope of cure, it is my personal belief that patients with invasive breast carcinomas which fall within the realm of operability, should be subjected to radical mastectomy done adequately and thoroughly. If regional nodal involvement is demonstrated or medial quadrant lesions are present, postoperative irradiation therapy should be administered. It is obvious that we also will be treating individuals who probably, probably, I said, could be cured by a simple mastectomy. Unfortunately, we at the present time cannot determine who these individuals are, and therefore in trying to serve all of our patients to the best of our ability and offering them the best possible chance for longer survival, radical mastectomy and radiation therapy at the present time are the procedures of choice.

I acknowledge some of my colleagues who have worked with me treating breast carcinoma and to whom I am indebted—namely, Drs. Simon Kramer, Martha Southard and Carl Mansfield in Radiation Therapy, Drs. Jerome Dodd, Skip Lipshutz and Stephen Feig, Drs. Hermel and Murdock in diagnostic radiology, and Drs. Arthur Weiss, Harvey Brodovsky and Ralph Carabasi in Oncology and Endocrinology. I take this opportunity to acknowledge my chief and professor, who is sitting in the audience and who has been the inspiration and stimulus for many of the principles and precepts I believe in in the treatment of all patients with malignant disease, and to whom I will always be always grateful—Dr. George Willauer.

Thank you members of the Philadelphia Academy of Surgery for the honor of presenting this oration this evening.

Transactions of the Philadelphia Academy of Surgery

The Year 1969

A stated meeting of the Philadelphia Academy of Surgery was held in the College of Physicians on January 6, 1969 at 8:15 P.M. The President, Dr. George P. Rosemond, was in the chair. There were 92 members and guests present.

SCIENTIFIC PROGRAM

DR. ROBERT A. GROFF DR. PAUL A. THOMAS	A Memoir of Dr. Francis C. Grant Carotid Artery Injury *Discussed by:* DRS. TYSON and BLAKEMORE
MR. G. J. McGARRITY° DR. LEWIS CORIELL°	Medical Applications of Clean Rooms
DR. HERNDON LEHR	*Discussed by:* DRS. CORIELL and CASWELL
DR. JOSEPH DIACO° DR. LEONARD MILLER° DR. EDWARD COPELAND°	Acute Pancreatitis: Diagnostic and Therapeutic Implications *Discussed by:* DRS. NEMIR and HOWARD

A stated meeting of the Philadelphia Academy of Surgery was held in the College of Physicians on February 3, 1969 at 8:15 P.M. The President, Dr. George P. Rosemond, was in the chair. There were 79 members and guests present.

SCIENTIFIC PROGRAM

DR. WILLIAM H. WHITELEY, III DR. PAUL AMES, JR.°	A Memoir of Dr. J. Rudolph Jaeger Experiences in Surgery in a War Zone No discussion
DR. ROBERT G. TROUT°	A Staged Repair of a Bifid Sternum in a Premature Twin *Discussed by:* DR. LEMMON
DR. GORDON SCHWARTZ°	Solid Circumscribed Cancer of the Breast *Discussed by:* DRS. FINEBERG and ROSEMOND

°By invitation.

CONJOINT MEETING

The annual conjoint meeting of the Philadelphia Academy of Surgery and the New York Surgical Society was held in the University Club in New York on March 12, 1969. There were 42 members of the Philadelphia Academy of Surgery and the members of the New York Surgical Society present.

SCIENTIFIC PROGRAM

DR. HARRY GOLDSMITH DR. CASTILLO DR. BEATTIE	Correction of Experimental Renovascular Hypertension by Vascular Implantation of Kidney Cortex *Discussed by:* DR. TYSON
DR. H. DARDIK DR. I. DARDIK DR. LAUFMAN	Correlation of Venous Blood Oxygen and Tissue Oxygen with Augmentation of Collateral Flow Following Arterial Occlusion *Discussed by:* DR. NEMIR
DR. POWERS DR. SHAFTAN DR. HERBSMAN	Use of Arfonad and Pitressin in the Control of Experimental Portal Hemorrhage *Discussed by:* DR. BLAKEMORE
DR. LEVEEN DR. DIAZ DR. PICCONE DR. FALK	Surgical Approach to Diabetes Mellitus *Discussed by:* DR. HOWARD
DR. SIEGEL DR. WILLIAMS	A Computer Based Index for Pre-Operative Determination of the Probability of Operative Survival in Cirrhotic Patients Subject to Portal Decompression Procedures *Discussed by:* DR. SIGEL
DR. BOWMAN DR. MALM DR. HARRIS DR. KAISER	Further Evaluation of Aortic Valve Homografts Sterilized by Electron Beam Energy *Discussed by:* DR. TEMPLETON

A stated meeting of the Philadelphia Academy of Surgery was held in the College of Physicians on April 7, 1969 at 8:15 P.M. The Vice-President, Dr. Julian Johnson, was in the chair. There were 72 members and guests present.

SCIENTIFIC PROGRAM

DR. ROBERT K. JONES	A Brief Hisory of the Philadelphia Academy of Surgery *Discussed by:* DRS. DEAVER, NEMIR, and BUYERS

*By invitation.

DR. JUDAH FOLKMAN*	Tumor Angiogenesis *No Discussion*
DR. LEONARD I. GOLDMAN	Videotape as an Aid in Teaching Surgical Technique *Discussed by:* DR. SHEARBURN

A stated meeting of the Philadelphia Academy of Surgery was held in the College of Physicians on May 5, 1969 at 8:15 P.M. The President, Dr. George P. Rosemond, was in the chair.

SCIENTIFIC PROGRAM

DR. DONALD SMITH	Iatrogenic Problems Related to Esophagoscopy *Discussed by:* DRS. TEMPLETON, ROBERTS, ROSEMOND and NEAL
DR. JERRY B. ROGERS* DR. FREDERICK W. PAIRENT* DR. JOHN M. HOWARD*	Islet Cell Function in Chronic Pancreatitis *No Discussion*
DR. ARTHUR G. BAKER*	Longevity Following Resection of Abdominal Aortic Aneurysm *Discussed by:* DR. NEMIR

A stated meeting of the Philadelphia Academy of Surgery was held in the College of Physicians on October 6, 1969 at 8:15 P.M. The President, Dr. George P. Rosemond, was in the chair.

SCIENTIFIC PROGRAM

DR. J. L. ESHELMAN DR. S. J. DECOURCY, JR. DR. W. S. BLAKEMORE	Atabrine as an Adjuvant in Chemotherapy of Urinary Tract Infections *Discussed by:* DR. STUART MUDD
DR. WILLIS P. MAIER*	Pregnancy and Carcinoma of the Breast *Discussed by:* DR. R. ROBERT TYSON
DR. ROBERT K. JONES	A Variant Technique for Surgical Treatment of Syringomyelia *Discussed by:* DR. RICHARD DAVIS

A stated meeting of the Philadelphia Academy of Surgery was held in the College of Physicians on November 3, 1969 at 8:15 P.M. The Second Vice-President, Dr. William H. Erb, was in the chair. There were 86 members and guests present.

SCIENTIFIC PROGRAM

DR. GERALD MARKS* DR. WILLIAM V. CHASE*	The Fistula-in-ano with Abscess — An Analysis of Eleven Deaths *Discussed by:* DRS. INOUYE and ERB

*By invitation.

DR. HORACE MACVAUGH, III°	The Management of Left Atrial Myxoma *Discussed by:* DRS. BLAKEMORE, TEMPLETON and ERB
DR. JOHN GOSTIGIAN°	Massive Small Bowel Resection in the Neonate with Survival *Discussed by:* DRS. LIEBERT, PILLING, KOOP and CRESSON

A stated meeting of the Philadelphia Academy of Surgery was held in the College of Physicians on December 1, 1969 at 8:15 P.M. The President, Dr. George P. Rosemond, was in the chair. There were 91 members and guests present.

SCIENTIFIC PROGRAM

DR. EUGENE TRAGUS°	Extensive Use of the Palliative Intubation Procedure for Esophageal Carcinoma *Discussed by:* DR. DONNELLY
DR. LEROY STAHLGREN	A Study of Hemodynamic Changes in the Dumping Syndrome (Annual Oration)

°By invitation.

Report of the Secretary for the Year Ending December, 1969

The year 1969 was an active and interesting year for the Philadelphia Academy of Surgery. At the January meeting, the membership unanimously elected the incumbent officers of the previous year for another term. The seven stated meetings were attended by an average of sixty fellows and twenty-two guests.

The Conjoint Meeting of the Philadelphia Academy of Surgery with the New York Surgical Society was held in New York on March 12, 1969. Forty-two members of the Academy were guests of the New York Surgical Society. The Scientific Meeting consisted of six papers read by members of the host Society and discussed by members of the Philadelphia Academy of Surgery. A delightful social hour was then enjoyed by the members of both societies followed by dinner and extraordinary professional entertainment. Although the number of members attending the Conjoint Meeting was somewhat less than in previous years, those who made the trip reported a stimulating day of scientific papers and fellowship.

The Annual Oration was delivered by Dr. Leroy H. Stahlgren and was entitled "A Study of Hemodynamic Changes in the Dumping Syndrome."

Eleven surgeons were elected to Fellowship in the Academy during the year. The new members are: Drs. Morton D. Pareira, Leonard I. Goldman, Richard A. Davis, William K. Gorham, Edward D. McLaughlin, Robert G. Trout, Robert W. Crichlow, Harvey J. Lerner, David K. Wagner, Edward D. Coppola, and Henry H. Sherk. The membership in the Academy of Dr. Ward

O'Sullivan was reinstated upon his return to Philadelphia. Captain Robert J. Cales was elected to Armed Forces Fellowship in the Academy.

Drs. Robert Bucher, Hans May, and Drury Hinton were given inactive status during the year at their request. The resignations of Dr. Octavius P. Large and Dr. Eugene Spitz were accepted. The Academy voted Non-Resident Fellowship to Drs. Julio Davila and Newton Masson. One active member, Dr. Richard J. Chodoff, was transferred to Senior Membership.

Two memoirs were delivered for departed Fellows: for Dr. Francis C. Grant by Dr. Robert A. Groff; and for Dr. J. Rudolph Jaeger by Dr. William H. Whiteley, III.

At present the membership includes 113 Active Fellows, 44 Senior Fellows, 15 Non-Resident Fellows, 7 Inactive Fellows, and 3 Government Service Fellows.

During the year 1969 the Academy continued to mail programs to all Surgical Residents in the Philadelphia area.

Dr. Paul Nemir was appointed by the President to be the Representative of the Academy to the Specialty Groups of the Pennsylvania Medical Society, as well as our Liaison agent to the Philadelphia County Medical Society.

DONALD R. COOPER, M.D.
Secretary

The Year 1970

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on January 5, 1970 at 8:15 P.M. The Vice-President, Dr. Julian Johnson, was in the chair. There were 65 members and guests present.

SCIENTIFIC PROGRAM

DR. HARVEY LERNER DR. J. Y. TEMPLETON, III DR. MARY C. GODWIN	Concomitant Hydroxyurea and Radiotherapy in the Preoperative Management of Locally Advanced Lung Cancer *Discussed by:* DRS. ERB, HAUPT, RHOADS, BURNETT and JOHNSON
DR. HENRY H. SHERK DR. JESSE T. NICHOLSON	Anomalies and Injuries of the Atlas *Discussed by:* DR. LANGFITT
DR. GERALD M. LEMOLE°	Successful Removal of Massive Bilateral Pulmonary Emboli *Discussed by:* DRS. HAUPT, LEMMON and MORSE

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on February 2, 1970 at 8:15 P.M. The President, Dr. Julian Johnson, was in the chair. There were 68 members and guests present.

°By invitation.

SCIENTIFIC PROGRAM

DR. H. ALAN HUME	Treatment of Short Bowel Syndrome with Reversed Jejunal Loop *Discussed by:* DRS. BURNETT, STAHLGREN, RHOADS, JOHNSON, GOWEN and TRONCELLITI
DR. WILLIAM M. LEMMON°	Carotid Sinus Nerve Stimulator — Successful Clinical Application for Angina Pectoris No Discussion
DR. WILLIAM LIGHTFOOT	Intra-abdominal Intra-uterine Contraceptive Device *Discussed by:* DR. DE ALVAREZ

CONJOINT MEETING

The annual conjoint meeting of the Philadelphia Academy of Surgery and the New York Surgical Society was held in the College of Physicians on March 11, 1970 at 2:00 P.M. The President of the Philadelphia Academy of Surgery, Dr. Julian Johnson, shared the chair with Dr. Milton Porter. There were 58 members present as well as 48 members of the New York Surgical Society.

SCIENTIFIC PROGRAM

DR. GERALD MARKS° DR. JOHN Y. TEMPLETON, III	Rectal Reconstruction by Combined Abdominal-transsacral Approach *Discussed by:* DRS. LOCALIO, CASSEBAUM
DR. JOHN M. HOWARD	Radiologic and Histologic Correlation in Chronic Pancreatitis *Discussed by:* DRS. GLIEDMAN, PORTER
DR. DONALD R. COOPER	The Influence of Pregnancy Subsequent to Mastectomy on Survival of Breast Cancer Patients *Discussed by:* DRS. URBAN, CORNELL
DR. MOREYE NUSBAUM° DR. STANLEY BAUM° DR. WILLIAM S. BLAKEMORE	Bleeding Stress Ulcers Diagnosed and Treated by Selective Mesenteric Angiography and Drug Infusion *Discussed by:* DRS. KREEL, GRAFE
DR. FREDERICK A. REICHLE° DR. R. ROBERT TYSON	The Effect of Portocaval Shunt on Hepatic Amino Acid Metabolism *Discussed by:* DRS. PRICE, NEALON

°By invitation.

DR. LEONARD D. MILLER° DR. JONATHAN E. RHOADS	Biochemical Aspects of Oxygen Delivery on Surgical Patients *Discussed by:* DRS. KINNEY, McSHERRY, CLIFFTON

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on April 6, 1970 at 8:15 P.M. The Vice-President, Dr. Orville C. King, was in the chair. There were 55 members and guests present.

SCIENTIFIC PROGRAM

DR. JOEL DEUTSCH	Diagnosis and Management of Pancreatic Pseudocysts *Discussed by:* DRS. HOWARD, WAGNER and ADAMS
DR. GEORGE COWAN	Paraplegia Following Infrarenal Aortic Resection for Abdominal Aortic Aneurysm *Discussed by:* DRS. NEMIR, NEAL, ROBERTS and TYSON
DR. EZRA STEIGER DR. JAMES M. LONG DR. DOUGLAS W. WITMORE	Intravenous Essential L-amino Acids in Renal Failure

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on May 4, 1970 at 8:15 P.M. The President, Dr. Julian Johnson, was in the chair. There were 81 members and guests present.

SCIENTIFIC PROGRAM

DR. CHIJEN CHEN°	Exsanguinating Hemorrhage Following Oddian Sphincterotomy *Discussed by:* DRS. RHOADS and FINEBERG
DR. F. DANA LAW	Thoracic Outlet Syndrome *Discussed by:* DRS. ROBERTS, STAYMAN, STEELE and DONNELLY
DR. MICHAEL B. BUTLER°	Major Hepatic Injury from Blunt Trauma *Discussed by:* DRS. TEMPLETON, NEMIR and FINEBERG

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on October 5, 1970 at 8:15 P.M. The President, Dr. Julian Johnson, was in the chair. There were 93 members and guests in attendance.

°By invitation.

SCIENTIFIC PROGRAM

DR. CHARLES E. BAILEY	Reconstruction of the Mitral Valve with Autologous Tissue *Discussed by:* DRS. BLAKEMORE and JOHNSON
DR. TERUO MATSUMOTO°	The Use of Tissue Adhesives in Surgery *Discussed by:* DR. CHARLES BAILEY and DR. WOLFERTH
DR. JOHN E. HOPKINS	Transverse Colostomy — An Appraisal *Discussed by:* DRS. THOMAS and SHEARBURN

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on November 2, 1970 at 8:15 P.M. The President, Dr. Julian Johnson, was in the chair. There were 86 members and guests present.

