

The Philosophical Society of Texas

PROCEEDINGS

1942

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OF THE ANNUAL MEETING
OF

The Philosophical Society of Texas

DALLAS
DECEMBER 5, 1942

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The Philosophical Society of Texas
1943

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ANNUAL MEETING

THE Annual Meeting of The Philosophical Society of Texas, commemorating the one hundred and fifth anniversary of its founding by the Fathers of the Republic, was held at Dallas in the Texas Room of the Baker Hotel on the evening of Saturday, December 5, 1942.

President George A. Hill, Jr., presided. The invocation was pronounced by the Reverend Doctor Umphrey Lee, President of Southern Methodist University.

Members and guests present included: Mr. Sam H. Acheson, Mrs. Karle Wilson Baker, Professor W. J. Battle, Mr. and Mrs. George Waverley Briggs, Dr. and Mrs. J. H. Black, Dr. and Mrs. Edward H. Cary, Judge and Mrs. Marion N. Chrestman, Judge and Mrs. Rosser J. Coke, Mrs. J. W. Crosland, Mr. J. M. Cumby, Mr. G. B. Dealey, Major General and Mrs. Richard Donovan, Mr. and Mrs. J. T. Elliott, Mr. and Mrs. Fred F. Florence, Mr. and Mrs. Herbert Gambrell, Mr. and Mrs. R. R. Gilbert, Dr. J. W. Gormley, Mr. Walter Hornaday, Mr. and Mrs. John H. Henry, President and Mrs. George A. Hill, Jr., President L. H. Hubbard, Mr. L. W. Kemp, Mr. and Mrs. Frank H. King, President Umphrey Lee, Mr. John A. Lomax, President Edgar Odell Lovett, Professor and Mrs. John H.

McGinnis, Mr. Stuart McGregor, Dr. Irvine McQuarrie, Mr. and Mrs. James M. Moroney, Mr. Henry Neuhoff, Mrs. Rue O'Neill, Mr. John E. Owens, Dean and Mrs. C. S. Potts, Mr. and Mrs. L. M. Rice, Mr. John Rosenfield, Mr. and Mrs. John E. Rosser, Mr. Victor Schoeffelmayer, Professor and Mrs. I. K. Stephens, Mr. and Mrs. R. L. Tayloe, Professor and Mrs. Lon Tinkle, Mr. and Mrs. Leslie Waggener, Mr. and Mrs. Harry C. Withers, Dr. and Mrs. Guy F. Witt.

After dinner, President Hill made the following remarks:

Introductory Remarks by the President

Members of the Society, Ladies and Gentlemen:

ONE hundred and five years ago, the founders of The Philosophical Society of Texas concluded their articles of association with a pronouncement of judgment upon the infant Republic and a prayer for its future, viz:

"Texas has her captains, let her have her wise men."

In the long period intervening, much has been added to the accumulated knowledge of mankind. The sciences, through research and achievement, have filled endless compartments in the storehouse of knowledge, measured and labeled with scientific method and precision. Knowledge has experienced great and definite gain; but what of wisdom; men of wisdom?

On this day of world-wide chaos and insensate conflict, the Fathers of Texas might well look down the years and again solemnly pronounce their judgment and prayer:

"The world has her captains, let her have her wise men."

Indeed the day has arrived when the philosopher must be given heed, and wisdom be enthroned, if civilization is to endure.

How then may we identify the true philosopher?

Thoreau has said that "to be a philosopher is not merely to have subtle thoughts, nor even to found a school, but so to love wisdom as to live, according to its dictates, a life of simplicity, independence, magnanimity and trust".

Our speaker of the evening measures up to Thoreau's

standard, and to every competent definition of the true philosopher.

He has devoted a distinguished life to the pursuit of eternal truth, to the achievement of wisdom, and to the dissemination of knowledge; with nobility of character, serenity of mind, great genius and erudition, and with human kindness enfolded in simplicity of manner and dignified charm, he has laid out and walked the paths of wisdom at his beloved Rice Institute.

Ladies and gentlemen, I present to you Dr. Edgar Odell Lovett, President of The Rice Institute.

SOME RELATIONS OF
THE PHILOSOPHICAL SOCIETY OF TEXAS

EDGAR ODELL LOVETT

EIGHTY years ago at the University of Edinburgh a young student from Texas was taking his oral examination for the Practice of Medicine. The Professor of the Practice of Physic was one of the most interesting and inspiring of instructors, but he had certain special notions of his own which the students were careful to adopt in their preparation for examinations under him. "What is the definition," the professor asked the Texan candidate, "What is the definition of an acute disease?" "There is no definition of an acute disease," replied the Texan. "Sir," insisted the professor, "you must have heard me say in my lectures that an acute disease is one that runs its course in fourteen days." "Yes," retorted the imperturbable Texan, "I have heard you say it, but that is no definition. An omnibus runs from Edinburgh to Leith in twenty minutes, but that is not a definition of an omnibus."

Definitions are at once the delight and despair of the human mind. Next to consecutive thinking itself, the most difficult thing is to say what you think. It is quite beyond my powers adequately to acknowledge the kindness of President Hill and the Directors of the Society on the present occasion. And these gentlemen left to the speaker the choice of subject, though the date, and the place, the prime attraction, they unalterably fixed. "Some Relations of the Philosophical Society of Texas," as a subject, may cover the remarks I am about to make as well as any caption I can think of.

We are met to observe the one hundred and fifth anniversary of the founding of the Philosophical Society of Texas. Half a dozen years ago you gentlemen of Dallas accomplished a miracle. You recovered the past. You resurrected dead bones and made them live again. Your local scholars reconstructed the circumstances and reproduced the very customs of that early life. You have spread the membership of the new Society over the commonwealth and farther afield. Your achievements are altogether admirable, and your foresight and initiative are beyond praise.

Like this Society, there are many other similar organizations engaged in the collection and diffusion of knowledge. They are legion. They are as numerous, if not as the sands, at least as the islands, of the Southern seas. A mere catalogue might occupy us till morning, and from then to sundown. Every variety of knowledge has been a vocation of some one of these societies. Their history is coeval with civilization, coextensive with culture. Like empires, they have arisen, flourished, and passed away. The less remote forerunners of ours are exemplified in the Mediæval Universities, the Museum of Alexandria, the Lyceum of Aristotle, the Academy of Plato, and the Chaldæan astronomers of Babylon.

A NEAR CONTEMPORARY: THE ROYAL INSTITUTION
OF GREAT BRITAIN

Let us single out one, two, or three of such societies from the more immediate past, considering in turn a near contemporary of our Society, an elder sister, and an English pattern of both. The first is a blood relation of this Society and not much older. It re-

mains a London enterprise. It received a royal charter in 1800, founded the year before by Count Rumford, who led a group of his friends in raising funds for its buildings and equipment in Albemarle Street, London. For short it is known as The Royal Institution, its full title being The Royal Institution of Great Britain, founded for the Promotion, Diffusion, and Extension of Science and of Useful Knowledge.

Many of the organizations for the promotion, diffusion, and extension of knowledge began in some such way as this: someone had an idea, he communicated it to a friend, and they brought in a third party for the purpose of discussion. At least one of the trio was enough of a geometer to see a fourth side to every triangle and a fifth corner in every quad, while another never failed to find a short distance between any two centers of interest or influence, of means or money, private or public, or both. This triad of imagination, enthusiasm, and practical sense, plus a pinch of eccentricity, became effective, like the figure of Contention in Homer, with head in the sky and feet on solid ground. For most of these cases exemplified early a trenchant observation made by John Stuart Mill in his essay on Liberty: "Eccentricity," says Mill, "has always abounded when and where strength of character has abounded; and the amount of eccentricity in a society has generally been proportioned to the amount of genius, mental vigour, and moral courage which it contained."

Count Rumford, in his plans for the Royal Institution, the greatest work of his eventful life, had at least two coadjutors. One of these was (Sir) Joseph Banks (1743-1820), who early in life inherited a large fortune. He

undertook to revive interest in botany at Oxford. "A munificent patron of science," he was of great energy, poise, and tact. For the last forty-two years of his life he was president of the Royal Society of London. Into its procedures he introduced and carried many reforms.

The other coadjutor, a more eccentric figure, was Dr. Thomas Beddoes, of English birth in 1760. On graduating as doctor of medicine from Oxford in 1786, he became associated with the great chemist, Lavoisier, in Paris. Two years later he was appointed reader in chemistry at Oxford and his lectures attracted the largest concourse of students Oxford had witnessed since its great days of the thirteenth century. But after four years he was obliged to leave Oxford because of his liberal views on the French Revolution. He thereupon settled at Clifton Hotwells, a residential suburb of Bristol, as a practicing physician, his specialty being the curative qualities of gases which were termed Factitious Airs. For the furtherance of his system he conceived the idea of founding a Pneumatic Institute. With the help of friends, Watt of steam-engine fame, who built and donated the apparatus, and the celebrated Wedgwood, who contributed a thousand pounds, Beddoes got his Pneumatic Institute going in 1798. His master stroke there was putting the youthful (Sir) Humphry Davy (1778-1829) in charge of the laboratory. Davy began investigating nitrous oxide, or laughing gas, with which Beddoes had exciting adventures. Among numerous other projects, Beddoes undertook to make negroes white by using what he called oxygenated marine acid gas, and treated cases of pulmonary tuberculosis with the breath of cows. In every case of tuberculosis he had at least one cow in the patient's bedroom, getting animals up difficult stairways under the protests of furious

landladies. After ten years' trial the Pneumatic Institute failed. In 1807, the year before he died, Beddoes sold the establishment, which became thereafter an ordinary hospital.

