

THE INSTITUTE FOR ADVANCED STUDY

Founded by Mr. Louis Bamberger and Mrs. Felix Fuld

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THE INSTITUTE FOR ADVANCED STUDY

Princeton, New Jersey

April, 1940

*Extract from the letter addressed by
the Founders to their Trustees, dated
Newark, New Jersey, June 6, 1930*

“It is fundamental in our purpose, and our express desire, that in the appointments to the staff and faculty, as well as in the admission of workers and students, no account shall be taken, directly or indirectly, of race, religion, or sex. We feel strongly that the spirit characteristic of America at its noblest, above all, the pursuit of higher learning, cannot admit of any conditions as to personnel other than those designed to promote the objects for which this institution is established, and particularly with no regard whatever to accidents of race, creed, or sex.”

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SCHOOL OF MATHEMATICS

Professors

JAMES WADDELL ALEXANDER
ALBERT EINSTEIN
MARSTON MORSE
OSWALD VEULEN
JOHN VON NEUMANN
HERMANN WEYL

Associate

WALTHER MAYER

Assistants

PETER G. BERGMANN
ALFRED T. BRAUER
CLIFFORD HUGH DOWKER
RALPH H. FOX
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HENRY WALLMAN

SCHOOL OF ECONOMICS AND POLITICS

Professors

EDWARD MEAD EARLE
*DAVID MITRANY
WINFIELD W. RIEFLER
WALTER W. STEWART
ROBERT B. WARREN

* Absent on leave, 1939-1940.

SCHOOL OF HUMANISTIC STUDIES

Professors

*EDWARD CAPPS
HETTY GOLDMAN
ERNST HERZFELD
E. A. LOWE
BENJAMIN D. MERITT
ERWIN PANOFSKY

Field Archaeologist

**WILLIAM ALEXANDER CAMPBELL

Field Mediaevalist

KURT WEITZMANN

Research Assistant

HANNS SWARZENSKI

Assistants

FRANCES FOLLIN JONES
W. KENDRICK PRITCHETT

THE GEST ORIENTAL LIBRARY

Curator

NANCY LEE SWANN

Assistants

KEI-WON CHUNG
ROBERT A. HAMILTON

* Visiting Professor.
** Through the courtesy of Wellesley College, Professor Campbell will be engaged in work in connection with the Antioch excavation for the next three successive seasons in behalf of the Institute.

CALENDAR

1940-1941

September 20 First term begins
December 20 First term ends
February 1 Second term begins
May 1 Second term ends

MEMBERS, 1939-1940

Note: Applications for admission should be addressed to the Institute for Advanced Study, Princeton, New Jersey. The Trustees have set aside a sum which may be used for stipends to persons of distinct ability and promise who require a limited amount of financial aid.

WARREN AMBROSE, Ph.D., University of Illinois, 1939

THOMAS A. BAILEY, Ph.D., Stanford University, 1927
Associate Professor, Stanford University
Rockefeller Foundation Fellow

VALENTIN BARGMANN, Ph.D., University of Zürich, 1936

WALTER H. BARKAS, Ph.D., University of Washington, 1936

GARRETT BIRKHOFF, A.B., Harvard University, 1932
Assistant Professor, Harvard University

JAMES H. BREASTED, JR., M.A., University of Chicago, 1937

OSCAR BRONEER, Ph.D., University of California, 1931
Associate Professor, American School of Classical Studies
at Athens

ALAN D. CAMPBELL, Ph.D., Cornell University, 1923
Professor, Syracuse University

PAUL A. CLEMENT, Ph.D., The Johns Hopkins University,
1930

JOHN PHILLIPS COOLIDGE, M.A., New York University, 1939

FLORENCE E. DAY, Ph.D., University of Michigan, 1940

MAHLON M. DAY, Ph.D., Brown University, 1939
Corinna Borden Keen Research Fellow

CHARLES DE TOLNAY, Ph.D., University of Vienna, 1925

JACOBUS S. DE WET, B.A., Balliol College, Oxford University,
and St. John's College, Cambridge University, 1937
Commonwealth Fund Fellow

GLANVILLE DOWNEY, Ph.D., Princeton University, 1934
Curator, Epigraphical Museum, Princeton University

