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THE ROCKEFELLER INSTITUTE *Quarterly*

VOLUME I NUMBER 4

DECEMBER 1957

LIBRARY OF A SCHOLAR BEQUEATHED TO THE INSTITUTE

THE BOOKS which he had collected and treasured throughout his life were bequeathed by the late Dr. Alfred E. Cohn to the Rockefeller Institute where he spent most of his scholarly career. This magnificent collection, numbering about 6,000 volumes spanning a wide range and depth of human knowledge will occupy the greater part of the library of Abby Aldrich Rockefeller Hall. Here they will be available to our faculty and students and to visiting scientists as a part of the social and cultural center at the Institute which Abby Aldrich Rockefeller Hall and Caspary Hall provide.

The bibliophile in us would devote an entire issue to the books of special interest in the library, but this is clearly out of the question. We will content ourselves with a few paragraphs that will to some extent characterize the collection as a whole, mentioning only a few volumes of special interest. Roughly Dr. Cohn's books could be divided into three classes: perhaps 150 old and rare volumes of scientific and medical interest, published in the 16th, 17th and 18th centuries; several times this number of works in medical science from the 19th and 20th centuries that were more directly connected with his professional life; and finally, general works in literature, philosophy, history, art, politics, and those many other subjects that reflect the universal interests of that rare individual, a truly cultured man.

Dr. Cohn's rare volumes include some of the major works of many of the great

names in the history of medical science, often in first editions: Celsus, Thomas Bartholinus, G. Borelli, Malpighi, Leuwenhoek, Richard Lower, Mead, and many others. Vesalius and Harvey are represented only by facsimiles, but a magnificent double crown folio volume of the drawings from Vesalius' work is included that is almost as great a treasure as the 16th century first editions. This limited edition of 430 copies was printed by the New York Academy of Medicine and the Library of the University of Munich in 1935 from the original woodblocks cut for Vesalius in the early 16th century by a student of Titian. They were recently discovered in the Library of the University of Munich.

Dr. Cohn's own interest in cardiovascular research is evident among his rare volumes. Albrecht von Haller, for example, the father of experimental physiology, is represented in the collection by a volume of two memoirs, *Sur Le Mouvement du Sang et Sur les Effets de la Saignée*, published in 1756. It is here that we find the first modern statement that the beat of the heart is intrinsic to its own muscle and not derived from an external nervous impulse. The title page and frontispiece of this interesting little book are reproduced here. It is likely that Cohn found Haller especially interesting for, like Cohn himself, he not only made distinguished contributions to vascular studies but was something of a literary figure as well. Mountaineers remember Haller as the author of the poem,

Die Alpen, one of the first works to present mountains to the public as objects of sentiment and interest rather than of horror. And before he was ten it is said that he had sketched out a Chaldean grammar!

One of the delights of Dr. Cohn's old books, however, is that works from quite unexpected sides of well-known men are occasionally included. D'Alembert, for example, the mathematician and philosopher, whom most of us remember for his work on dynamic equilibrium, is represented by a treatise published in 1779 on the theory and practice of music based on the style of Rameau. Perhaps it was M. d'Alembert's opening sentences that took Dr. Cohn's fancy, for they express the twofold interest in art and science that characterized his own life: "One can consider music either as an Art which has for its object one of the principle pleasures of the senses or as a science by which that Art is reduced to principles. It is the double point of view from which it is proposed to treat it in this book."

Another mathematician and philosopher, René Descartes, is included, not only with a first edition of his *Principia Philosophiae* (Amsterdam, 1644) and a 1658 edition of the *Meditations*, but with his *Treatise on Man and the Formation of the Foetus* in an edition of 1677. It was here that the founder of analytical geometry and the enunciator of the dictum "cogito ergo sum" set forth his views on man as being an automaton: "...it is unnecessary to conceive in it [the body machine] any soul—whether vegetative or sensitive—or any principle of motion, or of life, than its blood and its spirits agitated by the heat of the fire which burns continually in its heart, and which is in no

wise essentially different in nature from all the fires which are met with in inanimate bodies." This "fire which burns perpetually in the heart" was a topic of the times, thanks in large part to the work of Descartes' contemporary in England, Robert Boyle. Several of Boyle's books are included in the Cohn collection. One of these (*New Experiments, Touching the Relation betwixt Flame and Air: And particularly betwixt Air, and the Flamma Vitalis of Animals*) reminds us how much three hundred years have added to our knowledge of living phenomena and how little we understand today of Boyle's and Descartes' *Flamma Vitalis*.

It is difficult for us to imagine in this day of thermonuclear weapons and serious discussion of manned flights to the moon how bold the New Philosophy of experimental science seemed in the days of Francis Bacon and the founders of the Royal Society. We can scarcely believe that the men of the Royal Society were severely criticized as an undignified and, in a sense, subversive lot. Another volume in Cohn's library, Bishop Thomas Spratt's *History of the Royal Society* published in 1667 in defense of the Society, gives us a glimpse into these tempestuous times. In his dedication to Charles II (who had given the Royal Society its Charter only five years earlier) Spratt, in justification of the worth of the Society's aims and methods, observed

...That a higher degree of Reputation is due to Discoverers, than to the Teachers of Speculative Doctrines, nay even to Conquerers themselves.

Nor has the true God himself omitted to show him his value of Vulgar Arts. In the whole History of the first monarchs of the World, from Adam to Noah, there is no mention of their Wars, or their Victories: All that is recorded is this, They liv'd so many years, and taught their posterity to keep Sheep, to till the Ground, to plant Vineyards, to dwell in Tents, to build Cities, to play on the Harp and Organs, and to work in Brass and Iron. And if they deserv'd a sacred Remembrance for one Natural or Mechanical Invention, Your Majesty will certainly obtain Immortal Fame, for having establish'd a perpetual Succession of Inventors.