Before Count Rumford launched the Royal Institution he had already had careers enough for several men. As Benjamin Thompson he was born in Massachusetts in 1753, of an English family settled in New England one hundred years before. In his boyhood he developed skill in drawing and mechanical invention, tried to solve perpetual motion, and succeeded in making fireworks. He had learned enough mathematics and astronomy before he was fifteen to compute a solar eclipse with surprising accuracy. His schooling did not extend to college, but while a student of medicine in a doctor's office he would walk nine miles and back to hear lectures on natural philosophy in Cambridge. By the time he became a schoolmaster at Rumford (now Concord), New Hampshire, Benjamin Thompson had grown to be tall and strikingly handsome, of courtly manners and easy address. So at nineteen he married, or, as he said, was married by, a rich Rumford widow of thirty-three, with one son.

The American Revolution on, Thompson's loyalty to the cause of American freedom was questioned, chiefly because of his friendship with the Colonial Governor of New Hampshire and other Tories. The accounts are conflicting, but he was certainly with the patriots at the Battle of Lexington. The evacuation of Boston (March 17, 1776), however, found him so involved that he resolved to flee the country. Fortunately for him, General Gage of the Royalists entrusted to him the carrying of his report to London, where Lord George Germaine, Sec-

retary of State, took a fancy to him and in due time advanced him to the post of Under Secretary of State for the Northern Department. In the meantime Thompson was pursuing his philosophical and military studies, which won him such notable distinction that he was made a Fellow of the Royal Society in 1779, and in 1782 he was appointed a Colonel in the British Army. In this last capacity he saw service in several skirmishes near Charleston, South Carolina. Thus at Lexington and at Charleston he was present on opposite sides at the shedding of the first and the last blood in the War for American Independence.

Colonel Thompson returned to England and retired from the Army on half pay. Crossing the channel on his way to Strassburg, he was in the company of Edward Gibbon, the historian, who, writing to Lord Sheffield just before the boat sailed, said: "The Triumvirate of this memorable embarkation will consist of the grand Gibbon, Henry Laurens, Esquire, President of Congress, and Mr. Secretary, Colonel, Admiral, Philosopher Thompson attended by three horses, who are not the most agreeable fellow passengers."

Thompson was to spend his next decade in the service of the Elector of Bavaria. He accepted this appointment with the approval of King George the Third, who, before his departure in 1784, made him a knight and baronet. In this sphere his talents for organization and reform, military and civil, and for philanthropy, especially to the poor, were to find free and full scope. His public works were accorded popular acclaim which still endures. The citizens of the capital erected a monument to him in the city park, called the English Garden, on land which he

had reclaimed. The Elector took advantage of an opportunity to make Sir Benjamin Thompson a Count of the Holy Roman Empire, styled Count of Rumford, from the home town of his first wife, who never left America and died in 1792.

Rumford returned to London in 1798 as Minister for Bavaria, but the King could not receive one of his own subjects in that capacity. At this time Rumford seriously considered returning to America and settling in Cambridge for the rest of his life. On learning of this, President John Adams invited him to organize and superintend the United States Military Academy, and also offered him the post of Inspector General of Artillery. These offers Count Rumford declined. With enhanced prestige and popularity he resumed his scientific work in London. As already intimated, he soon had the Royal Institution under way. He made a very happy choice in selecting the promising Humphry Davy as first professor of the institution. It was largely due to the genius and energy of Davy that Rumford's ideals became promptly effective. Rumford himself assumed the executive management of the institution, residing there and in that vicinity until 1804, when he went to Paris and married the wealthy widow of Lavoisier, the chemist. This marriage was dissolved by mutual consent. Rumford died suddenly at Auteuil either on the 18th or 21st of August, 1814, in the sixty-second year of his age.

About twenty years before his death Rumford had established at the Royal Society of London and the American Academy of Arts and Sciences in Cambridge, Rumford medals, to be awarded as rewards for research in light and heat, provinces of natural philosophy in which he

himself had been a distinguished pioneer. And by his will the residue of his estate was left to the University in Cambridge to endow a Rumford professorship. The first Rumford Professor at Harvard was Jacob Bigelow, M.D., whose inaugural lecture, published in 1818, embodied an account of the life and writings of Benjamin, Count Rumford. The full title of this Harvard appointment is Rumford Professor and Lecturer on the Application of Science to the Useful Arts. It has been held successively by Jacob Bigelow, Daniel Treadwell, E. N. Horsford, Wolcott Gibbs, John Trowbridge, and Edwin Herbert Hall, while George Washington Pierce, a native of Austin, Texas, and an alumnus of the University of Texas,¹ recently retired as Rumford Professor, Emeritus, at Harvard. The present Rumford Professor of Physics is Emory Leon Chaffee.

After Rumford's death, his daughter by his first marriage lived in Concord, New Hampshire, as the Countess of Rumford. There she carried on projects of philanthropy similar to his own, and founded the Rolfe and Rumford Asylum for poor motherless girls. Her father's interest in bringing scientific appliances, inventions, and instruction to artisans as well as to the general public had found inspiration in such charitable activities as those of the Society for Bettering the Condition of the Poor.

The Royal Institution has had an honorable history. Of its beginnings Sir Leslie Stephen wrote in 1876: "The foundation of the Royal Institution at the end of the eighteenth century marks, perhaps, the point at which

¹At this point Professor John A. Lomax very kindly interjected from the floor that Dr. Pierce had been a teacher in the Public Schools of Dallas. Professor Herbert P. Gambrell as kindly wrote later that Dr. Pierce became one of the charter members of the revived Philosophical Society of Texas in 1936.

the importance of physical science began to impress the popular imagination," and in another connection he referred in 1900 to Count Rumford's foundation of the Royal Institution as representing "the growth of a popular interest in the scientific discoveries." The current objectives of the Institution are consistent with its original charter. These objectives are "to prosecute scientific and literary research and teaching by means of lectures and experiments; to illustrate and diffuse principles of inductive and experimental science, especially in physics, chemistry, and physiology; to promote social intercourse among lovers of science, women and men; and to afford them opportunities for collective and individual study, in particular, of the applications of science to the common purposes of life."

The business meetings of the Institution are held monthly. Its budget is provided by the annual dues of its members and contributions of others interested in its projects. Its dues are five guineas a year. Its subscription lists are open to practically everyone of intellectual interests and respectable character. Its weekly Friday evening meetings are open to members and their friends. They meet in the large library for "Conversation on Scientific and Literary Subjects (1810) and to listen to Discourses (1825)."

These Friday evening discourses are memorable performances. They have made in a night, reputations for the performers. It was so in the case of John Tyndall. As a result of his Friday evening lecture in 1853 he was chosen Professor of Natural Philosophy in the Institution, a position he was to hold until his death forty years later. For the last twenty-five years of his life he was scientific

superintendent of the Royal Institution, in succession to Faraday.

The annual lecture season of the Institution runs from January to June. There are two series of lectures, January to Easter, Easter to June, of approximately fifty lectures each, on Tuesdays, Thursdays, and Saturdays. Non-members pay a guinea for each of these series. In this sense, that they thus cost the subscribers about ten cents a lecture, they are virtually open to the public. All of them are of first-rate importance. They are in courses of from two to four lectures, "delivered by men of eminence in their special studies, and upon a great variety of subjects—scientific, artistic, literary, and musical. At Christmas time there is a special course, originated by Faraday, of Juvenile Lectures (copiously illustrated)," this year in the 117th season. These juvenile lectures have been very popular among children of all ages, "from under eight to over eighty," as Sir James Jeans has remarked. His own course of Christmas lectures of some ten years ago, published under the title "Through Space and Time," is one of the best books on popular astronomy, a subject in which good books have always been written.

No less remarkable than its record in the popularization of knowledge has been the record of the Royal Institution in research. The Institution maintains professorships of natural philosophy, of chemistry, and of physiology, which have been held in long tenure by the first men of their day. Its original laboratories for the promotion of physical and chemical science, and the later Davy-Faraday Research Laboratory endowed by the late Dr. Ludwig Mond, have been associated with the researches of an illustrious line, including Thomas Young, Sir

Humphry Davy, Michael Faraday, William Thomas Brande, Edward Frankland, William Odling, John Tyn-dall, John Hall Gladstone, Lord Rayleigh, Sir James Dewar, Sir J. J. Thomson, Lord Rutherford, and Sir William Bragg. The Fullerian professorship and the directorship of the laboratories, vacant on the recent death of Sir William Bragg, have been accepted for a period of three years by Sir Henry Dale, President of the Royal Society.

Industry and convenience alike have profited by the practical results of researches inaugurated at the Royal Institution. For example, Sir Humphry Davy gave to the public his safety lamp for miners, and Sir James Dewar gave to the public his thermos bottle. The safety lamp has been superseded, but the thermos bottle is in use everywhere by housewives, picnickers, laboratory technicians, and scientific researchers. Had either Davy or Dewar or the Royal Institution reserved a tithe of the income from the use of either invention, a vast fortune would have been accumulated.