PAUL ERDÖS, D.Sc., University of Manchester, 1939

WILLIAM W. FLEXNER, Ph.D., Princeton University, 1930
Assistant Professor, Cornell University

GEORGE H. FORSYTH, JR., M.F.A. in Architecture, Princeton
University, 1927
Assistant Professor, Princeton University

GUIDO FUBINI, Dr. Math., University of Pisa, 1900

FELIX GILBERT, Ph.D., University of Berlin, 1930

KURT GÖDEL, Ph.D., University of Vienna, 1930

CYRUS H. GORDON, Ph.D., University of Pennsylvania, 1930
Lecturer, Smith College

PAUL R. HALMOS, Ph.D., University of Illinois, 1938

JOHN H. HERZ, Dr. juris, University of Cologne, 1931

ALLAN S. HOEY, M.A., Oxford University, 1938

ALBERT E. INGHAM, M.A., King's College, Cambridge Uni-
versity, 1924
Lecturer and Director of Studies in Mathematics, Cam-
bridge University
Leverhulme Research Fellow

STEPHEN C. KLEENE, Ph.D., Princeton University, 1934
Assistant Professor, University of Wisconsin

WILLIAM W. LOCKWOOD, M.A., Harvard University, 1929
Secretary, American Committee for International Studies

HENRY MARGENAU, Ph.D., Yale University, 1929
Assistant Professor, Yale University

MILLARD MEISS, Ph.D., New York University, 1933
Assistant Professor, Columbia University

RALPH S. PHILLIPS, Ph.D., University of Michigan, 1939

ANTON RAUBITSCHKE, Ph.D., University of Vienna, 1935

ERICH ROLL, Ph.D., University of Birmingham, 1930
Professor, Hull University
Rockefeller Foundation Fellow

J. RUMNEY, Ph.D., University of London, 1933

EUGENE SCHWEIGERT, Ph.D., University of Cincinnati, 1940

CARL L. SIEGEL, Ph.D., University of Göttingen, 1920

H. LYLE SMITH, Ph.D., University of Chicago, 1926
Professor, Louisiana State University

PAUL A. SMITH, Ph.D., Princeton University, 1926
Assistant Professor, Barnard College

CHARLES E. SPRINGER, Ph.D., University of Chicago, 1938
Associate Professor, University of Oklahoma
Rhodes Scholar

MARGARET SPROUT, M.A., University of Wisconsin, 1929

ROTHWELL C. STEPHENS, Ph.D., University of Oklahoma,
1931; Associate Professor, Knox College

RICHARD STILLWELL, M.F.A. in Architecture, Princeton Uni-
versity, 1924
Associate Professor, Princeton University

JAMES H. TAYLOR, Ph.D., University of Chicago, 1924
Professor, George Washington University

PAUL TEDESCO, Ph.D., University of Vienna, 1920

ALFRED VAGTS, Ph.D., University of Hamburg, 1927

ALBERT K. WEINBERG, Ph.D., The Johns Hopkins University,
1931; Albert Shaw Lecturer on Diplomatic History, 1940,
The Johns Hopkins University

I

HISTORY AND ORGANIZATION

FOR more than half a century preceding the outbreak of the World War in 1914 American scholars and scientists, who had received the Ph.D. degree and who desired further opportunities for research under the direction of a great master, usually went to a foreign university.

Meanwhile, progress in provision for advanced study beyond the graduate school had been taking place in America. The leading American universities in addition to offering abundant opportunities for those desiring to obtain the Ph.D. degree have during the last generation steadily increased their facilities for advanced work on the part of competent and well trained individuals. The Rockefeller Foundation, the Carnegie Corporation of New York, the Guggenheim Foundation, and the Commonwealth Fund had been making grants which enabled young men, who had already attained the Ph.D. degree, to work under first-rate scholars and scientists in American universities quite independently of the ordinary routine of the graduate school.