The collection also includes a rather foolish sally into medicine by Bishop Berkeley who had become persuaded that drinking an aqueous solution of tar was of great effect against smallpox (*SIRIS: A*

Chain of Philosophical Reflexions and Inquiries Concerning the Virtues of Tar Water, and divers other subjects connected together and arising one from another. Right Rev. Dr. George Berkeley, Lord Bishop of Cloyne, London, 1744). Here, 90 years later, we find Berkeley still pondering Boyle's demonstrated connection between flame and life but the book is more noted today as the source of certain important and clarifying modifications of his subjective idealism.

The more recent scientific works in the Cohn library are neither surprising nor bibliographically exceptional and we will not pause long to describe them. A medical man of classical interests, Cohn none-the-less was interested in the less conventional

Coleman's *Ice Ages, Recent and Modern*.

The third group of books, of general interest, on the other hand contain many surprises and delights. It begins with Dr. Cohn's school texts from nearly 60 years ago, his Hall and Knight *Higher Algebra*, his Ganot's *Elements of Natural Philosophy*, his Fraser and Squair *French Grammar*, and Goodwin's *Greek Grammar*, textbooks of a scholar's education at the turn of the century. However, we find that in 1899 he also bought a copy of Ernest Seton Thompson's *Wild Animals I Have Known*, and his rare books include a Greek and Latin edition of Aesop's Fables published in 1685. The thread of animal stories is still visible in a charming little volume, *The Book of the Bear, Being Twenty-one*



**D E U X
M E M O I R E S**

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L E S E F F E T S D E L A S A I G N É E ;
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F a i t e s s u r d e s A n i m a u x :
P A R M O N S I E U R
A L B. D E H A L L E R ,
*Président de la Société Royale des Sciences de
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Royale des Sciences de PARIS, LON-
DRES, BERLIN, STOKHOLM, &c.*

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M a t h u r i n s .*

M D C C L V L

18th Century Experimental Anatomy—Haller's Memoirs on the Movement of the Blood

borderlands of theory and clinical practice as we see from the substantial number of original works and commentaries in his library from the realm of psychology and psychoanalysis: Freud, Jung, Adler, and, more recently, Fromm-Reichmann, Clara Thompson, etc. We are impressed by the breadth of his scientific interests when we see that his collection also includes such works as Lyell's *Principles of Geology*, Swinnerton's *Outlines of Paleontology* and

Tales newly translated from the Russian, published in 1926 by the Nonesuch Press, and *Beasts and Saints*, a delightful collection published in 1934 by Helen Waddell, the mediaeval scholar, of translations of "stories of the mutual charities between saints and beasts, from the end of the fourth to the end of the twelfth century." Surely La Fontaine is somewhere to be found in the collection but we have not yet discovered him.

Greek art, science and thought are abundantly included in the Cohn library, but so are Hindu and Buddhist art and philosophy and John Addington Symond's *Renaissance in Italy*, if we may be permitted thus briefly to triangulate what seems to us a vast intellectual expanse. Many volumes of art reproductions are included, but beyond mere contemplation of works of art Cohn sought to understand art and architecture through such works as Hambidge's provocative *Dynamic Symmetry*, Hermann Weyl's more profound *Symmetry*, and Ivins' *Art and Geometry*. Also present are the more conventional commentators such as Berenson and Arthur Symonds. Works from the history of Art itself are included, such as Albrecht Durer's 16th century volume on the proportions of the human body, one of the oldest and finest books in the library.

As he was a Jew, many volumes in Cohn's library reflect his active concern over the political and religious history of his people, from the works of Josephus to *Mein Kampf*. But Creighton's six volume *History of the Papacy* is included as well as some of the writings from the inner life of Christianity such as St. Augustine's complete works, St. Teresa of Jesus' *The Interior Castle*, and Bernard of Clairvaux's *The Steps of Humility*. Sociology, political science and history are broadly and in some cases intensively represented with such works as the lovely Nonesuch Press edition of *Heroditus* and Coulton's four volume *Life in the Middle Ages*, but also *The War History of American Railroads*; a French edition of Pareto's *General Sociology*, Thompson's *The Middle Ages*, Gibbon's *Decline and Fall*, Trotsky's *History of the Russian Revolution*, Spengler's *Decline of the West* (English and German editions), and John Stuart Mill's *Principles of Political Economy*, to name a few. The complete transcript of the Sacco-Vanzetti Case is included as is the record of the Nuremberg Trials and Orwell's *Animal Farm*.

In addition to all these, of course, are works of the poets from Homer to e.e. cummings with beautiful volumes such as the Overbrook Press edition of the poems of Shakespeare scattered between them. Music is more sparsely represented but over a great span from d'Alembert on Rameau through Gilbert and Sullivan to Aaron Copland's *Music and Imagination*.

MAINTENANCE AND CONSTRUCTION OF OUR BUILDINGS AND GROUNDS

EACH OF THE FIRST THREE ISSUES of the Rockefeller Institute Quarterly described major new construction and reconstruction projects undertaken or being completed, and our campus still throbs with construction progress today. We have many aspirations yet unrealized which will be described in future issues as they take form and become realities, but now we wish to pause to put current progress in historical perspective and to acknowledge the skill and devotion of Mr. Bernard Lupinek, Superintendent of Buildings and Grounds, and his able staff.

For it was Barney Lupinek who saw to it that the concepts of Mr. Wallace K. Harrison, the architect for the new buildings, and the exacting tastes and requirements of President Bronk and the Trustees of the Institute were carried out in all their details by the many contractors and sub-contractors charged with responsibility for construction. It was Barney, for example, who arranged for fabrics to be spun and dyed to our order on an impossible delivery schedule so that the striking crimson seats in Caspary Auditorium should be in place

Dr. Cohn was not one to buy many sets of complete works, and one of the interesting aspects of his library is the evidence it gives that each book was obtained because he wished to have it and to know it. However, certain authors seem to have interested him especially, for we find the complete works of a few, e.g. Edward Fitzgerald, whom few of us know except for his translations of Omar Khayyam, George Meredith, Charles Dickens, and several Americans: Hawthorne, Melville, Poe and Twain.

