

OF INTEREST

ALUMNI PRESIDENT WIELDS GAVEL IN ARMY

Theodore C. Combs, '27, late director of business in the Los Angeles office of the West Coast Timbermen's Association, and past president of the Alumni Association, was called to active duty with the army in November.

Ted received his commission as Second Lieutenant in the Engineer Reserve after completing his R.O.T.C. training at Tech in 1927. Prior to the latest call to active duty, Captain Combs had already earned an enviable record as an authority on timber bridge design and construction for use by the army engineers. All Tech men who have been privileged to serve under Ted have considered it an honor.

In November he was called to active duty at the Presidio of San Francisco and assigned as technical aide to the Commanding General, Ninth Corps area.

BOARD ORGANIZES

The resignation of Theodore C. Combs, '27 as president of the Alumni Association, after being called to active duty as a captain in the Corps of Engineers Reserves, has necessitated a reorganization of the Board of Directors of the Association.

John E. Shield, '22, who has been vice-president, has moved up to president of the Association. Jack did a very efficient job as chairman last year, and is in charge of chapter organization this year.

Loys Griswold, '24, was elected vice-president of the Association in addition to his duties as secretary. Allen Dunn, '29, is serving as treasurer.

Other members of the board and their functions are as follows:

Herbert B. Holt, '15—membership
Paul C. Schaffner, '36—athletics
Al Knight, '22—social
George Langsner, '31—publications.
Ted Coleman—Institute relations.

ALUMNI DIRECTORY

Plans for the Biennial Directory of all Cal Tech Alumni are rapidly maturing and it is expected that it will be ready for mailing to all paid members of the Association about April 1, 1940. Work has been carried forward since the publication of the last directory in tracing Alumni listed as missing in 1939.

In order for the publication plans to function efficiently it is quite important that all Alumni, whether members or not, reply promptly to the inquiry cards which are being sent out. Besides the directory use, the information secured is of value to the Institute and the Alumni Placement Service.

The Directory Committee consists of Sidney Bamberger, '33, chairman, Mott Prudames, '32, and Ray Labory, '31. The Committee expects to better the accuracy standard set by the 1939 Directory.

NEW SEMINAR BOARD SETUP OUTLINED

Plans are in progress for another interesting and stimulating series of events when the Fourth Annual Alumni Seminar Week-End convenes on April 5th and 6th, 1941. The Seminar Board, appointed by the Directors of the Alumni Association in June, 1940, has been considering plans for the 1941 Program, and laying the foundation for an administrative organization to provide a continuity of thought and action through succeeding years.

The present Seminar Board is composed of four members, two of which will serve for one year and the others for two years. Two new Board members will be selected annually by the Directors of the Alumni Association from a list of four to six candidates submitted by the Seminar Board. It is readily seen that continuity of method and organization plus the ideas and stimulation of new personnel will be obtained by this plan.

Each member of the Seminar Board has a definite function. One of the senior members, serving his second year, will be General Manager and the other the Program Chairman of the Seminar for that particular year. The Junior members will serve as understudies and assistants to the senior members. This year, however, the Board is set up differently due to the fact that two members will serve for only one year. Fred A. Hough, '24, and Donald P. MacFarlane, '26, are Program Chairman and Assistant Program Chairman, respectively, this year, and will serve as General Manager and Program Chairman with two new Board members for understudies on the 1942 Seminar Board.

NATIONAL DEFENSE RESEARCH COMMITTEE

Dr. Vannevar Bush, president of the Carnegie Institution of Washington, acting as chairman of the National Defense Research Committee, has made public a list of scientific men and engineers who have thus far accepted definite appointments to work with the committee on particular National Defense problems as they arise.

Of the eight members of the Committee, created by order of the Council of National Defense on June 27, 1940, two of the committeemen in key positions, are affiliated with the California Institute. Dr. Richard C. Tolman, dean of the Graduate School is vice-chairman in charge of the Division dealing with armor and ordinance. Dr. Frank B. Jewett, '98, chairman-of-the-board of Bell Telephone Laboratories, is chairman of the Division dealing with communication and transportation.