In 1930 an additional step forward was taken when Mr. Louis Bamberger and his sister, Mrs. Felix Fuld, decided to establish an institute for advanced study—an institute entirely free from all degree-giving obligations and designed to offer informal opportunities, without routine, to a carefully chosen fac-

ulty who would surround themselves with a group of selected younger men who had given promise of scholarly and scientific development. The Institute discarded both undergraduate and graduate departments on the ground that these already existed in abundance; the real need was felt to lie in the field beyond the graduate school. The Trustees and Faculty of Princeton University welcomed the Institute to Princeton and have most generously made available to the staff and members all its resources in faculty, libraries, and other facilities for advanced work. Nothing could exceed in cordiality and mutual helpfulness the relationships established between the University and the Institute during the last seven years.

Gifts have been made for specific purposes as follows: the Rockefeller Foundation has contributed half the cost of the great Gest Oriental Library; the Carnegie Corporation of New York and the Rockefeller Foundation have contributed funds which maintain in Princeton a number of promising scholars; and the Carnegie Institution of Washington has continued its coöperation in the field of Latin palaeography.

The Founders have increased the capital funds of the Institute so that in addition to the School of Mathematics, which was opened in 1933, the School of Humanistic Studies and the School of Economics and Politics were started in 1935. In the autumn of 1939 the three schools as well as the office of the director were moved to Fuld Hall, the gift of the

Founders, who have also provided funds for a working library in these schools. This new building is located on a site outside the Borough of Princeton beyond the Graduate College of Princeton University.

The first director, Dr. Abraham Flexner, retired in October, 1939, and Dr. Frank Aydelotte, President of Swarthmore College, was selected as his successor.

In order that the ideals of the Founders might be realized, the organization and administration of the Institute have been kept simple and unostentatious, and the several schools are in their internal conduct as nearly autonomous as possible. The Board of Trustees is composed of laymen, scholars, and scientists. It is hoped that in this way perfect accord may be established between the administrative officers and the scholars who really constitute an institution of learning. In order to avoid difficulties and evils that have developed in institutions where both full-time and part-time arrangements are employed, the Institute is pledged to its Founders to adhere strictly to the full-time basis.

The Institute is composed not of a group of students and teachers but rather of a group of scholars working together. Professors from other institutions who come to the Institute as members work in close coöperation with the regular staff of the Institute and with professors of Princeton University to the mutual advantage of all three groups. While advanced scholars may profit by seminars or lecture courses which bring them in touch with the latest ad-

vances in the various branches of their science, they value even more the opportunity for informal and frequent contact with other investigators with whom they exchange ideas regarding the problems or fields in which they are interested. For this they make their own individual arrangements; no two persons have ever pursued the same course of action. The group contains members several of whom conduct seminars or meet in conference on various subjects. There is in addition a steady stream of young men who have already given evidence of unusual talent.

It is therefore the purpose of the Institute to provide stimulating conditions for independent study and research. The interaction between the various groups at Princeton creates an intellectual atmosphere that is highly stimulating both to the members of the permanent staff and to those who come to Princeton for a more or less limited period. Thus, while the Institute and Princeton University are organically and administratively entirely distinct, the faculties and students of the two institutions cooperate in any direction that promises more favorable results than either institution could obtain alone, the students availing themselves of the courses, seminars, and opportunities for conference and direction of work in both institutions.

II

SCHOOL OF MATHEMATICS

IN the School of Mathematics work is carried on by individual contact with students, by seminars, by courses of lectures, and by other means, each professor being free to follow the methods he prefers and to vary them from year to year. It will be noticed that the staff consists only of professors, assistants, and one associate, differing in this respect from the faculty of a university which has varied teaching responsibilities. However, as is shown below, the work of the permanent staff is amplified by the activities of the temporary members.

Most of the lectures and seminars by members of the School of Mathematics are held in Fine Hall on the campus of Princeton University. These lectures and seminars are open to advanced students in the University; and University courses are open to members of the Institute.

In 1939-1940 Professor Alexander lectured on the theory of lattices and spaces and on the topology of ordered systems. During the first term of 1940-1941 he intends to give a course of lectures on some branch of topology.

In 1939-1940 Professor Einstein pursued his investigations in general relativity, and he intends to continue in this direction during 1940-1941.