We have perhaps said enough to explain the pride and satisfaction with which the Rockefeller Institute received the library of the late Dr. Cohn. It will serve as a graceful and distinguished part of the intellectual and cultural life of the Institute and will inspire us to strive ever to accompany the depth and intensity of our interest with the breadth and imagination which were so characteristic of Alfred Einstein Cohn.

on their charcoal carpet for the Autumn Meeting of the National Academy of Sciences in November. It was Barney who struggled with the engineers designing a mechanism to lift the auditorium's blackboard and projection screen out of the stage floor in 30 seconds, a feat not yet accomplished at this writing. And it was Barney himself who designed and supervised the installation of the modern stainless steel kitchen facilities for Abby Aldrich Rockefeller Hall.

The Institute's good fortune in having such a man and the devoted staff that have supported him during these extraordinarily busy years is not the result of chance, nor of a recent afterthought. Chance perhaps, originally, but not afterthought, for it was 46 years ago, on March 27, 1911, that the Institute sent a postcard inquiry after the youngster who advertised in the New York World that he wanted a position as office boy. It was not a 12 hour day nor a six-day week that had led him to leave the first position he found after he graduated from P.S. NO. 82 at 70th Street and First Avenue. It was that overtime often made him late to his classes at evening high school. Moreover, after expenses for food and carfare he was left with only 90 cents a week for his trouble! The Institute's salary of \$4.50 a week seemed like wealth to him, but best of all he could leave work at 6:00 p.m. (in those days he really did) and walk to his classes in stenography and bookkeeping.

This was the beginning of a long and happy relationship between Barney Lupinek and the Rockefeller Institute. Barney made first-hand acquaintance with the tribulations of institutional administration even as an office boy in the years before World War I. If the elevator operator were missing, he became an elevator operator; if an oiler were absent from the power house, he became an oiler; and when reprints began to flow in from European research centers interested in the new Institute, it was Barney who produced a wheel barrow to bring the swelling loads back from the Post Office.

A notable ubiquity has been characteristic of Barney Lupinek's experience, and

a restless quest for education has given him a solid training for the wide variety of his undertakings. For more than 15 years after coming to the Institute he pursued evening courses in stenography, bookkeeping, mathematics, commercial law, court-reporting, business administration, physics, electrical engineering, architecture, building construction and estimating, and institutional management. As a result Barney was quite at home with his responsibilities when he was appointed Superintendent of Maintenance in 1927, the year work on Welch Hall began. Two years later construction of Theobald Smith Hall and the North Animal House began, and Barney found himself not only in the midst of maintenance but deep in construction activities as well.

LABORATORY DESIGN

In the years following, the Institute changed rapidly as it grew into its mature form. Laboratory facilities were already becoming obsolete as rapid strides in research were made and the Superintendent of Maintenance was responsible for modifying them to be as modern as possible. Here began that aspect of his career for which Mr. Lupinek is best known and most admired by the Institute faculty—the layout and the design of laboratories. Not long ago we heard a professor at the Institute, whose laboratory was being admired by a visiting colleague say: "It's that man Lupinek. You know he really has a style!" Barney *does* have a style, and it has evolved out of years of experience. Of course the plans and aims of the head of the laboratory are of first importance, and perhaps second is the knowledge of the characteristics of proposed equipment, problems of service access, anticipated improvements and modifications, etc., which his old friend Tony Campo in the Purchasing Department brings to the problem. But finally Barney adds the fruit of his own experience as to what unforeseen operational difficulties may result from this or that disposition of equipment, what services may be needed tomorrow that could more easily be provided today, and what materials and equipment may be available tomorrow that should be planned for today. Many years ago when the limits of speed of centrifuge rotors were still uncertain one of the laboratories armed itself with sandbags and proceeded methodically

to explode a few. One magnesium rotor, when it exploded, sheared heavy bolts embedded in a concrete base and blasted steel and lead out the window and through the ceiling. This experience provided Barney with new problems of maintenance and reconstruction as well as an unforgettable respect for the safety requirements of such machines. Barney will remind you to place an air-driven centrifuge, with its shrill whine, in a remote part of your laboratory not only for safety, but for aural comfort as well. A high-pressure sterilizer should also be out of the way, not only for safety but for convenience, as well as for comfort, a fact which most would forget in the chill of winter, but which Barney remembers the year around.

One of Barney's improvements in laboratory arrangements is the placement of corrosive or toxic reagents in lead-lined cabinets under the ventilated hoods and connected to the exhaust stacks. Another is to replace or at least to supplement the pegged drying racks for glassware over sinks with electrically heated drying cabinets. Even if a laboratory considers this an unnecessary refinement they are apt to discover that Barney has placed electrical wiring in a cabinet near a sink against a future change of plans. Cold rooms have been a special interest of Barney's since he consolidated three inadequate cubicles twenty years or so ago for Dr. Bergmann to make one large area suitable not only for storage of unstable materials but for carrying on experiments as well. The development of thermopane windows has relieved the prison-like effect of some of these rooms, and, especially in the summer, some of Barney's cold rooms offer some of the most agreeable laboratory space in the Institute.

INSPECTIONS ABROAD

In 1948, after over 20 years of designing laboratories at the Institute, Barney was sent by Dr. Gasser, then Director of the Institute, on a tour of European laboratories. He found, as many of our faculty already suspected, that the design of our laboratories was in advance of most of those in Europe. Only in Sweden, where he visited Uppsala University and the laboratories of The Svedberg, did he find uses of materials and equipment that paralleled our own.

Designing laboratories and supervising

new construction has occupied a large part of Barney Lupinek's time, but we discovered that his secret love is the power house of the Institute, which he calls its "heart". He loves to quote figures on its performance (it produced 193,940,840 pounds of steam and 1,120,291 kwh of d.c. power in 1956-1957, one-third of the total electricity consumed by the Institute), and one of the high points of his professional life was the conversion of two of its boilers from coal to oil heat just before the outbreak of World War II. This difficult and exacting undertaking Barney planned in every detail, including estimates that the \$14,000 conversion cost would be recovered in two years of more economical operation. The work was successfully accomplished, though not without its melodramatic incidents, and paid for itself in eleven months. No one has assessed the cost of the wear and tear on Barney's nerves. It became evident that the four old boilers were inadequate to meet increasing demands for steam. Few persons knew that during the past two and one-half years Barney was quietly removing the old boilers, one at a time, and, without any interruption of service, replacing them with three new high-pressure boilers adequate for the future.