AN ELDER SISTER: THE AMERICAN PHILOSOPHICAL SOCIETY

I have recalled the continuity in plan and achievement of a near contemporary of the old Philosophical Society of Texas. "It is continuity and connection that count," as Horace said. I now desire to pay our respects to an elder sister of this Society. Again I begin with a story.

A wealthy Scotsman who died in 1823 directed in his will that the residue of his property should be devoted to such charitable purposes as his widow might appoint. Mrs. Crichton decided to establish a university in the city of Dumfries, and applied to the Privy Council of the realm for a charter. But the four existing Scottish universities, St. Andrews, Glasgow, Aberdeen, and Edinburgh,

entered protest. They represented that their benches were half empty and that the creation of another Scottish university could only still further cripple and impoverish them. They brought such pressure to bear that the charter was refused. Whereupon Mrs. Crichton said: "Very well, if they will not allow me to give you a university, I will give you a lunatic asylum instead." So she founded the Crichton Royal Institution at Dumfries, the buildings alone costing one hundred thousand pounds, a very considerable sum in that day. The Crichton Institution became a pioneer in the humane treatment of the mentally afflicted, and has always held a leading place amongst the mental hospitals of Great Britain. Universities and lunatic asylums, it has been said, have this in common: they are both concerned in promoting mental equilibrium.

Benjamin Franklin, of well-balanced mind, was a founder from the beginning to the end of his days. From his boyhood up, his master passion was liberty. As a mere lad he went out on his own and made his way. He was self-taught and one of the best educated men of his time. He taught himself in the school of experience, observation, and experiment. He could see more in any incident, object, or event than any man about him, and he could tell all about it in the excellent English he had laboriously taught himself. He was born in Boston in 1706, but Philadelphians insist that he was born in Philadelphia at the age of seventeen. Before he was twenty-one he gathered about him a group of Philadelphians for regular weekly meetings in self-improvement. From that Franklin group in 1727 dates "The American Philosophical Society Held at Philadelphia for Promoting Useful Knowledge," which claims to be the oldest scientific society in the Western

Hemisphere. In 1740 Franklin founded the Academy in Philadelphia to which the University of Pennsylvania traces its beginnings.

Men have celebrated Franklin's fame as author and diplomat, printer and patriot, philosopher, scientist, philanthropist, and statesman. He was as many-sided a man as this country has produced.

"A man so various that he seemed to be
Not one, but all mankind's epitome."

He early became and to this day remains the first citizen of Philadelphia.

Had Franklin been one-sided and turned to science alone, he might very well have been the first scientist of the eighteenth century and one of the first of all time. His experiments in electricity are known to every schoolboy, as Macaulay would say, especially his identification of the phenomena of lightning in the sky with those of electricity in the laboratory. That achievement of Franklin's in removing this terror of the heavens from the domain of the supernatural is comparable in popular esteem with that of Sir Isaac Newton in bringing the movements of the planets under the reign of natural law. But if Franklin brought Jove's thunderbolts within the realm of reason, men still dispute whether Franklin's lightning rod brought security or merely a sense of security.

In the wake of the half dozen years he spent in electrical researches world-wide academic and scientific recognition came to him, beginning at home. He received the honorary M.A. of Harvard, of Yale, and of William and Mary; he was made a member of the Royal Society of London; he received an honorary LL.D. from St. Andrews

and a D.C.L. from Oxford; and was chosen one of the eight foreign associates of the Royal Academy of Sciences in Paris.

Franklin started the Philadelphia Public Library by a subscription list in 1731. He also formed a company for publishing and importing books. We find him anticipating the arrival of a consignment from London in the ship *Houston*. He built up a unique private library. Mannasseh Cutler, visiting Philadelphia from Massachusetts in 1787, described Franklin's library as "the largest and by far the best private library in America." It may be noted in passing that early in that year, 1787, Franklin founded the Society for Political Inquiries, with himself as its president. In this, the last society he founded, he sought to study political science as the American Philosophical Society was studying the natural sciences. In his judgment, "the arduous and complicated science of government" should not be "left to the care of practical politicians or the speculations of individual theorists." Writing to Dr. Alexander Small in 1789, Franklin says: "The Philosophical Society, and the Society for Political Inquiries, meet at my house, which I have enlarged by additional building, that affords me a large room for those meetings, another over it for my library now very considerable, and over all some lodging rooms." In this house Franklin died on the 17th of April, 1790. He was buried beside his wife in the graveyard of Christ Church, at Fifth and Arch Streets, Philadelphia.

But it is with Franklin's American Philosophical Society that we are here chiefly concerned. Franklin's original group of 1727, which was called The Junto, was to expand by various stages in two directions: one, the en-

larged Junto, designated "The American Society for Promoting and Propagating Useful Knowledge Held in Philadelphia"; and the other "The American Philosophical Society" formed as a result of the following call for leaders issued by Franklin in 1743 throughout the provinces: "The first drudgery of settling new colonies, which confines the people to mere necessaries, is now pretty well over and there are many in every province in circumstances that set them at ease and afford leisure to cultivate the finer arts and to improve the common stock of knowledge." Franklin's circular of May 14, 1743, was entitled "A proposal for Promoting Useful Knowledge Among the British Plantations in America," and it was in this letter that Franklin used for the first time the expression "The American Philosophical Society."

In the same communication Franklin took care that the intercolonial organization thus originated should be a self-sufficient corporation as far as Philadelphia was concerned, for he stipulated that the Society was to be established at Philadelphia because of its central location and its accessibility by land and water to the other colonies, and for the further reason of having there already "the advantage of a good growing library"; that the president, the treasurer, and the secretary were to be Philadelphians; and that at least seven members should be residents of Philadelphia: "a physician, a botanist, a mathematician, a chemist, a mechanic, a geographer, and a general natural philosopher."

These two organizations, The Philosophical Society and The American Society, united at a meeting on January 2, 1769. Each of the two societies had a considerable number of members of the other. They were involved in the local

colonial politics of Pennsylvania. The friends of Franklin were active in one and those of a subsequent colonial governor were manipulating the other. The latter gentleman was president of one of the societies, and his friends were seeking for him the presidency of the other, under conditions suggesting a more recent Texas campaign which offered two governors for the price of one. But the election after the societies united made Franklin president and continued him in that office until his death in 1790. Under his direction "The American Philosophical Society Held at Philadelphia for Promoting Useful Knowledge"—as it was ever after to be known—"was patterned, in its procedure, laws, and objectives, frankly after the Royal Society of London." It was unincorporated until March 15, 1780, when the General Assembly of the State of Pennsylvania granted it a charter. In 1785 by act of the Assembly the Commonwealth of Pennsylvania granted to the Society a lot in State House Square, Philadelphia, and four years later its Philosophical Hall was erected. And this home of the Society has stood in the shadow of Independence Hall for more than a hundred and fifty years.

The membership of the American Philosophical Society has always been distinguished. On its early rolls were such men in public life as Franklin, Jefferson, Hamilton, Washington, Lafayette, Rochambeau, and Talleyrand. Fifteen signers of the Declaration of Independence and eighteen framers of the Constitution of the United States were members of the Society at the time of those transactions. Six of the twelve Chief Justices of the United States and nine other Justices of the Supreme Court have held membership in the Society. Thomas Jefferson was president of the Society for eighteen years, during eight of which he was President of the United States. Other members of the

Society elected to the presidency of the United States have been George Washington, John Adams, James Madison, John Quincy Adams, James Buchanan, Ulysses S. Grant, Woodrow Wilson, and Herbert Hoover. Grover Cleveland, Theodore Roosevelt, and William Howard Taft were elected to the Society after they became President. A brief list of other notable members would include such names, some with more than one representative, as Agassiz, Angell, Bache, Bartram, Bell, Bowditch, Bryce, Carnegie, Condorcet, Cope, Darwin, Donaldson, Edison, Eliot, Emerson, Faraday, Fulton, Gibbs, Gildersleeve, Gladstone, Gray, Hale, Hays, Henry, Herschel, Hill, Holmes, Huxley, Langley, Leidy, Lowell, McKean, Mendeleeff, Mitchell, Morse, Newcomb, Osborn, Pasteur, Patterson, Peirce, Pickering, Priestley, Rockefeller, Rumford, Rush, Rutherford, Sylvester, Thomson, Trevelyan, Venable, Webster, Winthrop, and Witherspoon. Five women have been elected to membership: Marie Sklodowska Curie in 1910, Agnes Repplier in 1928, Willa Cather in 1934, Cecilia Payne Gaposchkin in 1936, and Marjorie Hope Nicolson in 1941. And the first seven Nobel Prize winners in this country were previously members of the Society: Theodore Roosevelt, Albert A. Michelson, Alexis Carrel, Elihu Root, Theodore W. Richards, Woodrow Wilson, and Robert A. Millikan.

It is of interest to the present company that the man in whose honor this city was named, George Mifflin Dallas, Vice-President of the United States and Minister to Great Britain, was for many years a member of the American Philosophical Society, as was his father, Alexander James Dallas, Secretary of the Treasury in Madison's Administration, and his nephew, Alexander Dallas Bache, a great-

grandson of Benjamin Franklin. It may be further noted, if only incidentally, that Alexander Dallas Bache became president of the American Association for the Advancement of Science, president of the American Philosophical Society, and later a founder and first president of the National Academy of Sciences, which was incorporated by Act of Congress, March 3, 1863, and approved by President Lincoln on that day. Bache left a bequest of \$42,000 to the American Philosophical Society.

