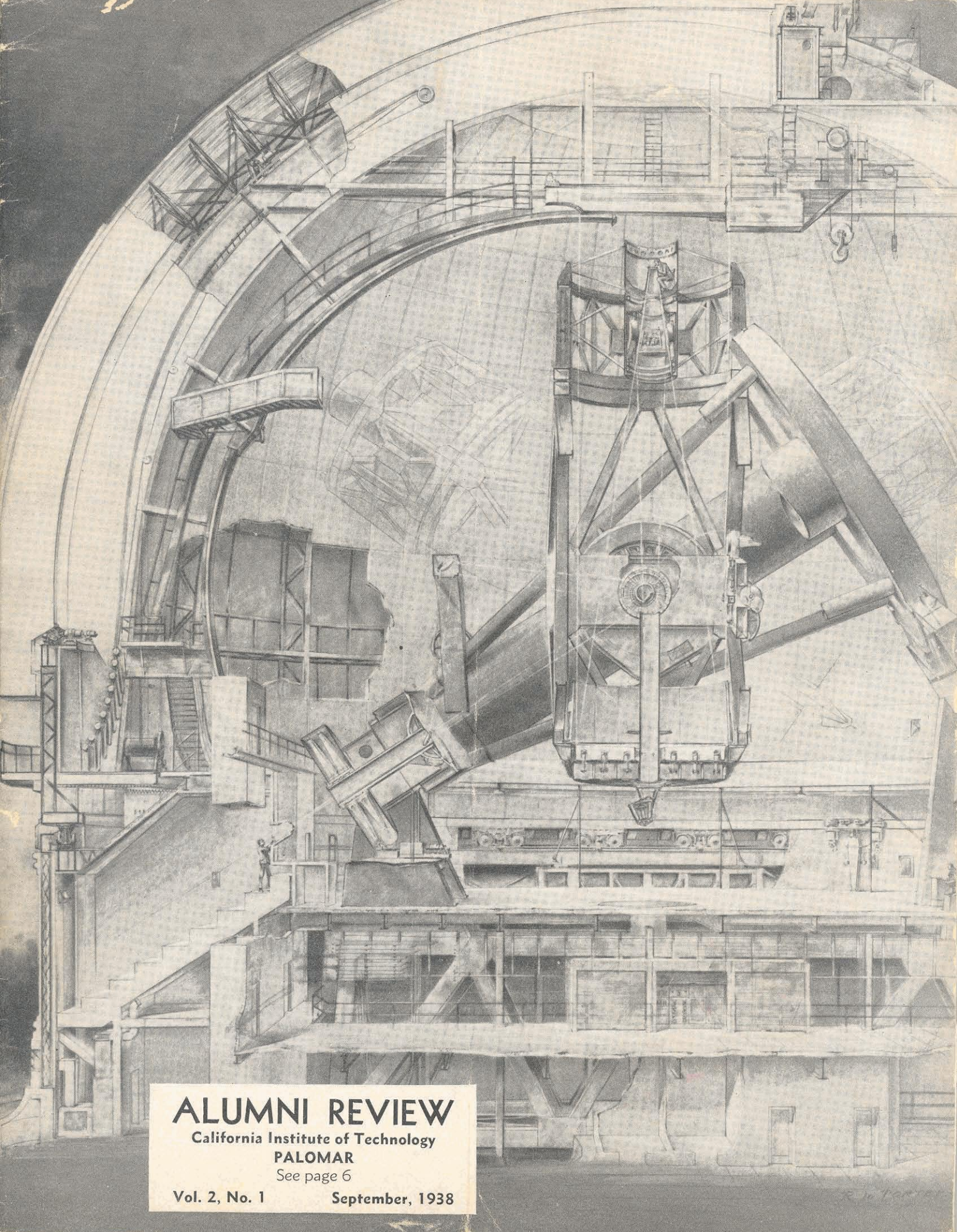


ALUMNI REVIEW

California Institute of Technology

PALOMAR

See page 6

Vol. 2, No. 1 September, 1938

Jeanette and her grandfather, William H. Wright—two of four generations in one family to work for General Electric in Lynn, Mass.

"Better, Jean? Listen—"

". . . back in '96 when *I* started work for G.E., we worked 10 hours a day, 6 days a week. Eighteen cents an hour was pretty good pay. And in our shop we did almost everything by hand.

"Look at things now—eight-hour days and five-day weeks. I read the other day that the average factory pay is 67 cents an hour. That's a big improvement during one lifetime!"

IT *is* a big improvement—between the time when Jeanette Wright's grandfather started work and a few months ago when Jeanette followed her father, grandfather, and great-grandfather and joined the General Electric organization. Hours reduced one third; factory wages increased nearly fourfold. What made this possible? What has brought about this progress?

The answer lies in the increase in the effectiveness of each worker's labor. In 1896, the average factory worker had only one horsepower of mechanical aid. Today each factory worker has *12 horsepower* of mechanical power to help him produce. And because he produces more, he has more. This progress has been steady, through good years and bad. And it has come about largely because electricity has been put to work to help create more goods for more people at less cost, more and better jobs at higher wages, and a higher living standard for all. General Electric, for sixty years, has been making electricity more useful.

G-E research and engineering have saved the public from ten to one hundred dollars for every dollar they have earned for General Electric

GENERAL ELECTRIC

90-70DH

1938—OUR SIXTIETH YEAR OF ELECTRICAL PROGRESS—1938

ALUMNI REVIEW

ALUMNI ASSOCIATION, INC.
CALIFORNIA INSTITUTE OF TECHNOLOGY

VOL. 2, NO. 1 — SEPTEMBER, 1938

Published four times a year—September, December, March and June by the Alumni Association, California Institute of Technology, 1201 East California Street, Pasadena, California. Subscription price included in annual dues of $2.50

WHAT is the worth of an alumni association? Pause for a moment to consider this as it applies to you. Is your alumni association worth its salt? Does it justify existence? Surely, any organization in order to survive must have significance to its participants.

Without any particular idealism, three tests become immediately evident — first, what can the association do for you and, second, what can you as an individual contribute to the group and, third, what can thousands of individuals do by way of constructive, purposeful endeavor?

We might term our alumni association a strictly business proposition. Surely, the standing of Tech men in their respective communities is directly identified with the standing of our alma mater. With this is interlinked the demand for Tech men and, in turn, their earning capacity. Alumni can collectively assist their alma mater in this regard and thereby further their common cause. If you don't believe it, familiarize yourself with case history of the placement office or contact the head of the department in which you majored.

