



Oliver Wulf—new member of the National Academy of Sciences.

THE MONTH AT CALTECH

National Academy

The National Academy of Sciences, which convenes annually in April at Washington, D. C., consists of 450 of the country's top-ranking scientists in all fields. This April they added to their distinguished roster the names of two more members of the Caltech staff: Max Delbrück, Professor of Biophysics, and Oliver Reynolds Wulf, Research Associate in the Division of Chemistry and Chemical Engineering.

Max Delbrück, who was born in Berlin 42 years ago, began his scientific career as a mathematical physicist. His early work dealt with problems of atomic structure, and later with nuclear constitution, a field in which he is regarded as a pioneer. He then became interested in biology, and has since been variously classified as a geneticist, microbiologist, virologist, botanist, and—by Caltech—a biophysicist. In 1937 he turned his attention to bacterial viruses, and it is in the study of these that his significant contributions to biology have been made. Dr. Delbrück came to Caltech from Vanderbilt University in 1947.

Oliver Wulf received his Ph.D. from Caltech in 1926. He was with the U.S. Department of Agriculture for eleven years, rising to the position of Senior Physicist in the Bureau of Chemistry and Soils. In 1939 he moved to the Weather Bureau as Senior Meteorologist, and in 1945 was assigned to Caltech as Research Associate in Chemistry. Dr. Wulf is an authority on—among other things—the photochemistry and physics of the atmosphere, the relation of solar activity and geomagnetism to the circulation of the atmosphere, and the absorption of solar radiation by the constituents of the atmosphere.

The National Academy of Sciences was incorporated by an act of Congress in 1863 and approved by Lincoln. Its membership was originally restricted to fifty. Since then it has grown, but has continued, in war and peace, its function of supplying to the Government the nation's best scientific thinking. Election to membership is the

reward not of a single brilliant achievement, but of a career of achievements. It is a mark of highest scientific distinction.

Col. Goldsworthy Dies

Col. Elmer C. Goldsworthy, Master of Student Houses and Assistant Professor of Mathematics, died of a heart attack on April 30. He was 56.

Born in Stockton, Calif., Goldsworthy left the University of California in 1914 and joined the Canadian Army. He became a fighter pilot with the Royal Air Force and served with the British forces until 1919. In 1923 he received his Ph.D. from the University of California and remained there to teach mathematics. In 1931 he became assistant dean of undergraduates.

He entered the U. S. Air Force in 1941 and served until 1945 as officer in charge of instruction at the Orlando, Fla., school of applied tactics. He had been a member of the Caltech faculty since his retirement from the Army as a lieutenant-colonel in 1945.

Hughes Fellows

The first Howard Hughes Fellowships in Creative Aeronautics, established to encourage the development of top-grade aviation research engineers, have been awarded to Leo Stoolman, 30, and Harold M. Hipsch, 27. Stoolman and Hipsch, selected from several hundred applicants by a committee of Hughes and Caltech representatives for their technical ability, originality, and personality, will start the Hughes Fellowship program on July 1 with a ten-week development project at the Hughes plant. They will be enrolled at Caltech in the fall, and will continue their advanced projects at the aircraft plant on a schedule which will not interfere with their studies.

Leo Stoolman, born in Chicago, received a mechanical engineering degree in 1941 at the Illinois Institute of Technology, and served there briefly as an instructor.

In 1942 he received his M.S. at Caltech, and then spent five years as an aerodynamic engineer with the Vultee Aircraft Co. in Downey. Since 1947 he has been engaged in aero-thermodynamics research at Caltech's Jet Propulsion Laboratory. He has also been serving as a lecturer in mechanical engineering at USC.

Harold Marvin Hipsch comes from Kansas City, Mo. He was graduated from Caltech in 1947 and received his M.S. here last year. He has had three years industrial experience as an aerodynamicist and flight test engineer, and is now working toward a Ph.D. in Aeronautical Engineering at Caltech.