Vice-chairman of the ordnance and armor division, is Professor Charles C. Lauritsen, Ph.D. '29. Other members of Dr. Tolman's Division, who are affiliated with the Institute, are Robert A. Becker, M.S. '37, Donald S. Clark, '29, Ph.D. '34, William A. Fowler, Ph.D. '36 and John F. Streib, Jr., '36.

Dr.'s Linus Pauling, Ph.D. '25, and Don M. Yost, Ph.D. '26, are serving in the Division dealing with chemical problems, under the chairmanship of Dr. James B. Conant of Harvard.

PETROLEUM GEOLOGISTS FROLIC AND FORECAST

The California Institute is well represented in all phases and departments of the petroleum industry from prospecting to refining. The Tech contingent of petroleum geologists is no small one. Practically every major company is represented.

Almost without exception, Tech's band of oil geologists convened with others of their species on November 7-8, at the seventh annual meeting of the Pacific Coast Section, American Association of Petroleum Geologists, at the Ambassador Hotel in Los Angeles. The mid-Continent and foreign contingent, of course, were present only in spirit.

Papers were presented by Wendell Woodring, formerly professor of invertebrate paleontology at the Institute, now of the U.S. Geological Survey; and Rollin Eckis, M.S. '30, Bakersfield district geologist for Richfield.

The Institute geological faculty was represented by Dr. Ian Campbell, Dr. F. D. Bode, '30, and Dr. J. H. Maxson, '27.

Various other Tech men, lounging or alert, presented less formal discussions or engaged in varying banalities. For example:

Dr. Layton Stanton, '27, Bakersfield district geologist for Union, was observed collaring listeners to tell them about his two daughters, 5 and 7. Dr. Hampton Smith of the Texas Company was seen in the bar collecting donations for a baby shower.

Kenneth Lohman, '29, of the U.S.G.C., now recognized as one of the country's experts on diatoms, discussed recent findings of deep-sea dredging in the Atlantic Ocean. John Warlemont Daly, '29, stayed awake during all papers on geophysics, since that is his line with the Shell Company.

Ed Joujon-Roche, '28, scout for the Shell Company, darted in at the last moment to glad-hand all hands. . . . Frank Bell, '28, micropaleontologist with the same company, turned down all poker invitations to hurry home to the little woman.

Conversely, Alex Clark, '28, of the Shell Company, and George Schroter, '28, of the Filtrol Corporation, were kept busy turning down the little woman to play poker.

Seriously, however, the meeting was a huge success, and the Tech men's papers were well received and timely. Both Woodring's topic, "Late Miocene and Pliocene Stratigraphy and Paleontology of the Santa Maria District, California," and Eckis' contribution on "The Stevens Sand, Southern San Joaquin Valley, California," were timely and well-received contributions.

BORSOOK BOOK

A book, "Vitamins: What They Are and How They Can Benefit You," written by Dr. Henry Borsook, professor of biochemistry, has recently been published by the Viking Press; Inc., of New York.

Dr. Borsook is one of the nation's outstanding research men in the field of vitamins, and already has made many notable contributions to this science. His investigations of vitamin B have resulted in aids to the medical profession in dealing with some of man's chronic aches and pains.

An article written by him especially for the Alumni Review appeared in a recent issue.

Another Smash Hit
DON'T MISS THE
Annual Alumni Dance
Biltmore Hotel - - February 15, 1941

Faculty Appointments

Dr. Robert A. Millikan, as chairman of the executive council, has announced two important faculty appointments at the Institute.

Dr. William V. Houston, professor of physics, has been named acting dean of the graduate school. He will continue the work of Dr. William R. Smythe.