The presidential chair of the American Philosophical Society has been held by pre-eminent men, from the first four holders, Franklin, Rittenhouse, Jefferson, and Wistar, on down to those of the forty years, 1902-42: the late Edgar F. Smith and William W. Keen; William B. Scott, of Princeton University; the late Charles D. Walcott and Francis X. Dercum; and Roland S. Morris, of the University of Pennsylvania, who has lately retired. The respective fields of knowledge extended by the last half dozen presidents are chemistry, surgery, paleontology, geology, neurology, and international law and diplomacy.

The present president of the Society is Edwin Grant Conklin, Professor of Biology, Emeritus, at Princeton University. He stands altogether worthily in the succession by virtue alike of his contributions to science, learning, and education, and of his forty-five years of service to the Society in the capacity of member, councillor, vice-president, and executive officer. He is well known personally to many Texans, for he has made a number of journeys to this state in the course of some thirty years. On his last visit a year ago he delivered a remarkable course of lectures on the Sharp Foundation on "What is Man?" Professor Conklin was the first member of the Society

to be invested with the title of executive officer. His duties in this capacity have been delegated to Dean Eisenhart, of the Princeton Graduate College, whose wise counsel in study, research, and administration is widely sought and readily obtained.

The American Philosophical Society at present holds annually an autumnal meeting and a mid-winter meeting, each of two days' duration, and its annual general meeting of three days' duration in the latter part of April. Its membership, of between four and five hundred, now consists of American and foreign in the ratio of about ten to one. The membership has lately been classified as follows:

Class I. Mathematical and Physical Sciences

Class II. Geological and Biological Sciences

Class III. Social Sciences

Class IV. Humanities.

With respect to the foregoing classification, which has been instituted for the sole purpose of maintaining the Society's high standards of eligibility and without any notion of breaking the Society as an organic whole into several separate groups, we quote from the current interpretation of the Society's laws on membership: "In accordance with general usage, the following more or less clearly defined fields of science and learning within the four classes have been recognized by the Society in recent years:

Class I. Mathematics; Astronomy; Physics; Chemistry; Engineering.

- Class II. Geology, Paleontology, Geography; Zoology, Anatomy; Botany, Bacteriology; Anthropology; Psychology; Physiology, Pathology; Medicine, Pharmacology, Surgery.
- Class III. Political Science, Economics, Statistics and Sociology; Modern History; Jurisprudence; Administration, Government; Affairs.
- Class IV. Philosophy, Education; Ancient, Medieval and Cultural History; Archaeology, History of Art, Architecture; Literary History; Languages; Letters, Fine Arts."

Thus the classification covers a considerable sweep of the vast range of human knowledge. Certain aspects of the classification were foreshadowed in Franklin's printed circular letter of May 14, 1743, to which I have already referred: "That the subjects of the correspondence be: all new-discovered plants, herbs, trees, roots, their virtues, uses, &c.; methods of propagating them, and making such as are useful, but particular to some plantations, more general; improvements of vegetable juices, as ciders, wines, &c.; new methods of curing or preventing diseases; all new-discovered fossils in different countries, as mines, minerals, and quarries; new and useful improvements in any branch of mathematics; new discoveries in chemistry, such as improvements in distillation, brewing, and assaying of ores; new mechanical inventions for saving labour, as mills and carriages, and for raising and conveying of water, draining of meadows, &c.; all new arts, trades, and manufactures, that may be proposed or thought of; surveys, maps, and charts of particular parts of the sea-coasts or inland countries; course and junction of rivers

and great roads, situation of lakes and mountains, nature of the soil and productions; new methods of improving the breed of useful animals; introducing other sorts from foreign countries; new improvements in planting, gardening, and clearing land; and all philosophical experiments that let light into the nature of things, tend to increase the power of man over matter, and multiply the conveniences or pleasures of life."

The financial endowments of the American Philosophical Society in 1942 exceed \$7,500,000, about half of which came fifteen years ago from one of its own members, the late R. A. F. Penrose, Jr., who made a similar residuary bequest to the Geological Society of America. Penrose was in charge of the survey of Eastern Texas for the Texas Geological Survey in 1888, and one of his works is the *Geology of the Gulf Tertiary of Texas*.

The Society maintains no professorships, but it administers endowed lectures, prizes, and the award of medals. From its first days it has encouraged, fostered, and rewarded research. It now dispenses about \$75,000 annually from the Penrose Fund for aids in research and small grants to investigators selected from all parts of the country. Its library, housed in a fireproof structure, possesses irreplaceable manuscripts and collections of great value. For example, here are some thirteen thousand items of Frankliniana, Jefferson's original draft of the Declaration of Independence, and records of the Lewis and Clark Expedition and of the Commission that finally determined the Mason and Dixon Line. The Society maintains several publications: its *Transactions* in quarto form from 1771, its *Proceedings* from 1838, and occasional *Memoirs*. Lately

it has begun to broadcast, under the leadership of President Conklin.

Such in bird's-eye view is the giant into which a child of Benjamin Franklin's mind has grown.

AN ENGLISH PATTERN: THE ROYAL SOCIETY OF LONDON

I have spoken in turn of a near contemporary and of an elder sister of the Philosophical Society of Texas. As already intimated, my third and last diversion is of an English pattern of all three. Once more I lean upon a story.

Sir Spencer Robinson, of the English Admiralty, relates that at an examination at Greenwich for naval lieutenants, qualifying for torpedo practice and the more scientific branches of the service, one of the questions asked in a paper on electrical apparatus was: "What is the constitution of a Daniell cell?"

One of the answers sent in was as follows: "History, unfortunately, does not record the exact constitution of Daniel's cell, but seeing that it held Daniel and a number of lions, it must have been a cell of large dimensions. But, after all, what matter? Daniel is gone and the lions are gone. *Sic transit gloria mundi.*"

Sir Spencer says he was in favor of giving the audacious examinee a pass, in view of the fact that he had done well in other subjects, and was evidently a man of resource and humor, qualities much wanted in the Navy, but the other examiners were inexorable and the candidate was rejected and reprimanded.

The central figure of a coterie which finally put in operation the Royal Society of London was in the lion's

den a good part of his days. This Daniel was John Wilkins (1614-1672), Warden of Wadham College, Oxford (1648-1659), who later, for a briefer period, was no less successful as Master of Trinity College, Cambridge. Anthony à Wood says of him: "I cannot say that there was anything deficient in him, but a constant mind and settled principles." Which brings to mind an American college conflict of a generation ago. One of the protagonists was taken to task about his principles. "Principles!" the enraged leader exclaimed, "I have never yet had any principles that I could not abandon!"

But back of John Wilkins is still another background. Background, the English say, is a favorite word with Americans. In 1518 Henry the Eighth granted a charter to the Royal College of Physicians of London. In England and America clergymen and doctors of medicine in their private and professional capacity have been significant educators of the people in things secular, scientific, and spiritual. It was so of physicians and clergymen in London in the middle of the seventeenth century.

About the year 1645 a small London group consisting chiefly of members of the Royal College of Physicians formed a club for weekly discussions of scientific problems, particularly in what was being called "the new philosophy or experimental philosophy." A little later this club came to be known as the "Invisible College," in Robert Boyle's phrase and preference, or sometimes as the "Philosophical College." Its earliest members were (Sir) George Ent, M. D., Francis Glisson, M. D., for forty-one years Professor of Physic at Cambridge, Jonathan Goddard, M. D.—of him and some of the others more later—Christopher Merret, M. D., John Wallis, D. D., John Wil-

kins, D. D., Mr. Foster, and Mr. Haake. It was the last-named gentleman, Theodore Haake, Esq., "a German of the Palatinate then resident in London," who first suggested these weekly meetings, which were held sometimes in Dr. Goddard's lodgings "in Wood-street because he kept in his house an operator for grinding lenses for telescopes," sometimes at a famous tavern in Cheapside, and sometimes at Gresham College. The club was to persist in London, but with broken ranks.

The disturbed political and religious conditions in the city led some of the members to migrate to Oxford, where, joining others already established there, they organized a similar club, called the Philosophical Society of Oxford, and held their meetings chiefly at Wadham College in the rooms of Dr. Wilkins already mentioned. This Oxford club consisted in the main of Ralph Bathurst, for forty years President of Trinity, "drawing distinguished men to his college," "giving money freely and begging it persuasively from others," and winning through "his sense of humour, his kindness and understanding, the affection of the community he ruled"; Robert Boyle, the celebrated chemist, "who has been described as the Father of Chemistry and Brother of the Earl of Cork"; Jonathan Goddard, appointed by Cromwell physician in chief to the army of the Parliament and Warden of Merton; young Robert Hooke of Christ Church, "an acute mathematician and experimental philosopher"; (Sir) William Petty, Fellow of Brasenose, Professor of Anatomy, and, at Gresham College, of Music, who "created the science of political arithmetic, the humble but indispensable handmaid of political philosophy"; "Laurence Rooke, imported, like some others, from Cambridge, mathematician, chemist, botanist, musi-

cian"; young Thomas Sprat, first historian of the Royal Society, "a great master of our language, who possessed at once the eloquence of the preacher, of the controversialist, and of the historian"; John Wallis, versatile Cambridge mathematician, man of means, Savilian Professor of Geometry; Seth Ward, Cambridge mathematical astronomer of renown, Savilian Professor of Astronomy, in turn Bishop of Exeter and of Salisbury, "so prudent, learned, and good a man that he honours his preferment as much as his preferment does him," and who nominated¹ Isaac Newton for membership in the Royal Society; Thomas Willis of Christ Church, pioneer brain anatomist, discoverer of diabetes mellitus, and Sedleian Professor of Natural Philosophy; and the brilliant young Christopher Wren of Wadham, "as a boy a prodigy, as a man a miracle," "to whom no knowledge came amiss."