In 1939-1940 Professor Morse conducted a seminar on analysis in the large, devoting considerable

time to topological aspects of the variational theory in the large and to the new existence theorems on minimal surfaces of general critical types. In 1940-1941 he will conduct a similar seminar, with special reference to topological aspects of the variational theory in the large and to the foundations of the variational theory of multiple integrals.

In 1939-1940 Professor von Neumann lectured on selected topics in operator theory. He and Professor Veblen collaborated in a seminar on spinor fields of particles of higher spin. The same subjects will probably be continued in 1940-1941.

During 1939-1940 Professor Weyl conducted a seminar on current literature. His plans for next year are either to continue this seminar or to give a systematic course on theory of numbers. In addition he will give a series of informal lectures on geometry of numbers.

Professor Mayer lectured in 1939 on calculus of variations and related subjects and will continue these lectures during 1940-1941.

Professor Garrett Birkhoff collaborated in 1940 with Professor von Neumann in a seminar on lattice theory and its applications, particularly the applications to ordered linear spaces and to the ergodic theorem.

In 1940 Dr. Gödel reported on his researches on the continuum problem and in 1940-1941 will probably give some lectures on problems related to the foundations of mathematics.

Members of the mathematical groups, both of Princeton University and of the Institute for Advanced Study, including the temporary members of the Institute as well as occasional visitors from outside, cooperate in several seminars and in the Mathematics Club. Among the papers presented the following may be noted as indicating the scope and variety of subjects:

- WARREN AMBROSE: The ergodic theorem
Some special linear operators
- EDWARD G. BEGLE: Local connectedness
- PETER G. BERGMANN: Five-dimensional field theories
- GARRETT BIRKHOFF: On a class of positive matrices
- ALFRED T. BRAUER: On a new method in the additive theory of numbers
A combinatorial theorem and its applications
- ARTHUR A. F. BROWN: Invariant measures
Almost periodic functions and Riemann integration in abstract spaces
Additive set functions on groups
- GEORGE W. BROWN: Confidence limits for continuous distribution functions
Location and scale parameters in sampling
- CLAUDE CHEVALLEY: Realization of abstract convex surfaces in Euclidean spaces
Topological solvable groups
- DAN E. CHRISTIE: Mappings of a 3-sphere on a 2-sphere
- ALBERT J. COLEMAN: A generalization of the Cauchy integral theorem

- MAHLON M. DAY: Completeness of the L_p space
Linear methods of summability
- JACOBUS S. DE WET: Spinor theory of particles of higher spin
- WILFRID J. DIXON: Generalized randomized blocks
- ALBERT EINSTEIN: Field theories and the law of motion
- MARY L. ELVEBACK: A significance test for component analysis
- PAUL ERDÖS: Waring's problem
- ENRICO FERMI: Cosmic radiation
- RALPH H. FOX: Factorization of complexes
On homotopy groups
- GUIDO FUBINI: On hyperautomorphic functions
- JOHN H. GIESE: Conformally flat hypersurfaces in spaces of constant curvature
- KURT GÖDEL: The consistency of the continuum hypothesis
- ANDREW O. GUINAND: The Poisson summation formula
- PAUL R. HALMOS: Projective representations of Abelian groups
Probability distributions and measure theory
- WILLIAM C. HERRING: Electric breakdown of insulators
- KARL F. HERZFELD: The equation of state of simple crystals
- EINAR HILLE: Hermitian series in the complex domain
- GERHARD P. HOCHSCHILD: Polynomial approximation in the complex plane
- ALBERT E. INGHAM: On two conjectures in the theory of numbers
- NATHAN JACOBSON: Lie algebras of prime characteristic
- STEPHEN C. KLEENE: Constructive ordinal numbers
- PACO A. LAGERSTRÖM: Generalized arithmetic

