

# THE MONTH AT CALTECH

## New Moon

**A**DDITIONAL OBSERVATIONS and computations have confirmed the discovery of a new moon of Jupiter (*E&S*—November, 1951) by Dr. Seth B. Nicholson of the Mount Wilson and Palomar Observatories.

The object was found on a photographic plate exposed with the 100-inch telescope on Mount Wilson on the night of September 28, but further studies had to be made before it could be definitely identified as a twelfth satellite of Jupiter. The path of the object is still not known, because of the short arc observed, but the computed orbits show that it requires more than 600 days to make its circuit around the planet. It moves in a clockwise direction, which is counter to the motion of most objects in the solar system.

Its period of more than 600 days identifies it as one of the outer group of Jupiter's satellites, which are about 14,000,000 miles from the planet. It is roughly one one-hundred-thousandth as bright as the faintest object visible to the unaided eye, and its diameter is estimated at about 15 miles.

This is the fourth moon of Jupiter discovered by Dr. Nicholson. He found Satellite IX in 1914 while at the

Lick Observatory, and X and XI in 1938, at the Mount Wilson Observatory.

## AEC Fellows

**S**EVEN CALTECH MEN have been awarded Atomic Energy fellowships by the Oak Ridge Institute of Nuclear Studies in Oak Ridge, Tennessee.

Dr. Thad H. Pittenger of Albion, Nebraska, Research Fellow in Biology at the Institute, received a post-doctoral fellowship from the AEC. Predoctoral fellowships went to Bruce Ames, New York City, in the field of biology; Tucker Carrington, Lynchburg, Virginia, chemistry; George Dubes, Sioux City, Iowa, biology; and Ronald Greene, South Gate, California, biology. Extensions of fellowships awarded during the past school year went to Claude Hinton, Catesville, North Carolina, biology; and Lionel Jaffe, Pasadena, biology.

## Rapkin Award

**D**R. GUY CAMUS, Research Fellow in Biology at the Institute, has been granted the first award of the Louis Rapkin Foundation of Paris for distinguished work in biology.

He was notified of his selection for the 100,000-franc prize by Dr. Andre Lwoff of the Pasteur Institute, Paris, on behalf of the Rapkin Foundation. This organization was established in memory of Louis Rapkin, an eminent young French biologist in the field of cellular physiology who died in 1949 at the age of 42.

Dr. Camus came to Caltech as a Rockefeller Foundation Research Fellow in July, 1949, on leave from the Sorbonne at the University of Paris, where he had worked on cell differentiation and made physiological studies of tumor tissue in plants.

His early work at Caltech was done in the Earhart Plant Research Laboratory in collaboration with Dr. Frits Went on effects of light and temperature on plants. Since early in 1950 he has been engaged primarily in plant biochemistry studies with Dr. James Bonner, Professor of Biology. Working under a grant from the American Cancer Society, they have found that a virus-like entity is involved in the tumor transformation of plant cells.

The Rapkin award is the second won by Dr. Camus during his scientific career. The first, which also reached him after he had begun his work at Caltech, was the Louise Darracq 6,000-franc prize awarded by the French Academy of Sciences in December, 1949, for his work on plant cancer. It came a decade after he received the Bachelor of Science degree at the University of Lille in 1939 and just eight months after he was



*Guy Camus*

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awarded the Doctor of Science degree at the University of Paris in April, 1949.

Dr. and Mrs. Camus plan to return next spring to Paris, where he will rejoin the faculty of the sciences at the Sorbonne.