THE ULTIMATE IN ECONOMY

Training, experience and interest have enabled Barney to use every possible calory, erg and watt from his power-house. For example, when air-conditioning was planned for the new buildings it was Barney who saw that the exhaust steam from the generators (wasted in the summer) could be used for operating refrigeration equipment. During the winter the same exhaust steam is also used to heat the buildings and domestic hot water.

It would be difficult for Barney to take his attention off his pet, the power plant, were it not in such able hands. Fortunately, George Karda, Chief Engineer, has grown up with it. Since he came to the Institute as a boy in 1924 he has educated himself in power-plant engineering, refrigeration systems, air compressors, vacuum pumps, etc. Recently George has added a thermometer to his standard collection of screw drivers, test-lamps and friction tape as he learns air-conditioning engineering to keep us comfortable in Cas-

(continued on page seven)

DR. ROUS INAUGURATES FACULTY LECTURES IN NEW AUDITORIUM

THE INAUGURAL FACULTY LECTURE in Alfred H. Caspary Auditorium was given by Dr. Peyton Rous, Member Emeritus of the Rockefeller Institute, on Friday, December 13, 1957. Dr. Rous' lecture was titled "The Known Relationships of Viruses to Cancer." We will not attempt to report here his remarkable address in what would have to be too abbreviated a form. President Bronk's remarks with which he introduced Dr. Rous to his audience and the Auditorium to all were as follows:

On the occasion of the first faculty lecture in this new setting I would speak briefly of some who had significant roles in the creation of this building.

One is the man for whom the Hall is named. I think no one of us knew Alfred Caspary as a person. But all should know that he was a good and modest man whose great wealth did not overcome his simple humility and his unostentatious concern for the welfare of others. When impending death denied him the opportunity personally to further human welfare he bequeathed his material possessions so that others might translate his humane ideals into action.

The furtherance of science is enabled by many. Trustees of universities play a vital role. They give guidance and encouragement and are defenders in the world at large of the mission of the scholar. Our trustees have had bold vision, and to me have given courage and supporting faith for the creation of the Institute of the future.

One of the boldest and most heartening was a friend of Alfred Caspary. To George Murnane, Alfred Caspary entrusted all of his estate to be used as George Murnane thought Alfred Caspary would wish to have it used. And so it was that George Murnane became the instrument of Alfred Caspary in creating the auditorium which we have named for him. As a friend of George Murnane I know how wisely Caspary chose his most trusted friend.

As our plans for the future of the Institute developed and the physical needs for its maintenance became apparent I fortunately found the friendship of a great architect of vision. He grasped the significance of our purpose and envisioned the means of housing our endeavors in buildings that would be both adequate and esthetically symbolic of our high purpose. I have worked with many architects on many occasions and in many places, but I have never known one who has the quality of Wallace Harrison who created this building. He is bold in concept but always amenable to suggestion and humble in the expression of his own desires. He has integrity of

ideals, but is educable to the requirements of function. He has been my true colleague in the fulfillment of our objectives.

Among his many associates I would speak of Warren Draper. A modest simple man with a fine sense of beauty, he had the kindly patience to be the one who translated Wallace Harrison's bold visions and our desires into the ultimate achievement.

The design of the Hall was one we thought had beauty and satisfied our needs. But those of you who have studied acoustics know that a hemisphere such as this is basically the worst in which to speak and hear. How to combine beauty, simplicity of construction and the proper functions of an auditorium was a problem we posed to Richard Bolt of our sister Massachusetts Institute of Technology. As we started our construction, he asked me to deliver the inaugural address at the International Congress of Acoustics. I said I would if he would enable Wallace Harrison to create the acoustically perfect auditorium. Because the building was delayed, I was required to discharge my obligation before we could test his promise. Without knowing how I per-

formed, you are hearing that Richard Bolt fulfilled his obligation to perfection.

Of one other I would speak who is affectionately known to us as Barney Lupinek. Not many of you know how many of his weekends had no day of rest nor how two summers had no holiday in order that this and other buildings could be completed. If I have overburdened him with duties, I would now say that he has always loyally met them as though the challenge were a joy.

As I contemplated this first lecture in this Hall I always thought of one who should be the speaker. I thought of the one who has worked the longest in this Institute—for almost half a century with loyalty to the Institute and devotion to excellence and the broad, high ideals of science. I thought of him for other, personal reasons too. In the often lonesome days of dreaming and planning for the Institute's future, I found Peyton Rous a constant source of encouragement and enthusiasm for the new. I vividly remember the noon day when I met Peyton as he came with enthusiastic approval from first seeing this Hall where we are gathered now. And so it is to me a source of especial satisfaction that you agree with me that Peyton Rous give this first lecture. The significance of his concepts, presented with clarity and beauty of expression, will set high standards for all future speakers in this hall.

SOVIET BIOLOGISTS INSTITUTE GUESTS

A DELEGATION of six distinguished women who are medical scientists in the Soviet Union were guests of the Rockefeller Institute on November 7, 1957. The Russian scientists, escorted by Dr. Frank L. Horsfall, Jr., made visits to laboratories at the Institute where work of interest to them is in progress.

The visit of the Soviet delegation to the United States was arranged by the Department of State in cooperation with the National Academy of Sciences and the Rockefeller Foundation. It is planned that a similar delegation of American women will visit medical research centers in the Soviet Union sometime in the future.