But more than this—vastly more—is the association's function as a clearing house of alumni contacts. Within the past year the Association's program has been rounded out to maintain contact facilities in generous fashion.

For those of you who live away from Southern California, the Alumni Review particularly accepts the challenge of keeping you informed of what is going on. Chapter meetings in several of the larger cities will give you good times **plus.** The Directory will provide a medium for finding out who else is in your part of the world.

Those of you who are within hailing distance of Pasadena and Los Angeles will have a full calendar of meetings, field day, seminar week-end, dance and other features.

Your alumni association is decidedly young. Its milestones of achievement are, for the most part, still molten lava. But from current rumblings it is safe to predict that much milestone material will soon be in the offing. The quarrying, shaping and placing is a responsibility of each alumnus.

Here is an opportunity to serve and be served. Suffice it to say, the advantages of being a member are only out numbered by the disadvantages of not being one.

FORTHCOMING EVENTS *

Football Games . . . see page 4
General Meeting . Fri., Sept. 30
(Commercial Aviation, Clark Hotel, Los Angeles; 6:30 p.m.; $1.00 a plate)
Oxy Game, with Round-Up before and dance afterwards Nov. 4
Special Feature . . . December
General Meeting . . . January
Annual Dance . . . . February
Seminar Week-End . . . March
Exhibit Days . . . . . April
Annual Stag and Field Day . May
General Meeting and Commencement . . . . . June

* Listings in bold face type are final announcements. Other events will be announced in due time, following completion of plans.

SURPRISES AHEAD FOR 1938-39 MEETINGS

By Clarence F. Kiech, Chairman Social Committee

Bigger and better. That's the outlook for this year's social and Alumni-betterment program outlined by the social committee.

Starting off early in the year, the first general meeting will be held at Hotel Clark on September 30, giving you the amazing story of commercial aviation, presented from the viewpoint of executive, pilot, meteorologist and stewardess. Following this meeting, something entirely new as a round up for the Oxy game.

Again this year, an Alumni Seminar Week-End will be an outstanding Spring event, with new speakers, new topics and new ideas. Last year's "first edition" drew Tech men from as far away as Texas. The demand this year promises to exceed that of last, and you can't afford to miss this four-star event.

Talks on world affairs, engineering advances and practical subjects of interest to all Tech men will appeal to those attending other general meetings which are planned. We are trying to arrange for speakers who are internationally known, and some distinct surprises are in store for you in those meetings. A top-notch dance, new features for the Stag and Field day, and the best June meeting ever, fill out the year's program. The plan of associating a different chairman to arrange for each meeting will insure new ideas, new entertainment and new talent.

T

TECH REJOINS CONFERENCE

After four years of freelancing in athletics, Tech has rejoined the Southern California Intercollegiate Athletic Conference. Last May 14th, on recommendation of the Athletic Council, the Executive Council voted to accept an invitation to membership. Pomona had taken similar action a few days before. Occidental, San Diego, Redlands, Whittier and La Verne are the other members. Santa Barbara is entering a new conference with San Jose, Fresno and San Diego.

Conference games will be played with Occidental, Redlands, Pomona and La Verne this fall, as shown below.

News from the Institute indicates that a new backfield will be performing behind a veteran line. About 40 were signed up for spring practice. Fall practice is rapidly whipping the team into shape. Despite sparse poundage and only ten days of practice before an important game, the outlook is optimistic. Here's trusting you'll make history, Captain Bill Lawson!

*Tuesday	September 20	Loyola	at Gilmore Stadium
*Friday	September 30	San Jose	San Jose
*Friday	October 7	Redlands	Redlands
*Friday	Octber 14	Marines	San Diego
Saturday	October 22	Pomona	Claremont
*Friday	November 4	Occidental	Rose Bowl
Friday	November 11	La Verne	La Verne
*Wednesday	November 23	Pasadena J.C.	Rose Bowl

* Indicates night game.

HACKER WRITES TO EDITOR

New York City
August 31, 1938

Dear Ted:

. . . You ask my opinion as to the value of the Alumni Association to a fellow who lives away from Southern California. To me, a wideawake Alumni Association under such conditions offers two advantages: In the first place, I find the present Alumni Association Magazine most interesting, for it is my most direct means of keeping informed as to the activities of my college friends. Secondly, encouraged and aided by the Parent Alumni Association, we have a local chapter. This serves as a common meeting place where a group of fellows can meet from time to time.

You ask if the liaison can be improved. I have felt for a long time that if the Alumni Association could supply the recent graduates with a lot of worthwhile information, which those men should consider before they make any decision in respect to coming to New York to work. New York City is not a bad place to live and work, but my opinion is that it is very different from conditions found in Southern California. I believe that those fellows who have never been away from Southern California should know of some of the conditions in advance before deciding to come East. They should have some idea as to the cost of living, the general level of starting salaries, and other matters of similar nature. I think they also ought to have an idea as to the type of pleasures and recreations that we in the East have found of interest, for, in many cases they are quite different from similar ones you have in the West.

We have discussed this problem at these meetings of our group here in the East and I know some of the other boys are not in agreement with the above idea, however, I think the Alumni Association, by means of a questionnaire, should determine what information is needed from those living in the East. This information should be recapitulated and given to all graduates who have the desire to come East to find employment.

You ask that I give a good account of myself. This is rather difficult, for I suspect we all feel that our own jobs are rather prosaic, and always feel that the other fellow's job is much more interesting. However, at present I am trying to hold down the position of Export Manager for the American Lead Pencil Company, and every once in a while I surprise myself by selling a Venus Drawing Pencil, or other pencils in our line to somebody in Mexico, China, or other distant place.