Cancer Grants

A total of \$88,900 has been granted by the American Cancer Society to 17 scientists in California engaged in cancer research at Caltech, the University of California at Berkeley, Stanford, UCLA, and under the Rees-Stealy Medical Research Fund in San Diego.

The Caltech grant of \$10,600 goes to four men.

Dr. James Bonner, Professor of Biochemistry, and Dr. Frits Went, Professor of Plant Physiology, are to get \$7,000 for work on the biochemistry of auxin, a tumor-inducing chemical in plants.

Dr. Sterling Emerson, Professor of Genetics, receives \$3,600 for genetic and physiological investigations of adaptive changes in neurospora.

Dr. George W. Beadle, Chairman of the Division of Biology, carries over from last year a grant of \$5,700 for research on gene action and mutation as related to growth and other metabolic processes in neurospora.

Quakes and Tremors

Caltech's seismologists can scarcely open their mouth these days without catching somebody's foot in it.

After the Pacific Northwest earthquake last month, the Los Angeles Disaster Coordinator got in touch with Dr. John Buwalda to ask whether the same quake was likely to travel south along the coast. Dr. Buwalda

said it wasn't at all likely. Within a few short hours he was quoted on the wire services as saying that southern California would not be having any more earthquakes for a while.

No sooner was this situation straightened out than Dr. Beno Gutenberg, presenting a paper on earthquake action by Dr. Hugo Benioff in Washington, was quoted as saying that the Pacific Coast was headed for another big earthquake—or a series of small ones.

Dr. Benioff spent the day on the telephone amplifying the published statement so that an excited public might understand the true facts.

"I had hoped to be able to calculate the development of strains along the San Andreas Fault," he said. "But . . . I found the job impossible for the time being. We have had good instruments only since 1923. To make calculations of any real value in determining the likelihood of a major quake here, we should have had to have such instruments in 1910. . . . However, there is hope that another technique . . . will yield direct information.

"Of course, we have had great earthquakes on the San Andreas fault before and there is no reason to think we won't have some in the future. . . . There has been no major quake on the fault since San Francisco's, but we have no idea what intervals to expect between major movements. . . . My charting does not show that the distortion of the subsurface and resulting strain released by the San Francisco quake is building up again. It may be—but we can't prove it."

In other words there is no more reason to expect a big earthquake now than there ever was. The seismologists could legitimately predict that there would be one sometime, somewhere—but where or when were questions no one could yet answer.

Purer Air

In Pasadena last month impatient citizens organized a Pure Air Council of Southern California "to speed smog eradication through force of public opinion and



Max Delbrück—21st Caltech man to be elected to National Academy.

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co-operation." Heading it up is Dr. Edwin Powell Hubble, Research Associate in Astronomy and staff member of the recently combined Mt. Wilson and Palomar Observatories.

The organization of the Pure Air Council, said Dr. Hubble, was the result of an eight-month survey which proved that "public education regarding the smog problem and persuasion of all citizens to cooperate is vital in eliminating the smog menace."

The council plans to set up local complaint bureaus throughout the county; produce bulletins, news releases, educational exhibits, and public speakers to emphasize the fact that "pure air is as important as pure water"; educate the public to better control of backyard burning; work to have police forces assigned to the Air Pollution Control Office; and seek state and Federal aid for working on problems involved in smog elimination.

Headquarters are at 465 Herkimer St., Pasadena, California.

The Arts

The Caltech Women's Club held its second annual Arts and Crafts Show last month, April 6-9. The exhibit, set up in Mudd Hall, included samples of work from more than 100 Caltech students, faculty, employees, and wives, and ranged all the way from furniture to shell jewelry to three-dimensional "objects." A quick survey revealed that Aeronautics personnel had the most entries in the show, and Chemistry and Chemical Engineering placed second. Humanities trailed all the rest—a fact that *should* have some highly significant meaning.