As it has become possible for American scientists to meet and discuss their work with Soviet scientists it has become evident that American workers and their research are much better known in the Soviet Union than is Soviet work known here. Even the names of our visitors will be strange to most of our readers but their in-

terests and high level of competence will be evident from their titles: E. A. Vasyukova, head of the delegation—Director of the Institute of Experimental Endocrinology of the Ministry of Health of the U. S. S. R.; A. E. Shubladze—head of a laboratory of the Ivanov Institute of Virology of the Academy of Medical Sciences of the U. S. S. R.; M. N. Fateyeva—head of the Radiology Clinic of the Institute of Labor Hygiene and Occupational Disease of the Academy of Medical Sciences; N. A. Dzhavakhishvili—head of the Department of Experimental Anatomy of the Institute of Experimental Anatomy of the Academy of Sciences of the Georgian S. S. R., Tbilisi; N. I. Perevokhikova—senior scientific worker of the Institute of Experimental Pathology and Cancer Therapy of the Academy of Medical Sciences; and A. M. Shishova—faculty assistant in therapy of the First Moscow Medical Institute.

Visits such as these cannot fail to encourage mutual respect and understanding, and they may strengthen international cooperation in the understanding and conquest of disease, an aim that knows no barrier of ideology or tongue.

NATIONAL ACADEMY OF SCIENCES

AUTUMN MEETING AT INSTITUTE

THE ROCKEFELLER INSTITUTE and the New York Botanical Garden were pleased to be hosts in November to what proved to be the largest Autumn Meeting the National Academy of Sciences has held in its 94 years. More than one hundred members registered for the meetings on November 18, 19, and 20 and at least an equal number of scientists from the New York area attended the scientific sessions, all of which were open to the public. Nearly 50 scientific papers were contributed by Academy members and their colleagues. Quite naturally the biological sciences were heavily represented, but a number of papers of outstanding interest in the physical sciences were presented. Keith Bullen, for example, from the University of Sydney, Australia, discussed evidence, some of which has been obtained from nuclear explosions, regarding the solidity of the earth's inner core. Joseph Kaplan, Professor at the University of California at Los Angeles and Chairman of the U.S. National Committee for the International Geophysical Year, described chemical reactions occurring in the earth's upper atmosphere, a field which he has termed chemical aeronomy; and Richard W. Porter of the General Electric Company, who is Chairman of the Technical Panel on the Earth Satellite Program of the U.S. National Committee on the IGY discussed the scientific aspects of that program. An intriguing demonstration of considerable scientific as well as practical significance was shown by Edwin H. Land, President of the Polaroid Corporation, who has found that with the use of appropriate color filters, both in photographing and projecting, two superimposed black and white slides can be made to give the appearance of full range natural color.

Three invited symposia were arranged in addition to the contributed papers. Professor I. I. Rabi of Columbia University presided at a symposium on the parity principle which included a theoretical presentation by T. D. Lee of the Institute for Advanced Study at Princeton who, together with C. N. Yang at the Institute, was awarded the Nobel prize in physics for 1957. Mrs. C. S. Wu of the National

Bureau of Standards described her experimental work with beta decay which gave an experimental basis for Lee and Yang's conclusion that parity is not conserved, at least in this part of the universe. Professor Leon M. Lederman of Columbia University discussed further experiments with meson decay bearing on parity.

AMINO ACID ACTIVATION

A symposium on amino acid activation was arranged by Fritz Lipmann of the Institute faculty. This new and important area of modern biochemical research was discussed by Paul Zamecnik of the Harvard Medical School, P. D. Boyer of the University of Minnesota, Daniel E. Koshland, Jr., of Brookhaven National Laboratory, Paul Berg of Washington University, and G. David Novelli of the Oak Ridge National Laboratory.

A symposium on plant tumors was arranged by A. J. Riker of the University of Wisconsin. The symposium commemorated the 50th anniversary of the identification of the organism responsible for the tumor known as crown gall. It served to underline the unity of biological science in that it bore closely on the larger problems of normal and abnormal growth. The participants included Philip R. White of the Roscoe B. Jackson Memorial Laboratory; Armin C. Braun, Rockefeller Institute; Richard M. Klein, New York Botanical Garden; A. C. Hildebrandt, Department of Plant Pathology, University of Wisconsin; and L. M. Black, Department of Botany, University of Illinois.

Dr. Wilder Penfield, O.M., F.R.S., Director of the Montreal Neurological Institute, gave the first public lecture in the Institute's newly completed Caspary Auditorium to an audience that nearly exceeded its 500-seat capacity. The title of Dr. Penfield's lecture was: Some Mechanisms of Consciousness Discovered During Electrical Stimulation of the Human Brain. He described evidence that he has accumulated regarding the nature of memory during stimulation of the brain in connection with surgical treatment of focal epilepsy. The first patient to experience electrically stimulated memories during surgery years

ago, with her parents, was Dr. Penfield's guest at the lecture—as he said “to bear witness to the veracity of this extraordinary report.” Following Dr. Penfield's lecture, President and Mrs. Bronk were hosts to members of the Academy and their guests at a reception in the newly completed President's House.

A formal banquet for members of the Academy and their guests was given in the Faculty Dining Room of Welch Hall. On this occasion the Academy's Public Welfare Medal for eminence in the application of science to the public welfare was presented by President Bronk to Dr. Warren Weaver, Vice-President for the Natural and Medical Sciences of the Rockefeller Foundation. The first recipients of the medal were G. W. Goethals and W. C. Gorgas for their work in sanitation and public health in the Panama Canal Zone, and other distinguished recipients have included President Herbert Hoover and Mr. John D. Rockefeller, Jr.

On one afternoon during the meeting eleven of the laboratories arranged for the members of the Academy to see demonstrations and exhibits of scientific work currently in progress. Hosts to the Academy on this occasion were Drs. Porter and Palade, Hartline, Brink and Bronk, Zworykin, Mirsky, Corner, Weiss, Braun, Kunkel, Craig and Moore and Stein.

LADIES' PROGRAM

The lady guests of the Academy enjoyed visits to the Botanical Garden on Monday where they dined with their husbands and afterwards enjoyed the gardens during the scientific sessions. On Tuesday they had luncheon at the Metropolitan Museum and spent the afternoon viewing the collection. Luncheon on Wednesday was at the Cosmopolitan Club. During the afternoon the ladies visited The Cloisters, a mediaeval monastery that has been moved to Fort Tryon Park where it houses a collection of mediaeval art and is itself a museum piece.