With best regards, I am,

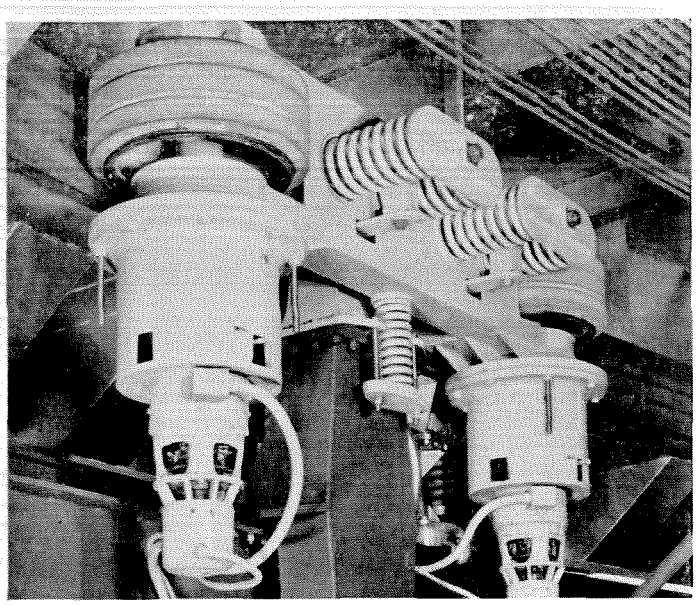
Sincerely yours,
William D. Hacker, '31.

EDITOR'S NOTE—Many thanks, Bill, for your excellent comments. They will not go unheeded. We solicited your letter in order to initiate another *Alumni Review* department. To all other alumni we announce that henceforth letters to the editor will be published to the extent of space available. We urge your constructive criticism of your Association and its facilities in the interest of developing an organization which has genuine value to each and all.

PALOMAR

Before the end of this year, final grinding and polishing on the 200-inch mirror for Palomar Mountain Observatory will have been completed. To date, over 9,200 pounds of glass have been removed from the disc and the phase of precise grinding is in progress. A ton of jeweler's rouge is being used to abrade yet polish the surface to its final shape within a tolerance of a millionth part of an inch.

Meantime, 500 tons of telescope parts are being shipped from steel mills in Pennsylvania for assembly in the completed



Dome Driving Mechanism

dome during the winter months. The 16-ton mirror will be given its final trip of 130 miles from Pasadena to Palomar Mountain during June, 1939.

Cover Illustration *

Shown on the front cover of this issue is an official working rendering of the telescope installation, so drawn as to illustrate various positions of the tube and optical characteristics of the Cassegrain and Coude focii. It is a correct portrayal of the functioning of the world's largest telescope.

Impossible to show in this illustration are many new ideas, new materials, new design and construction methods occasioned by a new order of magnitude, precision and technological advancement of materials and methods. Noteworthy predecessor of the 200-inch telescope is the 100-inch at Mt. Wilson. Each the best effort of its day, a comparison of construction evidences remarkable progress during a relatively short thirty-year period.

The telescope tube consists of arc welded parts except for units which are to be bolted together on the site. Its design was based primarily on rigidity rather than strength, in order to provide accuracy, during use, compatible with that of the large mirror. A deliberate attempt has been made to build a structure which will be modern even fifty years hence.

Pointing the telescope at a star and keeping the image immovable on a photographic plate is comparable with the accuracy required in pointing a gun at an object eight miles distant, two inches in diameter, moving transversely at a rate of three feet per second—and firing a perfect score. Never before has such precise manufacture been attempted on as large a scale.

The dome is driven by a unique friction drive which consists of sets of solid rubber truck tires, driven by a standard geared motor of 100 to 1 reduction. This drive is so insulated as to be virtually vibrationless and noiseless.

Vibration control has been a study of new importance in the design of Palomar, for an angular deviation of the tube of 1:6,000,000 is sufficient to disrupt its use for certain observations. Man-made and machine-made vibrations are either isolated completely or dampened.

Technical Reports Available

In its several issues the Alumni Review has presented news items and illustrations of the Palomar project. At the request of alumni, further news and, if desired, technical reports on items of reader interest will be offered in forthcoming issues. Perhaps you are particularly interested in optics or mechanics, foundations or insulation, transportation problems or radio communication, model building or business administration—or even the astronomical possibilities of the new observatory. What is your preference?

* NOTE—The American Society of Civil Engineers in its magazine, "Civil Engineering," featured the Palomar illustration in its August, 1938, issue. Permission to use this on the cover of the Alumni Review is much appreciated.

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TECH GETS $1,000,000 AND 249 ALUMNI

In a drizzling rain, some two hundred and forty-nine candidates for degrees were graduated June 10 on the Institute Campus. Twenty-five took Ph.D. degrees; ninety-three were given permission to add M.S. to their names; and one hundred and thirty-one graduated as Bachelors of Science.

Of those graduating, twenty-nine were awarded Honor Keys for Student Activities, and fifteen graduated with honor by vote of the faculty. Two, James Robinson Balsey, Jr., and Harrison Morton Lavender, Jr., were honored both by the students and faculty.

The second of two half-million dollar buildings for biochemical research, donated by Wm. G. Kerckhoff and his wife, was dedicated. Dr. Millikan announced a million dollar grant by the Rockefeller Foundation for research in biology toward improvement of the human race. This work will be carried on in the Kerckhoff laboratories under Pauling and Morgan. "This gift makes possible new research in the most vital of all needs—biological improvement of the human race," said Dr. Millikan. "This may be accomplished through an intensive study of organic chemistry as related to human life."

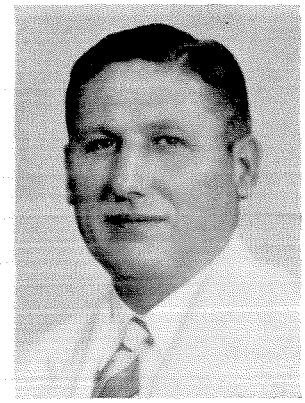
Dr. Edwin Hubble, renowned head of Mt. Wilson observatory, spoke on "Experiment and Experience" in his commencement address.

YOUR PRESIDENT'S GREETINGS

Able Men Conduct Association Business

PAST vs. FUTURE

Everything that ever has happened or ever will happen has been, or will be, the logical and inevitable effect of something that preceded it, the logical and inevitable cause of something that follows. If we are to accept this principle, it should apply to our Alumni Association in its present status. Let us then pay tribute to the many individuals who, during the past several years, have devoted many hours of thought and effort toward the growth and development of our Association.



J. EDWARD KINSEY, '26
President Alumni Assn. California Institute of Technology

Former Officers Set Pace

Fred Peterson, '27, Ward Foster, '27, Bill Taylor, '27, and Ed Tuttle, '28, proved to be an effective and convincing backfield in packing the Alumni ball for score after score. Fred did a marvelous job as membership chairman in 1935 and followed through as vice-president, and finally president of the Board. Ward Foster followed in Peterson's footsteps from 1936 to 1938 and last year, as your president, worked like a trooper. Ward feels keenly for the Alumni Association and he always finds time to do a thorough and good job. When Charles Dickens characterized "Old Scrooge," I'm certain he had never heard of William Taylor. Yes sir, Bill, as your treasurer for the past two years kept a watchful eye on every penny of your money. Bill has a particular bent for making budgets and once made, they stick. Bill deserves a great deal of credit for his work and he is one fine fellow to deal with. Ed Tuttle, in addition to performing the full job as your secretary last year, devoted a great deal of his time as legal counsel for your Board of Directors (solicited or not). Ignorance is bliss, but thanks to Ed everything that went in the records last year will stand the test of the U. S. Supreme Court.