L. Winchester Jones, assistant professor of English, and associate of the Throop Club, has been appointed to the newly created position of assistant dean of upper classmen. He will work with Frederic W. Hinrichs, Jr., dean of upper classmen.

With the number of upper classmen so much larger than the enrollment of 160 freshmen, and in view of the increasing duties of the dean's office, the position of assistant was added.

1940 FOOTBALL SEASON

Beginning the season in impressive style, the Engineer varsity defeated Cal Poly 12-6 on the latter's home field with the Beavers completely outplaying their opponents. Captain Sohler scored all of the points for the Beavers. In the second pre-conference game with Glendale J. C. the Tech squad was held to a 7-7 tie.

In the league opener, Caltech met Whittier at the Rose Bowl, and although they played the Poets to a standstill in the first three quarters, they were turned back by the Conference champs, with a 19-0 score. The game was marked by long marches up the field by both teams. The Beavers next traveled to Flagstaff, where they played listless ball in the high altitude, and lost a one-sided game to the Arizona State Teachers by a score of 33-14. Cooper and Gillette both sustained leg injuries that dogged them for the rest of the season, finally resulting in their complete inability to play at the season's end.

The Sagehens from Pomona swamped Coach Stanton's squad the following week, and Stan Sohler sustained a badly injured ankle. But the Beavers hit the win column again when they trounce La Verne 7-0 in a hard fought game. Jack Anderson ran for the spectacular 102-yard sprint to a touchdown in the early part of the match, and the Beavers never lost the lead.

The big game with Oxy was played in the Rose Bowl on the night of November 8. The two old rivals fought on even terms until the last few minutes of the final period. Tech drove to the Bengals' seven yard stripe with what seemed to be the winning spurt, but Oxy intercepted a pass, drove down the field, and hit pay dirt twice in the last five minutes. Elliot's playing, as well as exceptionally good linework on the part of the entire line were features of the game—the Beavers outplayed the Tigers in nearly every way, having plenty of good interference, almost twice as many first downs, and similar advantages in other statistics of the tussle.

The squad closed its season with the Redlands match, where the new league champions swamped the Engineers 40-0.

Although the bright hopes with which the squad began the season failed to be entirely fulfilled, injuries and the bad breaks of the game can be blamed for most of the Engineers' tough luck. The team had several outstanding players, who did their best even when they had little support because so many positions were weakened by injuries.

DEFENSE EDUCATION

Representatives of engineering colleges and universities of the southwest met recently at the Institute to discuss participation in the federal educational program for technical experts. Professor R. L. Daugherty presided.

The federal program calls for instruction in special courses at government expense of more than 30,000 students at more than 150 institutions of learning.

The courses to be conducted at these 150 engineering schools are for students with technical backgrounds, and are designed to meet the future needs of industry and government in carrying out the defense program.

The first objective is to forestall potential shortages of inspectors of materials, chemicals, explosives, instruments and power units; designers of machinery, equipment, tools and dies, and aircraft power plants, structures and instruments; production engineers and supervisors, physical metallurgists, marine engineers and naval architects.

A Caltech committee, with Professor Franklin Thomas chairman, and including professors Royal W. Sorensen, W. Howard Clapp, R. R. Martel, and W. R. Sears, has been conferring on courses of study that can be undertaken at the Institute.

SANITARY AWARD

A. Perry Banta, assistant professor of sanitary engineering at Caltech, and two collaborators have been awarded the James Laurie Prize by the American Society of Civil Engineers.

Mr. Banta, with A. M. Rawn, chief engineer of Los Angeles County Sanitation Districts, and Dr. Richard Pomeroy '26, who has been research chemist for the districts, was awarded the coveted prize for a paper entitle "Multiple-Stage Sewage Sludge Digestion."

The prize, which will be awarded publicly at the annual meeting of the society in January at Cincinnati, Ohio, was given the paper for showing excellence in "describing in detail accomplished works of construction, their cost, and errors of design and execution."