It afforded us much satisfaction to be able to open our new facilities to this distinguished group on the first occasion of its kind to be held at the Rockefeller Institute. The meeting of the Academy was an auspicious beginning for what we hope will be a continuing series of events that will enrich the professional lives of our faculty and students and promote the progress of science.

THE SOCIETY OF THE SIGMA XI

THE FACULTY AND STUDENTS of the Rockefeller Institute have been accustomed to regard themselves as "companions in zealous research" though they might not have used these words translated from the Greek motto of the Society of the Sigma Xi to express the fact. But, on December 27, 1957, the Sigma Xi acknowledged that, however we may express it, our faculty are indeed *Σπουδῶν Συγγῶνες* and their petition for the establishment of a chapter of the Society of the Sigma Xi at the Rockefeller Institute was approved.

Our association with the Sigma Xi is in a sense no new thing. President Bronk, whose membership dates from his days as a graduate student at the University of Michigan, is serving his second term as a member of the Executive Committee, and about half of the more than 200 faculty and students are members or associate members of chapters at other universities, or at large. It is fitting that they should now become members of a new chapter here as the Institute enters its fourth year as a graduate university. The aim of the Sigma Xi we could take as ours: "to encourage original investigation in science, pure and applied . . ." to quote Article 1 of its present Constitution. But to the society of companions in zealous research goes credit for priority, for they espoused this ideal in their first constitution in 1887, fourteen years before we were incorporated under our own motto *pro bono humani generis*.

Not only do the aims of the Sigma Xi parallel our own, but its means of promoting them are among ours. According to its 1911 Constitution, it will seek to achieve them "... by meeting for the discussion of scientific subjects; by the publication of such scientific matter as may be deemed desirable; by establishing fraternal relations among investigators in the scientific centers; and in granting the privilege of membership to such students as during their college course have given special promise of future achievement."

It is with pride that we join this fellowship of scholars. When our new chapter is organized and begins activities we shall inform our readers of its progress in encouraging companionship in zealous research.

FIFTY YEARS AGO AT THE ROCKEFELLER INSTITUTE

The First Permanent Endowment

IN NOVEMBER, 1907, Mr. John D. Rockefeller created a permanent endowment of \$2,600,000 for the Rockefeller Institute. Since 1901, when the Institute was founded, current expenses and building costs had been met by direct gifts from Mr. Rockefeller. Dr. William H. Welch, then President of the Board of Directors, sent the following letter of thanks:

807 Saint Paul Street, Baltimore
November 28th, 1907

John D. Rockefeller, Esq.,
26 Broadway, New York

MY DEAR SIR,

I have received from Dr. Holt, our Secretary, your letter announcing your most gener-

ous endowment of the Rockefeller Institute for Medical Research.

Without waiting for the meeting and formal action of the Board of Directors, I wish to express to you our grateful appreciation for this munificent manifestation of your continued interest in the work of the Institute. Although I have not doubted its permanence, it is most gratifying to have the future of the Institute made thus secure at this time.

I believe that you may feel assured that the enlightened principle which has so largely and wisely guided your splendid benefactions—the promotion of the welfare of mankind by increase of knowledge—will be signally illustrated by the work of the Institute which unites so conspicuously the scientific with humanitarian aims.

Your gift and your words are a great encouragement to all connected with the Institute, and you may be assured that our best efforts will be directed toward making the best possible use of the great opportunities which you have provided.

Believe me to be with high and most cordial regards to yourself and to your son, who has aided so effectively,

Very Respectfully and Truly Yours,
William H. Welch

OUR BUILDINGS AND GROUNDS *continued from page four*

rary Auditorium.

A large and varied organization stands behind Barney and his extraordinary services. Paul Penndorf, Assistant Superintendent of Buildings and Grounds, he purloined in 1955 from a general contractor who had been in charge of construction at the Institute several years before. It is characteristic of Barney Lupinek that he had been watching Paul Penndorf since 1949 and had patiently waited until the auspicious moment to secure his careful skill for our own staff. We understand that he is stalking another assistant but, he says, "better for us all to work a little harder than be in a hurry and make mistakes". Another of his assistants, Kenneth Schmitt, is a young man he has trained on the job. Schmitt came to the Institute in 1941 as a clerk and stenographer, but he has become a specialist in plant operation details, freeing Mr. Lupinek from many of the essential but minor items that are unimportant only if they are cared for competently and at once. The construction enterprises that have been undertaken since the arrival of President Bronk very soon created a pressing need for a full-time draftsman, a position now adequately filled

by the experienced services of Mr. Sergio Garcia. Another indication of the status of Mr. Lupinek's office is the fact that after many years he has reluctantly concluded that he can no longer depend upon another office for secretarial assistance, even though provided by one so devoted and experienced as Mrs. Martha Riley. He is now assisted by a most competent full-time secretary, Miss Barbara Bivin.

Mr. Lupinek's able assistants would make interesting tales in themselves. Mr. Joseph Tekverk, for example, who is in charge of the Cabinet Maker's Shop, is an artisan who has been with the Institute since 1916. He has worked shoulder to shoulder with Barney since 1939 when he became head of the shop which produces the fine wood structures that grace many of our laboratories and offices. Finishing Joe Tekverk's beautiful cabinet work as well as brightening the rest of the Institute's surfaces is the responsibility of Mr. Herman Richter's Paint Shop, a job that in past years was done in the summer months but which is now a year-round activity. Heavier work, but if anything even more necessary, is supervised by Mr. William Duthie, Machine Shop foreman, and his assistant

Mr. John Gerbracht. Mr. Chris Murray, Head Groundsman, is a veteran of many, many years at the Institute who loves its hedges and gardens as his own. We were alarmed recently by the report of his impending retirement, but President Bronk, who knows a green thumb when he sees it, persuaded Chris to stay a few more seasons with us. We suspect this was not hard to do for the new landscaping on the Institute's grounds and the promise of many Springs must have been almost irresistible attractions. Finally we have to mention that most important of daily maintenance jobs, Janitorial Services, under supervision of Mr. Joseph Klecar and his assistant, Mr. Larry Holzman. One who knows the great variety of activities to which Joe and Larry turn their hands, would ask us what lexicon we use to define the word "janitorial." Joe Klecar resides at the Institute and the nights and weekends that Larry is seen here have probably led many to suppose that he, too, lives here. These two men are our first line of defense in any emergency and we have come to depend on their willing and cheerful help, not only to deal with difficulties as they arise, but to help us avoid them.