A week later, on April 14, at an Associates' dinner in the Athenaeum, two noted collections of drawings and documents went on display. Dr. Elmer Belt, Los Angeles physician and a member of the California Institute Associates, exhibited a selection of drawings from his priceless DaVinci collection, in which Leonardo anticipated the airplane, automobile, submarine and countless other present-day developments. And from the collection of Prof. E. C. Watson, Professor of Physics and Dean of the Faculty, came 16th and 17th century editions of the works of men like Copernicus, Galileo, Boyle, Hooke, Pascal, and Newton.

The Belt-Watson exhibit held especial interest for the California Institute Associates. Said Dr. DuBridge:

"The history of great scientists is often the history of great patrons. This fact, which is demonstrated through all the history of science, is shown again in this exhibit. Most of the scientists whose work we see here owed much to the aid of philanthropic patrons . . . but the philanthropists and patrons of the time did not truly think they were investing in the cars of today. They were not that 'practical'. Nor were they simply charitable, as they might have been if they had endowed an orphanage or a hospital. Instead, they chose to endow the thing that Einstein calls 'holy curiosity' . . . In supporting this pure curiosity—this *pure science*—philanthropy expressed its faith in the mind of man—and faith in the man of science.

"This exhibit is itself the work of two men of science . . . In offering it we are proud to honor the patrons of pure science. These patrons do not belong only to the time of Ludovico Sforza or Charles II. In a real and literal sense, they are with us today in the California Institute Associates, a group dedicated to the support of science, without restriction as to purpose or kind . . . For this support of free inquiry, all the people of a free nation should be thankful."

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Successful Seminar

The 12th annual Alumni Seminar, held on Saturday April 9, brought 350 alumni—and 100 wives—back to the campus for a one-day refresher course.

Linus Pauling was unable to give the opening talk, and Edward Sobel, Production Manager of NBC's Hollywood television station, KNBH, substituted with a discussion of television progress and program trends. Otherwise the seminar ran as scheduled (E & S, March '49), and with nary a noticeable hitch.

Wives were invited to the seminar for the first time last year, when a separate program was set up for them. This year, with the exception of a separate luncheon for the ladies, everyone joined in on the regular program. This seems to be one feature of the seminar that is still open to argument—a few diehards still maintaining that the seminar ought to be strictly an *alumni* affair.

Aside from this major point of difference most alumni were in complete agreement—on everything from the success of the 12th seminar to the fact that next year the printed program ought to contain the words to the alma-mater for the benefit of all those who manfully tried to bluff their way through the singing at this year's banquet.

Chapter Notes

The California Tech Club of Chicago met at the Engineers Club on April 4. L. W. Jones, Dean of Admissions, gave an informal talk and showed the group two films devoted to the work of the Caltech Hydrodynamics Laboratory.

The San Francisco Chapter held a meeting on April 6 at the Veneto restaurant to hear Foster Strong, Associate Dean of Freshmen, discuss student recruiting problems. Bob Jones, who conducted the meeting, read a letter from Howard Lewis giving the status of the Alumni Fund Drive for 1949, and the chapter is making plans to aid the Drive. Present were Fritz Karge '18, L. Dean Fowler '23, Eugene W. Smith '24, L. P. Henderson '25, Manley Edwards '26, H. P. Henderson '26, Maurice T. Jones '26, J. B. Sturgess '30, J. H. Amann '31, J. J. Halloran '35, R. P. Jones '35, Virgil Erickson '37, R. B. Connelly '39, Carl G. Schrader '40, John W. Otvos '43, D. W. Otto '48, George W. Roe '48, E. F. Roskowski '48, and John H. Thomas '48.

On April 15 the Cal Tech Club of New York held an informal get-together at the Hotel Holley to meet Dean L. W. Jones (gets around, doesn't he?) on his annual trip to New York.

On March 30, while attending the M.I.T. Convocation, President DuBridge met with alumni in the Boston area for dinner at the M.I.T. Graduate House. Net result of the highly successful and well-attended meeting is the possibility of an imminent re-organization of the dormant Boston Chapter of the Alumni Association. There are some 85 alumni in the area.