Mr. Banta, at Caltech on a part-time basis, is assistant engineer on the staff of the sanitation districts. He obtained his master's degree at Tech in 1928, after being graduated from Stanford University.

STRANGE BEDFELLOW

When George Cohn, a junior, returned to his room, 47 Ricketts House, recently, he found an automobile with its motor running, parked beside his bed! Strolling into the room behind him and feigning surprise were a score of students.

"Can't you afford a garage?"

"Is this the way you keep your room warm?" they asked.

George noticed a suspicious smile or two and began laughing.

It developed that the house men had pooled \$9.50 to buy the car, an ancient model, had taken it apart and reassembled it in George's room.

After the crowd had had its fun, the men brought out wrenches and hammers, removed the body and axles from the chassis and hauled the parts outside, where they were once more assembled. The car has the distinction of having more owners than any other automobile at Caltech.

IN THE NEWS

After completing nearly a quarter of a century as secretary of the Caltech faculty, Dr. Harry Clark Van Buskirk has retired in favor of Dr. J. E. Wallace Sterling, associate professor of history. Dr. Van Buskirk, professor of mathematics, has been with the Institute since 1904, and was registrar from 1915 to 1935. Professor Franklin Thomas replaces Dr. Linus C. Pauling as chairman of the faculty.

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California is slipping towards the sea, but not fast enough to cause a sinking feeling among its inhabitants. Something like two or three inches a century is the present decline in altitude in this area, according to a study of changes in the earth's crust made by Dr. Beno Gutenberg, Caltech seismologist, as reported by AP.

Likewise the sea level has risen, Dr. Gutenberg says, on an average of four inches in the past century, probably because of melting glacial deposits and filling of the ocean bed with sediment carried by rivers.

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Professor Royal W. Sorensen, president of the American Institute of Electrical Engineers, reported upon his return from a swing through the east and south a tremendous interest in his campaign for engineers to educate the public on how an engineer functions in society. The many addresses which he delivered on this tour were illustrated with slides showing the uses of electricity and electrical devices in non-electrical research at Caltech.

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A gigantic 5,000,000 volt "atom gun" to investigate the atomic structure of various elements has been designed and possibly will be built in the W. K. Kellogg laboratory of radiation at the Institute. J. F. Streib '36, who hopes to build the device under the direction of Dr. William A. Fowler, said all the major plans for the instrument have been completed, but that some of the details of the construction are yet to be drawn.

The machine would be as tall as a two story building, as large around as a locomotive, and would weigh 15 tons. In the 22 foot porcelain barrel, protons and other atomic particles would be shot at velocities 100,000 times as great as the velocity of a rifle bullet, at targets of whatever element it is desired to break down.

Power to accelerate the atomic particles would be supplied by a Van de Graff generator of a type recently developed at the University of Wisconsin.

FOR SUPER SEEING

Dr. Thomas F. Anderson, Institute physicist, is to be the first recipient of the R. C. A. electron microscope fellowship.

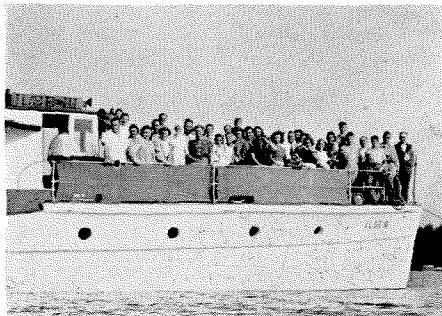
He will work at Camden, N. J., on the newly developed super-magnification instruments that use streams of electrons instead of beams of light. The electron microscope is capable of producing magnification as great as 100,000 diameters, contrasting with an ultimate performance of 3,000 diameters for the ordinary type of microscopes, even when using ultra-violet light.

Dr. Anderson, a native of Wisconsin, has studied at the Universities of Wisconsin and Chicago. In addition to his work at Caltech, he has had one year of graduate study in Munich, Germany.