SCIENTIFIC PROGRAM

DR. HARVEY J. SUGERMAN° DR. HENRY D. BERKOWITZ° DR. LEONARD D. MILLER°	Treatment of Hepato-renal Syndrome with Metaraminol *Discussed by:* DRS. BLAKEMORE and RHOADS
DR. H. TAYLOR CASWELL DR. WILLIS P. MAIER	Results of the Surgical Treatment of Hyperthyroidism *Discussed by:* DRS. ERB and MILLER
DR. STANTON SMULLENS° DR. ROBERT SOLIT° DR. WILLIAM FRAIMOW°	Surgical Implications of Pulmonary Aspergilloma (Fungus Ball) of the Lungs *Discussed by:* DRS. TEMPLETON, MOSS and THOMAS

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on December 7, 1970 at 8:15 P.M. There were 97 members and guests present. The President, Dr. Julian Johnson, was in the chair.

SCIENTIFIC PROGRAM

DR. HARRY C. BISHOP	Appendectomy by Inversion: Some Complications and a Modification of the Technique *Discussed by:* DRS. CRESSON and GRIMES
DR. GERALD MARKS	Clinical Experience with a Flexible Fiber Optic Colonoscope No Discussion
DR. BROOKE ROBERTS	The Future of Teaching Hospitals in Philadelphia (Annual Oration)

°By invitation.

Report of the Secretary for the Year Ending December, 1970

During the year 1970 the Philadelphia Academy of Surgery progressed in a traditional, yet active manner. Attendance during the year was relatively stable in comparison to previous reports, averaging 51 active members, 9 senior members, and 16 guests. The caliber of the papers selected by the Business Committee for the scientific meetings reflected the scholarly activities of the membership and were well-received and discussed.

The Conjoint Meeting of the Philadelphia Academy of Surgery with New York Surgical Society was held at the Philadelphia College of Physicians in 1970. Six interesting scientific papers were heard by 58 members of the Philadelphia Academy, 48 guests from the New York Surgical Society, and 12 other guests. Following the Scientific Meeting the members of both societies adjourned to the Union League for an informal social gathering with cocktails, dinner, and an interesting address by Dr. Ed Rose entitled "An Internist Looks at the Surgeon."

The Annual Oration in 1970 was delivered by Dr. Brooke Roberts and was entitled "The Future of Teaching Hospitals in Philadelphia."

Eleven surgeons were elected to fellowship in the Academy during the year of 1970. The new members are as follows: Drs. Peter V. Moulder, John J. Gostigian, Willis P. Maier, Manrico H. Troncelliti, Charles S. Krueger, Leonard D. Miller, Gerald J. Marks, Horace MacVaugh, III, William P. Lightfoot, Clyde F. Barker, and Joel Deutsch.

Inactive status was conferred upon Drs. Lloyd Greene, James B. Mason, and James Schell; and Dr. Thomas Ainsworth was made a Non-Resident Fellow. At the present time there are 125 active fellows, 40 senior fellows, 17 non-resident fellows, 10 inactive fellows, and 2 government service fellows. Activities to increase the interest of surgical residents in the Academy were continued in 1970. Programs were mailed to all surgical residents in the Philadelphia area, and dinners for chief residents were arranged by Dr. Frobese prior to several of the meetings of the Academy.

Dr. Edwin Shearburn was appointed by the President to represent the Academy on the Pennsylvania Medical Society Surgical Advisory Committee.

DONALD R. COOPER, M.D.
Secretary

The Year 1971

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on January 4, 1971 at 8:15 P.M. The President, Dr. Julian Johnson, was in the chair. There were 70 members and guests present.

SCIENTIFIC PROGRAM

DR. WILLIAM C. STAINBACK	Memoir of Dr. Alan Parker
DR. HARRY GOLDSMITH°	Liver Revascularization by Direct Arterial Implantation *Discussed by:* DR. JOHNSON

°By invitation.

DR. MORTON H. PERLMAN° — Inferior Vena Cava Interruptions: Plication vs. Ligation
Discussed by: DRS. BLAKEMORE, WOLFERTH, TEMPLETON, NEMIR and LEMMON

DR. CHARLES V. BURTON° — RF Telethermocoagulation, a New Neurosurgical Tool
No Discussion

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on February 1, 1971 at 8:15 P.M. The President, Dr. Julian Johnson, was in the chair. There were 79 members and guests present.

SCIENTIFIC PROGRAM

DR. PAUL A. THOMAS — A Correlation of Histopathology and Pulmonary Surfactant in Canine Lung Allografts
Discussed by: DRS. JOHNSON, BLAKEMORE and DONNELLY

DR. MANRICO A. TRONCELLITI — The Ileal Bypass for Intractable Obesity, Experience with 120 Cases
Discussed by: DRS. BURNETT, HOWARD, ERB and STAINBACK

DR. THOMAS AINSWORTH, JR. — Immediate Full Weight Bearing in the Treatment of Fractured Hips
Discussed by: DR. STEEL

CONJOINT MEETING

The annual conjoint meeting of the Philadelphia Academy of Surgery and the New York Surgical Society was held at the University Club in New York on March 10, 1971 at 2:00 P.M. Dr. Donald Davis of the New York Surgical Society shared the chair with Dr. Julian Johnson. There were 50 members present as well as the members of the New York Surgical Society.

SCIENTIFIC PROGRAM

DR. FRANK C. SPENCER
DR. GEORGE GREEN°
DR. DAVID TICE
DR. EPHRAIM GLASSMAN° — Bypass Grafts for Coronary Artery Disease: Experiences with 90 Patients
Discussed by: DR. BLAKEMORE

DR. MOHAMAD H. PARSA°
DR. JOSE M. FERRER
DR. DAVID V. HABIF
RITA LIPTON°
DR. PAUL KILLIAN°
DR. KENNETH FORDE° — Parenteral Nutrition with Pure L-Amino Acids and Hypertonic Glucose Solution
Discussed by: DR. RHOADS

°By invitation.

DR. HARRY H. LEVEEN
DR. CARLOS DIAZ°
DR. GERALD FALK°
DR. MICHAEL D. YARNOZ° — The Control of Gastrointestinal Bleeding
Discussed by: DR. STAHLGREN

DR. WILLIAM F. MITTY, JR.
DR. JOHN R. SLATTERY°
DR. THOMAS F. NEALON, JR.
DR. CARLO E. GROSSI — Stress Ulcer: Diagnostic and Therapeutic Dilemma
Discussed by: DR. WOLFERTH

DR. F. J. VEITH
DR. S. KOERNER°
DR. S. SIEGELMAN°
DR. J. HAGSTROM°
DR. M. L. GLIEDMAN — Studies in Lung Transplantation
Discussed by: DR. THOMAS

DR. ISAAC LEWIN°
HOWARD MARX°
DR. ARTHUR G. LERNER°
DR. STEPHEN H. GREEN°
DR. MICHAEL J. LEVINE°
DR. RITA McCONN°
DR. LOUIS R. DEL GUERCIO
DR. JOHN H. SIEGEL — Myocardial Function and Pulmonary Oxygen Gradient as Predictors of Operative Mortality in the Aged General Surgical Patient
Discussed by: DR. TEMPLETON

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on April 5, 1971 at 8:15 P.M. The President, Dr. Julian Johnson, was in the chair. There were 64 members and guests present.

SCIENTIFIC PROGRAM

DR. KIRKLEY WILLIAMS° — Horseshoe Kidney in Association with Aortic Aneurysm
Discussed by: DRS. ROBERTS, TYSON and NEMIR

DR. DAVID K. WAGNER — Pediatric Inguinal Herniography
Discussed by: DRS. SHEARBURN, GRIMES and LIEBERT

DR. JOEL DEUTSCH
DR. PASCHAL SPAGNA
DR. TOSE MORALES — Umbilical Vein Infusion for Multiple Liver Abscesses
No Discussion

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on May 3, 1971 at 8:15 P.M. The President, Dr. Julian Johnson, was in the chair. There were 98 members and guests present.

°By invitation.

SCIENTIFIC PROGRAM

DR. JOHN Y. TEMPLETON, III	Aorta Coronary Artery Vein Grafts *Discussed by:* DRS. JOHNSON, BLAKEMORE, MORRIS and NEMIR
DR. NORRIS K. CULF°	The Use of Silastic Rods in the Management of Multiple Flexor Tendon Injuries of the Hand *Discussed by:* DR. ROYSTER
DR. JAMES P. BOLAND	The Use of Arteriovenous Oxygen Difference in Monitoring Surgical Patients *Discussed by:* DR. BLAKEMORE

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on October 4, 1971 at 8:15 P.M. The President, Dr. Julian Johnson, was in the chair. There were 126 members and guests present.

SCIENTIFIC PROGRAM

DR. HENRY BERKOWITZ° DR. CHARLES GLAVIN	Evaluation of Foam Lined Vascular Grafts *Discussed by:* DR. NEMIR
DR. JOSEPH M. HOEFFEL, JR.	Stromal Sarcoma of the Breast No Discussion
DR. SAMUEL S. LYNESS°	Neurological Deficit Following Cervical Manipulation *Discussed by:* DR. SIMEONE

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on November 1, 1971 at 8:15 P.M. The President, Dr. Julian Johnson, was in the chair. There were 109 members and guests present.

SCIENTIFIC PROGRAM

DR. HARRY M. NELSON, JR.° DR. ROBERT J. BYRNE°	Functional Restoration of the Lower Extremity after Incomplete Supracondylar Traumatic Amputation *Discussed by:* DRS. RHOADS, HARDESTY and NICHOLSON
DR. PASCHAL SPAGNA° DR. JOSE PEREZ°	The Role of Furosemide in Acute Hyperparathyroid Crisis *Discussed by:* DRS. CASWELL and HOWARD
DR. FREDERICK A. REICHLE '	Surgical Removal of Schistosomes by Portal Filtration in Man *Discussed by:* DR. KERN

°By invitation.

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on December 6, 1971 at 8:15 P.M. The President, Dr. Julian Johnson, was in the chair. There were 103 members and guests present.

SCIENTIFIC PROGRAM

DR. EOIN ABERDEEN°	The Place of Tracheostomy in Pediatric Surgery *Discussed by:* DRS. MOULDER, MOORE, RANDALL and O'NEILL
DR. ROBERT J. JONES	The Carpal Tunnel Syndrome *Discussed by:* DRS. HUNTER and STAINBACK
DR. WILLIAM T. FITTS	The Surgeon and Emergency Medicine (Annual Oration)

°By invitation.

Report of the Secretary for the Year Ending December, 1971

The year 1971 could be considered a successful one for the Philadelphia Academy of Surgery. The most noteworthy innovation during the year was the decision by the Council and the Membership to try a series of dinners for the members and their guests prior to the stated meetings. Three such dinners were held at the October, November and December meetings of 1971. The initial success of this program is manifested not only by the obvious enjoyment of the fellowship by the members, but more specifically by an increase in attendance at the meetings. The attendance at the meetings of the Academy over the past several years has averaged approximately 75, including members and guests. The attendance at meetings which were preceded by dinners for the Membership averaged 105. The scientific papers presented during the year were well received by the membership. The Conjoint Meeting of the Philadelphia Academy of Surgery with the New York Surgical Society in 1971 was held in New York on March 10th. Fifty members of the Philadelphia Academy were guests of the New York Surgical Society. Six interesting papers were delivered by the host organization and discussed by the members of the Academy. Following the scientific meeting, the two societies enjoyed the fellowship of an informal social gathering and were treated to a delightful speech by Mr. Herschfeld.

The Annual Oration for 1971 was delivered by Dr. William T. Fitts. Dr. Fitts' title was "The Surgeon and Emergency Medicine."

During the year 1971 the Samuel D. Gross Prize Committee awarded a prize to Dr. Frederick A. Reichle for his essay entitled "Hepatic Metabolism in Human Cirrhosis: The Effect of Portacaval Shunt on Liver and Brain Metabolism."

The following surgeons were elected to fellowship to the Philadelphia Academy of Surgery during the year 1971: Dr. Paul Thomas, Dr. Chijen Chen, Dr. Benjamin Bacharach, Dr. Harry Bishop, Dr. Francis Rosato, and Dr. Frederick Reichle. Armed Forces Fellowship was conferred upon Capt. Stephen Mucha and Col. Roscoe Mason.

Non-Resident Membership in the Academy was accorded to Drs. Robert G. Johnson, Morton Pareira, Robert Swartley, and Edward Coppola. The requests of Dr. Edwin Ristine for Inactive status and Dr. William Parker for resignation were granted. At the conclusion of 1971 the membership list included the following: Active Fellows, 122; Senior Fellows, 43; Non-Resident Fellows, 19; Inactive Fellows, 16.

DONALD R. COOPER, M.D.
Secretary

The Year 1972

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on January 3, 1972 at 8:15 P.M. The President, Dr. Julian Johnson, was in the chair. There were 83 members and guests present.

SCIENTIFIC PROGRAM

DR. MAHIN BEBEHANIAN* DR. EDWIN W. SHEARBURN	Cholecystectomy in Patients 65 Years of Age and Older *Discussed by:* DRS. NEMIR, FITTS and MORRIS
DR. ALEX W. ULIN	Bucrylate Tissue Adhesives: Clinical Considerations *Discussed by:* DR. WOLFERTH
DR. GEORGE F. GOWEN	Penetrating Wounds of the Chest and Abdomen: An Experience with 268 Patients *Discussed by:* DR. CASWELL

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on February 7, 1972 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 84 members and guests present.

SCIENTIFIC PROGRAM

DR. SERGIUS PECHIN	The Use of the AV Fistula for Hemodialysis in a Community Hospital *Discussed by:* DRS. BOWER and CARTY
DR. JEWELL OSTERHOLM	Successful Prevention of Paralysis after Experimental Spinal Injury *Discussed by:* DR. JONES
DR. JACK WHITE	Gastro-colic Reduplication with Fistulization *Discussed by:* DR. TYSON

*By invitation.

CONJOINT MEETING

The annual conjoint meeting of the New York Surgical Society and the Philadelphia Academy of Surgery was held in the College of Physicians on March 8, 1972 at 2:00 P.M. The President of the Philadelphia Academy of Surgery, Dr. William Erb, and the President of the New York Surgical Society, Dr. William Metcalf, jointly presided. There were 91 members and guests present, as well as 36 members of the New York Surgical Society.

SCIENTIFIC PROGRAM

DR. R. ROBERT TYSON	Femorotibial By-Pass with Autogenous Saphenous Vein Graft for Salvage of the Ischemic Lower Extremity—An 8½-Year Follow-up *Discussed by:* DRS. LORD and DELAURENTIS
DR. JOHN Y. TEMPLETON, III DR. LESLIE WIENER DR. HRATCH KASPARIAN DR. ALBERT BREST DR. BENJAMIN BACHARACH DR. PAUL NOBLE DR. STANTON N. SMULLENS	Evaluation and Surgical Management of Acute Evolving Myocardial Infarction *Discussed by:* DRS. EBERT and JOHNSON
DR. PAUL A. THOMAS	Pulmonary Surfactant and Histopathology Observations from the Study of 106 Patients *Discussed by:* DR. KINNEY
DR. C. EVERETT KOOP DR. RUDOLF STAROSCIK DR. MOHAMED EL SHAFIE	Splenectomy in Children *Discussed by:* DRS. SCHNEIDER and PILLING
DR. STANLEY DUDRICK DR. C. VAN BUREN DR. L. DWORKIN DR. E. BAUMBAUER DR. J. M. LONG	The Influence of Essential L-Amino Acids on Nitrogen Metabolism in Bilaterally Nephrectomized Dogs *Discussed by:* DR. FERRER
DR. JOHN HOWARD	Unusual Cysts of the Pancreas *Discussed by:* DR. PORTER

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on April 3, 1972 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 82 members and guests present.

SCIENTIFIC PROGRAM

DR. JOHN J. MURPHY	Management of Ureteropelvic Junction Obstruction *Discussed by:* DR. ROSATO

DR. ERNEST F. ROSATO DR. CHARLES J. BUTLER DR. ROBERT GROSSMAN DR. JAMES L. MULLEN DR. PHILIP V. SKERRETT DR. FRANCIS E. ROSATO	The Effect of Alcohol on Duodenal-Pancreatic Reflux *Discussed by:* DRS. NEMIR, MURPHY and ROSEMOND
DR. FREDERICK A. REICHLE	Hepatic Metabolism in Human Cirrhosis: The Effect of Porto-caval Shunt on Liver and Brain Metabolism°° No Discussion

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on May 1, 1972 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 76 members and guests present.