- SOLOMON LEFSCHETZ: Complexes and manifolds
Kuroschi coverings in topology
- HENRY MARGENAU: On intermolecular forces
- DONALD C. MAY, JR.: Dirichlet series
- PHILIP J. MCCARTHY: Principal components in normal systems
- BROCKWAY McMILLAN: Two sampling problems
- ALEXANDER F. MOOD: The prime number theorem
Distribution of roots of determinantal equations
Distribution theory of runs
- MARSTON MORSE: Minimal surfaces bounded by two contours
Rank and span in functional topology
- FREDERICK C. MOSTELLER: Significance tests in harmonic analysis
- TADASI NAKAYAMA: Semi-linear transformations and elementary divisors in non-commutative rings
- RUFUS OLDENBURGER: Symbolic elements in dynamics
- RALPH S. PHILLIPS: Integration in abstract spaces
Linear transformations in Banach spaces
Additive set functions in lattice theory
- A. EVERETT PITCHER: Sum functions of product spaces
- J. BARKLEY ROSSER: On the consistency of Quine's *New Foundations of Mathematical Logic*
On some exact inequalities in the theory of prime numbers
- ABRAHAM SCHWARTZ: On the Gauss-Codazzi-Ricci relations
- ROBERT R. SINGLETON: Accuracy of approximation of solutions in least squares linear regression problems
- PAUL A. SMITH: Periodic transformations
- NORMAN E. STEENROD: Sphere bundles

- ARTHUR H. STONE: Squaring the square
 WALTER C. STRODT: Integral functions
 ALFRED TARSKI: Definability within elementary algebra
 ALBERT W. TUCKER: The algebraic structure of complexes
 JOHN W. TUKEY: Compactness
 STANISLAW M. ULAM: Measure-preserving transformations
 JOHN VON NEUMANN: Ergodic groups
 On Löwner measure in Hilbert space
 ANDERS E. O. WEDBERG: Lowenheim's theorem
 HERMANN WEYL: Bases of Abelian groups and elementary
 divisors
 On geometry of numbers
 HASSLER WHITNEY: Sphere bundles
 LEO ZIPPIN: Topological group foundations of 3-dimensional
 geometry

For several years it has been the custom to prepare multigraphed volumes of notes of some of the lecture courses given in Princeton on mathematical and physical topics. These notes have frequently contained material not yet available in more formal publications. The demand for them has increased to such an extent that they are now distributed by the Princeton University Press under the general title *Princeton Mathematical Notes*.

A collection of advanced mathematical texts known as the *Princeton Mathematical Series* is published by the Princeton University Press under the joint sponsorship of the Department of Mathematics of Princeton University and the School of Mathe-

matics of the Institute for Advanced Study. The general editors of the series are Professors Marston Morse, H. P. Robertson, and A. W. Tucker.

A quarterly journal called *Annals of Mathematics* is published by the Princeton University Press with the coöperation of the Department of Mathematics of Princeton University and the School of Mathematics of the Institute for Advanced Study. The editorial board consists of Professors S. Lefschetz, H. F. Bohnenblust, J. von Neumann, and twelve associate editors from various institutions.

III

SCHOOL OF ECONOMICS AND POLITICS

THE formation of the School of Economics and Politics of the Institute for Advanced Study was announced in January, 1935, and in the following October work was begun.

During the past year Professor Earle has conducted a seminar in the foreign and military policies of the United States, dealing less with conventional diplomacy than with interpretation, criticism, and inquiry regarding the basic factors in American foreign relations. The Institute has been fortunate in having in residence during 1939-1940 a group of American and European scholars whose diversified origins and training and varied professional experience provided the basis for informed and stimulating discussion of these important questions. In addition, Professors Gilbert Chinard, Harold Sprout, and Charles P. Stacey, of Princeton University, have attended the seminar and made factual contributions from their several fields of special interest and competence, as well as catholic comments on the work as a whole.

Members of the seminar during the course of the year have published articles in the professional journals and have made progress with a series of volumes which may be expected to make useful contributions to contemporary scholarship. Dr. Vagts, under a grant from the Rockefeller Foundation, has com-