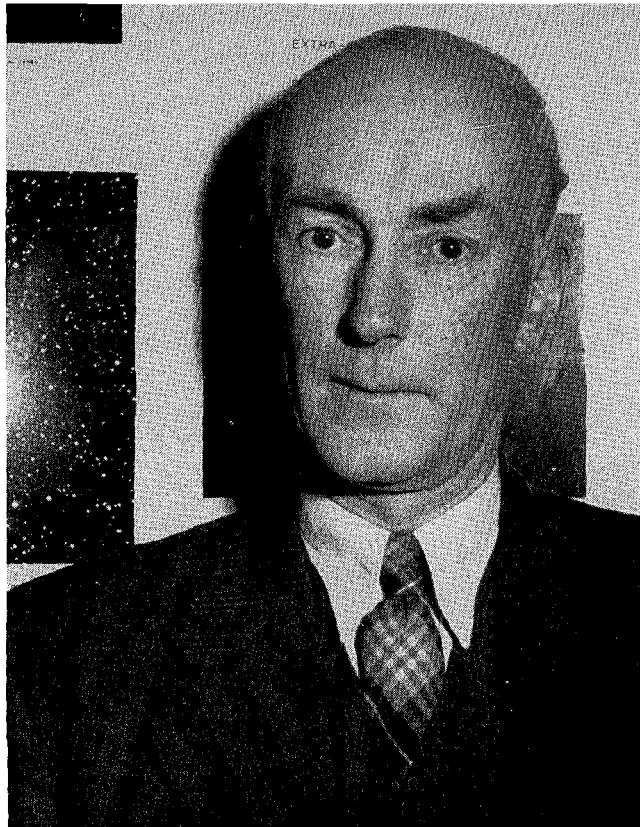
### Visiting Professors

**T**WO NEW VISITING professors join the Institute faculty this month, which brings the total for the academic year to seven.

Dr. John von Neumann, Visiting Professor of Mathematics, is one of the world's leading mathematicians. A member of the Institute for Advanced Study in Princeton, New Jersey, Dr. von Neumann received his Ph.D. at the University of Budapest in 1926 and joined the faculty of Princeton University in 1930. He has been a Research Professor in Mathematics at the Institute for Advanced Study since 1933. Dr. von Neumann is to deliver a series of six special lectures in mathematics at Caltech between January 4 and 15.

Dr. Jan H. Oort, outstanding Dutch astronomer, is Visiting Professor of Astronomy at Caltech. Director of the Observatory of the University of Leiden in The Netherlands, he is noted primarily for his work on the structure and rotation of the Milky Way. He is a former General Secretary of the International Astronomical Union. At Caltech he will conduct a graduate course in astronomy on "The Structure of the Galaxy."

Caltech's other visiting professors include Dr. David Bishop of the University of Massachusetts, Visiting



Jan H. Oort

Professor of Biology; Dr. Noboru Yamada of the National Agricultural Research Institute in Knosu, Japan, Visiting Professor of Plant Physiology; and Dr. Egbert Havinga, Director of the Laboratory of Organic Chemistry of the University of Leiden, Visiting Professor of Chemistry.

During the first term at Caltech Dr. Hans G. Borei, of the Wenner-Gren Institute of the University of Stockholm, was a Visiting Professor of Biology; and Dr. E. G. Bowen, of the Australian Commonwealth Scientific and Industrial Research Organization, was a Visiting Professor of Physics.

### Men of Science

**T**HE BUREAU OF LABOR STATISTICS, in cooperation with the Department of Defense, has just published a bulletin which reports on the "Employment, Education and Earnings of American Men of Science."

The study covers 42,000 of the 50,000 scientists listed in the 1949 edition of *American Men of Science*. Scientists studied were predominantly research workers. Next to research, teaching was the activity most often reported. Chemists were the largest group, comprising about one-fourth of the men listed in the directory. Biologists were second, and engineers third. The relatively small proportion of engineers included reflects the fact that a large proportion of all engineers are engaged in administration, production or development work rather than in scientific research.



John von Neumann

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Educational institutions were the principal field of employment for these scientists, with private industry second and government third. Thirty-seven percent were employed solely by colleges and universities, and an additional 13 percent combined education with some other type of employment. Twenty-seven percent were in private industry, and 14 percent in government.

Earnings were highest in private industry, the median salary for all Ph.D.'s in industry being \$7,070, in government \$6,280, in education \$4,860. Ph.D. engineers had the highest median salary and biologists the lowest in every type of employment—though biologists working for business firms earned more than engineers on the college campus.