SCIENTIFIC PROGRAM

DR. DONALD DESANTIS	The Use of Intra-Arterial Vasopressin in Poor Risk Patients with Massive Gastro-intestinal Bleeding *Discussed by:* DRS. MATSUMOTO and NUSBAUM
DR. WILLIAM MULLIS DR. ERNEST ROSATO DR. FRANK ROSATO DR. GERALD MARKS	Review of Glomus Tumors *Discussed by:* DR. ERB Transverse Fixation for the Treatment of Rectal Prolapse *Discussed by:* DR. GRIMES
DR. RALPH HAMILTON DR. HERNDON LEHR	Recovery of Small Intestine from Freezing Damages *Discussed by:* DRS. LEHR and NEMIR

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on September 25, 1972 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 109 members and guests present.

SCIENTIFIC PROGRAM

DR. HARRY S. GOLDSMITH DR. EDGARDO ALDAY DR. JOSE CASTILLO	Experimental Reconstruction of the Esophagus No Discussion
DR. VINCENT W. LAUBY DR. WILLIS P. MAIER DR. GEORGE P. ROSEMOND	Colon Bypass for Squamous Cell Carcinoma of the Thoracic Esophagus *Discussed by:* DRS. MACVAUGH, TEMPLETON, GRIMES, CRESSON and BISHOP

°° Samuel D. Gross Oration and prize winning essay, 1972.

DR. TERUO MATSUMOTO DR. MARTIN F. HAYES, JR.	Acupuncture and Acupuncture Anesthesia No Discussion
DR. LINTON A. WHITAKER DR. H. B. LEHR DR. S. B. ASKOWITZ	Cancer of the Tongue: Evaluation of Treatment Methods *Discussed by:* DRS. ROYSTER and LIPSHUTZ

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on November 6, 1972 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 110 members and guests present.

SCIENTIFIC PROGRAM

DR. EDWIN LONG° DR. PETER MOULDER	Experimental Prosthetic Grafting in the Venous Circulation *Discussed by:* DRS. NEMIR, TYSON and DELAURENTIS
DR. S. GRANT MULHOLLAND DR. JOHANN BRUUN DR. GERARD MCGARRITY DR. WILLIAM S. BLAKEMORE	Computerized Nosocomial Infection Surveillance – Effect on Clinical Practice *Discussed by:* DRS. MURPHY, CASWELL and HOWARD
DR. WILLIS P. MAIER DR. PETER TOMASELLO DR. T. WISTAR BROWN	Hepatic Lobectomy Utilizing an Inferior Vena Caval Catheter *Discussed by:* DRS. MOULDER and DEUTSCH
DR. JOHN GARTLAND	Total Hip Replacement *Discussed by:* DR. MOORE

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on December 4, 1972 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 109 members and guests present.

SCIENTIFIC PROGRAM

DR. GERALD MARKS	The Impact of Flexible Fiberoptic Colonoscopy and Polypectomy on Polypoid Disease of the Colon *Discussed by:* DRS. JONG and MATSUMOTO
DR. JOHN W. DUCKETT, JR. DR. JOHN F. LIFLAND DR. PAUL C. PETERS	Resection of the Inferior Vena Cava for Adjacent Malignant Disease *Discussed by:* DRS. STAINBACK and DELAURENTIS
DR. JAMES G. BASSETT	True and False in the World of Wounds (Annual Oration)

°By invitation.

Report of the Secretary for the Year Ending December, 1972

The year 1972 would have to be considered a successful year for the Philadelphia Academy of Surgery since the attendance was up approximately 25%. Because of the success of the pre-meeting dinners during the preceding year, it was decided by the Membership that there would be a dinner preceding each meeting of the Academy beginning October 1972. These dinners were well attended by the Fellows and their guests and were highlighted by the remarks of President Erb concerning some of the interesting high spots and history of American surgery. It is likely these dinners were responsible for some of the increase in the attendance of the meetings. The Fellowship continued to enjoy first-rate papers presented by the members and their guests.

The Conjoint Meeting of the Philadelphia Academy of Surgery with the New York Surgical Society in 1972 was held at the Philadelphia College of Physicians on March 8th. The Scientific Program was followed by a dinner at the Union League. Mr. Donald Barnhouse, well-known radio and television commentator, addressed the group, his title being "A Layman's View of the Surgical Profession." Short addresses were also given by Drs. Jonathan Rhoads, William Metcalf, and Pete Roussolot.

The Annual Oration for 1972 was delivered by Dr. James G. Bassett. Dr. Bassett's title was "True and False in the World of Wounds."

The following surgeons were elected to active fellowship in the Philadelphia Academy of Surgery during the year 1972: Dr. Teruo Matsumoto, Dr. Morton H. Perlman, Dr. Arthur G. Baker, Dr. Harry S. Goldsmith, Dr. Harry S. Nelson, Dr. Stanton N. Smullens, Dr. Kirkly R. Williams, Dr. Paschal Spagna, Dr. Eoin Aberdeen, Dr. Samuel S. Lyness, and Dr. Jack C. White.

Dr. Albert Behrend was accorded Non-Resident Fellowship in the Academy.

DONALD R. COOPER, M.D.
Secretary

The Year 1973

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on January 8, 1973 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 100 members and guests present.

SCIENTIFIC PROGRAM

DR. JONATHAN E. RHOADS	Memoir of Dr. Robert Ravdin
DR. DONALD BILLIG°	Surgical Management of Lesions of the Left Ventricular Outflow Tract *Discussed by:* DR. ABERDEEN
DR. LOUIS PLZAK°	Metabolic Aspects of Coronary Artery Surgery *Discussed by:* DR. BLAKEMORE

°By invitation.

DR. WILLIAM LIGHTFOOT DR. JOHN HALL DR. T. WISTAR BROWN, V° DR. R. ROBERT TYSON	Spontaneous Perforation of the Esophagus *Discussed by:* DRS. NORRIS and TYSON
DR. DAVID L. PASKIN°	Air Emboli via Subclavian Intracath Tract, Immediately Following Catheter Removal *Discussed by:* DR. SHEARBURN

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on February 5, 1973 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 106 members and guests present.

SCIENTIFIC PROGRAM

DR. JONATHAN E. RHOADS	Memoir of Dr. I. S. Ravdin
DR. DRYDEN MORSE	Memoir of Dr. Henry T. Nichols
DR. JAMES O. FINNEGAN° DR. JAMES P. BOLAND	Penetrating Injuries of the Heart: Traumatic Ventricular Septal Defect *Discussed by:* DRS. BLAKEMORE, LEMMON, JOHNSON, TRONCELLITI and THOMAS
DR. HAZEL HOLST°	Current Management of Fingertip Injuries *Discussed by:* DRS. LEHR, OAKEY and GRIMES
DR. WILLIAM HARDESTY	Pheochromocytoma *Discussed by:* DR. CASWELL
DR. RICHARD GROSS°	Non-Beta Cell Tumor of the Pancreas without Ulcer *Discussed by:* DRS. HOWARD, RHOADS and MOSS

CONJOINT MEETING

The annual conjoint meeting of the Philadelphia Academy of Surgery and the New York Surgical Society was held at the University Club in New York at 2:30 P.M. on March 14, 1973. There were 51 members of the Philadelphia Academy of Surgery present.

SCIENTIFIC PROGRAM

DR. I. R. BERMAN DR. A. C. SOLOWAY° DR. J. L. GROSFELD° DR. P. PATTENGALE° R. L. SCHIFFMAN°° B. A. ADELMAN°	Experimental Model for Traumatic Wet Lung in Primates *Discussed by:* DR. TEMPLETON

°By invitation.

DR. J. C. WHITSELL, II DR. WILLIAM STUBENBORD DR. A. RUBIN° DR. K. STENZEL° DR. ROBERT RIGGIO° DR. GABRIEL SCHWARTZ°	Renal Transplantation: A Nine Year Experience with Two Hundred Renal Transplants *Discussed by:* DR. BARKER
DR. A. E. PAPATESTAS° DR. A. E. KARK	The Rationale for Thymectomy and Its Effect on Oncogenesis *Discussed by:* DR. GOLDMAN
DR. JOSEPH G. FORTNER DR. WILLIAM S. HOWLAND° DR. DAVID W. KINNE° DR. RICARDO LAVARELLO° DR. DONG KIM° DR. ARIEL SOLIS° DR. EDWARD J. BEATTIE, JR.	Further Experience in the Surgical Treatment of Primary or Metastatic Cancer in the Liver *Discussed by:* DR. SIGEL
DR. JOHN M. STEIN DR. ELIZABETH D. STEIN°	Hyperosmolar, Hyperglycemic, Nonketotic Coma in Patients with Major Burns *Discussed by:* DR. LEHR
DR. MERRITT R. HAIT° DR. CHARLES R. BLAIR DR. HUGH F. FITZPATRICK	Microcrystalline Collagen Hemostat *Discussed by:* DR. ULIN

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on April 9, 1973 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 92 members and guests present.

SCIENTIFIC PROGRAM

DR. ALBERT MARTIN	A Case Report: Multilocular Cystadenoma of the Liver *Discussed by:* DRS. DEAVER and HOWARD
DR. DOMINIC DELAURENTIS DR. CHARLES WOLFERTH, JR. DR. DAVID NAIDE DR. A. NEDWICK	Adventitial Cystic Degeneration of the Popliteal Artery in an Eleven-Year-Old Girl *Discussed by:* DR. TYSON
DR. WILLIAM C. STAINBACK DR. KJELL CHRISTIANSEN DR. JAMES SALVA	Complementary Tube Cecostomy: An Evaluation of 16 Years Experience with 235 Cases *Discussed by:* DRS. COOPER, ROSEMOND, RHOADS and ERB

°By invitation.

DR. HOWARD RICHTER°	Percutaneous Stereotaxic Radio Frequency Coagulation of the Gasserian Ganglion and Rootlets for Facial Pain *Discussed by:* DRS. BURDEN and WYCKLEY

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on May 7, 1973 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 83 members and guests present.

SCIENTIFIC PROGRAM

DR. WILLIAM C. STAINBACK	Memoir of Dr. Frederick Robbins
DR. PETER MOULDER	Time Series Analysis of Pulmonary Vein Pressures *Discussed by:* DRS. BLAKEMORE and NEMIR
DR. DAVID PECORA° DR. HANNIBAL HAMLIN	The Anterior Sub-Clavicular Operation for Thoracic Outlet Syndrome *Discussed by:* DRS. STAYMAN and NEMIR
DR. A. MONEIM A. FADALI°	Transpericardial Repair of Hiatus Hernia Concomitant with Direct Mammary-Coronary Artery By-pass *Discussed by:* DR. MACVAUGH
DR. PETER LIEBERT° DR. SYLVAN E. STOOL	Rhabdomyosarcoma of the Tongue in an Infant: The Results of Combined Localized Therapy *Discussed by:* DR. CRESSON

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on October 1, 1973 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 87 members and guests present.

SCIENTIFIC PROGRAM

DR. MANRICO TRONCELLITI	Memoir of Dr. James Carty
DR. J. TERRANCE DAVIS	Retroperitoneal Teratoma: Case Report and Review of the Literature *Discussed by:* DR. PILLING
DR. STANLEY K. BROCKMAN DR. MARIO FEOLA	The Pathophysiology and Surgical Treatment of Phlegmasia Cerulea Dolens *Discussed by:* DRS. TYSON, STAINBACK and HARRIS

°By invitation.

DR. JOSEPH N. CORRIERE DR. JOHN J. MURPHY	Urinary Particle Dynamics: A Tracer Technique for the Study of Urinary Tract Infection and Vesicoureteral Reflux *Discussed by:* DR. MURPHY
DR. PAUL GONICK	Urological Reconstruction Following Radiation for Gynecological Malignancy *Discussed by:* DR. MARKS, MURPHY and DAVIS

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on November 5, 1973 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 87 members and guests present.

SCIENTIFIC PROGRAM

DR. GEORGE J. HAUPT	Memoir of Dr. John H. Gibbon, Jr.
DR. MARION McNAMARA* DR. ANGEL BASSUK* DR. JAMES P. BOLAND	Clinical Experience with Vena Cava Filter *Discussed by:* DRS. WOLFERTH and BOLAND
DR. JOHN COSSA*	The Stress Ulcer Syndrome *Discussed by:* DRS. THOMAS and WOLFERTH
DR. HAL E. SNEDDEN*	Arthroplasty of First Metatarsal Phalangeal Joint with Silastic Finger Prosthesis *Discussed by:* DR. MOORE

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on December 3, 1973 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 100 members and guests present.

SCIENTIFIC PROGRAM

DR. KEUK Y. YUM*	Colonoscopy and Polypectomy *Discussed by:* DR. WEST
DR. W. ROBERT FELIX*	Doppler Ultrasound Examination in the Evaluation of the Pulseless Foot *Discussed by:* DR. ROBERTS
DR. LLOYD W. STEVENS	Ulcerative Colitis — At This Point in Time (Annual Oration)

*By invitation.

Report of the Secretary for the Year Ending December, 1973

As judged by the following activities, the year 1973 would have to be considered an active and productive year for the Philadelphia Academy of Surgery. Since the introduction of the pre-meeting dinners, attendance has remained approximately 25% higher than heretofore. The dinners have remained popular with the Membership and the Scientific Meetings were of high caliber and were well-attended by both members and guests.

Perhaps the most important piece of business which claimed the attention of both the Council and the Membership during the year 1973 was the report of an Ad Hoc Committee headed by Dr. Julian Johnson. In effect the resolution submitted by the Committee considered it the policy of the Philadelphia Academy of Surgery that its members not accept fees over and above reasonable expenses for testimony in malpractice cases. Although the deliberations of the Council, the Membership and our Legal Councils delayed actual passage of this resolution during the year 1973, it is nonetheless true that the work has been nearly completed, and it is expected that final passage will occur at the first meeting of 1974. The enthusiastic support of President William Erb played a large part in bringing to a conclusion the work on this resolution and the change in the bylaws to back it up.

For the first time the Philadelphia Academy of Surgery was invited to appoint a delegate and an alternate to the House of Delegates of the Pennsylvania Medical Society. Dr. Francis Schumann was duly appointed as our delegate and Dr. William P. Lightfoot as our alternate delegate.

Dr. Brooke Roberts was renominated as our member of the Interspecialty Committee of the Pennsylvania Medical Society.

As a result of the efforts of Dr. Robert Tyson to bring better medical care to the prison inmates, several members of the Philadelphia Academy of Surgery volunteered their services, free of charge, for surgical consultations to the prisons.

During the year 1973, the Academy lost five fellows by death and two by resignation. Two of our members became non-resident fellows and two members were dropped from the roles of the Academy because of non-participation.

The following surgeons were elected to fellowship in the Academy during the year 1973: Dr. Edwin Tutt Long, Dr. John W. Duckett, Dr. Hazel Irene Holst, Dr. Donal M. Billig, Dr. A. Moneim A. Fadali.

DONALD R. COOPER, M.D.
Secretary

The Year 1974

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on January 7, 1974 at 8:15 P.M. The President, Dr. William Erb, was in the chair. There were 73 members and guests present.

SCIENTIFIC PROGRAM

DR. GEORGE GOWEN	Ileofemoral Venous Thrombosis *Discussed by:* DRS. ROBERTS, DeLAURENTIS and BOLAND
DR. L. HENRY EDMUNDS, JR.	Heart Surgery in Newborns *Discussed by:* DR. BILLIG
DR. S. F. WEINSTEIN	Exploratory Mini-Laparotomy and the Diagnosis of Jaundice *Discussed by:* DRS. BURNETT, GRIMES and ERB

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on February 4, 1974 at 8:15 P.M. The President, Dr. John Y. Templeton, III, was in the chair. There were 64 members and guests present.