pleted a substantial portion of his book on the balance of power, which promises to be the first comprehensive history of this important political idea, with emphasis upon its social as distinguished from its literary or philosophical aspects. Dr. Weinberg, who is the recipient of a grant from the Carnegie Corporation of New York, expects to complete this spring a volume on *The Doctrine of Isolation in American History* and to begin work on a study of *The Historical Evolution of American Nationalism*. Professor and Mrs. Sprout will publish during the summer the second volume of their history of American naval policy. Professor Bailey has in preparation a study of the relations between the United States and neutral powers, 1917-1918, which will reveal the significant changes which those relations have made in the historic American contentions concerning neutral rights. The results of Professor Bailey's inquiries will be presented and published as the Albert Shaw lectures on diplomatic history at the Johns Hopkins University in 1941. Dr. Gilbert has devoted part of his time to consideration of European influences upon the development of early American ideas of foreign policy. This is a field largely neglected up to now, and Dr. Gilbert has made a notable contribution to American history in showing the close interrelation between American and European political thought on international relations during the eighteenth century. The results of his inquiries will be published in book form this autumn. Professor Earle is at present engaged in

writing a brief critical and interpretative account of the main trends in American foreign policy during the past century and a half as they affect the present situation.

During 1940-1941 Professor Earle will conduct a seminar on the political and military strategy of the United States, a historical and critical study of the interrelated domestic and foreign policies of the nation. Under a grant from the Carnegie Corporation of New York, he will have associated with him in this work Dr. Alfred Vagts who will be joint author with him of a volume on this subject. In addition, it is proposed that Dr. Vagts will conduct a seminar on war and society, which will be concerned with the historical development and the social, economic, and political effects of war and preparedness for war.

Professor Earle has lately consented to become chairman of the American Committee for International Studies and its director of research. It is the purpose of the committee to encourage both at the Institute and elsewhere in the United States basic research which is necessary to the formulation of an intelligent foreign American policy. The Institute for Advanced Study will provide quarters for the work of the committee and a convenient center for research and for the discussion of the results reached by scholars working in other places throughout the country. As far as the international situation permits, liaison will be maintained with foreign scholars who have similar interests.

Professor Mitrany was granted leave of absence in 1939-1940 and is occupied in England with studies in connection with the war. In Professor Mitrany's absence Dr. J. Rumney has continued the studies on the relation between methods of government and changing social functions.

During 1939 Professor Riefler, Professor Stewart, and Professor Warren continued their study of the financial aspect of contemporary economic life. In the early spring Professor Warren delivered a series of lectures at McGill University under the title, *The State in Society*. As in the preceding year, Professor Riefler participated in the economic and financial activities of the League of Nations and attended the sessions in Geneva of the Delegation on Business Depressions. He also continued his work with the National Bureau of Economic Research on its program of financial research. During the autumn both Professor Riefler and Professor Stewart acted as special advisers on emergency problems to the Treasury Department in Washington, and Professor Warren, at the request of the Board of Governors of the Federal Reserve System, was on loan from the Institute for the purpose of making a special study of banking institutions in the United States.

IV

SCHOOL OF HUMANISTIC STUDIES

THE School of Humanistic Studies was started in 1935 with Professor Meritt and Professor Panofsky. In 1936-1937 the staff was enlarged by the appointment of Miss Goldman, Professor Herzfeld, and Professor Lowe.

During 1940-1941 Professor Goldman, if conditions in the Near East make a return to Tarsus inadvisable, will continue her studies of material from Tarsus, especially that of the third millennium B.C. Her study of the Acropolis of Halai will be published as one of the 1940 numbers of *Hesperia*. Miss Frances Follin Jones will continue to assist her.

Professor Herzfeld's Lowell Lectures, delivered at Harvard University in 1936, will appear soon under the title of *Iran in the Ancient East* (Oxford University Press, New York), the publication made possible by an appropriation from the Carnegie Corporation of New York. He has finished two volumes on the inscriptions and monuments of Aleppo for the *Corpus Inscriptionum Arabicarum*, as well as a book on the historical material contained in the Awesta, in which he was assisted by Dr. Paul Tedesco. Professor Herzfeld is now compiling Volume VI of the *Excavations of Samarra*, dealing with a survey and history of that town.

Professor Lowe gave an introductory course in Latin palaeography during the winter and spring months of 1940 and held a seminar on the Library of Cassiodorus and the *Codices Vivarienses*. His third volume of *Codices Latini Antiquiores*, comprising the oldest manuscripts of Italy (Ancona-Novara), appeared in 1938. The fourth volume, dealing with the remaining Italian manuscripts (Perugia-Zara), is in press, with the exception of the preface and bibliography. Professor Lowe proposes to continue his general course and his seminar in 1940-1941.