Forty-six years ago, when the ambitious

office boy, Barney Lupinek, arrived, a handful of men and \$11,492 a year were sufficient to operate the Institute's buildings. Today Barney and his regiment of assistants and helpers are hard-pressed to keep abreast of building maintenance operations that now total nearly \$500,000 annually. With construction of the new laboratory building and the graduate student residence well under way, Barney is now looking forward to laying out and furnishing the nearly 60,000 square feet of new laboratory space that will soon become available. Those who work in the new building will find themselves in as well-appointed laboratories as can be provided. Our own faculty would expect this, but we would like to close with a tribute to Barney Lupinek's skill by a visitor from abroad.

About ten years ago Dr. J. W. Bigger of Trinity College in Dublin visited this country to collect ideas and information for the design of Moyne Institute to house the Department of Bacteriology. He had visited laboratories in England and Scandinavia as well as in Los Angeles, San Francisco, Ann Arbor and New York. We were fortunate enough to secure a copy of his report and delighted to find in it these words of praise: "If I were to work in any

of the institutions we visited, I would have no hesitation in selecting the Rockefeller Institute. Mr. Lupinek has spared no pain in his efforts to alter, adapt and equip each laboratory unit to meet the wishes, and even the whims, of the user. Despite the limitations imposed by relatively old buildings, he has admirably succeeded with the result that the units are well (and this does not imply lavishly) equipped, they are spacious and not excessively encumbered with apparatus and they are pleasant places in which to work... Apart from what we saw in the Rockefeller Institute, our visits to it were of particular value owing to our contact there with Mr. Lupinek. Indeed to meet him was almost enough in itself to make our visit to America worth while as he is a mine of information as regards the materials and equipment required in laboratories; their good and bad qualities and where they may be obtained."

Dr. Bigger had encountered only one of the facets of Barney Lupinek's character. If he could have known him as some of us do, and if he could see what Barney and his team of assistants have done in the past ten years, he would join us in an attempt to surpass even this high praise.

FACULTY ACTIVITIES

Academic Appointments

KARL MARAMOROSCH

Visiting Professor of Plant Pathology, Cornell University, Ithaca.

Lectures, Conferences and Symposia

A. G. BEARN

Honors Program, New York University College of Medicine.
Symposium on Blood Proteins, New York Academy of Medicine.

ARMIN C. BRAUN

University of Illinois.

1957 Autumn Meeting, National Academy of Sciences.

DETLEV W. BRONK

Dedication of New Science Building, Hood College.

Address on Josiah Willard Gibbs, New York University Hall of Fame Ceremony.

Opening Address, New York University In-Service Institute for Biology, Chemistry and Physics Teachers.

VERNON BROOKS

National Institutes of Health.

New York State University Medical Center, Brooklyn.

MERRILL W. CHASE

Symposium on Experimental "Allergic" Encephalomyelitis,
National Institutes of Health.

LYMAN C. CRAIG

Symposium on Proteins, IUPAC.

Abel Centennial, American Society for Pharmacology and Experimental Therapeutics.

DOMINIC DZIEWIATKOWSKI

School of Medicine, Temple University.

New York Pathological Society.

GABRIEL C. GODMAN

Albert Einstein Medical College.

American Rheumatism Association, Bethesda, Md.

Columbia-Presbyterian Medical Society.

ROLLIN D. HOTCHKISS

Symposium on Biological Replication of Macromolecules, Society for Experimental Biology, London.

Visiting Lecturer, University of Florida Medical Center.

JOHANNA M. LEE

Symposium on Experimental "Allergic" Encephalomyelitis,
National Institutes of Health.

Neurological Society of New York State University College of Medicine.

KARL MARAMOROSCH

Jugatae Lecture, Cornell University.

Biology Colloquium, Cornell University.

Annual Meeting, Northeastern Division American Phytopathological Society.

University of Pennsylvania.

Scarsdale Science Club.

MONTROSE J. MOSES

New York State Society of Electron Microscopists, New York.

ULRICH NÄF

Princeton University.

JOHN B. NELSON

Armed Forces Institute of Pathology.

LEE D. PEACHEY

Deutsche Gesellschaft für Elektronenmikroskopie, Darmstadt, Germany.

GERTRUDE E. PERLMANN

Mount Holyoke College.

S. WILLIAM PELLETIER

New York University.

Gordon Research Conference on Steroids and Related Natural Products.

MURIEL ROGER

Seminar on Microbial Genetics, Columbia University.

HOWARD A. SCHNEIDER

Annual Conference, National Multiple Sclerosis Society, St. Louis.

Tenth Annual Scientific Meeting, Detroit Institute of Cancer Research.

Scientific Staff Address, Upjohn Company.

National Institutes of Health.

RICHARD E. SHOPE

Merck Scientific Club, Merck Institute for Therapeutic Research.

Purdue Short Course, Purdue University.

Illinois Annual Conference for Veterinarians, University of Illinois.

Eastman Memorial Lecture, University of Rochester.

Dyer Lecture, National Institutes of Health.

Dedication Ceremony, State University of Iowa Medical Research Center.

National Academy of Sciences 1957 Autumn Meeting.

Brookhaven National Laboratory.

University of Pennsylvania.

NORMAN R. STOLL

Symposium on Resistance and Immunity in Parasitic Infections, Rice Institute.

IGOR TAMM

Brookhaven National Laboratory.

New York City Branch of the Society of American Bacteriologists.

PAUL WEISS

Washington State College.

University of Washington Medical School.

University of Colorado Medical School.

VICTOR J. WILSON

Merck Institute for Therapeutic Research.
Medical School, Dartmouth College.

Society Elections

MERRILL W. CHASE

Fellow, New York Academy of Sciences.

GABRIEL C. GODMAN

Member, Association of University Pathologists.