Dr. John Wilkins, Warden of Wadham, was to dominate this Oxford group and direct its scientific activities for the decade of his wardenship. It could hardly have achieved its results without him. He maintained unbroken connection between the group of philosophers at Oxford and the original group of philosophers in London, whose activities were resumed after the defeat of Cromwell and

¹Bishop Ward had been made Chancellor of the Order of the Garter. His nomination in 1671 of Isaac Newton to membership in the Royal Society was warmly supported by Isaac Barrow, himself a charter member of the Society. At Cambridge, Barrow was Professor of Greek (1660-63), and first Professor of Mathematics (1663-69). The latter appointment he resigned in favor of his distinguished pupil, Isaac Newton, whose genius he had been quick to discover, acknowledge, and encourage. Barrow thereafter devoted himself more exclusively to divinity. In 1672 he became Master of Trinity College, and founded its magnificent library. He died of fever, May 4, 1677, at the early age of forty-seven, and was buried in Westminster Abbey, where his friends erected a monument to him. In that short life Barrow had achieved a threefold career as divine, scholar, and mathematician. His English contemporaries held him in highest esteem as an eloquent preacher, pronounced him to be the greatest scholar in their midst, and estimated his eminence as a mathematician as second only to that of Newton.

the return of Charles II. These joint activities were shortly concentrated in the London meetings, which were held principally at Gresham College, and for a time twice a week: "on Wednesday, after the Astronomical Lecture of Mr. Christopher Wren, and on Thursday when Mr. Lawrence Rooke lectured on Geometry." Wilkins was made chairman at a meeting on November 28, 1660, when a movement was launched for the founding of a society for "promoting Physico-Mathematicall Experimentall Learning." The King expressed at once his approval of the movement and a year later his desire to become a member. In the latter year, 1661, "the name 'Royal Society' appears to have been first applied to the Philosophers by John Evelyn." The following year the society was incorporated under the name of "The Royal Society," the charter of incorporation passing the Great Seal, July 15, 1662. Further privileges were conferred in a second charter which was granted and signed on April 22, 1663. That charter confirmed the title of the society in its present form: "*Praeses Concilium & Sodales Regalis Societatis Londini pro scientia naturali promovenda . . . in Dei Creatoris gloriam . . .*" The document of course is in Latin throughout except the oath taken by the first president in the King's English: "I William viscount Brouncker do promise to deal faithfully and honestly in all things belonging to the trust committed to me, as president of the Royal Society of London for improving natural knowledge, during my employment in that capacity. So help me God." The charter designated St. Andrew's Day as the date of the Society's annual meeting and set up the personnel of the first council of twenty-one members as follows: Lord Viscount Brouncker, president; Dr. John Wilkins, first secretary; Mr. Henry Oldenburg, second secre-

tary; Mr. William Balle, treasurer; Mr. Robert Boyle, Mr. William Brereton, Dr. Timothy Clarke, Sir Kenelm Digby, Dr. George Ent, Mr. William Erskine, Mr. John Evelyn, Dr. Jonathan Goddard, Mr. Thomas Henshaw, Mr. Abraham Hill, Sir Robert Moray, Sir Paul Neile, Mr. Dudley Palmer, Sir William Petty, Mr. Henry Slingsby, Sir Gilbert Talbot, and Mr. Matthew Wren. This first council, under a special privilege of the charter, declared, on May 20, 1663, some ninety other persons also charter Fellows of the Royal Society. Subsequent elections were not conducted by the council, but by the Society as a body, and every candidate in order to be admitted required the votes of two-thirds of the members present. Six years later, on April 8, 1669, Charles II granted a third charter bestowing certain lands in Chelsea on the Society, together with additional privileges and powers. Dr. Wilkins had relinquished his secretaryship of the Society in 1668 on becoming prebendary of St. Paul's and Bishop of Chester.

John Wilkins was born in 1614, the son of an Oxford goldsmith. It has been said of his father that he was "a very ingeniose man with a very mechanicall head. He was much for trying of experiments, and his head ran much upon the perpetuall motion." The younger Wilkins graduated from Magdalen Hall, B. A. in 1631, and M. A. in 1634. He took orders and became a vicar in 1637. His benefice he resigned because he realized he could not get ahead in that way, and he became private chaplain successively to three men of political influence. But he maintained unabated his interest in scientific pursuits.

Wilkins wrote books. They sold well. His first one appeared anonymously in 1638 on the inhabitability of the moon. To the third edition in 1640 he added a chapter

"on the possibility of a passage thither." A French translation of this book, "Le Monde dans la Lune," was published by Montaigne in 1655. Wilkins produced in 1640 a long-lived treatise entitled "A Discourse concerning a new Planet, tending to prove that 'Tis probable our Earth is one of the Planets." This book appeared about the time of Galileo's *Dialogues* (1632) and Descartes' *Geometry* (1637), twenty years after Francis Bacon's *Novum Organum* (1620), and almost fifty years before Newton's *Principia* (1687). The book was still going strong in the fifth edition in 1707, a generation after Wilkins' death, though Kepler's *Astronomia nova* had been published in 1609, and the epoch-making work of Copernicus (1473-1543) *De revolutionibus orbium coelestium* had appeared in 1543, after having been in private circulation since 1530 in the author's manuscript abstract.

In 1648 Wilkins published a popular book of three hundred duodecimo pages on mechanics and machines, with many illustrations. It bears the elaborate title: "Mathematicall Magick or, The Wonders That may be performed by Mechanicall Geometry. In two Books. Concerning Mechanicall Powers and Motions. Being one of The Most easie, pleasant, usefull, (and yet most neglected) part of Mathematicks. Not before treated of in this language." The author considers in turn the balance, the lever, the wheel, the pulley, the wedge, and the screw, which he calls Mechanick faculties. He elaborates on their use, singly and in machines. He invents the term "submarine navigation." He proposes forms for a "flying chariot" to sail on land as a ship on the sea. He writes at length of speculations concerning the possibility of travelling through the air. Citing examples of human flight with artificial

wings, he states: " 'Tis related of a certaine English Munk called *Elmerus*, about the Confessors time, that he did by such wings fly from a Tower above a furlong." He institutes comparisons between war engines of the ancients and the more modern gunpowder instruments. He dilates on subterranean lamps and the cause of their long duration, and, among numerous other things, he discusses various means, chemical, magnetical, and mechanical, for effecting continual motions. On the whole, the work is an odd assortment of sound principles alongside patent absurdities.

The Royal Society published in 1668, in quarto, a long, imposing, but impracticable treatise of Wilkins on a universal language. Its title is "An Essay Towards the real Character, and a Philosophical Language." The last work of Wilkins, on "Principles and Duties of Natural Religion," appeared posthumously in 1675, and reached a fifth edition in 1704. He had lost the major part of it, together with his books, in the great fire of London. It was edited and completed by his son-in-law, John Tillotson, who later became Archbishop of Canterbury. The editor appended to the volume a sermon preached at the funeral of John Wilkins, December 12, 1672, by William Lloyd, D.D., then Dean of Bangor, and later Lord Bishop of Worcester. This book amply repays the reading of it today. It was by virtue of Wilkins' marriage in 1656 to Robina French, Cromwell's sister, and the marriage of her daughter, Elizabeth French, to John Tillotson in 1664 that the latter became son-in-law to Wilkins. Wilkins made him his executor and by his last will and testament left bequests to Wadham College and to the Royal Society.

It is difficult to be done with this extraordinary acro-

bat, John Wilkins. In every variety of circumstance he manifested amazing facility in landing squarely on his feet and avoiding the toes of others. He was a consummate politician. He held in turn the favor of Charles I, of the Usurpers, and of Charles II. Himself an orthodox churchman, he kept reasonable peace between Anglicans and Dissenters. One of the most striking things I have come upon lately about him is that Montaigne translated into French a monograph of his on "The Gift of Prayer." Diarists, Evelyn and Pepys, chroniclers and historians, particularly Gilbert Burnet, took note of him as he worked. He was constantly between ardent admirers and conscientious critics. But far and away the most important thing about him I think is that he was a pioneer in scientific collaboration, scientific planning, scientific co-operation, in scientific work. He could find strong individuals, bring them together, and keep them harnessed together in teamwork without loss of their individuality. A college president at thirty-four, before he was forty-five Wilkins had made his college, Wadham, the foremost, largest, and most prosperous of the Oxford colleges. Cavaliers and Commoners alike sought him out and sent their sons to his college. And he served the University quite as well by making it for ten years the scene of scientific activity unprecedented in its history, and not to recur for several generations. Wilkins would have been at home today in the Oxford of Lord Nuffield and the Foundations. One reason I have for saying this is that Wilkins, after telling in his "Mathematicall Magick" the story of how Alexander the Great paid for the collection of materials for Aristotle's scientific studies, adds the remark: "The reason why the world hath not many *Aristotles* is, because it has so few *Alexanders*."

