

TECH GEOLOGIST DIES

Last month Lozell C. Hookway, '29, M.S. '30, was drowned while on a hunting trip in Texas. His funeral was held in Pasadena. Dr. Buwalda delivered a fitting eulogy.

Among the pallbearers were G. Austin Schroter, '28, Hampton Smith, '28, J. Clark Sutherland, '29, and E. L. Furlong, curator of vertebrate paleontology at the Institute.

Lozell was one of the first students of the geology department. After his graduation he had charge of field work for the vertebrate paleontology department. Later he went to the Magnolia Petroleum Company in East Texas at office manager and district geologist. He is survived by his widow, Mrs. Hazel Hookway, his parents and a brother.

His many friends will be deeply grieved and shocked by his sudden passing.

FELLOWSHIPS

The appointment of the first Hale and Noyes research fellows in chemistry were announced on October 26th. Those awarded the initial honors are as follows:

Hale Fellow: Verner Shomaker, Ph.D. '38.

Noyes Fellows: C. S. Garner, '35, Ph.D. '38.

D. W. Osborne, Ph.D. '38.

The fellowships were established under the will of Dr. Arthur A. Noyes, late Director of the Gates Chemical Laboratory, who bequeathed the major part of his estate to the Institute.

MARTEL ARTICLE

"Effect of Earthquakes on Earth Dams" is the title of an article appearing in the September-October issue of *The Military Engineer*, written by R. R. Martel, professor of structural engineering at Tech. The article is an excellent summary of present day knowledge of the subject by one of the nation's foremost authorities on the design of earthquake resistant structures.

McKITTRICK FOSSILS

Recovery of important fossil material from the tar seeps at McKittrick, west of Bakersfield, California, is described in a publication recently issued by Dr. Chester Stock and John R. Schultz. Supplementing the La Brea pit recoveries, the McKittrick bone quarry has produced some new forms, as well as some previously recognized ones.

GRADUATE STUDENT FROM IRAN

One of the students who is farthest from home this year is Ruhollah Y. Karubian from Iran (formerly Persia). He is a graduate student doing work in petroleum geology, having completed his undergraduate work at the Colorado School of Mines.

STUDENT RIOT?

On Monday evening November 21, the radio suddenly started giving news flashes about a riot on the grounds of the California Institute of Technology — police riot squad present in full force — calls for reinforcements — hundreds of dollars damage done — students injured but so far none killed. The morning newspapers proclaimed the gory details with staring headlines.

What was it that was responsible for all of this? As far as we can tell, the story is something like this: On Monday morning a Flag rally was announced at Pasadena Junior College, in preparation for the game with Tech on the Wednesday night. Later in the day this rally was cancelled but apparently not well announced. Consequently, a crowd of students collected and found nothing to do. Finally they got the idea of going down to Tech. They gathered on the lawn between Ricketts and the Athenaeum, and of course a free-for-all was soon started. Eventually, someone got the lawn sprinklers going and peace was restored. Meanwhile the police had been called but apparently stood and watched the fun. The only serious damage occurred when the windows in one room were broken and someone was cut with flying glass. The reason for the stone throwing seems to be that the occupants of the room were attempting to get a fire hose into action.

Estimate of the actual damage done — \$10.

POTAPENKO OIL DISCOVERER

An announcement was made on November seventh of the drilling of a wildcat oilwell based on a new geophysical method developed by Dr. G. W. Potapenko, professor of physics at Tech. This method is the outgrowth of a long period of study and testing in existing fields, and is reported to be based upon current frequency.

The patents for the method are owned by the Geofreuenta Corporation of Los Angeles. The company is unwilling to give any more information other than to say that apparently definite and measurable reactions have been obtained from oil in place in the earth, and that it is believed that the process can be developed to a point where definite electrical reactions will be recorded in areas where oil in commercial quantities exists.

For at least some time to come this process, if proven successful, will be used to supplement the work done by seismographs and other standard geophysical methods. Where such methods have determined the existence of structural conditions favorable to oil accumulation, this new process will undertake to determine whether oil exists in such structures.

If successfully and fully developed, the possibilities are almost unlimited as it is hoped that by means of the process it will be possible to discover the boundaries of a newly discovered oil field without the necessity of expensive edge line drilling.

half the span and for the last four tests higher applications of lateral loads with part of the roof sheathing removed and last with all the sheathing removed from the end walls.

Evidence of the importance attached to the findings can be seen by the fact that more than 250 architects, engineers, public officials, and construction industry people were present and followed the three days of tests.