Thirty members of the California Tech Club of New York were given an insight into the petroleum industry on November 15th by a pair of Tech men well qualified to present their respective subjects. Loren P. Scoville, M.S. '30, spoke on "The Essential Parts and Operations of a Modern Refinery." Following this, Vladimir A. Kalichevsky, '24, spoke on "Modern Methods of Manufacturing Motor and Aviation Gasolines." Not content with letting the two speakers relax after delivering their well prepared talks, thirty men fired questions at the speakers until both popular and scientific phases of the industry were thoroughly covered.

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Last September 8th proved to be a red-letter day for the California Tech Club of New York. On Sunday morning at an early hour, an enthusiastic group of men, women, and children assembled at a mid-town pier on the East River for a cruise along beautiful Long Island Sound. With all hands on board, bathing suits and lunches stowed away for the landing hour, the trim craft slid under many a towering bridge and nosed out into the Sound. Away from the skyscrapers of Manhattan—past the World's Fair and the large and imposing estates of the late Walter P. Chrysler, Wm. Randolph Hearst and others—past civilization itself, so it seemed, sped the happy crowd.



Ladies and gentlemen's lounge cabins acted as spots for cozy chats for some of the girls and "bull sessions" for those men who like to re-live the old Tech days in that fashion. The anchor was cast on a private beach at Lloyds Neck where many of the group took luncheons ashore while others ate on board. Hot coffee and ice cream were served to all, the ship's mate obligingly taking a huge kettle of coffee to those on the beach. Following lunch, the majority donned bathing suits and enjoyed a swim while others took their accustomed Sunday afternoon siesta, or played softball. A number lounged about reading the Sunday papers which had thoughtfully been brought aboard.

The party was made up of friends and families of the following Cal Tech men: Edward A. Bertram MS '35, Paul G. Burman '32, Chester F. Carlson '30, William G. Cox '35, James A. Davies '35, Beverly F. Fredendall '29, George T. Harness '28, S. B. Ingram Ph.D. '28, Archie P. King '27, Vince Rideout MS '39, Vladimir A. Kalichevsky '24, George S. Lufkin '29, Frederic H. Moore '38, James W. McRae Ph.D. '37, Lloyd E. Swedlund MS '28, Loren P. Scoville MS '30, Edwin F. Thayer '25, Walter D. Wilkinson '30, Bruce T. Weber '36.

Will you kindly let me know the scheduled date for the Football Banquet at your earliest convenience? I am sorry not to have asked sooner but expected to receive some word from you.

It will give you a brief report of our activities since our meeting at Howard Vesper's last spring.

Eleven golfers enjoyed a swell afternoon and evening at the Berkeley Country Club on June 22nd for our Field Day outing. Art Allyne, '26, won low gross and split the blind bogey prize with Francis Wyatt, '34.

On Tuesday, October first, Clarence Weinland, Sales Engineer for Johns-Manville Sales Corporation gave a very interesting and instructive talk supplemented with a movie entitled "Heat and Its Control." This picture can be highly recommended because of its very fine quality and minimum of advertizing. Any group interested can get in touch with Clarence at 116 New Montgomery St., San Francisco.

Twenty-four couples met with the Paul Scherer, '18, family on October 19th for a very enjoyable evening. Unfortunately, Paul at the last minute was detained in the East on business but Mrs. Scherer graciously opened their home for the party. Dr. James A. B. Scherer, Paul's father and former president of Throop College of Technology, was present.

Our sympathies have been extended to the family of Duroc A. Jecker, '31, who passed away on October 15, 1940, at his home in Mill Valley. Duroc had been in ill health for some time and suffered a paralytic stroke last summer from which he did not recover.

Our regular Monday luncheons at the Palace Hotel Fraternity Dining Room are being continued and a hearty welcome is extended to all.

Very truly yours,
Robert B. Freeman,
Secretary.