Wilkins will be longest remembered as the chief founder and first secretary of the Royal Society of London. The faith of those who were associated with him in that movement has been abundantly justified. The Royal Society of today is certainly the leading scientific society of the world.¹ At the beginning of 1942 its fellowship consisted of a Patron, King George VI, three Royal Fellows, 454 Fellows, and 47 Foreign Members. It now elects twenty-one Fellows annually. Its year runs from November to June, and its weekly meetings are held on Thursdays in the afternoon. Its annual and anniversary meeting is held, as always, on St. Andrew's Day, November 30. It awards medals, has endowed lectureships, research professorships, and research studentships. It has lately received gifts from the United States of America in the sum of "12,500 dollars in aid of scientific publications by societies and associations in the year 1941, by the Rockefeller Foundation of New York; 10,000 dollars in aid of science in Britain, by the American Philosophical Society; and 5,000 dollars in aid of British scientific publications, especially in physiology, by the American Physiological Society." Its own publications consist of *Transactions*, almost from the beginning, and *Proceedings* since the early 1830's. Since 1887 the *Transactions* and *Proceedings* appear in two series, A and B respectively, the A series containing papers

¹This lead the Royal Society took in its earliest days, and along unexpected ways. For example, political and economic historians, no less than historians of science and of literature, have remarked the influence, immediate and widespread, that the founding of the Royal Society had upon spoken and written English. That influence, it may be contended, is comparable to the influence on English of the Authorized Version of the Scriptures which had been completed half a century before. In 1912 the Royal Society celebrated its two hundred and fiftieth anniversary, while, the year before, the tercentenary of the Authorized Version had been generally observed throughout the world. One of the commemorative addresses of that tercentenary was delivered in Dallas in 1911 by Woodrow Wilson on his first and only visit to Texas. Many members of this audience will recall also that Governor Wilson's visit was confined to Dallas.

of a mathematical or physical character, and the B series papers of a biological character. The Society very early began publishing occasional Treatises. Of these, the "Philosophiæ Naturalis Principia Mathematica: Autore Is. Newton, Trin. Coll. Cantab. Soc. Matheseos Professore Lucasiano, & Societatis Regalis Sodali. Imprimatur: S. Pepys, Reg. Soc. Præses. Julii 5, 1686. Londini, Jussu Societatis Regiæ ac Typis Josephi Streater. Prostat apud plures Bibliopolas. Anno MDCLXXXVII," still stands out in the transcendent distinction of its initial appearance, when it was appraised as the highest achievement of the human mind.

In its first one hundred and fifty years the Royal Society had twenty-one presidents. They were men of extraordinary calibre; for example, its third president, Sir Christopher Wren, its sixth Samuel Pepys, its tenth Charles Montague (afterwards Earl of Halifax), its twelfth Sir Isaac Newton (for twenty-four years), its twenty-first Sir Joseph Banks (in continuous tenure for forty-two years, the longest in its history). While in the last fifty years the presidential chair from 1890 to 1940 has been occupied, in five-year terms, successively by the eminent scientists: Lord Kelvin, Lord Lister, Sir William Huggins, Lord Rayleigh, Sir Archibald Geikie, Sir J. J. Thomson (throughout the first world war), Sir Charles Sherrington, Lord Rutherford, Sir Frederick Gowland Hopkins, and Sir William Bragg. All of these last ten held membership in the Order of Merit, instituted by Edward VII at the beginning of his reign in 1902, while Rayleigh, Thomson, Rutherford, Bragg, Hopkins, and Sherrington were Nobel Laureates. Only two past presidents of the Society, Sir Charles Sherrington and Sir Frederick Gowland Hopkins, survive today. The present president, since 1940,

Sir Henry Dale, shared the Nobel Prize in medicine in 1936.

The President announced in March that the Royal Society would commemorate at its next annual meeting, St. Andrew's Day, November 30, war conditions permitting, the tercentenary of the birth on Christmas Day, 1642, "of the greatest of its presidents," Sir Isaac Newton, who occupied that chair from 1703 to his death in 1727.¹ And notice was given in June that the proceedings of the tercentenary celebration would include the following three lectures: "Newton and the Science of his Age," by Professor E. N. da C. Andrade, Quain Professor of Physics in the University of London; "Newton as an Experimenter" (with demonstrations), by Lord Rayleigh, Emeritus Professor of Physics in the Imperial College of Science and Technology; and "Newton and the Science of To-day," by Sir James Jeans, Professor of Astronomy in the Royal Institution of Great Britain. To a series of addresses in observance of the Newton tercentenary and of anniversaries of Galileo (1564-1642) and of Halley (1656-1742) the Royal Astronomical Society of London devoted its meeting

¹At the last meeting over which Sir Isaac Newton presided, a letter was received from the Academy of Sciences at St. Petersburg, then recently established. This, the first communication received from the new Academy, concludes with the assurance that the Russian Academicians "are the more inclined to make their addresses to, and desire most to have the approbation of, the Royal Society, as being the first of its kind, and that which gave rise to all the rest."

The President of the Royal Society, at the request of the Council, meeting on July 17, 1941, cabled greetings to the National Academy of Sciences of the U. S. S. R., Moscow, to which a cordial reply was received.

The National Academy of Sciences of the U. S. S. R. has announced its intention of holding appropriate ceremonies in celebration of the tercentenary of the birth of Sir Isaac Newton.

Just as Peter the Great in 1724 desired "to follow the English example in encouraging and cultivating science," so had Louis XIV earlier emulated the example of his cousin, Charles II, by encouraging the founding of the Academy of Sciences of Paris in 1666 on the model of the Royal Society, even to its avowed objects—*naturae investigandae et perficiendis artibus.*

of October 9. And in this connection it may be noted that the American Philosophical Society is undertaking to observe at its coming annual general meeting and dinner in April the two hundredth anniversary of the birth of Thomas Jefferson on April 13, 1743, and of Benjamin Franklin's promulgation on May 14, 1743, of his original plan for forming "The American Philosophical Society," in his printed circular letter of that date entitled "A proposal for Promoting Useful Knowledge Among the British Plantations in America."

Two Britishers in America, the one a subject of the Crown to the end of his days, the other now an American citizen, both Fellows of the Royal Society and members of the American Philosophical Society, bear names well known to the present company. The first Professor of Chemistry and Physics and Chairman of the Faculty of the University of Texas (1883-1884) was John William Mallet (1832-1912), B.A. (Trinity College, Dublin), Ph.D. (Göttingen); and F.R.S. (London), as was his father, Robert Mallet, of Dublin. The first Professor of Physics at the Rice Institute (1912) was and is Harold Albert Wilson, M.A. (Cambridge), D.Sc. (London), F.R.S. (London), and formerly Fellow of Trinity College, Cambridge. Dr. Wilson delivered an authoritative discourse on "One Hundred Years of Natural Philosophy: 1837-1937," at the centennial banquet and annual meeting of the Philosophical Society of Texas, held in Houston, Saturday evening, December 4, 1937.

* * *

What of the future of the Philosophical Society of Texas? I have been speaking of little else all night. Indeed, from the beginning to end I have had in mind the

expanding future of this Society. But, in conclusion, only another parable, with an application or two.

Three members of the British Academy, one, a Nobel Laureate and member of the American Philosophical Society of Philadelphia, the other two, Fellows of the Royal Society of London and members of the Order of Merit, once were walking together. They were Elihu Root, American, Richard Haldane, Scotsman, and John Morley, Englishman. They were walking through St. James' Park, London, on their way to Haldane's house, and as they walked they fell to discussing the chief qualities of public life. "Eloquence," said one; "Courage," said another; but they finally agreed upon Elihu Root's claim for "Patience."

All three of these qualities are invaluable aids to leadership in any walk of life, whether of individual or of institution. By native endowment and accumulating experience a leader should justify his claim to all three: the power of persuasive speech, patience in the making of adjustments and in thinking things through, prompt and decisive action when and wherever the time for action comes. Benjamin Thompson, Benjamin Franklin, and John Wilkins, possessed these qualities in varying degree. They had also in considerable measure three other qualities: magnanimity, tolerance, and moderation. And each of them manifested imaginative insight, common sense, and initiative. In the days to come we shall need all these spiritual resources for the salvage of civilization and the preservation of culture. For our encouragement and persistence on that double mission I would quote three moving utterances, on physical science and religious faith, biological science and the idea of progress, pure science and political controversy: one from the late Director of the Royal

Institution, another from the President of the American Philosophical Society, and one from the President of the Royal Society.

Sir William Bragg concluded his Riddell Lectures on "Science and Faith," Newcastle-upon-Tyne, March 7, 1941, with the following very practical reassurance: "Conviction of the truth of any faith, so far as a man can measure the truth, is to be gained by practice, and it is here that the scientist finds an illustration in his own work. Every man, in the circle in which he finds himself, it may be a small circle, his means may be small also, can try the Christian way, and discover for himself and acquire his own convictions. He tests his faith. He has ever in front of him the hope that he will by doing his service play his part in binding the community together. That is his hope. As to the actual mode of the experiment, I will say nothing. We all know it well already: it has been enshrined in a thousand testimonies; it has been displayed in countless lives; it is all included in the lovely words of St. Paul, simple though they are: 'And the greatest of these is charity.'"