SCIENTIFIC PROGRAM

DR. HUNTER S. NEAL DR. TILDE KLINE*	Pancreatitis vs. Malignancy – Diagnosis by Needle Biopsy and Cytology *Discussed by:* DR. SHEARBURN
DR. PAUL D. ZIMSKIND*	Effects of Caffeine on the Canine Bladder *Discussed by:* DRS. MURPHY and RAZOR
DR. TARO YOKOYAMA* DR. ROBERT BOWER	Renal Transplantation *Discussed by:* DRS. THOMAS and BOWER

CONJOINT MEETING

The annual conjoint meeting of the New York Surgical Society and the Philadelphia Academy of Surgery was held in the College of Physicians at 2:00 P.M. on March 6, 1974. The President of the Philadelphia Academy of Surgery, Dr. John Y. Templeton, III, and the President of the New York Surgical Society, Dr. W. Graham Knox, jointly presided. There were 285 members and guests present.

SCIENTIFIC PROGRAM

DR. ROBERT D. SMINK, JR. DR. RICHARD N. MYERS	Hyperalimentation – 5 Years Experience *Discussed by:* DR. LEVENSON
DR. M. A. TRONCELLITI	Ilial Bypass Procedures for Obesity – 16 Years Experience *Discussed by:* DR. KNOX
DR. ARNOLD P. BERMAN	The Cardiovascular Effects of Methyl Methacrylate *Discussed by:* DR. KEENAN

*By invitation.

DR. HENRY D. BERKOWITZ DR. LEONARD D. MILLER	Renin Substrate and the Hepatorenal Syndrome *Discussed by:* DR. PRICE
DR. WILLIAM A. BUCHHEIT DR. FREDERICK MURTAGH	Microneurosurgical Management of Acoustic Neuromas with Preservation of Functional Hearing and Facial Activity *Discussed by:* DR. JACOBSON
DR. H. TAYLOR CASWELL DR. WILLIS P. MAIER	The Use of Tolonium Chloride in the Localization of Parathyroid Glands *Discussed by:* DR. FEIND

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on April 1, 1974 at 8:15 P.M. The President, Dr. John Y. Templeton, III, was in the chair. There were 79 members and guests present.

SCIENTIFIC PROGRAM

DR. HERBERT E. COHN DR. NORMAN J. SCHATZ DR. ROBERT S. SOLIT DR. NATHAN S. SCHLEZINGER	Thymectomy in Myasthenia Gravis – 27 Years Experience
DR. MARCIA FITZPATRICK DR. A. JAMES MORGAN DR. TERRENCE R. MALLOY DR. HERBERT LIPSHUTZ	Experiences in the Management of the Transsexual
DR. HERBERT W. WALLACE DR. WILLIAM ASCHER	Blood Oxygenation – A New Technic

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on May 6, 1974 at 8:15 P.M. The President, Dr. John Y. Templeton, III, was in the chair. There were 71 members and guests present.

SCIENTIFIC PROGRAM

DR. HARRY S. GOLDSMITH DR. WEI-FAN CHEN DR. SERGE DUCKETT	Revascularization of the Central Nervous System by Omentum *Discussed by:* DRS. LYNESS and FADALI
DR. LEONARD I. GOLDMAN DR. ROBERT J. ELLIS	Immunologic Studies of Regional Lymph Nodes in Human Breast Cancer *Discussed by:* DR. ROSEMOND
DR. CHARLES C. WOLFERTH DR. DOMINIC A. DeLAURENTIS	The Management of Penetrating Abdominal Trauma *Discussed by:* DRS. FITTS, ROBERTS, GOWEN and CASWELL

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on October 7, 1974 at 8:15 P.M. The President, Dr. John Y. Templeton, III, was in the chair. There were 125 members and guests present.

SCIENTIFIC PROGRAM

DR. CHARLES FINEBERG DR. JOHN E. HOPKINS	Memoir of Dr. Herbert Lipshutz The Retained Common Duct Stone *Discussed by:* DRS. SHEARBURN, GRIMES and STAINBACK
DR. CLYDE F. BARKER DR. CRAIG R. RECKARD DR. MORITZ M. ZIEGLER	
DR. ALI NAJI	Transplantation of Pancreatic Islets *Discussed by:* DRS. THOMAS, FADALI, MOSS and WOLFERTH
DR. TERUO MATSUMOTO	Acupuncture Analgesia No Discussion

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on November 4, 1974 at 8:15 P.M. The President, Dr. John Y. Templeton, III, was in the chair. There were 113 members and guests present.

SCIENTIFIC PROGRAM

DR. HENRY P. ROYSTER	Memoir of Dr. Robert H. Ivy
DR. DOMINIC A. DELAURENTIS	Hypoplasia of the Distal Aorta *Discussed by:* DRS. NEMIR, TYSON, ROBERTS and TEMPLETON
DR. LEROY H. STAHLGREN	Hemodynamic Studies in the Differential Diagnosis of Post Gastrectomy Disorders *Discussed by:* DR. FINEBERG
DR. WILLIAM P. LIGHTFOOT	Outpatient Herniorrhaphy *Discussed by:* DRS. HALL, MYERS, SAIN and RHOADS

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on December 2, 1974 at 8:15 P.M. The President, Dr. John Y. Templeton, III, was in the chair. There were 97 members and guests present.

SCIENTIFIC PROGRAM

DR. SIGURD CARL SANDZEN	Reconstructive Surgery for Pathology of the Thumb Web *Discussed by:* DR. OAKEY

DR. MONEIM A. FADALI DR. SHIN-KEUN JOE DR. NANCY GETTES DR. MILTON J. SANDS DR. GERALD M. LEMOLE	A Case Report on a Complicated Marfan Syndrome Patient *Discussed by:* DR. MACVAUGH
DR. JOSEPH W. STAYMAN, JR.	Surgical Treatment of the Thoracic Outlet Syndrome (Annual Oration)

Report of the Secretary for the Year
Ending December, 1974

During 1974 there were seven formal meetings of the Academy of Surgery plus the Conjoint Meeting with the New York Surgical Society which was held in Philadelphia. The average attendance for the seven meetings was 89 and the attendance for the Conjoint Meeting was 72. A major activity of the Council and Fellows for 1974 was concerned with the problem of testifying in malpractice suits. After discussion at a number of the Council meetings and at the meetings of the membership, a Resolution was adopted by the Academy. The Resolution which was adopted and the Addendum to the Resolution are appended to this Annual Report. The Resolution and Addendum are to be permanent parts of the Annual Report.

As directed in the Resolution, a copy was sent to the President and Secretary of every medical association in the country whose address was available to the Academy, and a very favorable positive response was obtained from over 50 organizations.

RESOLUTION

"WHEREAS the Philadelphia Academy of Surgery recognize that it is the duty of the members of the medical profession to testify in malpractice suits so that the judge and jurors may have the benefit of their judgment; and should not be participants in the so-called "conspiracy of silence"; and

WHEREAS the Academy feels strongly that a member of the medical profession should not have his judgment in his testimony in a malpractice suit influenced by the possibility of financial gain; and

WHEREAS the observation that some physicians have travelled to distant places to testify against other physicians has given rise to the suspicion that they may have done so for financial gain rather than because the public interest required it."

BE IT RESOLVED THAT:

"The testimony of any member as an expert witness should be directed only to a just and fair resolution of any action brought against a physician, and that

The Academy recommends that a standard fee and expense account compensation be established for members of the medical profession who testify as expert witnesses in malpractice suits, and that

The Academy advise its members they should abide by the contents of this resolution in fact as well as spirit, and that

The Academy advise its members that if there is any member who feels

that he cannot abide by the letter and spirit of this resolution, he should submit his resignation to the Academy, and be it further resolved that

A copy of this resolution be sent to the President and Secretary of every medical association in this country whose address is available to the Academy.

PAUL NEMIR, JR., M.D.
Secretary

Addendum to Resolution Pertaining to Testifying in Malpractice Suits

Adopted by the Academy of Surgery in April, 1974

"The following are guidelines for expert testimony in malpractice proceedings:

"Prior to testifying either for the plaintiff or the defendant in a malpractice action, the physician shall inform the attorney that his testimony will be non-partisan. Fees charged for testimony in malpractice cases shall be moderate. Expert testimony in malpractice cases shall be given only in those areas of the physician's established expertise. Expert testimony shall be limited to the physician's immediate geographic area. In exceptional circumstances testimony outside the geographic area may be required."

The Year 1975

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on January 6, 1975 at 8:15 P.M. The President, Dr. John Y. Templeton, III, was in the chair. There were 90 members and guests present.

SCIENTIFIC PROGRAM

DR. TERUO MATSUMOTO	Pathophysiology and Management of Upper Gastro Intestinal Hemorrhage Due to Stress Ulceration *Discussed by:* DR. WOLFERTH
DR. HARRY POLSKY° DR. LOUIS BLAUM° DR. JOSEPH STAYMAN, JR.	An Interesting Case of Liver Trauma *Discussed by:* DRS. TYSON, RHOADS and SHEARBURN
DR. BROOKE ROBERTS DR. CLYDE BARKER DR. HENRY BERKOWITZ DR. JENNIFER CHU	Results of Autogenous and Femoral-Popliteal Grafting at Five Years *Discussed by:* DRS. BILLIG, TYSON, COHEN and TEMPLETON

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on February 3, 1975 at 8:15 P.M. The President, Dr. John Y. Templeton, III, was in the chair. There were 81 members and guests present.

°By invitation.

SCIENTIFIC PROGRAM

DR. R. BARRETT NOONE DR. RALPH HAMILTON ROBERT SPIEGEL, B.A. DR. BARRY SHEFOL	Inhibition of Wound Contraction by Human Amniotic Membranes *Discussed by:* DRS. LEHR, THOMAS and RANDALL
DR. MANOUCHER FALLAHNEJAD DR. C. J. DEMOURA DR. H. W. WALLACE DR. PAUL NEMIR, JR.	Acute Vascular Injuries in an Urban Population: Diagnosis and Management *Discussed by:* DRS. TYSON, FINNEGAN and MOORE
DR. NARAJAN NIMBKAR	The Action of Digoxin on the Mesenteric Microcirculation *Discussed by:* DR. NUSBAUM

CONJOINT MEETING

The annual conjoint meeting of the New York Surgical Society and the Philadelphia Academy of Surgery was held in New York at the University Club on March 12, 1975 at 2:30 P.M. There were 61 members of the Philadelphia Academy of Surgery present.

SCIENTIFIC PROGRAM

DR. F. J. VEITH *et al.*	New Developments in Lung Transplantation *Discussed by:* DRS. EDMUNDS and THOMAS
DR. W. METCALF	A Precise Model for Ten Year Survival in Operable Breast Cancer *Discussed by:* DR. BASSETT
DR. B. GARDINER DR. C. DENNIS J. PATTI, M.S.	Heparin Dissolution of Gallstones: Current Status *Discussed by:* DR. SHEARBURN
DR. W. I. WOLFF *et al.*	Surgical Management of "Malignant" Polyps of the Colon *Discussed by:* DR. MARKS
DR. J. A. BUDA *et al.*	Predictability of Cure in Renovascular Hypertension *Discussed by:* DR. BERKOWITZ
DR. M. H. SHIU *et al.*	End Results in Management of 298 Soft Tissue Sarcomas of the Lower Extremity *Discussed by:* DR. ROYSTER

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on April 7, 1975 at 8:15 P.M. The President, Dr. John Y. Templeton, III, was in the chair. There were 84 members and guests present.

SCIENTIFIC PROGRAM

DR. F. DANA LAW	Memoir of Dr. Arthur E. Billings
DR. THOMAS BURRITT MERVINE	Memoir of Dr. William T. Lemmon
DR. ROBERT A. CHASE	Salvage of Hand Elements Robbed of Blood Supply by Trauma *Discussed by:* DR. CRAMER
DR. ALAN J. WEIN	New Concepts in Bladder Innervation and Their Clinical Significance *Discussed by:* DR. MURPHY
DR. PASCHAL M. SPAGNA DR. THOMAS J. O'NEILL DR. GERALD M. LEMOLE	Epicardial Pacemakers *Discussed by:* DR. LEMMON

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on May 5, 1975 at 8:15 P.M. The President, Dr. John Y. Templeton, III, was in the chair.

SCIENTIFIC PROGRAM

DR. JOSEPH R. QUILL	Experience with Low Anterior Resection of the Rectum: End to Side Reconstruction with Stainless Steel Wire Suture *Discussed by:* DRS. TEMPLETON and NEMIR
DR. GILMAN HEGGESTAD DR. BRUCE AGSTER DR. WILLIAM C. STAINBACK	Malignant Hyperthermia under Anesthesia *Discussed by:* DR. STAINBACK
DR. HOWARD H. STEEL	Excision of the Innominate Bone for Chondrosarcoma *Discussed by:* DR. NICHOLSON

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on October 6, 1975 at 8:15 P.M. The President, Dr. John Y. Templeton, III, was in the chair. There were 89 members and guests present.

SCIENTIFIC PROGRAM

DR. GORDON L. TOBIAS*	Prostatic Carcinoma: Diagnostic Technique in Stage Conversion *Discussed by:* DRS. MURPHY, MOORE and STRONG

*By invitation.

DR. JEROME VERNICK*	Surgical Considerations in Gastrointestinal Vascular Malformations *Discussed by:* DR. FINEBERG
DR. JOHN T. WARRINGTON, JR.*	Less Than Hemipelvectomy for Proximal Sarcoma of the Lower Extremity *Discussed by:* DRS. STEEL, FINEBERG, GOLDSMITH and TEMPLETON

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on November 3, 1975 at 8:15 P.M. The President, Dr. John Y. Templeton, III, was in the chair. There were 114 members and guests present.

SCIENTIFIC PROGRAM

DR. SHEKEEB SUPHIAN DR. TERUO MATSUMOTO	Intestinal Obstruction *Discussed by:* DRS. NEMIR, ULIN and SHEARBURN
DR. MANOUCHER FALLAHNEJAD DR. CHIA C. SU DR. HERBERT W. WALLACE	Complicated Forms of Cardiac Injuries *Discussed by:* DR. MACVAUGH
DR. RICHARD A. DAVIS	The Death of Thomas Beckett at Canterbury

A stated meeting of the Philadelphia Academy of Surgery was held at the College of Physicians on December 1, 1975 at 8:15 P.M. The President, Dr. John Y. Templeton, III, was in the chair. There were 92 members and guests present.

SCIENTIFIC PROGRAM

DR. PAUL NEMIR, JR.	Memoir of Dr. Robert A. Groff
DR. JERRY ZASLOW	Memoir of Dr. Julian A. Sterling
DR. WILLIS P. MAIER DR. VINCENT W. LAUBY DR. ROBERT D. HARWICK	Total Esophagectomy for Carcinoma of the Cervical Esophagus
DR. CHARLES FINEBERG	Personal Concepts in the Treatment of Carcinoma of the Breast (Annual Oration)

*By invitation.

Report of the Secretary for the Year Ending December 1975

During 1975 there were seven formal meetings of the Academy of Surgery plus the Conjoint Meeting with the New York Surgical Society. The Conjoint Meeting was held in New York and was well-attended by members of the Philadelphia Academy of Surgery. During 1975 a major activity of the Council

and the membership was related to the development of a posture concerning a criminal suit brought against Dr. C. S. Rangarathnam, a pediatric surgeon at the Thomas Jefferson University Hospital. As a result of these deliberations, a statement was formulated and approved by the Fellows and is appended to this Annual Report. The statement was circulated to the news media and to the lawyers. As a tangible evidence of their support, the Fellows contributed over $6000 to Dr. Rangarathnam's defense fund. Dr. Rangarathnam was acquitted.

The average attendance at the formal meetings of the Academy during 1975 was 83. As in 1974, dinners preceded each of the stated meetings, and it was felt that this additional social affair aided in bringing the membership together.

Statement Regarding Dr. C. S. Rangarathnam

"The Fellows of the Philadelphia Academy of Surgery view with concern the recent action in which criminal charges were brought against Dr. C. S. Rangarathnam in a case in which the death of a patient occurred following a diagnostic procedure. The Fellows believe that the implications of this action are of such magnitude that a response and statement of position are necessary.

The members of the Council of the Academy have carefully reviewed the case in question and believe that the procedure was medically indicated and properly performed, and that Dr. Rangarathnam is fully qualified. These findings were endorsed unanimously by the members at a special meeting on July 28, 1975. They understand the grief and anguish of the bereaved parents and sympathize with them. It must be appreciated, however, that diagnostic procedures essential to the practice of medicine are not without risk. Despite precautions, complications, and even rarely, death may occur. If necessary diagnostic and treatment modalities are to be withheld because of the fear of these complications, or because of the physician's fear of criminal charges, then patient care will suffer.