Of course, among the alumni of the Institute there are a large number in the construction industry, many of whom were present at some time while Converse and his cohorts were simulating wind forces and earthquakes. Among those present were E. D. Seaver, '21, and Benioff, '22, who are structural engineers for Summerbell Roof Structures and were instrumental in bringing this test about. Among others seen were Wm. M. Taggart, '22, John E. Shield, '22, Robert Moodie, '26, Mott Prudames, '32, Morris Goldsmith, '24, Ernst Maag, '26, T. C. Combs, '27, Al Creal, '36, Julian Stafford, Ex. '22, Sidney Bamberger, '33, and Frank Lowe, '36.

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MILITARY AFFILIATIONS

"Caltech Men in National Defense," by John E. Shield, '22, in the September issue of the Alumni Review, contained the names of many alumni who hold commissions in the various arms and services of the Army, Navy and Marine Corps. Realizing inability, despite a most thorough investigation, to obtain the names and assignments of all men so affiliated, a request was made for additional data. The response has been generous.

On page 16 herein are two letters from men far distant from Pasadena, containing several names. The following were also "reported in":

Kenneth Fenwick, '28, Lt., j.g., U.S.N., C.E.C., Res.

Thomas H. Evans, '29, 1st Lt., Engr. Res.

Carlyle H. Ridenour, '18, Major, Air Corps, U.S.A., Hamilton Field, San Rafael, Calif.

Robert G. Macdonald, '33, 2nd Lt., Engr. Res.

Harold J. Martin, Ex. '25 Capt., Coast Artillery, Res.

Wayland Maxey, '29, 2nd Lt., Q.M. Res; 29th Quartermaster Regiment.

Robert Bungay, Jr., '30, Third Coast Artillery, Res.

Gordon S. Mitchell, Ex. '30, has been assigned to special duty.

The following officers are assigned to the 975th Coast Artillery, Reserve:

1st Lt. M. D. Darling, '27.

1st Lt. Herbert Sawyer, Ex. '26.

1st Lt. Stuart Seymour, '25.

1st Lt. Lawrence Nye, '29.

1st Lt. Harlan Asquith, '29.

1st Lt. Winton Hoch, '30.

SUPERMICROSCOPE

A supermicroscope which uses electrons and a magnetic "lens" instead of light and glass lenses has been designed and built at the Institute by Prof. William V. Houston and Hugh Bradner, a graduate student.

By means of this electronic microscope it will be possible to sidestep the natural obstacle of observing entities measuring less than one wave length of visible light in diameter. The first use for the new microscope will be the study of the surface emissions of electrons caused by bombarding the surfaces with energy of varying wave lengths.

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A.I.M.M.E. PAPERS

The number of fields in which the national preeminence of C. I. T. men is granted is steadily increasing. The National Meeting this fall in Los Angeles of the American Institute of Mining and Metallurgical Engineers listed the following papers:

1. Gravitational Concentration Gradients in Static Columns of Hydrocarbon Fluids, by B. H. Sage and W. N. Lacey, C. I. T.
2. Type Occurrence of North American Bleaching Clays, by Ian Campbell, Prof. Geol., C.I.T., and G. Austin Schroter, '28, Geologist and Mining Engineer.
3. Recent Developments in Clay and Sillimanite, by J. Clark Sutherland, '29, Economic Geologist.

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Buwalda National Park Adviser

Dr. John P. Buwalda is serving on the Board of Expert Advisers to the United States National Park Service, whose duties are to advise on problems of park development, conservation, and administrative policies. At the recent meeting of the Board special consideration was given to a plan for the further comprehensive development of Yosemite National Park.

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IMAGE SLICER

Dr. Ira S. Bowen has announced the invention of an "image slicer" for increasing the efficiency of spectroscopic analysis. The device splits up the image of a star or nebula into a number of thin strips by means of a combination of mirrors which feeds each of the strips through the spectroscopy slit. The slices of light are then recombined into a single band suitable for analysis by a cylindrical lens. By this means it will be possible to use from 50% to 75% of the available light rather than the 5% to 10% of the older method.

The statement made in the last issue of the "Alumni Review" that Dr. Bowen was to leave the Institute was misleading. His off-campus work has not affected his staff functions and the Editors take this opportunity of correcting the statement.

"THE EVOLUTION OF PHYSICS"

By Einstein and Infeld

A book review by Professor W. V. Houston

A good popular treatment of a field of science may provide a unifying thread and general view of the subject which is often lost in its detailed study. For those who have studied physics and who have some knowledge of its methods and its terminology, Einstein and Infeld have provided a stimulating book. In non-technical language, interspersed with homely illustrations, they trace the development and growth of the general points of view of modern physics and the allied sciences.