Campus Aid Valuable

Your Board of Directors and Standing Committees would be greatly handicapped if it were not for the splendid co-operation and encouragment given us by the faculty and others at the Institute. Dr. Millikan and Dr. Munro are both enthusiastic supporters of the Alumni Association and are always willing to help us wherever posisble. The institute provides an office on the campus and a secretary, Miss Dierkes, who divides her time between placement and alumni work. Miss Dierkes has been a faithful worker for the Alumni for several years and a great deal of credit is due her. Among his many duties, Dr. Don S. Clark, '29, is Director of the Placement Service. Records will show the splendid work he has done, yet there are many of us who could, but are not supporting this branch of Alumni work. Let's do better this year.

Now if you think that our Alumni Association is a paramount organization of its kind, let us not forget that it has been the logical and inevitable effect of something that preceded it. That "something" is only the loyal and faithful work of your Board and Committeemen combined with your own support and efforts. Likewise, our future will be dependent upon the logical and inevitable cause of something that follows.

'38-'39 Leaders Take Over

What may you expect from your Board of Directors and Committeemen this year? Harold Hill, '11, is your vice-president and will continue to devote the entire year to placement. Harold is doing a fine job and deserves a lot of credit for the achievements of the Service last year. Al Hall served as an apprentice under Bill Taylor last year and if he has only a few ideas to add to Taylor's, he'll be the best treasurer ever. Al Atwood, '32, takes over the duties of secretary. Al proved his capabilities as editor of the magazine last year, so you may depend upon him to discharge his duties effectively. Bill Mohr, '29, as membership chairman, wants 1,000 members this year and I hope you won't disappoint him. Bill's a plugger and he'll make it as easy as possible for you to pay your dues. Clarence Kiech, '26, is your social chairman. Clarence established himself by the fine administration of the "Seminar Week End" last year, so you may expect big things this year. Each meeting will be handled by a separate committeeman, who can devote his entire time to the one meeting, but Keich will be behind the gun for all of them. Al Catlin, '21, will continue his good work as athletic chairman this year. Al says if any of you can donate the necessary funds for a gymnasium, he'll be glad to show you how to go about it. Wesley Hertenstein, '25, has accepted the appointment to one of the vacancies on the Board this year. Wes, I know, will prove a valuable addition to your Board. Ted Combs has taken the appointment of editor of the Alumni Review and a job it is. You can expect interesting issues, for Ted knows how to give you what you want. A publication of a complete directory for all Alumni is also on Ted's list for this year.

CALTECH MEN IN NATIONAL DEFENSE

By JOHN E. SHIELD, '22

As compared with other like institutions, the Institute is quite young in years. Some of its Alumni have become, in the slightly more than twenty years of present general type of curriculum production, known and highly regarded in the fields of science and business. Their places in the military and naval forces of the United States may be not nearly so well known, even to the alumni themselves. Further than this, it appears that there is no statistical record on file of these activities which could in any sense be considered to be complete.

During the years 1919 to 1928 inclusive, the Institute curriculum contained in a military course of study, mandatory for the first two years, and optional in the last two. These courses were the Basic and Advanced Courses of the Reserve Officers Training Corps, administered by an officer of the Corps of Engineers, U. S. Army, as Professor of Military Science and Tactics. Graduates received commissions in the Corps of Engineers, Reserve. It has been possible to obtain the present activities and assignments of most of the graduates of that course who are located in this vicinity and who maintain their commissions, together with several who are assigned to other arms or services of the Army and Navy. It is hoped that all alumni, other than those mentioned, who are affiliated in any capacity with the Army, Navy or Marine Corps, Active, National Guard or Reserve, will send that information to the Editor of the Alumni Review, so as to complete the data the writer originally started to collect, and that it may be published in a subsequent issue.

Among the constituted Engineer units assigned territorially to the State of California, the following Regiments, Separate Battalions and Companies have former Tech men assigned to them. The 316th is the Engineer Regiment of the 91st Division, and the General Service Regiments, Separate Battalions, Camouflage Battalion and Independent Companies, are designated as Corps or Army units.

The 316th Engineers has headquarters in San Francisco and has commissioned personnel largely drawn from that area, with the following alumni at present assigned:

1st. Lt. Manley W. Edwards, '26
1st. Lt. Roscoe Gockley, '26
1st. Lt. Clifford C. Cawley, '32
2nd. Lt. Hubert A. Reeves, '22

The three General Service Regiments are the 349th, 385th, and 386th, of which the 385th is officered principally by officers in the San Francisco Bay area. In two of those are:

1st. Lt. K. B. Anderson, '24
1st. Lt. L. P. Stoker, '24

The 349th Engineer General Service Regiment has alumni assigned as follows:

Capt. Glen M. Webster, '22
Capt. James C. Krouser, '25
Capt. Theodore C. Combs, '27, who is also at present the President of the Los Angeles Post of the Society of American Military Engineers.
1st. Lt. Edward D. Lownes, '24
1st. Lt. Rolland A. Philleo, '27
1st. Lt. Otto F. Reinen, Jr., '28
1st. Lt. J. E. Joujon-Roche, '28
1st. It. James W. Dunham, '29

The 386th Engineer General Service Regiment is a Regular Army Inactive Unit (RAI) and has alumni assigned as follows:

Capt. Douglas C. Mackenzie, '22
1st. Lt. A. Perry Banta, '28
1st. Lt. Douglas G. Kingman, '28
1st. Lt. Sidney T. Exley, '29
1st. Lt. Robert E. Rowley, Ex. '20

Of the Separate Battalions, the 49th is designated as a Regular Army Inactive Unit. It has the following alumni on its rolls:

Capt. John E. Shield, '22
Capt. Michael C. Brunner, '25
1st. Lt. Wm. H. Krelle, '27

The 444th Engineer Separate Battalion has Tech alumni representation of:

1st. Lt. R. Arthur Merrill, '25
1st. Lt. Vincent W. Rodgers, '27
1st. Lt. G. Austin Schroter, '28
1st. Lt. Allen W. Dunn, '29
2nd. Lt. John C. Monning, '33
2nd. Lt. David M. Whipp, '36

The 464th Engineer Separate Battalion has:

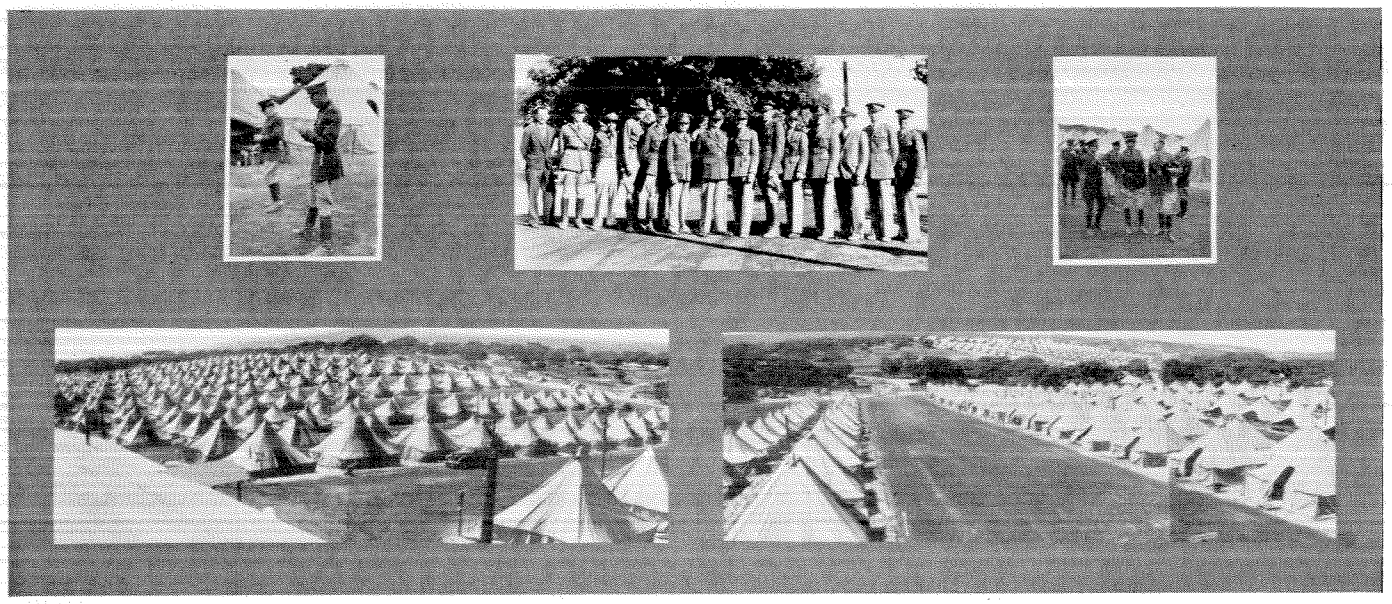
Capt. Ben Benioff, '22
Capt. R. A. Van Pelt, '23
1st. Lt. Harold D. Cronk, '25
1st. Lt. Rudolph C. Blankenburg, '27
2nd. Lt. Frank S. Hale, '27
2nd. Lt. Maxwell Burke, '28

In the 699th Engineer Separate Battalion we find only one Tech alumnus, 1st Lt. Walter B. Grimes, '29.

The newly organized 604th Engineer Battalion (Camouflage) is well populated in the following persons of Tech background:

Capt. Oscar S. Larabee, '25
Capt. Donald P. Barnes, '30
1st. Lt. Linne C. Larson, '22
1st. Lt. Ferdinand G. Gramatky, '28
1st. Lt. Laurence E. Lynn, '28
1st. Lt. Wm. H. Mohr, '29
2nd. Lt. Chas. K. Lewis, '31

The 971st Engineer Separate Battalion has only 1st Lt. Frank J. Malina, '35, to represent C.I.T.



Active duty training, Camp Ord, August, 1938

The 85th Engineer Depot Co. (RA1) has:
1st. Lt. Jay J. DeVoe, '22
The 399th Engineer Depot Co. has.
2nd. Lt. John A. Randall, '33
Other Engineer Reserve Officers are:
Lt. Douglas A. Stromsoe, '22
1st. Lt. Loren E. Blakeley, '23
1st. Lt. Albert M. Chapman, '24
Lt. William Altman, '27
Lt. James Boyd, '27
Lt. Mortimer D. Darling, '27
Lt. Roland W. Reynolds, '27
Lt. Frederick T. Schell, '27
1st. Lt. Thomas S. Southwick, '27
Lt. Wm. L. Olsen, '28
Lt. Ellwood H. Ross, '28
1st. Lt. Wm. L. Berry, '32
2nd. Lt. Frank H. Clough, Ex. '22
2nd. Lt. Edward R. Hess, '22
2nd. Lt. Frederick A. Maurer, '22
Lt. Clinton H. Stevenson, '36, (now in Baltimore, Md.).

The latter officers are on the inactive or unassigned lists or are assigned outside this vicinity.

2nd Lt. John H. Maxson, '27, is under orders of Chief of Engineers direct and has just served a tour of active duty with the Air Corps at March Field.

Those Institute alumni who are now endeavoring to qualify themselves for Reserve Commissions in the Engineers are the following who are termed as Candidates:
Patrick B. Lyons, '32
Oliver C. Dunbar, '35
Walford Swanson, '36

Practically all officers of the Reserve Corps are required to perform throughout each year a certain minimum amount of "Inactive Status Training" in order to enable them to keep up to date in the required duties of their grade, with new developments in the art of war, or to qualify themselves for promotion to the next higher grade. In the Engineers, this is accomplished by attendance at and solving problems in eight monthly Conferences during the winter months, occasional field trips and problems, and, of course, the Army Extension Courses which are available to Reserve Officers of all Branches.

Summer Camps may be attended on the average once every two years and the number of the above attending at Camp Ord, California, this year was twenty-five.

In so far as may be determined, the Coast Artillery Corps is the next most active branch in point of numbers and in a Reserve capacity we find alumni in the 625th Coast Artillery Regiment, (Regular Army Inactive) which is a Harbor Defense unit having headquarters at San Diego, the 519th Coast Artillery Regiment (Anti-aircraft) and the 977th Coast Artillery Regiment (Anti-aircraft).