Professor Meritt continues his studies of the inscriptions discovered in the excavations of the Athenian Agora. One of his occasional reports appears in the journal *Hesperia* for 1940, and material for further reports is in preparation. He has had the continued support of students associated with the Agora staff as in preceding years, and epigraphical reports have also been written and are in part published by Mr. W. Kendrick Pritchett, Dr. Sterling Dow of Harvard, Miss Margaret Crosby and Mr. Eugene Schweigert of the Agora staff, Professor James H. Oliver of Columbia, and Mr. John Young of the American School of Classical Studies at Athens.

Dr. Anton Raubitschek is bringing to completion his study of the early Attic dedications. It may be expected that his volume will be submitted for publication during the summer. Professor Meritt has

in press a book entitled *Epigraphica Attica*, essays delivered as the Martin Classical Lectures at Oberlin in 1939, and he and Mr. Pritchett are now writing a volume on the significance of tribal cycles in Hellenistic Athens.

The editorial offices of the journal *Hesperia* are now at the Institute for Advanced Study. Professor Meritt is chairman of the Publications Committee of the School at Athens, and Dr. Paul A. Clement, who has been for two years a member of the Institute, is managing editor of publications. The Institute continues to be the repository of the collection of squeezes from the Agora, and new accessions not only from Athens but from the rest of Greece are constantly being made to it. Proper methods of preserving squeezes have been developed, and those who have squeezes are invited to send additions to this central archive. Its records are available to all scholars.

Professor Meritt will offer a seminar on Athenian inscriptions during 1940-1941 to advanced students of the Institute and Princeton University.

Professor Capps will direct the studies of qualified advanced students in the field of the Old Comedy, the New Comedy, or in Greek authors of the second century of our era.

In 1939-1940 Professor Panofsky devoted himself to the preparation for publication of his lectures on Dürer which will include a short but comprehensive catalogue of his works, and to further research on

early Dutch and Flemish book illumination. In the second term he gave a graduate course and a small seminar on German painting of the fifteenth century including that of Dürer. Professor Panofsky's book on secular iconography of the Renaissance and some shorter articles have been published. The printing of his edition of the Leonardo manuscript in the Pierpont Morgan Library is progressing. The publication of the work by Professor Panofsky in collaboration with Dr. F. Saxl on Dürer's engraving *Melancholia I* will proceed whenever the situation in Europe makes this possible.

In 1939-1940 Dr. Swarzenski pursued his studies on the origin and evolution of Romanesque painting and goldsmith works in Lorraine as well as on the artistic relations between Rome in the fourth century and the Northern Carolingian Renaissance. Of special importance in this connection is his article pertaining to a previously unidentified manuscript of the English illuminator W. de Brailles in the Walters Art Gallery, Baltimore, published in the *Journal of the Walters Art Gallery*. In addition, Dr. Swarzenski devoted much time to research in the libraries of France, Belgium, the Netherlands, and Scandinavia in order to collect additional Romanesque material and manuscripts important for the work of Professor Panofsky.

In 1939 Dr. Weitzmann gave in McCormick Hall a series of lectures on manuscript problems. Progress was made on the corpus entitled *The Illustrations in*

the Manuscript of the Septuagint, edited by Professor A. M. Friend, Jr., and Professor Ernest T. DeWald, of Princeton University, and Dr. Weitzmann, and particularly on the further reconstruction of the Cotton-Bible. The following studies are in preparation for the new series of *Studies in Manuscript-Illumination*, edited by Professor Friend: illustrated Greek mythographers; illustrated lectionaries on Mount Athos, discovered and photographed in 1935 and 1936.

Dr. Downey has continued his work on a monograph on the literary evidence for the topography of Antioch. He has also been engaged in a general study of the history of the Later Roman Empire. A part of this reading should result in a reëxamination of the political thought of the period, which has been suggested by certain of the mosaics found in the excavations at Antioch. Special problems connected with these mosaics have been dealt with in a number of articles published in various periodicals.