FRANK L. HORSFALL, JR.

Honorary Member, Harveian Society of London.

Other Appointments and Distinctions

DETLEV W. BRONK

President's Science Advisory Committee.

Chairman, National Science Board.

MERRILL W. CHASE

Council, Metropolitan New York Branch, Animal Care Panel.

LYMAN C. CRAIG

Trustee, Gordon Research Conferences.

MAURICE S. FOX

Nuffield Scholar, Department of Genetics, University of Glasgow.

FRANCIS O. HOLMES

Consultant on Virus Diseases of Sugar Cane and Other Plants, Agricultural Experiment Station, University of Puerto Rico.

FRANK L. HORSFALL, JR.

Member, National Academy of Sciences—National Research Council Committee Advisory to the Chemical Corps.

Chairman, Research Council, Public Health Research Institute of the City of New York, Inc.

Member, Board of Trustees, Public Health Research Institute of the City of New York, Inc.

Co-Editor, Journal of Experimental Medicine, The Rockefeller Institute.

JOHN B. NELSON

Consultant, U. S. Army Biological Warfare Laboratories, Fort Detrick.

PEYTON ROUS

Award for Distinguished Service, American Cancer Society.

RICHARD E. SHOPE

Albert Lasker Award.

DOUGLAS WHITAKER

Member, Board of Trustees and Executive Committee, Bermuda Biological Station.

INSTITUTE MENTION

New Appointments to the Faculty

DR. HOWARD G. DAVIES, who has been with Biophysics Research Unit, King's College, London, England, has been appointed Assistant Professor in Dr. Porter's laboratory.

DR. LAWRENCE S. FRISHKOPF, who has been a staff member of the Research Laboratory of Electronics, Massachusetts Institute of Technology, has been appointed Guest Investigator in Dr. Hartline's laboratory, beginning October 1, 1957.

INSTITUTE MENTION

(continued from page nine)

- DR. HERMANN-JOSEF HAAS, who has been a Scientific Assistant at the Max Planck Institute, Wilhelmshaven, Germany, has been appointed Research Associate in Dr. Paul Weiss' laboratory.
- DR. BARBARA PETRACK, who has been a graduate student with the Public Health Research Institute of the City of New York has been appointed Guest Investigator in Dr. Lipmann's laboratory, beginning January 1, 1958.
- MISS ROSE RASKIN of the Columbia University Russian Institute, has been appointed Affiliate and Lecturer in Russian.
- DR. NORMAN SUTIN of the Brookhaven National Laboratory, Department of Chemistry, has been appointed Affiliate and Lecturer in Physical Chemistry.

Faculty Promotions

- MR. CARL BERKLEY, who has been a visiting Investigator in Dr. Zworykin's laboratory, has been appointed a Research Associate.
- DR. PER E. S. ENGER, who has been a Visiting Investigator in Dr. Hartline's laboratory, has been appointed a Research Associate, beginning January 1, 1958.

Faculty Terminations

- DR. DEREK HOBSON, who has been a Visiting Investigator with Dr. Schneider's laboratory, returned to his position as Senior Lecturer in Bacteriology at St. Mary's Hospital Medical School, London, England, October 8, 1957.
- DR. JOHAN J. THERON, who has been a Visiting Investigator in Dr. Porter's laboratory, terminated his appointment on December 1, 1957. He has returned to Pretoria, South Africa, to continue his work at the National Nutrition Research Institute.

Guest Speakers

Hugh E. Huxley, Medical Research Council, Department of Biophysics, University College, London, September 24, 1957.

Frank Fenner, John Curtin School of Medical Research, Australian National University, October 16, 1957.

Öjvind Winge, Professor and sometime Director of the Physiological Department, Carlsberg Laboratory, Copenhagen, October 22, 1957.

William J. Robbins, Director, New York Botanical Garden, November 1, 1957.

Kaj U. Linderstrøm-Lang, Director of the Carlsberg Laboratory, Copenhagen, December 17, 1957.

Robert W. Berliner, Associate Director (In Charge of Research), National Heart Institute, December 18, 1957.

Walter Kauzmann, Associate Professor, Department of Chemistry, Princeton University, December 19, 1957.

Guest Seminars in Medicine

David Rogers, Associate Professor of Medicine, New York Hospital, October 23, 1957.

Samuel Vaisman, Associate Professor of Medicine, University of Chile, November 21, 1957.

L. E. Hinkle, Associate Professor of Clinical Medicine in Psychiatry, Cornell Medical Center, November 27, 1957.

Joseph H. Burchenal, Professor of Medicine, Cornell University, December 11, 1957.

H. Sherwood Lawrence, Associate Professor of Medicine, New York University College of Medicine, December 18, 1957.

Visiting Professors in Residence

DR. DAVID R. GODDARD, Professor of Botany, University of Pennsylvania, October 9-15, 1957.

DR. WILLIAM J. ROBBINS, Director, New York Botanical Garden and Professor, Columbia University, October 21-25, 1957.

DR. KAJ U. LINDERSTRØM-LANG, Director, Department of Chemistry, Carlsberg Laboratory, Copenhagen, December 16-21, 1957.

New Grants and Contracts

From the United States Public Health Service in support of the following work:

Dr. Dubos' and Dr. Williams' work on the fractionation of tubercle bacilli \$10,225

Dr. Porter's high resolution microscopy of cell fine structure \$12,250

Dr. Porter's studies of the response of cells in terms of their fine structure to common carcinogens \$9,775

Dr. Craig's and Dr. Rasmussen's work on the isolation and characterization of parathyroid hormone \$8,452

Dr. Schneider's studies of nutrition and heredity in experimental acute disseminated encephalomyelitis \$26,864

From the National Foundation for Infantile Paralysis for Dr. Kunkel's studies of nucleic acids and antigens \$2,000

From the United States Veterans Administration for Dr. Zworykin's development of an improved pressure sensitive radio-transmitting capsule \$10,000

From the Muscular Dystrophy Association of America for Dr. Csapo's studies on excitation-contraction coupling in muscle \$8,792

Grants may be made for more than one year but funds for the current year only are shown.

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