The 625th is commanded by Major Glen I. Miller Ex '23, with whom are Capt. Orrin H. Barnes, '26, and 1st. Lt. P. E. Parker, '26. Major Jackson Kendall, Ex '21, is in the 519th and 1st. Lt. Milton G. Sohn, Ex '23, is in the 977th. Major Smith Lee, '21, retains a commission on the inactive list of that Branch without assignment. Capt. Max B. Alcorn, '23, is assigned to L. A. Harbor Defense.

The Air Corps Reserve is undoubtedly peopled with many of the graduates of the past few years, whose names are not now available, but Capt. Donald F. Shugart, '22, is assigned to Squadron 91-D. 1st. Lt. Brian Sparks, '32, and 1st. Lt. J. Henry Gunning, Ex '27, are in the same branch.

Other Army Reserve Corps assignments are 2nd Lt. H. C. Sheffield, '25, who is with the 78th Quartermaster Battalion

(Continued on page 13)

JUNE MEETING MEMORABLE

Following commencement exercises on June 10, the annual meeting of the Association was held in the Athenaeum. Several were the illustrious guests.

Chairman Bill Taylor announced results of the election and introduced our new president, Ed Kinsey, with dispatch. In rapid chronological order, Professor Sorensen expressed greetings just prior to catching a train enroute to the East coast, a toll was taken of members of the five-year anniversary classes, and new officers of the Association were presented.

Miss Peycke, talented piano monologuist, entertained the gathering with several numbers of her own composition and, by popular request, presented a selection popular with Tech men at the time she and her brother, Armond H. Peycke, '11, were active on the campus.

Munro Introduces Trustees

Dr. William B. Munro served as toastmaster, introducing an assembly of guests such as never before has graced our speakers' table. Invited to meet with us this year were members of the Board of Trustees of the Institute.

Mr. Allan C. Balch, chairman of the Board, won his audience completely with his fine personality and reminiscences of early days in electrical engineering and development of engineering organizations. He recalled construction of the world's first high voltage transmission line, built by an organization which he founded, from a power house in San Antonio canyon to San Bernardino. Mr. Balch was shown the appreciation of alumni for his donation of several funds, leadership on the building committee and untiring efforts in behalf of the Institute.

Mr. Albert B. Ruddock, new member of the Board of Trustees, spoke briefly of his active interest in Institute affairs and of his desire to be of service as a board member.

Mr. Alexander B. Macbeth, president of the Southern California Gas Company, needed no special introduction to graduates affiliated with Los Angeles utilities—yet some, perhaps, realized for the first time that he is one of our most ardent Tech men as member of the Board of Trustees. Mr. Macbeth spoke on engineers and engineer relationships.

Frank Jewett Speaks

Dr. Frank B. Jewett was speaker of the evening. He boasted of being not only the oldest alumnus in the hall but claimed the class attendance record, for, due to his presence, the class of '98 had a fifty percent turnout!

Dr. Jewett told of his recent trip to Europe as member of the International Telecommunications Commission. Meeting in Cairo, Egypt, representatives of seventy nations deliberated their common problems in the field of communications. Sessions occupied a period of several weeks and, as reported, were both fascinating and busy for representatives of the United States. Such meetings are held at five-year intervals.

Dr. Millikan Inspires

Completely exhausted from one of his busiest days of record, Dr. Robert A. Millikan nevertheless gave vent to his enthusiasm over recent progress at the Institute. Particularly, he congratulated the Building Committee, comprising Dr. Munro, Mr. Balch and others, for its able handling of the building program.

Dr. Donald S. Clark, '29, head of the placement service, told of achievements of this relatively new department for Tech graduates.

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ALUMNI MEMBERSHIP CONTINUES TO GROW

By William H. Mohr, '29, Membership Chairman

The Alumni Association has shown a steady increase in membership the last few years and this year the officers hope to have over a thousand active alumni by June, 1939. Each and every alumnus is invited to assist with the membership drive this year and not only send in his own dues but also remind his alumni friends.

Because of the increase in memberships, the Alumni Association is able to return to each alumnus greater dividends than he has previously enjoyed. Our magazine the "Alumni Review" has grown rapidly during the past year under the directorship of Al Atwood, '32, and will continue to grow this year under Ted Combs, '27, the editor for 1938-1939.

The Alumni Association is working with the Institute in operating a Placement Service for C. I. T. Alumni. Dr. Donald Clark, '29, of the Institute Faculty, is in charge of this work. This has been a most valuable service and has helped a large number of alumni.

This year there is being published an "Alumni Directory" of all graduates and active non-grads of the Alumni Association. This is the first directory that has been printed for eleven years and you will not want to miss it. The directory is to be printed next month and will be mailed to all members of the Alumni Association. If you have not sent in your questionaire card for the directory, do so by all means within the next few days.

The Alumni Association is planning several regular meetings, a dance, a stag and, in the spring of next year, another seminar will be held on the campus. Last year there was a big turnout for the seminar and everyone present declared it was the best meeting that we have ever held.

Small alumni groups are organized and hold meetings in San Francisco, San Diego, Denver, Boston, New York City, Chicago, Pittsburg and Schnectady. The "Alumni Review" prints news of these chapters and the Association refunds to them a proportionate amount of dues used for purely local social activities by the parent organization.

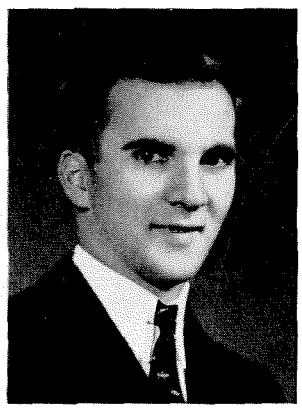
The success of the activities of the Alumni Association will depend on the support you give the officers and therefore you are urged to make sure that your dues are paid up for this coming year.

ALUMNI YOU SHOULD KNOW

FATHER

No alumnus—in fact, no man—has fulfilled his responsibilities more ably than has Frank Baldwin Jewett. Outstanding engineer, industrial leader, capable executive, willing servant in national and international affairs, proud parent, his has been a life of inspiration to others as much as to himself. Dr. Jewett completed his training at the Institute (then Throop Polytechnic Institute) in 1898. As research assistant to Dr. A. A. Michelson, he received his doctorate from University of Chicago in 1902. In rapid succession he was college instructor, research worker and electrical engineer. Today he is found in a dual capacity as vice-president of American Telephone and Telegraph Co., in charge of development and research, and president of Bell Telephone Laboratories, Inc. He is a member of President Roosevelt's Science Advisory Board, has represented the United States in several conventions of the International Telecommunications Commission. His affiliations with technical and professional societies are many. He is a trustee of the Carnegie Institution of Washington, member of the C. I. T. Advisory Council and trustee of two other colleges. He is the recipient of several honors and awards. With sincerity we salute Frank Jewett whose resourcefulness, talent and energy have evidently no limit.