Professor Stillwell, director of publications for the Committee for the Excavation of Antioch and its Vicinity, has been engaged in assembling and editing for publication in Volume III of *Antioch-on-the-Orontes* material from the excavations carried on during the past three years. His personal contribution to the volume, in addition to the compilation of the reports of the excavations in various sectors, is the publication of the results of his research on some of the more important items of sculpture found in the

last three seasons, and more especially on the entire series of architectural elements from the eight years that the Expedition has been working at Antioch.

In 1939 Professor Forsyth completed a monograph on the Church of St. Martin at Angers. This undertaking has not been limited to the description of a single structure at one point of time but is an attempt to discern the evolution of a whole series of buildings on one spot as they developed in sequence from the first to the fifteenth century. The establishment of this architectural series is of intrinsic interest for the history of the art since it traces the connection between the Roman and Romanesque architecture across the Dark Ages, and by good fortune the sequence proves to be far the most complete one of the kind ever unearthed in France. To obtain a complete picture Professor Forsyth was obliged to go behind the architectural facts and fill in their historical background, and for this purpose a topographical history of Angers has been worked out from the time that it was an important Roman city commanding mediaeval cross roads and a bridge head to the period when it received its final mediaeval form within the walls constructed by King Louis IX.

The following members, 1939-1940, are supported by grants made by the Carnegie Corporation of New York:

Mr. James H. Breasted, Jr., who is writing a book on *Egyptian Servant Statues*, having collected every available published servant figure or group. He has organized all the statues chronologically, described,

and classified them according to their various tasks, which had to be identified for hundreds of figures.

Dr. Charles de Tolnay, who is continuing his studies of the art of Michelangelo and is at work on the first volume which contains the development of Michelangelo's art during his youth (1475-1507). It is composed of three parts: the text describing his early artistic evolution; a critical catalogue of the original early works of Michelangelo examined from the points of view of state of preservation, attribution, history, subject, analogies; and the appendix containing two hundred sixty-nine hitherto unedited letters addressed to Michelangelo.

Dr. Cyrus H. Gordon, who has completed a study (made at the request of the Iraq Government) of the three thousand seals in the Iraq Museum, Baghdad, prepared the material for publication, and is at work on his Ugaritic Grammar, which is to be published as No. 20 of the series *Analecta Orientalia* by the Pontifical Institute in Rome.

Mr. Allan S. Hoey, who has continued the preparations of a study dealing with the religious cults of the Roman army. His contribution to the publication of the papyrus military calendar found at Dura-Europos was revised and some additional material incorporated. This publication, *Yale Classical Studies VII*, is now in press. Particular attention was also given to the worship of the Oriental cults in the Roman army, the more important results of this investigation being embodied in an article to appear

in *Transactions of the American Philological Association* in 1940.

Professor Millard Meiss, who is completing an article on Catalan fourteenth century art, which will appear in the *Journal of the Walters Art Gallery*, and another on Piero della Francesca, and is pursuing his studies on French book illumination, with special reference to Italian influence.

V

GEST ORIENTAL LIBRARY

The 135,000 books of the Gest Oriental Library have now been placed on shelves according to the categories of the standard Chinese library fourfold classification system and can be consulted at 20 Nassau Street, Princeton. With the emphasis necessarily placed upon work on bibliography and the development of the catalogue of the Library, the staff consisting of Dr. Nancy Lee Swann, Curator, and Dr. Kei-won Chung, assistant for Far Eastern languages, has been enlarged by the addition of Mr. Robert Alexander Hamilton as general assistant.

The acquisition of the Gest Oriental Library by the Institute extended to Far Eastern Studies the existing coöperation with both the Department of Oriental Studies and the Department of Art and Archaeology of Princeton University. Wider coöperation in the field of the Far East is now possible because Dr. David Nelson Rowe of the School of Public and International Affairs of the University is establishing the center for his research in Chinese material in the Gest Library, the Far Eastern acquisitions of the University Library other than those in the field of Oriental Art being shelved with the Gest Library.

Through an anonymous gift the Institute acquired the Gest Collection of Chinese Shadow Play figures

for the Gest Oriental Library. This collection of the Lüan-chou type numbers more than twenty-five hundred pieces for assorted characters and scenes and is probably the largest collection in North America, its size and scope offering rich material for study of a folk art.