### A Report on the Congress for Cultural Freedom

by Paul S. Epstein  
Professor of Physics

**E**VEN MORE DANGEROUS than the shooting war which the Russians have instigated in Korea is the war of propaganda which they are conducting all over the world. Many times they have expressed their intentions of gaining control of the Western countries, of destroying the democratic way of life and of imposing their system on the whole world. Having been successful in Czechoslovakia, they have the fond hope of using the propaganda weapon to bring about the downfall of the other nations of the West.

Hence, the struggle against Communistic propaganda has become the concern of every thoughtful and patriotic citizen, and numerous organizations are springing up to help in the struggle. One of these organizations, *The Congress for Cultural Freedom*, is interesting because of several distinctive features setting it apart from the usual run.

Firstly, the Congress is intended as an organization of *intellectuals*—professional men, writers, scientists, artists. It tries to bring home to these men that their freedom of cultural pursuits will come to an end if totalitarian Communism gains control.

The reason for singling out the intellectuals is not the idea that they are more vulnerable to Communist blandishments than other men. Indeed, the leaders of the Congress hold the opposite view, but they think that persons engaged in cultural pursuits will be particularly useful in the struggle. They are the men who write articles and books, who deliver lectures, paint posters and draw cartoons—in short, who create public opinion. When it comes to a war of ideas, the intellectuals are the natural first-line soldiers.

Secondly, the Congress tries to mobilize only men and women of politically progressive ideas. The main issue of the strife is that the Western democracies stand for

freedom and the Soviets for police regimentation and oppression. Reactionaries, who confuse liberals with Communists and who advocate the suppression of both by police methods, are not wanted. They would do more harm than good.

Thirdly, the Congress regards the struggle against Communist propaganda as an international problem. The position of America would be seriously endangered if Soviet Communism were successful in one of the important countries of Western Europe. Hence, its whole organization is conceived on an international scale.

The headquarters of the Congress of Cultural Freedom is set up in Paris, as the most strategic location, with the musicologist, Vladimir Nabokoff, as general secretary and the noted Swiss sociologist writer, Denis de Rougemont, as chairman of the executive council. Both these men lived many years in America and have various American associations. Closely affiliated with the Congress are the *National Committees for Cultural Freedom* which exist in America, England, and Italy. The chairman of the American Committee is the well known philosopher of New York University, Sidney Hook.

The activities of the Congress so far have been directed along two main lines: (1) publication of literature, (2) organization of international conferences.

In addition to pamphlets and newspaper articles the following monthly periodicals are published under the sponsorship of the Congress and its National Committees: (a) *Preuves* (French: Editor, F. Bondy); (b) *The Twentieth Century* (English: Editor, M. Goodwin); (c) *Der Monat* (German: Editor, M. J. Lasky); (d) *Cultura* (Italian: Editor, Ignazio Silone); (e) *Kultura* (Polish: Editor, J. Giedroic). A part of the material in these magazines is identical, another part is original in each of them since the peculiar conditions of each country require independent coverage.

The leaders of the Congress plan to arrange international conferences of seminars at intervals of less than a year. The latest of these seminars took place last September in the village of Andean near Strasbourg (Alsatia) and was devoted to a discussion of the methods of stopping the spread of Communism. The members formed a small group of fourteen persons representing six different countries. For five days they lived in the village inn, devoting most of the day to discussions under the chairmanship of de Rougemont. Limitations of space do not permit us to characterize the many eminent men present, and we restrict ourselves to the names of the three American delegates: Sidney Hook, Alsoph Corwin (Organic Chemist of Johns Hopkins) and Paul S. Epstein (Physicist at Caltech).

The subject matter was divided into two parts: (1) What makes Communistic teaching attractive to some intellectuals? (2) What are the ways to counteract this attraction?