Blackstone Studios, New York City
FRANK B. JEWETT



FRANK B. JEWETT, JR.

SON

Virtually unique is Frank B. Jewett, Jr., as a second-generation alumnus—for sons of Tech graduates of college age are few. However, Frank has earned distinction in his own right despite the fact that he is the youngest man to be featured thus far on this page. He received his B.S. in Mechanical Engineering on June 10, 1938, and is entering the Harvard Graduate School of Business Administration for further study. His undergraduate extracurricular activities included endeavors covering a wide range of interests: vice-president of the student body, president of his senior class, member of the Board of Control and Court of Traditions. He was a football letterman and member of the rugby team, served on the Big T staff and was active in the Photo Club. Needless to say, he was recipient of the Honor key. In 1936, Frank was a member of the Olympic yachting team and triumphed as winner of the Prince of Wales Yachting Cup and National Junior Sailing Championship. Golf, tennis, photography and yachting are his hobbies. Frank has yet to win his professional laurels but it is safe to predict that, as "coming events cast their shadows before," his will be an enviable record.

PLACEMENT SERVICE BECOMES INCREASINGLY VALUABLE

By Dr. Donald S. Clark, '29, Director of Placements

The success of any educational institution is to a large degree reflected in the ability of its graduates to obtain positions. The efficiency of a Placement Service is determined by its ability to assist men in securing work and in bettering their positions.

In spite of the recession which has been experienced during the past year, on July 1st at least 84 per cent of those who received degrees in June, 1938, were known to be employed, or planning to continue with graduate work. On July 1st, 1937, the same proportion was known to be placed. Since July 1st, 21 further placements of the 1938 group have been made, 13 through the Placement Service and 8 through the efforts of the graduate alone. Records show at this time that 19 of the 249 graduated in June are still unemployed. However, some of whom we have no knowledge may be employed.

It is of interest to note that 7 per cent of the men receiving the B.S. degree this year are planning to attend either Harvard Graduate School of Business Administration or Stanford School of Business Administration.

As to Alumni Placement, the office records show that 313 requests were received from companies and individuals and that 254, or 81 per cent, were supplied with applicants. These requests involved 332 men, of which 101 openings were filled by the applicants.

In some cases positions are obtained through contacts suggested by the Placement Office and, therefore, the above figures do not include all placements, the total being 146.

In 1936-1937, 152 men were placed through the Service. During the past year 138 men registered with the Placement Office as unemployed. The time they remained on the unemployed list varied from less than one week to as much as 42 weeks. In going over the data given, it must be realized that certain men are not fitted for the type of positions which are offered. The Placement Service attempts to put men in jobs for which they are qualified.

In summary the data show that, in general, men who received degrees in June, 1938, were as successful in obtaining positions as were the graduates of 1937. Considering the recession, this seems to be a good record which mannot be equaled by very many educational institutions. Reports have been received to the effect that the majority of eastern colleges were able to place only approximately 60 per cent of their graduates this year.

The ability of the office to fill only 30 per cent of the requests for men is to a large degree due to the lack of qualified applicants. Men who are desirous of improving their positions seem to be very lax in filing with the office. Two weeks ago cards were mailed to all men whose names appeared in the "Betterment File" asking that they bring their applications up to date. Alumni will not only benefit themselves, but also the Placement Service and the Institute by advising the office whenever they wish to improve their situations or when they are unemployed.

T

ENTRANCE QUIZ GIVEN 450

Examinations for admittance to the Class of '42 were completed by more than 450 applicants.

The number taking the examinations was in line with the continual increase shown during the past few years. In 1935 there were 288 applicants, 305 in 1936, and 369 in 1937. These figures represent those students permitted to take examinations because of outstanding high school or other educational records. Many more applied but were not given the examination.

Of the 450 applicants, the maximum of 160 are entering the institute this fall as freshmen. To aid in selecting this number, Dr. Ray E. Untereiner, dean of freshmen, Dr. Carl Anderson, Phillip Fogg, registrar, and Dr. Frederick Lindvall have traveled through the country for personal interviews with applicants.

T

WEATHER PROPHET

Dr. Irving P. Krick recently was selected by the Board of County Supervisors as the official weather forecaster for Los Angeles County, filling the vacancy caused by the resignation of Eugene Bollay, who has accepted a position with the United States Weather Bureau in Washington, D. C. Appointment was made on recommendation of C. H. Howell, chief flood control engineer.

It will be the duty of Dr. Krick, head of the department of meteorology at Caltech, to observe weather prospects between Sept. 1 and June 1 and to impart all of his information immediately to the flood engineers of the county.

T

ALUMNUS HEADS HUGE POWER PLANT

Irving C. Harris, '00, consulting engineer, who has been with the Bureau of Reclamation since 1933, in charge of inspection and installation of equipment at Boulder Dam, has been appointed director of power there. Harris served as chairman of the engineering jury that investigated the St. Francis Dam failure and was a member of a similar group that determined building damage resulting from the Southern California earthquake in 1932.

T

TWO MILLION VOLT X-RAYS

Announcement was made in June of the completion of a 2,000,000 volt modified Vandegraaff electro-static generator at the Institute. It was built by W. A. Fowler and Thomas Lauritsen under the direction of Dr. C. C. Lauritsen. So powerful that it can transmute elements and emit artificial radium rays, it is to be used for atom smashing and for studies in the treatment of cancer with double the potential used heretofore.

NATIONAL DEFENSE

(Continued from page 9)

(RAI), 1st. Lt. Fred S. Scott, '30, with the 329th Chemical Warfare Regiment, 2nd. Lt. William D. Hacker, '31, with the Ordnance Department, 2nd. Lt. Albert Creal, 13th Battalion, U. S. Marine Corps, Reserve.