The Fellows of the Academy believe that the action taken against Dr. Rangarathnam is not justified and that it has a severe and deleterious effect on the proper practice of medicine. As a tangible evidence of their support, they have voted to make financial contributions to his defense and to publicly decry the action taken against him."

PAUL NEMIR, JR., M.D.
Secretary

Memoirs

April 18, 1974	EUGENE BILLINGS, M.D.
March 24, 1973	JAMES B. CARTY, M.D.
November 20, 1967	FRANCIS C. GRANT, M.D.
April 28, 1975	ROBERT A. GROFF, M.D.
June 22, 1974	ROBERT H. IVY, M.D.
1968	J. RUDOLPH JAEGER, M.D.
May 8, 1974	HERBERT L. LIPSHUTZ, M.D.
July 23, 1975	HANS MAY, M.D.
August 12, 1975	WARD D. O'SULLIVAN, M.D.
1970	ALAN P. PARKER, M.D.
August 27, 1972	ISIDOR S. RAVDIN, M.D.
March 28, 1972	ROBERT G. RAVDIN, M.D.
January 12, 1973	FREDERICK R. ROBBINS, M.D.
February 23, 1975	JULIAN A. STERLING, M.D.

Eugene Billings, M.D.

1883–1974

On the morning of April 18, 1974, Dr. Arthur Billings died quietly. Although he had been in ill health for a number of weeks, both at Jefferson Hospital and at the Bryn Mawr Hospital, he remained cheerful throughout. Some of you may have known him as "Bill"; others of us knew him as "Winkie," a name he had acquired years ago from his golfing buddies when he vigorously winked his eyes as he prepared his shot on the putting green.

Dr. Billings lived for ninety-one years. Until he was eighty-five, he rarely disclosed his age because he neither looked it nor acted it. After eighty-five, he was rather proud of how long he had survived. His active surgical life extended from 1907 until 1950. And even after that he was consulted on surgical problems by his younger colleagues. When he was well into his eighties, he could be found on many an afternoon in his office at 2020 Spruce Street reading the current *Annals of Surgery*.

The period from 1907–1950 was one during much of which bacteriology and radiology were in their infancies, anesthesiology was fairly primitive, and antibiotics and blood and fluid replacement were either unknown or used only in exceptional circumstances. And yet a great deal of surgery, and a great deal of exceptional surgery, was performed successfully. Diagnosis depended on the clinical acumen, judgment, experience, and wisdom of the surgeon. Operative success depended on the anatomical knowledge, fleetness, and operative skill of the surgeon. The time has often been called the age of the surgical giant. Preeminent in that age was Dr. Billings.

Dr. Billings was a *Tar Heel*, born in North Wilkinson, North Carolina on September 25, 1883. As a youth he was taught marksmanship by his grandfather and shot rattlesnakes in the countryside. At the age of 85 Dr. Billings terrified a new young housekeeper in the middle of the night in his great dark brownstone town house, brandishing his granddaddy's revolver and threatening to shoot the supposed robber.

After being graduated from Davidson College in North Carolina, Dr. Billings began the study of medicine at the North Carolina Medical College in Charlotte, North Carolina. But in those days Philadelphia was the medical center to which men from the South gravitated. And so the young Dr. Billings came north. He enrolled at the Jefferson Medical College and received his medical degree in 1906. His initial application for an interneship at Pennsylvania Hospital was turned down. Mr. Daniel Test, the Quaker administrator said, "Billings, thee will have to wait." However, an opening finally occurred and Dr. Billings served as interne at Pennsylvania Hospital from 1907 to 1909. In 1910 he served in a similar capacity at the Bryn Mawr Hospital. From 1911 to 1914 he was Chief Resident at the Pennsylvania Hospital, where later he became Attending Surgeon. A former Pennsylvania Hospital operating room supervisor, who is now a spritely eighty-six, recalls that Dr. Billings gave her a physical examination when she was accepted to the nursing school. She was, and still is, very tiny. At the end of the examination Dr. Billings said, "Nothing

wrong here. After all, there's not much from front to back!"

In 1915 he was with the American Ambulance Service in France; he was appointed Assistant Surgeon to the Bryn Mawr Hospital and in 1920 became Attending Surgeon, later being appointed Surgeon-in-Chief, a position he held until 1950 when he retired from active practice. Moreover, during the 1920's and 1930's Dr. Billings was active at the Jefferson Hospital and Medical School where he was Assistant Professor of Surgery, and in 1942, Clinical Professor of Surgery.

Dr. Billings was elected a member of the Philadelphia Academy of Surgery in 1915. He was a member of the College of Physicians of Philadelphia, the American Medical Association, the American Surgical Association, and the International Society of Surgeons. He became a founding member of the American Board of Surgery in 1938.

In 1916 Dr. Billings presented his first paper before this Academy, its subject: "Diphtherial and Pseudodiphtherial Primary Cutaneous Infection." Other papers were presented here over the years and published papers included such diverse subjects as Abscess of the Spleen, Penetrating Wounds of the Abdomen, Suppurative Pericarditis–Pericardiotomy, and Lateral Aberrant Thyroids, the latter paper with Dr. John Paul of the Ayer Clinical Laboratory at Pennsylvania Hospital. That paper is interesting because the authors remarked on the high incidence of malignancy in the lateral aberrant thyroid but did not go a step beyond to conclude that the lateral aberrant thyroid is always a metastasis of a malignancy in the thyroid gland.

Before the advent of modern anaesthesia and the ancillary supportive measures which we have today, surgery was usually rapid, rough and ready. Dr. Billings was rapid but never rough at the operating table. He was always smooth and never wasted a motion. Because his patients were subjected to short courses of anaesthesia and trauma was minimal, they recovered more smoothly and rapidly than other surgeons' patients. Some have called Dr. Billings the most adept surgeon in Philadelphia in the 1940's. And the fact that he removed the gallbladder of his old chief, Dr. John Gibbon, Sr., attests to the confidence which Dr. Billings inspired.

Dr. Billings was a quiet man, a thoughtful man, and I believe a rather shy man. He was dignified, courteous, and almost courtly in an old world manner. He had a high sense of honor and was always a North Carolina gentleman. His friends were legion and all loved and respected him. They knew that at any time they could turn to him for thoughtful and consoling advice. And he could be playful. He had a ready wit and loved a story. The corners of his eyes would crinkle up and a wonderful mischievous gleam would come into his eyes. He was a tease and loved to invent fanciful stories which were fun to explode in laughter.

The non-surgical life of Dr. Billings was as full as his surgical life. Music and golf were favorite recreations. In the early 1900's the young doctor on his night off from hospital duties could often be found at the Academy of Music. And after Oscar Hammerstein opened the Philadelphia Opera House in November, 1906, the young doctor often appeared as a super in *Aida* carrying a spear. One night he had to render first aid to Tetrazinni, who as a dying Violetta, fell through the slats of her deathbed. Several years ago I read to Dr. Billings the casts of the operas which Hammerstein had presented in Philadelphia from 1906 to 1910, and he recalled all the names of the singers and told stories about those legendary performances. After an initial purchase of Beethoven Sonatas soon after he had settled in Philadelphia, over the

years he built an enormous record collection of symphonic and operatic music. Brahms, Caruso, his adored Mary Garden—all were there. It was music which rested him and restored him after the toils of the day in the operating room and the surgical wards.

With the coming of the robins, Dr. Billings would pack up his golf clubs and head for the links. In Philadelphia and suburbs it was the Gulph Mills Club, the Pine Valley Golf Club and the Merion Golf Club. At the latter he was president for many years. His portrait hangs at the Merion Golf Club. During the dark ages of the Depression it was Dr. Billings who kept the club from foundering. But Dr. Billings knew other golf courses as well—Pinehurst in North Carolina, Mid-Ocean in Bermuda, St. Andrews in Scotland. His golfing friends were legion: Bobby Jones, Gene Sarazen—Bob Hope. Dr. Billings loved tournament golf, capturing innumerable trophies. In his eighties he still played a few holes at Merion several times a year, always being greeted with great love and affection by those who chanced upon him there.

For many years bridge was a pastime at the Fourth Street Club, the University Club or the Rittenhouse Club. And he avidly followed the Philadelphia Athletics and later the Phillies. In his later years the televised games of the Phillies were a source of great delight. In the autumn the televised college football games and the Wide World of Golf brought him much pleasure.

Good food, simply prepared, was always a delight—preceded by a very dry martini—straight up. Usually dining quite early at the Barclay, he often wondered where everyone was. Greeted with fond affection at the cloak room by Christine, Dr. Billings would be swept into the dining room by Mario or Dominic. There he might order hot vichysoisse followed by sauteed chicken livers—never on the menu—or his favorite seasonal shad or soft shelled crabs.

The last years were quiet years. Friends from all over the country telephoned to chat with him and sent him books to read. There were warm spring afternoons in Rittenhouse Square where he sat and talked with acquaintances and scratched a very scruffy, very shaggy tiny black poodle named Piqué. There were eagerly awaited visits and dinners with his beloved daughter Molly. He remained alert and active, walking the city streets alone and only on the most icy nights with a cane. To the end he remained in his great old home with his books, his records, his trophies, and all his memories. All those who came under his professional care and all those who knew him personally were richer for having known him.—F. DANA LAW, M.D.

James B. Carty

1914–1973

James Byron Carty was born in Philadelphia, August 20, 1914, the son of Byron Carty and Sarah Mulseed. Jim was raised in Burlington County, N. J. and had his early schooling in a one-room schoolhouse. He wanted to be a doctor from early childhood.

In 1935 he graduated from Lafayette College and from Jefferson Medical College in 1939. While a student at Jefferson, he met Allie B. Rendelman; they were married when Jim completed his two-year internship at the Philadelphia General Hospital, June 1941.

He accepted a Surgical Fellowship at the Crile Clinic in Cleveland and then returned to Philadelphia to serve as the Ross V. Patterson Surgical Resident under Dr. Thomas Shallow at Jefferson.

In 1944, he entered the U. S. P. H. S. and served as surgeon at the New Orleans Marine Hospital. It was here that I first met Jim and enjoyed our work together which later continued when he returned to Philadelphia General on the service of Dr. Lewis C. Manges.

He was associated with Jefferson, St. Agnes, Presbyterian and Delaware County Memorial Hospitals.

In 1960, he was appointed Director of Surgery at Delaware County Memorial Hospital succeeding Dr. L. M. Rankin. Dr. Carty held this post until his last illness.

In March, Jim and I attended the Joint Meeting with the New York Academy of Surgery; spending the day together we discussed the wonderful advances of medicine and surgery that we lived through, from the horse and buggy days to the age of rocketry.

Jim belonged to several different medical and scientific societies such as: The American College of Surgeons, The American Board of Surgery and The Academy of Surgery. He was Past President of the West Philadelphia Medical Association and the Delaware County Memorial Hospital Staff.

Dr. Carty was a good family man. He and Allie B. motivated their children well—Dr. James B. Carty, Jr. is Chief Resident at Wills Eye Hospital and he is married to Susan Luscombe, now a medical student at Jefferson Medical College. The second son, John R. Carty, is an attorney and their only daughter, Sara Margaret is a first year medical student at Jefferson.

Dr. Carty *published* papers on Tumors of the Small Intestine and Desmoid Tumors of the Scapular Region. His hobbies were boating and ice skating; his ambitions were identified with his family and excellence in surgery. Hard work took its toll on Jim's health, and he died of a coronary on March 24, 1973 at age 58. Those of us who knew him well, will remember him as a kind, courteous, warm, friendly, cheerful man with great concern for his patients. His family and friends will miss him.—MANRICO TRONCELLITI, M.D.

Francis Clark Grant

1891–1967

With the sudden death of Francis Clark Grant, a void occurred in the field of neurosurgery and among his associates, pupils and friends. Dr. Grant spanned the period between the pioneers in neurosurgery to the present well-trained neurosurgeons with their sophisticated techniques. He received his training from the masters—Drs. Charles H. Frazier and Dr. Harvey Cushing—and succeeded Dr. Frazier as Professor and Chairman of the Department of Neurosurgery of the School of Medicine and Hospital of the University of Pennsylvania in 1936. He held this position until 1953 when an untimely accident fractured his hip and right thumb, forcing him to retire three years before the statutory age.

Dr. Grant was born in Philadelphia on November 9, 1891, the son of William S. Grant, Jr. and Jane Burnham Clark. He received his early education in Philadelphia and then entered Groton School at the age of 13. Because he was well-nourished, his fellow classmates gave him the nickname "Chubby," which was adopted by all his friends. He was graduated in 1910 and entered Harvard College where he made a host of life-long friends and developed into an excellent middle-weight boxer. Upon completion of his college training, he sailed on a mission boat for Dr. Grenfell along the coast of Labrador. He then entered the School of Medicine of the University of Pennsylvania and was graduated in 1919 among the top men of his class.

During his medical school days in 1917, Dr. Grant married Anne Lewis. They had five children, three of whom are still living: Nancy, Francis, Jr., in the Diplomatic Service, and Joseph, who is Chief of Medicine at the Veterans Hospital in Vermont.

Following a two-year internship at the Hospital of the University of Pennsylvania, he became an apprentice to Dr. Frazier. In those days, the residency program as it is known today had not been established. His talents were quickly recognized so that by 1928 Dr. Grant was elevated to the position of Assistant Professor of Neurosurgery in both the School of Medicine and the Graduate School of Medicine. Up to this time, he had spent part of a year—1925—with Dr. Harvey Cushing at the Peter Bent Brigham Hospital in Boston as a clinical clerk. In 1935, he was promoted to Professor of Clinical Neurosurgery in the Graduate School of Medicine and, in 1936, he succeeded his chief, Dr. Frazier, as Professor and Chairman of the Department of Neurosurgery in the School of Medicine.

Dr. Grant wrote many papers, of which some 226 or more have been published. His writings are characterized by clarity of thought, a crisp, clear style and especially, a "to-the-point" evaluation of the problem. The paper which best exemplifies this is the one entitled, "A Study of the Results of Surgical Treatment in 2,326 Consecutive Patients with Brain Tumors." This is an outstanding evaluation of the results of surgery in brain tumor patients and represents a monumental contribution. He concluded from this study—659 of these patients having lived for from 5 to 30 years—that in a patient who has a removal-type tumor one should "put to work the very

best and most experienced team the clinic can assemble."

One of Dr. Grant's hobbies was the taking of photographs of various lesions of the brain and spinal cord. Very early, he recognized the effectiveness of color photography. As a result, he accumulated, to the best of my knowledge, the most outstanding collection of color slides of surgical lesions of the central nervous system. He used these freely in his lectures and his apt and concise technique of lecturing made him one of the most popular lecturers in the School of Medicine. The students knew him as the distinguished character of the Corn Cob Pipe.

The training of men for the practice of neurosurgery was a major interest of Dr. Grant. When the American Board of Neurological Surgery was established in 1937, he became one of the members. In 1952, he became Board Chairman. He, therefore, played a leading role in formulating the training program for residents in neurosurgery as it is today.

During World War II, Dr. Grant gave a short course to Army Medical Officers on the treatment of brain, spinal cord and peripheral nerve injuries, in spite of the added work load created by younger neurosurgeons entering the service. Nearly 100 officers took this course. In addition, during his teaching career, he trained over 30 physicians for the practice of Neurosurgery.

Dr. Grant was a member of all the major neurological and surgical societies. In 1951, he was elected an honorary member of the Italian Neurosurgical Society—Societa Italiana di Neuro-chirurgia. He was a member in one capacity or another of 27 hospitals in this area.

Dr. Grant died of a coronary thrombosis in the University Hospital on November 20, 1967. Just the day before his death, he gave my senior resident a lecture on the qualifications of a good neurosurgeon.

To those of us who were close to Dr. Grant, he will always be remembered for his inspiring personality, his passionate desire for truth, his frank, outspoken statement of facts, his profound desire for perfection of not only surgical technique but also patient care, and for his love of teaching students and training men to become better neurosurgeons.

To me, Dr. Grant was a particular inspiration and I owe much of what I have accomplished to him.—ROBERT A. GROFF, M.D.

Robert Armand Groff

1903–1975

In the early evening of April 28, 1975, Robert Armand Groff, master surgeon, distinguished teacher, and beloved friend, died of disseminated involvement secondary to carcinoma of the lung. He was 72 years of age, and was elected to membership in the Academy of Surgery of Philadelphia in 1939.