Dr. Edwin Grant Conklin, in his last Sharp Lecture on "The Real and the Ideal," Houston, May 9, 1941, revived firm faith in the idea of progress for man on this planet: "The long course of organic evolution justifies faith in further progress. . . . There is some perfecting principle in all life and evolution, and in the case of man 'some power not ourselves that makes for righteousness' (rightness). Through all the ages of man's past history, and in spite of many mistakes and failures, the current of his development has been leading to wider intellectual horizons, to broader social outlooks, and to more generous forms of ethics. In spite of wars that 'threaten civilization,' there

is no sufficient reason to believe that this great current will cease to flow today or tomorrow. In the course of ages man will learn, by trial and error if not by intelligence and reason. We are today only children in the morning of time, and before us lie the countless centuries and millennia of man's vast future."

Sir Henry Dale, concluding his presidential address on "International Collaboration and Freedom of Science," December 1, 1941, raised in generous spirit a warning signal of possible political danger on the path of pure science: "The Royal Society, with its firm and unbroken tradition of complete aloofness from political controversy, may still find it an important part of its function to keep watch and, if necessary, to stand without compromise for the right and the duty of science to seek the truth for its own sake, in complete freedom from any kind of extraneous influence. I hope, indeed, that there will never be need thus to invoke our tradition, in order to protect the freedom and the integrity of science from the enthusiasm and the advocacy of any of its friends."

In an earlier observation on the Royal Institution I quoted opinions of the late Sir Leslie Stephen, eminent biographer and literary critic. His daughter, Virginia Woolf, died a year ago. Her literary career was the subject of a lecture delivered at the Royal Institution, March 5, 1942, by E. M. Forster, the English novelist. He ends with these words: "Sometimes it is as a row of little silver cups that I see her works gleaming. 'These trophies,' the inscription runs, 'were won by the mind from matter, its enemy and its friend.'"

That fine tribute exhibits triumph of the human spirit in zeal and zest for knowledge, and expresses, at least to me, one of the prime objectives of our Society.

Business Period

The election to membership in the Philosophical Society of Texas of Messrs. Burke Baker, of Houston, and Thomas Otto Walton, of College Station, was announced.

President Hill also reported the deaths, since the last Annual Meeting, of four distinguished members:

Robert Lee Blaffer, of Houston
William Stamps Farish, of Houston
John Oliver McReynolds, of Dallas
Charles William Ramsdell, of Austin

To prepare for inclusion in the *Proceedings* suitable notices of these departed members, the chair appointed President Lovett, Mr. Law, Doctor Howard, and Professor Barker.

The following report, presented by Dean Potts, was adopted by a unanimous vote:

Your Committee on Nominations for officers and directors of The Philosophical Society of Texas for the year 1943 begs leave to move the election of the following:

For President: EDWARD HENRY CARY, of Dallas

For Vice-Presidents:

UMPHREY LEE, of Dallas
JAMES PATTERSON ALEXANDER, of Austin
HALLY BRYAN PERRY, of Houston
CLINTON SIMON QUIN, of Houston
LOUIS HERMAN HUBBARD, of Denton

For Corresponding Secretary:

HERBERT PICKENS GAMBRELL, of Dallas

For Recording Secretary:

SAM HANNA ACHESON, of Dallas

For Treasurer: JOHN ELZY OWENS, of Dallas

For Librarian: WILLIAM EMBRY WRATHER, of Dallas

For Directors: ALBERT PERLEY BROGAN, of Austin

EDWARD HENRY CARY, of Dallas

HERBERT PICKENS GAMBRELL, of Dallas

and, adhering to the policy of the Society to retain the active services of its past Presidents on the Board of Directors:

GEORGE ALFRED HILL, JR., of Houston

WILLIAM JAMES BATTLE, of Austin

GEORGE WAVERLEY BRIGGS, of Dallas

GEORGE BANNERMAN DEALEY, of Dallas

EDGAR ODELL LOVETT, of Houston

CHARLES SHIRLEY POTTS, of Dallas

IRA KENDRICK STEPHENS, of Dallas

C. S. POTTS, *Chairman*

W. J. BATTLE

J. H. BLACK

As President Hill presented the President-elect, the orchestra struck up "The Eyes of Texas" and the audience rose. Doctor Cary felicitously expressed his appreciation of the honor and his wish to maintain the high traditions of the office and of the Society.

After expressing appreciation for the work of the local Committee on Arrangements, headed by Mr. George Waverley Briggs, President Hill declared the one hundred and fifth anniversary meeting of the Society adjourned.

NECROLOGY

ROBERT LEE BLAFFER

1876-1942

Robert Lee Blaffer, a director of this Society, passed away suddenly in Toronto, Canada, October 22, 1942. He was born in New Orleans, August 5, 1876, the son of John Augustus and Clementine Amelia Schneider Blaffer, of Louisiana. He prepared for college at the T. W. Dwyer Private School of New Orleans, and attended Tulane University, 1892-1894. In 1909 he married Sarah Jane Campbell, daughter of William T. and Sarah Turnbull Campbell of Lampasas, Texas. The late William T. Campbell was one of the founders of the Texas Company.

Mr. Blaffer is survived by his wife and their four children: John Hepburn, Sarah Jane, Cecil Amelia, Joyce Campbell; and two grandchildren: Camilla Hardin Blaffer and Jane Dale Owen. John Hepburn Blaffer enlisted in the Coast Guard and is now Lieutenant (jg) in the United States Navy. His wife is the former Camilla Davis, daughter of Mr. and Mrs. Wirt Davis of Dallas. Sarah Jane Blaffer is the wife of Mr. Kenneth Dale Owen, a geologist of Houston and lineal descendant of Robert Owen, the English social reformer.

In 1894 Mr. Blaffer entered on his long business career. His first engagement was with the Monongahela Consolidated Coal & Coke Company of New Orleans. In 1902 he came to Beaumont, Texas, to participate in the oil developments then in spectacular progress at Spindletop. From 1903-1917 he was a member of the firm of Blaffer & Farish, in association with the late William Stamps Farish, who was also to become an officer of this Society. Mr. Blaffer was vice-president and treasurer of the Humble Oil & Refining Company, 1917-1933, president and treasurer, 1933-1937, chairman of the board and treasurer, 1937-1941. On attaining the statutory age of retirement in the Humble Company he retired from that organization in 1941. He thereupon became chairman of the board of the South Texas Commercial National Bank. At the time of his death Mr. Blaffer was also area co-ordinator, Division of Contract Distribution, Office of Production Management; chairman of the board of trustees of the

Kinkaid School, of which he was a founder; and had been since 1935 a trustee of the Rice Institute. He was an Episcopalian and a Mason.

Although overtaken at sixty-six, Mr. Blaffer had started on his own so early that his pioneering activities had covered almost half a century. The commonplace that pioneers are forward-looking and far-seeing was literally true of him from his youth on. He was among the first to appreciate the need for stabilization and the raising of standards in business; to anticipate the increasing importance of science and statistics in industry; to inaugurate and perpetuate conditions of participation and security alike for officers and employees of corporations; and to encourage and protect in circumstances of freedom, initiative, and responsibility, his fellow countrymen of whatever walk in life. His unimpeachable honesty and integrity, his inexhaustible energy and enthusiasm, his intrepid courage and conscience, his uncanny sense of values, past, present, and future, made of him a trust officer unsurpassed, whether of persons or of property or of both. Too finished a product for the tag, he was none the less a frontiersman to the very end: a frontiersman in hospitality to stranger and friend, in companionship and good talk at any hour of the day or night, in anxious but disguised care and consideration for the aged and the very young of his own and others.

To those who knew Robert Lee Blaffer in the manifold activities of his eventful life, it is altogether unthinkable that his abilities and the influence of his kindness of heart, his bouyancy of spirit, and his soundness of judgment will not persist in the institutions of civilization he served, and beyond.

—E. O. L.

WILLIAM STAMPS FARISH

1881-1942

William Stamps Farish was born in Mayersville, Mississippi, February 23, 1881, and died at Millbrook, New York, November 29, 1942. He was the son of William Stamps and Katharine Power Farish, and a great-great-nephew of President Jefferson Davis. His father left the University of Virginia at the outbreak of the Civil War and soon became a Captain on the staff of General Stephen D. Lee. The young

Mississippian, who was to become one of the foremost industrialists of the nation, was graduated in 1897 from St. Thomas Hall, an Episcopal school at Holly Springs, and received his B.A. and law degrees from the University of Mississippi, the latter in 1900.

After brief practice of law at Clarksdale, Mississippi, he came to Texas when the nation was electrified by the discovery of oil at Spindletop, to enter what proved to be his life work. At Beaumont he helped to organize the Brown-Farish Oil Company and later formed a partnership with the late R. L. Blaffer. In 1917 he became one of the founders of the Humble Oil & Refining Company, serving first as Vice-President, then as President. In June, 1933, he was elected Chairman of the Board of the Standard Oil Company of New Jersey, and in 1937 he became also its President and chief executive officer.