Beginning with Galileo and Newton, they bring out the ideas underlying the concept of a mechanical universe, a universe composed of material particles which exert forces on each other and move according to the laws of Newtonian Mechanics. They next trace the development of the realization of the inadequacy of such a concept, and its replacement, for at least some purposes, by the idea of fields: electric fields, magnetic fields, gravitational fields, etc. In a clear and illuminating fashion they bring out the essential distinction between the idea of particles exerting forces on each other at a distance, and the idea of forces transmitted with a finite velocity through an intervening field.

The treatment of fields leads naturally to the theory of relativity, to which, as might be expected, a great deal of space is devoted. The emphasis throughout is on the ideas, not on the details or the methods, although it is not easy to see how one without some knowledge of the details and the methods could well appreciate the cogency of the ideas. The section on the field theories closes with a mention of the motives underlying the search for a "unified field theory" which has occupied Einstein for so long.

The last chapter of the book contains a discussion of the quantum mechanics, although the space devoted to it seems hardly commensurate with its tremendous importance in modern physics. This chapter is hardly the equal of the excellent chapter on the field theory.

Einstein and Infeld claim to have written this book for an imaginary reader whose properties they have considered at some length. He was to be characterized by a "lack of any concrete knowledge of physics and mathematics," but he was to be "interested in physical and philosophical ideas." From the reported sales of the book a good many such persons must have been found to read it. To what extent they were satisfied it is hard to tell. Perhaps many acquired a few new words with which to flavor their conversation, or at least were rewarded with a pleasant feeling of having mastered difficult matters without much effort. Certainly physics is not to be learned by reading accounts of its conclusions. But, whether or not this book is interesting has some knowledge of the matters discussed, it presents an or instructive to a layman, to the physicist or engineer who inspiring birdseye view of the conceptual basis of physics.

December, 1938

CHAPTER NEWS

By Al Atwood, '32, Chapter Chairman

A salute to the San Diego group of Alumni who under the able leadership of President Dan Mathewson, '33, assisted by Perry Boothe, '31, as Secretary-Treasurer, are off to a swell start in the way of putting on interesting local alumni meetings. Here are some of the things this wide awake bunch have been up to recently.

On September 8th the San Diego Chapter held its first meeting of the season at the University Club at which the returning undergraduates and the incoming freshmen were invited. Mr. B. O. Lary of the San Diego High School who has been responsible for many men attending Caltech was guest of honor. Bob Heilbron, '27, presided and gave the incoming freshmen quite an adequate idea of what to expect at Tech. Heilbron also gave a most informative talk on Polaroid.

On the 17th of November a dinner meeting was held at the San Diego University Club with thirteen members present. Mr. Fred Pyle, San Diego City Hydraulic Engineer gave a very interesting and comprehensive talk on the history and present status of water development in San Diego County. He also explained the projected method of bringing water to San Diego from the Colorado River via the All American Canal.

January 17, 1939, is set as the date of the next meeting so mark this on your calendar all you alumni who live in San Diego or vicinity, for it promises to be a bang up meeting.

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PITTSBURGH ALUMNI

Complimenting Dr. and Mrs. T. Everette Browne, (Ph.D., '36), who were married recently, Mr. and Mrs. Glenn Schlegel, '25, entertained at their home in Mount Lebanon, a suburb of Pittsburgh, Pa. Those who enjoyed the Schlegel's hospitality were:

Dr. and Mrs. Jesse Hobson, '35

Dr. and Mrs. Gilbert McCann, '34

Dr. and Mrs. William Abbett Lewis, Jr., '26

Mr. and Mrs. Alfred E. Schueler, '26

Mr. and Mrs. Edward G. Forgy, '21

Mr. and Mrs. Peter Hines Wyckoff, '37

All those at the gathering, with the exception of Mr. Schlegel, are employed by the Westinghouse Electric and Manufacturing Co.

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CHRISTMAS GIFTS

We are informed that the Institute Bookstore, Throop Hall, has a selection of playing cards which should delight nearly any alumnus. The backs are adorned with an entrance view of Norman Bridge laboratory as viewed from the million-volt laboratory, and a decorative C. I. T. emblem. Backs in either silver or gold are available. Single decks are 50 cents; pairs of decks one dollar, total (no additional for postage or tax). Prepaid orders will be supplied immediately.