Various causes were listed why intellectuals occasionally succumb to the blandishments of Communist propaganda, some general, some dependent on local

conditions in the several countries. The most important seems to be misguided idealism combined with complete ignorance of the actual Russian life. The idealist becomes dissatisfied with the conditions in his own country, because of cases of injustice and discrimination which he sometimes sees, and taking the Soviet protestations of freedom, democracy, and equal opportunities among the Russians at their face value, he thinks they may have worked out a better order of things.

## THE BEAVER

### Pendulum

**S**HORTLY BEFORE the end of the first term a new magazine joined the family of Institute publications. The first issue of the undergraduate literary magazine, *Pendulum*, weighed in at slightly less than forty pages. *Pendulum* was conceived and edited by a small group of enterprising undergraduates, and was published with the blessings and money of the Division of the Humanities. It included nine short stories and prose sketches, eight poems, and two artistic sketches, culled from the selected works of eight undergraduates and two 1951 graduates.

"The reasons for publishing a literary magazine at Caltech, a center of technical interest, are manifold," said Editors Vickman and Wilson. "First, we know that one of Caltech's aims is to broaden the outlook of students beyond specialized technical pursuits. Second, there is a promising amount of interest here in doing creative literary and artistic work."

A total of 750 copies were printed for distribution to the undergraduates and faculty members of the Institute. Since *Pendulum* was copyrighted, two copies were sent to the Library of Congress. The editors hope to make *Pendulum* a triannual magazine, by giving one issue per term to the Institute and posterity. They are not worried about a lack of quality and quantity of contributions for future issues; they recognize that the greatest hurdle is financing the magazine. The Division of the Humanities was gracious enough to finance the first issue in the hope that thereafter *Pendulum* could somehow finance itself on the basis of its artistic merit.

### SCIAC

This year the SCIAC (Southern California Intercollegiate Athletic Conference) has eliminated the separate division in the conference for freshmen. Instead of the former division into freshmen and varsity teams, all the athletes are divided into a varsity and a junior-varsity squad for each sport. The differentiation is based solely upon ability and experience. Under this

The obvious way of counteracting such illusions is to spread factual information about the sordid Russian realities and to show up the Soviets as the police and slave state they are. For this purpose the conference recommended, among other things, the preparation of a series of pamphlets, each directed at a special branch of a profession—chemists, musicians, biologists, etc.—and listing the persecutions and annoyances which the members of that branch had to undergo in Russia. This recommendation is now being implemented.

The next international conference of the Congress is scheduled for next month.

## Some Notes on Student Life

new system, upperclassmen may play on the junior-varsity teams, and freshmen may play on the varsity.

The advantage of the junior-varsity system is that it enables greater numbers to participate. Outstanding freshmen have the opportunity to play varsity ball, and less talented upperclassmen may get a chance to play in junior-varsity games when they would only help fill the bench for the varsity.

This year our basketball prospects are especially enhanced by having freshmen eligible for the varsity squad. Among our first-string five in varsity basketball are no less than three freshmen. Coach Carl Shy should have high hopes for future years, since these three freshmen are accompanied by a sophomore; only one senior rounds out the team.

### First Term

In accordance with the time-honored custom, and contrary to the desires of many, finals came on schedule. Their coming, though perhaps momentous, made no one philosophical, except perhaps in the broadest human terms. The last of finals died an inglorious death at the hands of the freshmen. It seemed they had not yet learned that talking about examinations after they were over was not conducive to whatever mental health they had managed to salvage.

In the student houses, informality was the rule after finals, and impromptu celebrations were hastily arranged to release the pressure that had accumulated all week. Soon afterwards, most of the students had departed for home or other points of greater interest. Many others worked on campus, and a few stalwart snakes spent their time in unorganized study and in preparation for next term's courses.

Looking back on the first term, it seemed the undergraduates were a little happier with their lot in life than at the same time last year. Less worry about the draft, and a large and unusually spirited freshman class helped. The student houses seemed more lively, and the food tasted better . . . Maybe it was the weather.

—Al Haber '53