Dr. Groff was born in Philadelphia in 1903 into a family steeped in the medical tradition. His paternal grandfather, granduncle, and cousin were physicians. His father received his medical degree from the University of Pennsylvania in 1902, and a paternal uncle was graduated from the Jefferson Medical College in 1898.

Bob received his secondary education at the Northeast High School, obtained his baccalaureate degree in 1924, and subsequently his medical degree in 1928 from the University of Pennsylvania. He was one of ten men who were offered an internship at the Hospital of the University of Pennsylvania, which was carried out from 1928 to 1930. Over the next five years, Dr. Groff worked in research surgery under the aegis of Doctors I. S. Ravdin and Francis C. Grant, and in clinical neurosurgery with Dr. Harvey Cushing at the Peter Bent Brigham Hospital in Boston, Dr. Gordon Holmes at the National Hospital, Queens Square, London, and Dr. Ofrid Forrester in Breslau, Germany. He then returned to Philadelphia where he completed his training with Dr. Charles Harrison Frazier and Dr. Grant at both the Hospital of the University of Pennsylvania and the Graduate Hospital of the University of Pennsylvania. It was during this period that he was attracted to a young nurse who had been taking care of one of Dr. Frazier's patients and in July of 1933, Bob and Georgiana Ketchum Hallenbeck were married. Georgiana continued to work to help support the young couple during the lean years of the 1930's and there was precious little time that they were able to spend together during those early years. Dr. Groff received a faculty appointment and served on the staffs of both University Hospitals.

In 1937 he was certified by the American Board of Neurology and Psychiatry and in 1941 by the American Board of Neurosurgery. In 1941 he accepted an appointment as Assistant Professor at Jefferson Medical College, taught there for one year, and then entered the army in World War II, serving as the neurosurgeon to the 20th General Hospital in the China Burma India theatre. Following four years of that duty he returned to the University of Pennsylvania and, as he described to a college classmate years later, "gradually climbed to the chair." He was made Professor of Neurosurgery in the Graduate School of Medicine and Chief of the Division at the Graduate Hospital in 1952, and in 1957 was made Chief of Neurosurgery at the Hospital of the University of Pennsylvania. In 1962, he was the first recipient of the Charles Harrison Frazier Professorship of Neurosurgery. He relinquished his administrative duties at the age of 65, but continued in neurosurgery at both institutions, and with much persuasion continued as the Chief of the Division at the Graduate Hospital until a few months prior to his death.

Dr. Groff made lasting contributions

in each of the areas expected of an academic surgeon. It would be a fair assessment that his greatest legacy is in the men he trained, which numbered in the range of 40. He was a superb technical surgeon and he moved with unusual speed and precision in total concentration. Certified in neurology as well, he had the instinctive capacity to move to the heart of a problem and it was often with great effort that he mastered his intolerance for indecision and procrastination. His trainees, many of whom are in high academic positions, are scattered across the United States and in several foreign countries and they offered a special tribute to him on the occasion of his retirement from the chairmanship in 1968 with the presentation of his portrait which now hangs in the Hospital of the University of Pennsylvania. Dr. Groff was a frequent contributor to the neurosurgical literature, and in 1945 his book entitled "Manual of Diagnosis and Management of Peripheral Nerve Injuries" was published. He was the first to experimentally produce a brain abscess in dogs, and the first to describe with Dr. Bernard J. Alpers the syndrome of lesser wing sphenoid ridge meningiomas. He was one of the first surgeons to operate on intracranial aneurysms. In 1952, the University of Pennsylvania served as host for the annual meeting of the Society of Neurological Surgeons. Dr. Francis Grant was scheduled to present a paper on the Non-operative Treatment of Intracranial Aneurysms, but allowed the program to be changed in order that Dr. Groff could present his earliest experiences with direct surgical attack.

Dr. Groff was a member of numerous surgical organizations. He served as the Vice-President of the Society of Neurological Surgeons. He also served as the President of both the Philadelphia Neurological Society and the Philadelphia Neurosurgical Society. He was the co-founder of the Philadelphia Neurosurgical Society, which held its first meeting in May of 1959. The society is now known as the Mid Atlantic Neurosurgical Society. He served as the Chairman of the Advisory Council for Neurosurgery of the American College of Surgeons.

He has received numerous awards among them the Outstanding Civilian Service Medal from the Secretary of the Army as Consultant to the Surgeon General of the Army and the Valley Forge General Hospital in 1967. In 1968, he was awarded the Alumni Award of Merit, the highest honor that the General Alumni Society of the University of Pennsylvania bestows on a member of the university family.

The influences which helped shape Bob's accomplishment are not difficult to pinpoint. His dedication, discipline, and compassion for his patients were traits surely inherited from his father, who was in general practice for over 60 years and died in 1968 at the age of 92. There was a very special relationship between Bob and his father. Henry Clemens always took the greatest interest in the activities of his son and was a great favorite of Bob's college classmates. One wrote to Bob many years later recalling with pleasure the times that his father would regale them with escapades during his own undergraduate days. He had enough confidence in Bob to permit him to go on night calls even before he received his medical degree. He had such admiration for his son that he could not bring himself to criticize him directly but would do so indirectly through his sister, Mary, or his wife, Georgiana. Bob's mother, Estella Rosenberger Groff, was an accomplished pianist, who passed on her love of music to him. Although he did not play a musical instrument himself, one of his special forms of relaxation was to listen to music and he personally

built sophisticated stereophonic equipment in both his Philadelphia and Ocean City residences.

Bob was disciplined in all of his activities, and for many years his routine varied little. He left his apartment at precisely 6:30 to 6:45 each morning going either to the Hospital of the University of Pennsylvania or to the Graduate Hospital and alternating in operations between the two institutions. Following operations, he would make rounds with his residents then go to his office where he would work until the late evening before returning home for dinner. After dinner he would work in his study until 10:00 or 10:30 p.m. On many nights, particularly during the early years and to a large extent even into the later years, he would see consultations and operate in the middle of the night. Actually, members of his family would frequently drive him to and from consultations and it was during these times that he had an opportunity to be with them. There was another part of the routine which afforded him the greatest pleasure. Almost invariably, on Saturday afternoons Bob, his wife, his sister, and up until his death, his father would go to the family cottage in Ocean City to return the following early afternoon. Even on these excursions, he was in constant touch with his house officers and would frequently cut the stay short. He looked forward to these few hours of relaxation. It was during this time that he engaged in his hobbies of carpentry and painting. In his apartment in Philadelphia he maintained a miniature greenhouse where he grew seedlings which he then transplanted to the garden at Ocean City. He got the greatest enjoyment from buying all types of seeds and watching the plants bloom and grow.

Charles Harrison Frazier exerted an equally great influence on Bob's life and accomplishments. Dr. Groff considered it the greatest honor to be named the first recipient of the Frazier Professorship and in the correspondence of that period, he wrote of the real inspiration he received in working with Dr. Frazier. He repeatedly referred to Dr. Frazier's "driving force" and "high standards." In a letter to a colleague in 1963 he spoke of the "grave responsibility he now shouldered in an effort to run a department as he felt Dr. Frazier would have wanted." His hopes that he would live up to what Dr. Frazier expected of him were surely fulfilled. Though small and wiry, to those of us who were his colleagues and patients and to the neurosurgical community at large, he was a man of great stature and strength who will forever be remembered for his extraordinary contributions to his specialty.

Dr. Groff is survived by his wife, Georgiana Hallenbeck Groff, Presidential Apartments, Philadelphia, Pennsylvania, and his sister, Mary E. Groff, Dorchester Apartments, Philadelphia, Pennsylvania.—PAUL NEMIR, JR., M.D.

Robert Henry Ivy

1881–1974

The famous Dr. William Pepper is quoted as saying, "I would rather live 50 years and do 100 years' work than live to be 100 and do 50 years' work." Bob Ivy lived 93 years and 32 days, and by the evidence of his curriculum vitae, performed 200 years' work. A factual and itemized account of his life and accomplishments, therefore, is beyond the scope of this occasion. His autobiography, *A Link with the Past* (Williams and Wilkins, 1962), and his paper dealing with reminiscences delivered before the Philadelphia Academy of Surgery on February 11 of this year, provide a complete summary of his life.

Briefly, Dr. Ivy had a total of seven *careers*.

1. Dentistry. He graduated from the University of Pennsylvania in 1901, at the age of 20. While interning at the Philadelphia General Hospital he simultaneously attended the Medical School. He was then granted a leave of absence for a period of two years, in 1904, in order to practice dentistry with his father in China. 2. Urology. Upon completing internship at the Episcopal Hospital, where he met and soon married Norma Crossland, he practiced surgery with emphasis on urology. 3. Clinical Pathology. During his early years of practice he had sufficient spare time to gain employment in various positions in laboratory work, emerging as coauthor of a text on *Applied Immunology*. 4. Military Medicine. Dr. Ivy volunteered in 1917 for duty in World War I and for a period afterward, until August 1919, served at Walter Reed Army Hospital in the field of Plastic Surgery. He remained in the organized reserves and rendered further valuable service in World War II. 5. Academic Affairs. Shortly after graduation from both professional schools at the University of Pennsylvania, Bob joined the respective faculties and rose to the rank of full professor in each retiring in 1951. 6. Editor. He was appointed Editor of the Journal of Plastic and Reconstructive Surgery in 1946, retiring in 1965. He was largely responsible for its first class standing. 7. Public Health. In 1949 and later, as a full time official, he headed the Cleft Palate Division of the Pennsylvania Department of Public Health, in what is thought to be the first such program in the country.

Only a few of the Honors, Awards and Appointments will be mentioned. 1914—Elected to Academy of Surgery of Philadelphia; 1926—President, American Association of Plastic Surgeons; 1938—Trustee, University of Pennsylvania; 1947—Strittmatter Award, Philadelphia County Medical Society; 1948—Alumni Award of Merit, and President of Medical Alumni Society, University of Pennsylvania; 1949—First Award of the Foundation of the American Society of Plastic and Reconstructive Surgeons; 1954—Hon. Sc.D., University of Pennsylvania, Honorary Fellow, American Association of Plastic Surgeons, Patron of Robert H. Ivy Society, First Regional Society of Plastic Surgeons; 1971—Honorary Award, American Association of Plastic Surgeons, Robert H. Ivy Honorary Lectureship, Sponsored by the Department of Plastic Surgery, Temple University School of Medicine.

Bibliography: Over 150 articles on medical topics; author and/or coauthor

of 6 books; coeditor, Transactions, First International Congress of Plastic Surgeons, 1955.

Despite this multiplicity of activities, the most remarkable product of Bob Ivy's life was his impact on people, not only students of medicine and dentistry, but upon many in other areas. As a young surgeon attending his operations I was able to observe a veritable parade of visitors from all over the world. Every one became impressed with his humble and disarming approach to medicine—unusual for a man trained in the day of the rugged individualist.

What was this man's charm? Why was his name magic? What made him stand out? Those who knew him well would undoubtedly say this: his deep sense of obligation, his feeling for people and his strong loyalty to friends weighed heavily in understanding his character. He was in the game to the very end. On June 9, 1974, he attended the Fourth Robert H. Ivy Lectureship, at Temple University. On June 11th, he participated in the Annual Meeting of the Robert H. Ivy Society. Eleven days later he passed away in his sleep.

Bob's own judgment of life, in a reply upon receiving an Honorary Award reads thus—"The real things that count for happiness in this world are, not the accumulation of wealth but health, congenial work, true friends, and a loving family. Thanks and God bless you all." He was truly a legend in his time.

The Academy extends its sympathy to his wife, Mrs. Norma Ivy, who regrets that she was unable to be present, and to sons, Robert, Jr. and Peter, and his daughters, Mrs. John S. Pennypacker and Mrs. Eleanor McCall.

Note: Some of this material supplied by Dr. Robert L. Harding, Harrisburg, Pa.

—HENRY P. ROYSTER, M.D.

J. Rudolph Jaeger

1895—1968

Mr. Chairman, Members and Guests of the Philadelphia Academy of Surgery, I thank you for asking me to present this memoir of a friend and colleague of twenty-five years' duration.

Nestled along the bank of the Mississippi River about sixty-five miles upstream from St. Louis, is the small village of Clarksville, Missouri, which is not much different today than it was when James Rudolph Jaeger was born there in 1895. His father farmed this rich bottom-land along the river-bank, and Rudolph grew up as a country boy, a farm boy. He marvelled at the mechanical wonders of the dams and locks which controlled the river. This mechanical wonder was some day to blossom into mechanical skill, which he would use so well as a surgeon. He attended a Methodist Church on a small country road. Although the bottom-land was rich, the family was not and could not afford to send him to a fashionable private school, nor was there a fancy consolidated school-system replete with audio-visual aids or indoor toilets. He got his education the hard way by attending a one-room schoolhouse for eight years. After he graduated from the University of Pennsylvania Medical School in 1920, he went to Denver, Colorado to join his uncle in the practice of general surgery for about seven years. At that time, when the Great Society entered the Great Depression, he wisely saw that (in his words) "the pickins would be slim." He, therefore, packed his family and possessions off to Baltimore, Maryland and spent nine months as a voluntary Assistant in Neurosurgery with Walter Dandy at the Johns Hopkins Medical School. This was the totality of his formal training in neurosurgery. Moreover, it was observational only—no more involvement than that; no patient care, no personal surgical experience—just observation. But it was well absorbed. He soon appreciated that this specialty was instrumental more than manual, and cavity rather than open field surgery. He, therefore, spent much time in the ENT Clinic examining those cavities and learning to use and modify nasal instruments, which would later prove so essential in the cavities of the head, spine, and chest. He then returned to Denver as a surgical pioneer. The great success that he enjoyed thereafter was by dint of not only innate mechanical skill, but by hard persistent work, the hallmark of a self-made man.

Nonetheless, he fell into the inevitable trap sprung by a surgically needy community for the skilled and ambitious surgeon: he became a peripatetic yo-yo on the staff of five local hospitals, in addition to his post as Chief of the Department of Neurosurgery at Colorado University Medical College. The only way he could solve such a "heart-rending" dilemma was to leave town. Consequently, Dr. Thomas Shallow, President of the U.S.A. Chapter of the International College of Surgeons, found in his President-Elect, a willing response to his invitation to establish a division of Neurological Surgery at Jefferson Medical College, which he headed until his academic retirement in 1961.

The new professor came with strength, drive, and tools, including a blow torch. After all, he, like many others, had to be his own anesthetist. So he took a

blow torch, amputated the nozzle to connect with an oxygen inlet, fenestrated the bell to connect with an endotracheal tube, and excised the base for a gauze cover to take open-drop-ether.

We could honor him for so many contributions and attributes. Time permits reflection on but two of his many great qualities. First and foremost, he was a skilled, surgical technician with great mechanical skill and ingenuity. He was obsessed with the desire to *cure* disease. He had little interest and gave little effort toward palliation. Moreover, he knew the battle would be largely won or lost in the operating room. Thus, he became a perfectionist in technique, insisted on proper decorum, was enraged at breaks in sterility, unbending in rigid attention to every conceivable detail in preoperative preparation, guaranteed intravenous technique, anesthesia, availability of blood and x-ray films, vocal silence (unless he had something to say), and, in particular, the working condition of the instruments. Surgical catalogues were inadequate. He had to design, modify, and actually construct many of his own instruments in order to satisfy his perfectionist requirements.

His second great contribution was in teaching neurological surgery to medical students and residents, and to teach the medical profession at large to recognize neurosurgical problems. Doubtless, his energetic and disciplinary approach rubbed off the wrong way on many of his pupils. However, he had grown up the hard way and could not tolerate a soft, complacent or careless attitude in his trainees. He was a great believer in precept and in personal supervision of Residents. He probably would have delegated much less than he did had he the time to do it himself. He demanded much from his Residents, but to them he gave much attention. He had a strong sense of personal responsibility and deplored the dilution of skill and information in both teaching and patient care. He had great respect for the autopsy examination and was insistent that we all interrupt the daily tasks to attend the autopsy, or even have it re-scheduled so that we could attend. I am sure, he must have been disappointed because there was only one spectator present at his own autopsy in 1968.