Few men have had so notable and useful a career as Mr. Farish in the nation's oil industry. He was a pioneer. The industry, as we know it, was just coming to life in 1901 when Mr. Farish entered it. During his entire adult life he devoted his splendid qualities of mind and heart to the great causes of conservation, research, and exploration—to all phases of the industry's development. During World War I he was an organizer and leader of the National Petroleum War Service Committee, which handled supplies for the Allies. He was an organizer and later President of the American Petroleum Institute. President Coolidge appointed him head of the Committee of Eleven which made a survey of oil resources in 1926. Since Pearl Harbor he had spent much time in Washington as a member of the Petroleum Industry War Council.

Houston was his legal residence, and he was frequently there. A few days before his death he visited relatives and friends at Houston, and one of his last acts was to join with his wife, Mrs. Libbie Randon Rice Farish, and other friends in a gift to the Rice Institute which, it is believed, will add many millions to its endowment fund.

He was a member of Palmer Memorial Episcopal Church of Houston, the Delta Tau Delta Fraternity, numerous private clubs and was a director of many important corporations. In 1933 he directed the Houston Community Chest Drive. On the last day he was in his office, Mr. Farish wrote to express regret that he could not attend the Annual Meeting of this Society, of which he had been an officer.

He is survived by his wife; a son, Lieutenant William S. Farish, Jr., A. A. F.; a daughter, Mrs. Martha Botts Farish Gerry, wife of Lieutenant Edward H. Gerry, A. A. F.; a sister, Miss Rosalie Farish; two brothers, Mr. S. P. Farish and Mr. R. D. Farish; and two grandchildren, William Stamps Farish, III, and Martha Farish Gerry.

Mississippi and Texas proudly share the honor of having given William Stamps Farish to the nation. His life, all too short, was a blessing to humanity and to his country. —F. M. L.

JOHN OLIVER McREYNOLDS

1865-1942

John Oliver McReynolds, son of Richard Bell and Victoria Boone McReynolds, was born at Elkton, Kentucky, July 23, 1865, and died at Dallas, July 7, 1942. His family was among the pioneers of Kentucky.

After preliminary education in the public schools of Elkton and Hopkinsville, young McReynolds entered Transylvania College at Lexington, the first, and for many years the most distinguished, institution of learning west of the Alleghanies—an institution which furnished Texas many of its pioneers and patriots, among them Stephen F. Austin, Albert Sidney Johnston, and Dr. George M. Mottley, first victim to fall at San Jacinto.

After leaving college, where he specialized in mathematics, he taught in Burritt College, Tennessee, and in the new Dallas High School. While teaching science and mathematics, he decided to enter the field of medicine and, after study at Bellevue Hospital Medical College, New York, he enrolled in the College of Physicians and Surgeons, Baltimore (now the medical school of the University of Maryland), from which he was graduated in 1891 with highest honors. After a year as resident physician at Baltimore City Hospital, he returned to Dallas to practice his specialty, diseases of the eye, ear, nose and throat.

He formed a partnership with Dr. R. H. Chilton, a pioneer practitioner of this specialty, and soon became known throughout the region as a leading ophthalmologist. His technique for the relief of ptygeria,

reported in the *Journal* of the American Medical Association, 1902, is described in standard American and European works on ophthalmology. He periodically visited the clinics of London, Paris, Berlin, Vienna, Chicago, and New York.

He was a founder and, during its entire existence, dean and professor of ophthalmology in Southwestern University Medical College, Dallas; and in 1915 was appointed professor of physiological optics in Southern Methodist University. During World War I he served as a Major in the Medical Corps and surgeon of the 18th Corps Area, and was advanced to a Colonelcy in the Reserve Corps by President Roosevelt.

Doctor McReynolds was the recipient of many honors. He served as President of the Dallas, Texas State, Air Service, and Pan American Medical Associations; member of the board of governors of the American College of Surgeons, of which he was a fellow; and Vice-President of the American Medical Association. He was decorated by the President of Venezuela and the President of Cuba created him a Commander of the Order of Carlos Finlay. His alma mater, Transylvania College, of which he was a curator for many years, conferred on him the degrees of M.Sc. in 1900, LL.D. in 1904, and D.Sc. in 1934. He was a great clinician of surpassing skill and surgical dexterity, devoted to the highest principles of medical practice and teaching.

He was married, in 1896, to Katherine, daughter of Judge and Mrs. George E. Seay, of Gallatin, Tennessee. Mrs. McReynolds died about a year before the final call came for her distinguished husband. Surviving members of the family are their daughter, Mrs. Frank W. Wozencraft of New York City; two grandsons; a brother, Mr. James C. McReynolds, of Knoxville, Tennessee; and a sister, Mrs. John H. Moore, of Elkton, Kentucky.

—W. E. H.

CHARLES WILLIAM RAMSDELL

1877-1942

Charles William Ramsdell was born at Salado, April 4, 1877, and died in Dallas, July 3, 1942. He held the degrees of B.A. and M.A. from the University of Texas, 1903, 1904; and the degree of Ph.D.

from Columbia University, 1910. After teaching at Columbia and Barnard College, he came to the University of Texas as instructor in history in 1906, and was promoted successively to the ranks of adjunct professor, 1912, associate professor, 1916, and professor, 1917. He also served as visiting professor at the University of Chicago, University of Illinois, Colorado, Columbia, North Carolina, Western Reserve, Northwestern, West Virginia, Missouri, and Duke.

He was a member of numerous learned societies, and served on the executive committee of the Texas State Historical Association, 1907-1942; the American Historical Association, 1931-1934; the Mississippi Valley Historical Association, 1928-1933; and the Southern Historical Association, 1935-1939. He was Secretary-Treasurer of the Texas State Historical Association, 1907-1942; and President of the Mississippi Valley Historical Association, 1928-1929, and of the Southern Historical Association, 1936. He was associate editor of the *Southwestern Historical Quarterly* and of its predecessor, *The Quarterly of the Texas State Historical Association*, 1910-1938, and served for varying terms on the editorial board of the Mississippi Valley Historical Association and the Southern Historical Association.

Though he was a man of broad interests and comprehensive learning, Professor Ramsdell's chief study was centered upon the history of the Old South from 1800 to the close of the period of reconstruction. In all that pertained to the history of the Southern Confederacy, his scholarship was decisive. Though he published a definite volume on *Reconstruction in Texas*, numerous illuminating articles, and a multitude of penetrating and constructive book reviews—all in impeccable literary style—the tragedy of his loss to historical scholarship is accentuated, as one of his friends expressed it, by the fact that he was never able to reduce his vast knowledge of his subject to the orderly progression of a comprehensive and unified narration. He left no history of the Southern Confederacy, which he was so eminently qualified to write.

His principal writings were: *Reconstruction in Texas* (New York, 1910); *Behind the Lines in the Southern Confederacy*, The Walter Lynwood Fleming Lectures at Louisiana State University, 1937- (to be published 1943); and *A School History of Texas* (with Eugene C.

Barker and Charles S. Potts; Chicago, 1912). He edited George W. Tyler's *A History of Bell County* (San Antonio, 1936), and *Laws and Joint Resolutions of the Last Session of the Confederate Congress . . . Together with the Secret Acts of Previous Congresses* (Durham, 1941), and contributed scholarly articles to the *American Historical Review*, *Journal of Southern History*, *Mississippi Valley Historical Review*, *North Carolina Historical Review*, *Proceedings of the Mississippi Valley Historical Association*, *Southwest Review*, and *Southwestern Historical Quarterly* and its predecessor, as well as to *The South in the Building of the Nation* (Richmond, 1909), *Studies in Southern History and Politics* (New York, 1914), *Dictionary of American Biography* (New York, 1928-1934), *Dictionary of American History* (New York, 1940), *Culture in the South* (Chapel Hill, 1934) and the Texas Centennial Edition of *Encyclopaedia Britannica* (New York, 1936). His constructive book reviews appeared at intervals in substantially all of the leading historical journals of his time over a period of more than thirty years.

Besides effectively teaching large graduate and undergraduate classes, Professor Ramsdell served the University in many capacities requiring judgment, tact, patience and sympathetic understanding. To his influence upon his students, Mr. Stuart McGregor paid eloquent tribute in an editorial in the *Dallas News* of July 6, 1942. "With the true instincts of the old Scottish dominie," Mr. McGregor wrote, "he took a personal interest in the young men and women who sat at his feet. It was an interest that followed on as his students went out into the world—a loyalty that was returned by thousands of Texas Exes who sat in the classroom of the kindly, learned man during his generation of service on the faculty of the University of Texas".

In his mental attitude, Professor Ramsdell was a liberal, but never a propagandist. He held firm and reasoned convictions, which he was prepared to defend at all times with courage and determination, but his tolerance and self-control were extraordinary, and he avoided controversy. His opinions were the result of rigidly controlled, objective judgment and his expression of them was tempered by truly innate courtesy. He was loyal in all his relations—a genial, modest, unassuming gentleman.

—E. C. B.

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*Died April 22, 1943.

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- WRATHER, WILLIAM EMBRY, Associate Chief, Metals and Minerals Division, Bureau of Economic Warfare; past president, American Society of Economic Geologists, and of the Texas State Historical Association *Dallas*

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