MISSING ALUMNI

The Alumni Association's files are lacking information on the present whereabouts of the following men. A post card dropped to the Alumni Office will assist in completing the files and in the preparation of the Alumni Directory which is expected to come off the press next March. Please help us locate these men.

Davidson, Leonard E. McCutchan, H. C. Norton, Frank E.	1900-20	Ferguson, Robert S. Holmes, Wm M.
Craig, Robert W.	1921	Fox, Joseph
Fleming, Thomas J.	1922	Keith, Clyde R.
Alcorn, Max B. Ramseyer, George N.	1923	Roberts, Frank F.
Miller, Palmer	1924	Stone, George B.
Aggeler, Wm. F. Blunt, Alyn W. Hansen, Raymond J. Jones, Herbert J.	1925	Scott, Percival T. W. Waller, Conrad J. Watkins, Robie T.
Anissnoff, Constantin I. Campbell, John S. Foster, Alfred	1926	Hsiao, Chuan-Yun Huang, Jau Chieh
Marslaud, John E.	1927	Medlin, Lewis E.
Eastman, Luther J.	1928	
Clark, John D. Ellis, Eugene Schatf, David	1930	Van Beveren, Oscar West, Stewart White, Dudley
Webb, Glenn M.	1931	

ABOUT OUR AUTHORS
One of the world's outstanding authorities on the chemical refining of petroleum is **Vladimir Anatole Kalichevsky**, '24, who took time out from his myriad activities as General Supervisor of the Research and Development Department of the Socony-Vacuum Oil Company to contribute our feature article on "The Progress of Petroleum." Kalichevsky has had one of those careers you read about in books—fighting as a Captain in the Russian army during World War I, mining in the Chukotsk Peninsula for a Japanese firm, graduating from Tech in 1924, working for the Union Oil Company and the Standard Oil Development Company as research chemist, and finally rising to his present post. His two books, "Modern Methods of Refining Lubricating Oils," and "Chemical Refining of Petroleum," (with Stagner) are classics of petroleum literature. But he has always found time to be an active member of the New York Alumni Chapter.

Emmett Irwin, '24, writes about magnetic testing of steel with considerable authority for a large part of the work in this field has been done by himself. He is now Chief Engineer of the Magnetic Corporation, exploiting one of his own inventions.

The class of '24 must be unusually prolific of literary ability. Certainly we think **Ed Layton's** description of life in the Venezuelan oil fields ranks near the top. Ed's six months in Venezuela took him to many interesting scenes, including the famous fire which destroyed the lake-village of Lagunillas. His pictures of the fire were destined for *Life* but were intercepted by the oil companies to serve as evidence in a threatened Venezuelan government suit. Ed is now in the Los Angeles office of the Lufkin Foundry and Machine Company.

Nick D'Arcy, Jr., '29, provided us with a very interesting article on internal combustion power for drilling. Nick is now in charge of the Sales Office at Emsco Derrick and Equipment Company in Los Angeles and an ardent Alumni Association booster.

Bob Stirton, '30, claimed he was too busy researching on fuels and lubricants for Union Oil to write much of an article for the Review. But after persuasion he turned out one that's really a corker, on the position of engineering in the Orient today. Bob apparently had a good time during his two and a half years in Singapore, but he's also glad to be rid of his share of the white man's burden in the East.

Sid Zipser, '30, also takes us on an Oriental adventure, but through the eyes of a photographer. If Technicolor doesn't keep Sid away from home he'll write another article next issue, and with more illustrations of the photographer's art, we hope.

Griest, Raymond H.	1932	Rau, William C.
Berkley, G. Merrill	1933	Herlin, Robert G.
Root, Leonard E.	1934	
Higley, John B. Karp, Nathan	1935	Obatake, Tanemi Stanley, Robert M.
Kurihara, Hisayuki	1936	
Horovitz, Leon	1937	
Carr, Robert Broadwell	1938	Hayward, Russell Edward
Fan, Hsu Tsi	1939	