I listened to him ten years ago as he stood at this lectern and delivered the Annual Oration to this Academy. I close with the same quotation that he took from the autobiography of Samuel D. Gross, who founded this Academy. It is likely that he projected himself into Dr. Gross' words:

> "The devotion which I have shown to my profession, may perhaps, exert a salutary influence upon the conduct of young physicians, and thus serve to inspire them with a desire to excel in good deeds."

What Rudolph Jaeger coveted for those young physicians has often been realized.—WILLIAM H. WHITELEY, III, M.D.

Herbert L. Lipshutz

1919–1974

Mr. President, Betty Jane: Dr. Herbert L. Lipshutz, Clinical Professor of Plastic Surgery of the University of Pennsylvania and Head of the section of Plastic Reconstructive Surgery, and surgeon in charge of the Hand Clinic of the Pennsylvania Hospital of Philadelphia, died on May 8, 1974. Dr. Herbert Lipshutz was born in Philadelphia on October 18, 1919. He was the first son of Dr. Benjamin and Hattie Lipshutz of this city. His father, Benjamin Lipshutz, was an outstanding surgeon and a long time member of this Academy.

Dr. Herbert Lipshutz was raised in surgical surroundings as his father was on the staff of Dr. John Chalmers DeCosta at the Jefferson Medical College, was Associate Professor of Neuroanatomy in the Department of Anatomy. His father also was Director of Surgery at the Mount Sinai Hospital for over 30 years.

Dr. Lipshutz received his primary education at Friends Select School and obtained his B.A. from Franklin and Marshall College in 1941. He was graduated from the Jefferson Medical College in 1944 and served his Internship at the Mount Sinai Hospital in this city from 1944 to 1945. He served a two-year general surgical residency on his father's service at the Mount Sinai Hospital from 1945–1946. He entered military service in 1946 and acted as Chief of Surgery at the Station Hospital at Camp Kilmer, N. J. from 1946 through 1948. Upon returning from service he spent a year as a surgical research fellow with Dr. John Gibbon at Jefferson Medical College. He also served as a preceptor with his father at Mount Sinai Hospital from 1949 through 1951.

At that time he made a decision to enter the field of Plastic and Reconstructive Surgery. He spent one year as a resident on the Plastic and Reconstructive Surgical Service of the Royal Victoria Hospital in Montreal and spent two years as a resident on the surgical service of S. Milton DePurtius at the University of Pittsburgh completing his Plastic Surgery residency in 1953.

Dr. Lipshutz returned to the Jefferson Medical College and became Attending Surgeon in the Department of Plastic and Reconstructive Surgery. He remained at Jefferson until Dr. John Y. Templeton, III, President of this Academy, asked him to head the Plastic and Reconstructive Division of his newly formed Department of Surgery at Pennsylvania Hospital. While at Pennsylvania Hospital he developed a strong department and an excellent residency training program.

Dr. Lipshutz was certified by the American Board of Plastic and Reconstructive Surgery, was a member of the American Association of Plastic Surgeons, and many other outstanding societies of Plastic and Reconstructive Surgery. He was the author of 40 publications at the time of his passing. On behalf of the Department of Health, Education and Welfare he visited India and investigated methods of rehabilitation of persons disabled with leprosy in 1964. He was a gifted Plastic Surgeon and did excellent cosmetic surgery. His main interests, however, were those of head, neck and hand surgery. Herb had many

hobbies—he was an excellent photographer and liked fishing, was a gifted artist and sculptor; he illustrated all of his own slides for lectures. He conducted himself and his practice with dignity and grace.

It is indeed sad for such a gifted young individual to have his life cut so short. It is, I am sure, a great comfort to his family and to his friends to know that in the short period of time that he was with us, his contributions and his efforts were notable and numerous.

He is survived by his wife, Betty Jane Lipshutz; his mother, Mrs. Hattie Lipshutz, three daughters, Anne Lipshutz, Margie Simon, and Ellen Lipshutz; a brother, Morton Lipshutz, and his grandson Jacob Simon.—CHARLES FINEBERG, M.D.

Hans May

1902—1975

Hans May was born June 22, 1902 in Oppeln, Germany. Following his graduation from the University of Frieburg, Germany in 1926, he studied pathology under Ludwig Aschoff for one year. In 1927 he joined the Surgical Clinic of the University of Munich where he received training in general, plastic and reconstructive surgery under Dr. Erich Lexer. He remained as Dr. Lexer's assistant in his scientific pioneering and writing until the rise of Hitler when Dr. May left Germany to come to Philadelphia in 1934. Soon after his arrival in Philadelphia, Dr. May became acquainted with Dr. Stanley P. Reimann and subsequently joined the staff of the Lankenau Hospital as assistant surgeon under the late Dr. George P. Muller.

In 1953 a new department was created at Lankenau Hospital, and Dr. May became the first Chief of Plastic and Reconstructive Surgery. Prior to that he had been an associate member of the staff of Lankenau Hospital in the Department of Surgery and was also on the staff at Germantown, Abington, Holy Redeemer and St. Christopher's Hospital for Children. He was President of the Staff of Lankenau Hospital 1966–1967. He was Associate Professor at the Graduate School of Medicine, University of Pennsylvania. He was a diplomate of The American Board of Surgery and a member of the Founder's Group of the American Board of Plastic Surgery. He was also a member of numerous national and international medical and surgical societies.

Dr. May wrote over 75 articles pertaining to plastic and reconstructive surgery and hand surgery and published a book on Plastic and Reconstructive Surgery in 1947, which was reprinted in 1949, again in 1958, and the final third edition in 1971. Dr. May was co-inventor of the Engel-May Two-Plane Direction and Range Finder for nailing broken hips; he was known to his associates and patients as a true gentleman. He was a meticulous surgeon, and the legions of patients attested to his skill and human compassion.

Upon retirement he and Mrs. May moved to St. Croix—a spot which was paradise to him. It was there that he died July 23, 1975 after a long and painful illness secondary to an earlier rectal malignancy. He is survived by his wife, Lisa, and two sons, William and John.—EDWIN W. SHEARBURN, JR., M.D.

Ward D. O'Sullivan

1917–1975

Ward D. O'Sullivan was born in New York City on January 8, 1917. He graduated from Regis High School in New York City in 1934, and then attended Fordham University from 1934 to 1938, graduating with a Bachelor of Arts degree, cum laude. He enrolled at Cornell University Medical College in 1938, and received his M.D. degree in 1942.

Dr. O'Sullivan served as an Intern in Surgery at New York Hospital from 1942 to 1943. He was appointed as an Assistant Resident Surgeon, New York Hospital from 1943 to 1944. From 1944 to 1946, he served in the United States Army as a Combat Medical Officer in Europe with the rank of Captain. He was awarded the Purple Heart, the Bronze Star with Oak Leaf Cluster, and the Combat Medical Badge.

In 1946, Dr. O'Sullivan returned from military service and resumed his surgical residency training, being appointed as an Assistant Resident Surgeon at New York Hospital from 1946 to 1947, and as First Assistant Resident Surgeon at New York Hospital from 1948 to 1949. In 1949, he became Chief Surgical Resident at New York Hospital.

Dr. O'Sullivan was certified by the American Board of Surgery in 1951. He was appointed as an Instructor in Surgery at Cornell University Medical College from 1950 to 1951. He became an Assistant Professor of Clinical Surgery at Cornell in 1951, and an Associate Professor of Clinical Surgery in 1955. He served as an Assistant Attending Surgeon at New York Hospital in 1955 and 1956. In 1956, he was appointed Director of Surgery at Misericordia Hospital, Philadelphia, Pa., a position he served with distinction until 1964. During this interval of time, he also served as Director of Medical Education at Misericordia Hospital, Chairman of the Research Committee, and the Editor of the Medical Bulletin of the Misericordia Hospital.

He was appointed Clinical Professor of Surgery at Jefferson Medical College, Philadelphia, Pa. in 1957, and in this capacity was responsible for setting up and directing the surgical affiliation between the Surgical Department at Jefferson Medical College and Misericordia Hospital. Third and fourth year Medical Students from Jefferson were assigned to Misericordia Hospital for their Clinical Surgical Clerkship. This affiliation was eventually extended to include Surgical Residents in General Surgery, and with the Veterans Hospital in Philadelphia in Orthopedic Surgery.

Dr. O'Sullivan was also responsible for establishing the Surgical Research Laboratory at Misericordia Hospital, and directing the resident and attending staff in various basic and clinical surgical research problems. He made it possible for the surgical residents to take advantage of the dog laboratory to improve their technical proficiency, and made this laboratory available to medical student from Jefferson to acquaint them with basic suturing techniques before assigning them to the Accident Ward service. He achieved outstanding success in the caliber of the surgical residency training program he established at Misericordia Hospital, as evidenced by the record of the surgical residents in successfully completing the

examination for certification by the American Board of Surgery.

In 1964, he accepted an appointment as Director of Surgery at St. Francis Hospital in Bronx, New York where he served from 1964 to 1967. He returned to Misericordia Hospital in 1967 where he was instrumental in facilitating the combination of the two Medical Staffs of the Fitzgerald Mercy and Misericordia Hospitals into the Mercy Catholic Medical Center in 1969. He was Chairman of the affiliation committee of the Mercy Catholic Medical Center which arranged for a complete affiliation between Jefferson Medical College and the Mercy Catholic Medical Center with teaching programs at both divisions established in Surgery, Medicine, Obstetrics and Gynecology, and Pediatrics in 1969; he became Chairman of the Department of Surgery of the Mercy Catholic Medical Center in 1969, and continued in this capacity until his death. In 1962, Fordham University awarded him the Alumni Achievement Award in the field of Medicine.

He was author of 32 surgical papers published in the literature and contributed to many surgical text books, and was noted for his work on the hepatic vasculature, and portal hypertension.

Dr. O'Sullivan was a member of the Philadelphia County and Pennsylvania State Medical Societies, and the American Medical Association; a Fellow of the American College of Surgeons, and a member of the Society of University Surgeons. He was a member of the New York Society for Cardiovascular Surgery; the New York Academy of Medicine; the Philadelphia Academy of Surgery; and the College of Physicians of Philadelphia.

He lived in Rosemont, Pa. and is survived by his wife Katherine; three daughters, Kathleen, Ann Beth, and Maureen, a son, Daniel C. and 9 grandchildren; he died suddenly while on vacation on August 12, 1975 in the 58th year of his life. His loss is keenly felt, not only by his family, but by his friends and colleagues in the medical profession.

—JOHN J. McKEOWN, JR., M.D.

Alan P. Parker

1901–1970

Dr. Alan P. Parker was born in Raleigh, North Carolina in 1901 and received his early education in the public schools of Wake County, North Carolina. He attended Wake Forrest College and received a Bachelor of Science Degree in Medicine in 1921 after completing the first two years of medical school. He then attended Jefferson Medical College and received his medical degree in 1923. Following graduation from medical school, Dr. Parker served as an intern and resident in surgery for the next five years at Pennsylvania Hospital and was Chief Resident of the Hospital in 1927–28. He joined the Pennsylvania Hospital Surgical Staff after completing his residency and although his principal affiliation was with The Bryn Mawr Hospital after the War, he continued his affiliation with Pennsylvania Hospital until 1966.

Dr. Parker joined the Staff of The Bryn Mawr Hospital in 1930. In 1952 he became Chief of one of the two general surgical services of the Hospital, a position he held for ten years. In 1962 he was promoted to Consultant Surgeon to The Bryn Mawr Hospital and he continued active in this capacity until illness forced his retirement in 1969. During his tenure at The Bryn Mawr Hospital, he served on many important Staff Committees, including the Executive Committee and the Joint Conference Committee, and was Secretary-Treasurer of the Staff and Executive Committee in 1952–53. He was an instructor in surgery at the Jefferson Medical College from 1929 to 1959 and at Women's Medical College from 1930 to 1938. He was certified by the American Board of Surgery in 1938 and became a Fellow of the American College of Surgeons in 1943. Dr. Parker was accepted in the Philadelphia College of Physicians in 1940 and was a Member of the Council from 1960–63. He was a member of the American Medical Association, the Pennsylvania State Medical Society, the Philadelphia County Medical Society, and the Main Line Branch of the Montgomery County Medical Society, having served as President of this organization in 1947.

Dr. Parker was called to military service in 1942 with the rank of Lieutenant Colonel and became Chief Surgeon of the U. S. Army's 38th General Hospital, formed by Jefferson Medical College. He served with distinction in the North African Campaign. He was promoted to Colonel in 1943 and became Chief Surgeon at Fort Meade, Maryland. He received the Army Commendation Ribbon for exceptional meritorious service while stationed there.

Dr. Parker's great love was clinical surgery and bedside teaching. He was a provocative and stimulating teacher and was best noted for his meticulous attention to the details of preoperative and postoperative care. His devotion to the welfare of his patients won the admiration of the members of the Staff of The Bryn Mawr Hospital. One of his former patients tendered the ultimate eulogy, "He was the patient's doctor."

During his long career, Dr. Parker took an active interest in family and community affairs. He was a member of the Vestry of the Church of the Redeemer in Bryn Mawr from 1956 until

his death. He was a devoted family man and became the father of not one, but two Rhodes Scholars. Surviving him are his wife, the former Janet Johnson Reeve, two sons, E. Carey, 2nd and A. Reeve Parker; three brothers, J. Yates, Harry O., and W. Carey Parker, and two grandchildren.

Dr. Parker was accepted in the Philadelphia Academy of Surgery in 1939. He was an active and dedicated member of this Academy. Let it be recorded that he devoted his life to the practice of the care and science of surgery and served his patients, his community, his hospital, this profession, and this Academy well.—WILLIAM C. STAINBACK, M.D.

I. S. Ravdin

1894–1972

Dr. Isidor Schwaner Ravdin died on August 27, 1972 after a long illness which had separated him from us for the past five years. Despite this long period during which his death was foreshadowed, all but the younger members of the Academy will remember him as a man with the most remarkable vitality, extremely wide human sympathies and an understanding of people and their motivation—which was almost unparalleled in my experience.

Born in Evansville, Indiana, in a long line of physicians, he had his premedical education in that state and came to the University of Pennsylvania where he received the M.D. degree in 1918 and began his interneship at the Hospital of the University of Pennsylvania. He served successfully as Chief Resident at the University Hospital and later as director of the Graduate Hospital. Thus, he knew Edward Martin who was the John Rhea Barton Professor when he was a medical student and recalled vividly how Martin had a death on the table and told Rav as a student that he had to get used to that sort of thing. He was there as a house officer the year John Deaver became Barton Professor and not long after Frazier became Barton Professor in 1922, he was asked to return to the University of Pennsylvania to devote full time to the development of the Surgical Research Department which Joshua Sweet had been in charge of and to center his limited clinical activities at the Hospital of the University of Pennsylvania. He began this in 1927 as Assistant Professor and in 1929 was given a double promotion to the J. William White Professorship of Surgical Research. In 1935 he became the Harrison Professor of Surgery, the only person so far to hold that title. At the end of the war, he became the Barton Professor of Surgery and Chairman of the Department, serving from 1945 to 1959. His tenure as Director of the Harrison Department of Surgical Research, however, was 25 years from the inauguration of the department in 1934 until he resigned from it in 1959 to become Vice President for Medical Affairs, continuing in that capacity until the statutory age of retirement at 70. He became a member of the Philadelphia Academy of Surgery in 1924 and was an active participant in its meetings. In 1938 when J. Stuart Rodman was President, he was appointed to give the annual Oration. His paper, Recent Advances in Surgical Therapeusis was published in the *Annals of Surgery* in 1939 and is a valuable revelation of the frontiers of surgical thought and research at that time, frontiers in which Dr. Ravdin personally had been extremely active.

Dr. Ravdin was elected Vice President of the Academy of Surgery in 1950 and became President in 1952, serving the usual two-year term.

Dr. Ravdin received many notable awards, including the Strittmatter Award of the Philadelphia County Medical Society in 1955, and the Philadelphia Award, established by the late Mr. Edward Bok which came to him in 1957. Honorary degrees were awarded by the New York Medical College, Temple University, University of Pennsylvania,

Philadelphia College of Pharmacy and Science, Franklin and Marshall College, Indiana University, Northwestern University, Lehigh University, Hahnemann Medical College, and the University of Oslo. He became an honorary Fellow of the Royal College of Surgeons of England, the Royal College of Physicians and Surgeons of Canada, Royal College of Surgeons of Edinburgh and the Royal College of Surgeons of Ireland.

In civic affairs he served as a Director of the Philadelphia Museum of Art and as a Trustee of the Rosenbach Foundation, among many other assignments.

At the national level he served in a large number of advisory capacities to various agencies of government in Washington. He was a consultant to the surgeon-general of the Army and in 1956, when President Eisenhower developed obstructive symptoms as a result of regional ileitis, Dr. Ravdin was called from a meeting of the Board of Regents of the American College of Surgeons in Chicago to Washington, and participated with General Leonard D. Heaton in operating on the President. Their decision to bypass the obstruction by an ileocolostomy was the subject of considerable overt criticism after the fact.

The President's subsequent course and the findings at autopsy reported many years later, justified their judgment—the disease had not progressed and the bypass had permitted a return to satisfactory alimentary function.

Dr. Ravdin's research contributions concerned intravenous therapy in the early 20's, the chemical and other functions of the gallbladder in the late 20's; the effects of hypoproteinemia on gastric emptying, wound-healing and shock in the 1930's and early 1940's; the damaging effects of various anesthetic agents on the liver, and the protection of the liver by high concentrations of inhaled oxygen and by high protein low-fat diets in the late 30's and early 40's.

After the war, his attention turned more and more to cancer and the organization of clinical trials to permit evaluation of cancer chemotherapeutic agents. He wrote extensively on Crohn's disease and reported on it before this Academy, and on many other clinical subjects. He ran a very active clinical practice; thus, was constantly in touch with the realities of surgery as well as with much of the physiologic theory and research behind it. He served as Chairman of the Board of Regents of the American College of Surgeons for five years, then as President of the College, and President of the American Surgical Association.

His contributions to cancer were recognized by his election to the presidency of the American Cancer Society in 1962 and by receiving the Annual National Award of the American Cancer Society in 1965. At the time of his death he was an honorary life member of the Board of this—the largest voluntary health agency in the world.

More than 40 of the men and women whom he helped to train in surgery have become full professors, and many others who did not go in the direction of academic surgery have played important leadership roles in their respective communities.

People came to Dr. Ravdin with an endless series of problems—health problems from his patients and colleagues, career problems from his students and house officers, and past house officers; financial problems from the students, house officers, colleagues, and neighbors; and problems of national policies such as health manpower, support for research, and the like, from national leaders. He never turned a deaf ear to requests for help, and the number of such practical problems which he was able to solve or

significantly help with, made him one of the most sought after consultants in all of these diverse areas.

Correspondingly, there are many of us, including numerous members of this Academy, who will always remember him not only with the respect to which he was so richly entitled, but with a deep sense of personal gratitude and affection. Possibly his greatest quality, which was singled out by the late Dr. Francis Grant, was his capacity to inspire young men.

He is survived by his wife, Dr. Elizabeth Glenn Ravdin, his son, William D. Ravdin, Vice President of the Southeast National Bank of Pennsylvania in Chester, a daughter, Elizabeth Ravdin Bergus, and eleven grandchildren.—JONATHAN E. RHOADS, M.D.

Robert G. Ravdin

1923—1972

On March 28th last the Philadelphia Academy of Surgery lost one of its younger members, Robert Glenn Ravdin, who died of coronary occlusion at the age of 49.

Born in Philadelphia, the first child of Dr. I. S. Ravdin and Dr. Elizabeth Glenn Ravdin, he attended Friends Central School where he was elected student body president at age 15. He attended Harvard College for three years, winning a John Harvard Fellowship.

With World War II starting, he left college to enter medical school at the University of Pennsylvania and graduated in 1945.

He teamed up with John Murphy in the study of peritonitis in dogs and its treatment with antibiotics. The two joint papers at the Undergraduate Medical Association that year won the first and second prizes.

After internship at Presbyterian Hospital in New York and two years in the service, Bob returned to the department of biochemistry for 15 months and did so well in that field that Dr. Gurin invited him to stay in it as a career. One of the papers he wrote then was still remembered last year by a professor of biochemistry I met in New York.

His participation in professional organizations included the Philadelphia County Medical Society in which he was serving as Chairman of the Board of Censors—always a highly sensitive position to fill; the Pennsylvania State Medical Association in which he was a member of the Cancer Commission and the A.M.A.

He was a Director of the American Cancer Society, Philadelphia Division, and had served also on the National Fellowship Committee. In 1962 he went to Moscow to speak at the 8th International Cancer Congress, performing the incredible feat of learning Russian at Berlitz during the preceding few months.

Professional recognition came to him by election to the College of Physicians and the Academy of Surgery in Philadelphia, the American College of Surgeons, La Societe Internationale de Chirurgie, and in 1965 he became one of the 250 American Surgeons to hold active membership in the American Surgical Association.

He belonged to one of the most distinguished clubs—the Halsted Society, and served as Chairman of their Committee on Arrangements when they last met in Philadelphia.

Academic recognition came in his successive promotions in the Faculty of Medicine at the University of Pennsylvania to full professorship in surgery in 1970, and at the Hospital of the University of Pennsylvania he was chief of a surgical service and with Dr. Sylvan Eisman developed and served the Cancer Chemotherapy program for solid tumors at the hospital.

In national medicine he served successively on a series of committees of the National Cancer Institute concerned with drug therapy of tumors, including the Breast Task Force Cooperative Group since 1955, The National Surgical Adjuvant Breast Project, and the Current Breast Cancer Task Force.

When Krebiozen became a political issue, he was called to Washington for ten days as a member of a panel of consultants to evaluate an extensive study.

It was characteristic of his disinterest in personal credit that he often left the reporting of these studies in journals largely to others even though he had contributed the largest part of the data.

He had a strong secondary interest in operating room infections and headed a study of the value of ultraviolet light in reducing such infections—again he helped design the protocol for the five hospital study, and proceeded to get 40% rather than his 20% share of the data.

In basic research he collaborated with Drs. Defendi and Koprowski on virus transformations of human cell lines to malignant forms and added to the evidence that this occurs.

He was at his best with patients. His consultations were thorough, his background of knowledge highly sophisticated and his judgments clear and sound. His own surgical results were highly successful. He often manifested the sixth sense of the truly great clinician.

He established warm relationships with individual patients that buoyed them up through many difficult periods, and as much of his work was with advanced cancer, these patients were often literally in the valley of the shadow of death.

In addition to all this, he found time to serve as a director of a bank, a director of an eleemosynary foundation, and to run five separate research budgets, and to pursue a wide variety of intellectual pursuits and hobbies outside of medicine.

To my mind, Bob's outstanding characteristics were an intense honesty, a disdain of sham, of the hypocrisy of doing meaningless things because of convention or for the sake of conformity. He was also one who cared profoundly about people, and particularly his patients. Born of five generations of physicians, this was deeply ingrained in him.

It was especially fitting that a group of the surgical residents who had worked with him initiated and carried through the endowment of a lecture fund to bring annually to his school an outstanding speaker in the field of humanistic aspects of patient care, which Dr. Ravdin so particularly exemplified.—JONATHAN E. RHOADS, M.D.

Frederick R. Robbins

1897—1973

It was with deep regret that the community and the Medical Staff at The Bryn Mawr Hospital learned of the death of Dr. Frederick R. Robbins on January 12, 1973.

Born in Buffalo Cove, North Carolina on October 17, 1897, Dr. Robbins attended the University of North Carolina, from which he graduated with a Bachelor of Science degree in Medicine in 1919. Two years later he received his medical degree from the University of Pennsylvania. Following an internship at Pennsylvania Hospital he served as a resident in Surgery from 1923 to 1926 and was ultimately named Chief Resident Physician at this hospital.

He was appointed to the Attending Staff of The Bryn Mawr Hospital in 1926 as Assistant Surgeon and in 1927 he was appointed Assistant Surgeon to the Out-Patient Clinic of the Pennsylvania Hospital. In 1930 he became Assistant Surgeon to the Pennsylvania Hospital and in 1946 was promoted to Surgeon to the Hospital. Dr. Robbins was appointed Assistant Attending Surgeon at The Bryn Mawr Hospital in 1937.

On January 5, 1942, Dr. Robbins, together with other members of The Bryn Mawr Hospital Unit, left for active duty in the Medical Corps of the Navy, with the rank of Captain. He was decorated with the Navy Commendation Ribbon and remained a member of the Naval Reserve Medical Corps after the close of World War II. Dr. Robbins' service occurred at a time of life when it involved an unusual measure of personal and professional sacrifice, but he always looked back on it as a happy and rewarding experience.

He returned to the Surgical Staff of both The Bryn Mawr and Pennsylvania Hospitals in 1946 and was appointed Chief of a Surgical Service at the Pennsylvania Hospital. The following year he was promoted to the rank of Attending Surgeon at The Bryn Mawr Hospital and in 1952 he was appointed Surgeon-in-Chief (the title was later changed to Director of the Department of Surgery), succeeding Dr. John B. Flick on his retirement from that position. He held this position until he reached the age of retirement from administrative duties in 1962. At that time, he was appointed Consulting Surgeon in the Service of General Surgery, a position which he held at the time of his death. He also served as Consultant in Surgery at the Valley Forge Army Hospital. He was Assistant Professor of Clinical Surgery at the School of Medicine of the University of Pennsylvania and Associate Professor of Surgery at the Graduate School of Medicine.

Dr. Robbins was a diplomate of the American Board of Surgery, a Fellow of the American College of Surgeons and a member of the Philadelphia College of Physicians. He was also a member of the American Medical Association and the Philadelphia County Medical Society and was the author of numerous medical publications. He was an excellent clinician and was well known for his bedside teaching, devoting himself to the training of a long succession of Interns and Surgical Residents. It was during his regime as Director of the Department

of Surgery that the four-year surgical residency program at The Bryn Mawr Hospital was established and achieved formal approval. He served on many important Staff Committees and was a member of the Executive Committee during his incumbency as Director of the Department of Surgery.

His calm demeanor and quiet kindliness won the confidence of his patients and fellow physicians. His surgical skill, great gift as a diagnostician and superior clinical judgment together with his unvarying loyalty brought him the esteem of his colleagues and the devotion of the Nursing Staff at the hospital.

The Bryn Mawr Hospital and Family and Community were deeply shocked by the accident on May 4, 1963 which crippled his right arm and hand and which forced Dr. Robbins to withdraw from active practice.

Dr. Robbins were elected to the Philadelphia Academy of Surgery in 1928. He was proud to be a member of the Philadelphia Academy of Surgery and served the Academy with distinction. Let it be recorded that he devoted his life to the practice of the art and science of surgery and served his patients, his community, his hospital, his profession, and this Academy well. —WILLIAM C. STAINBACK, M.D.

Julian A. Sterling

1913–1975

Julian Alexander Sterling was born in Philadelphia on January 30, 1913 to Alexander and Elsie Sterling. He graduated from Central High School in 1929 and received his B.A., M.D., M.S. and finally a Sc.D. from the University of Pennsylvania, the latter degree in 1951. After an internship at St. Luke's Hospital in Bethlehem, Pennsylvania in 1936–37 and a year at Montefiore Hospital in New York City, he went into practice in Philadelphia in general medicine and surgery until 1941 when he entered the United States Army, where he served until 1946, three years overseas, attaining the rank of Major.

Following his return from the Army, he served a surgical residency at the Jewish Hospital (now the Albert Einstein Medical Center, Northern Division) in Philadelphia, and following that residency, he became a member of the surgical department of that hospital on the staff of Dr. Ralph Goldsmith. After becoming a diplomate of the American Board of Surgery in 1949, he rapidly advanced from Assistant Surgeon to an Associate Surgeon and became a Senior Attending Surgeon at Albert Einstein Medical Center, Northern Division in 1957, serving actively in that capacity until illness forced him to leave the city in 1967. During the years from 1949 until 1967, a span of only 18 years, he served as a member of the teaching faculty of the Graduate School of Medicine of The University of Pennsylvania, as Assistant from 1949 to 1951, Associate from 1951–1953, and then as Assistant Professor until 1962; he was a Clinical Associate in Surgery, Temple University Medical School (Albert Einstein Medical Division) from 1950–1957, and then Assistant Professor; Chief Surgeon to the Philadelphia Psychiatric Center from 1955 on; Governor, then a trustee and finally Vice President of the American College of Gastroenterology; President of the Delaware Valley Chapter of the American Medical Writer's Association from 1956 to 1958, and a director of that organization from 1957 to 1960; President of the Surgical Alumni Society of the Graduate School of Medicine of the University of Pennsylvania from 1963 to 1965; Chairman of the International Conference on "Fetal and Infant Liver Function and Structure" sponsored by the New York Academy of Sciences in 1962; Chairman of the Gallbladder Disease Commission of the American College of Gastroenterology from 1961 to 1963.

Dr. Sterling was a fellow of the following organizations: Philadelphia Academy of Surgery, Philadelphia College of Physicians, American College of Gastroenterology, American Medical Writer's Association, American Association for the Advancement of Science, American Society for Artificial Internal Organs, and American Association for the Study of Liver Diseases. He was also a member of the Philadelphia County Medical Society, Pennsylvania State Medical Society, and the American Medical Association.

Honors bestowed on him included, among others, the John S. Clark Founder's Prize awarded by the Undergraduate Medical Association, University of Pennsylvania School of Medicine, The Bronze Star Medal while in the Armed Forces, First prize for his exhibit on

"The Papilla for the Bile Duct" at the American Medical Association Meeting in 1952, Humanitarian Award by the B'nai Brith Council of Greater Philadelphia in 1959, The Distinguished Service Award by the American Legion (State and County Councils) in 1961, honorable mention for an exhibit on "Biliary-Hepatic Duct Atresia" at the 199th New Jersey State Medical Society Meeting in 1965.

He was a prolific writer and lecturer, contributing five text books and nearly one hundred and fifty scientific articles to the medical literature. His textbooks included: "The Biliary-Tract with Special Reference to the Common Bile Duct," Williams & Wilkins, 1955, "Practical Guide to Surgical Management," Vantage Press, 1959, "Experience with Congenital Biliary Atresia," Charles C Thomas, 1960, "Fetal and Infant Liver Function and Structure (Symposium)," New York Academy of Sciences, Volume III, 1963, "The Acute Abdomen and Emergent Lesions of the Gastrointestinal Tract," Charles C Thomas, 1967 (translated into Spanish in 1968). He also made several motion picture films in sound and color, approved by the American College of Surgeons.

He was an avid scientific investigator in the field of biliary tract disease, liver function, hemodialysis, homologous organ transplantation, particularly of the thyroid and parathyroid glands. This led to an original portable model of an artificial kidney, a triple lumen T-tube, semiautomatic stapler for vascular anastomosis and artificial bile duct.

His activities were suddenly curtailed by severe pulmonary emphysema, necessitating his moving to Florida, forcing his retirement from the practice of surgery. However, his interest in medicine and surgery remained, and he continued to review books for various journals and manuscripts for several publishers. He started to collect first editions of various medical giants such as Oliver Wendell Holmes, S. Weir Mitchell, and antique manuscripts of the scholar, Cardon. It should be pointed out that all of these books were bought by mail through catalogues and advertisements with scouts all over the world searching for books he wanted. Prior to his retirement he became interested in a collection of Chinese "Medicine Dolls." His retirement gave him more time to concentrate on this hobby, and when I last visited him about one year ago, he went into great details explaining how he obtained the sizeable collection of unusual specimens. On that occasion he told me how happy he was to awaken each day to see the sun rising from above the Atlantic Ocean.

During all his years of good health, bad health, active practice, and inactivity from practice his wife, Reba, was his constant support and encouragement. His greatest pleasures, exclusive of his professional activities were derived from his family, which included two children and grandchildren.

During my last visit with him, Julian told me how full his life had been. There was no feeling of pity on my part for his present situation. I actually left satisfied that he was filling his life as much as his physical strength permitted, since, for the last year or two, he was actually unable to leave his apartment, and even walking across a room was a real effort. Finally on February 23, 1975 what little breath he had left him. On that day society lost a fine physician, teacher, lecturer, investigator, writer, his family lost a loving husband, father and grandfather, and his close associates lost a good friend.—JERRY ZASLOW, M.D.

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