The Regular Army has to our knowledge four former Tech men, two of whom attended the U. S. Military Academy at West Point after receiving degrees at C. I. T. They are 2nd. Lt. Wm. R. Shuler, '32, whose station is with the 6th Engineer Regiment at Fort Lewis, Washington, and 2nd. Lt. Gerard J. Forney, '33, who is in Scofield Barracks, Territory of Hawaii, and assigned to the 3rd Engineer Regiment. The other two are 1st. Lt. Kenneth R. Crosher, '28, who is in the Air Corps and stationed at Albrook Field, Corozal, Canal Zone, and Capt. Vernon P. Jaeger, Ex '27, who is a Chaplain stationed as last reported at Fort Riley, Kansas.

The Navy has at least two Tech men on active duty, Robert G. Fussell, '35, who is assigned as Aviation Cadet on the U. S. S. Salt Lake City, and Gordon J. Brakesman, Ex '33, with a similar assignment on the U.S.S. Chicago.

The Naval Reserve has Ensign Fred A. Wheeler, '29.

The names mentioned here probably will be added to in future issues of the Alumni Review, and its readers will then be able to get a fairly good idea of the former Tech men who are demonstrating their patriotism in a very practical way. It goes without saying that many of those whose names appear here are maintaining their Reserve commissions at a considerable personal sacrifice, and the Institute and its alumni can well be proud of their activities, particularly at this time, when many institutions of higher learning in this country have become identified as harboring those who actively sponsor anti-military doctrines. There is, too, some recompense to the individual in so participating in military activities, which includes the maintenance of good physical condition, a happy association with others of similar ideals and the knowledge of being an important unit in the armed forces of the nation if an emergency should arise.

—— T ——

GIGANTIC PUMP TO BE DEVELOPED

As a result of the success of hydraulic tests made for the Metropolitan Water District at the Cal Tech Laboratories, new and larger pumps for the Grand Coulee Project will not be manufactured until the designs have been thoroughly tested in Pasadena. Each pump will be designed to deliver 1600 sec. ft. to a height of 295 feet, and will require 60,000 H.P. for its operation. The flow from one pump will be as great as the total flow of the Colorado River Aqueduct. The tests will be directed by Dr. Theodor Von Karman, Prof. R. L. Daugherty, and Prof. R. T. Knapp. Donald P. Barnes, '29, engineer for the Bureau of Reclamation, will be the government representative on the campus.

BATTERY REQUIREMENTS FOR TRAWLERS

An article on "Battery Requirements for Trawlers" by H. V. Ingersoll, '26, was published in the March issue of "Atlantic Fisherman." It is a study of the correct use of batteries in fishing boats, calling attention to the fact that the day is past when lighting alone determines the battery capacity. Result of an actual test run is shown. Herb is with The Electric Storage Battery Company (Exide) in Boston.

—— T ——

REDUCED LANDING SPEED STUDIED

Dr. Clark B. Millikan has been experimenting with slots cut in the wings of airplanes to increase the lift. The theory he is working on is that the lift is due to a vacuum on the top of the wing which breaks up at a certain point. By slotting the wings near this breakup point and correcting the turbulent condition he hopes to improve the lift obtainable, making it possible to land at lower speeds.

—— T ——

BELL LABORATORY RECORD HAS ARTICLE BY BIDWELL

In the July issue of the Bell Laboratory Record there is an article by C. H. Bidwell, '26, which will be of interest to those who knew him at the Institute. It is a description of a "Carrier Supply for Type K Systems." Since graduation he has been with the technical staff of the Bell Telephone Laboratories, recently working principally on carrier telephone equipment.

—— T ——

DR. CARL C. THOMAS PASSES

A heart attack on June 5 brought to a close the career of Dr. Carl C. Thomas. Dr. Thomas was an associate in Engineering Research at the Institute. He was a member of the first graduating class of Pasadena High School and a member of the first graduating class at Stanford University, although he later transferred to Cornell where he received his first degree. He became a member of the Cornell faculty and published the first book ever written on steam turbines. He was a former City Director of Pasadena. He will also be remembered long as organizer of the engineering department of Johns Hopkins University and as engineer with American International Shipbuilding Company during the World War for the construction of 100 ships.

—— T ——

IN MEMORIAM

Margaret Bell, aged 2½ years, daughter of Mr. and Mrs. Frank W. Bell ('28), succumbed to an intestinal disturbance on June 26, 1938.

John Capra, son of Mr. and Mrs. Frank Capra ('18), succumbed to an infection following a tonsilectomy. His death was on August 23.

Monte L. Mesenkop, 8, son of Mr. and Mrs. Louis Mesenkop ('27), drowned on August 6, 1938.

His many friends regret Howard Vesper's ('22), loss of his father who was killed in an automobile accident early in September.

DIRECTORY

Your classmates and fellow alumni want to know where you are and what you are doing. You, in turn, are just as anxious to renew this type of acquaintance with the fellows you once saw daily on the campus—and you want to find out just who lives within hailing distance of you now. We know this from the many comments and questions which come to the alumni office.

Accordingly, your Board of Directors has authorized the publication of a Directory—the first to be issued since 1928. This matter of a Directory is being taken very seriously, for it represents a sizable expenditure of both time and funds. Those who have been in contact with it thus far are thoroughly sold on its possibilities. They expect your participation to the fullest extent; speedy return of the information requested. A large number of listings have already been received.

This is an all-alumni publication. Listings are in no way limited to members of the Association. Included will be, as completely as possible, everyone who has received a basic or advanced degree, or who has been an undergraduate.

T

SORENSEN MAKES TRIUMPHAL TOUR

Prof. Royal W. Sorensen left Pasadena in early summer on a tour. He returned with a pocketful of notes and two new titles. He became a Doctor of Philosophy at University of Colorado and a Grandfather in New York.

At Boulder, Sorensen was honored in a degree as Doctor of Science by his alma mater. He then hurried to Washington, D. C., to deliver an address before the American Institute of Engineers, entitled "The Economic Status of the Engineer." In this address he called attention to the bright future for engineers. He said that while starting salaries were perhaps $25-$30 per week, half of the engineers would attain a peak of $5,000 a year, and the highest ten per cent would average top salaries of $12,000 to $13,000 per year. He said the peak came at 60 years. He said that less than 3 per cent of Cal Tech graduates were unemployed during the depression.

He attended, also, meetings of the Society for Promotion of Engineering Education at the Texas A. and M., a council of educators in Chicago and the Engineers Council for Professional Development, western committee, at San Francisco.

While in New York, a daughter, Virginia, was born to Mrs. Fred Groat (Peggy Sorensen). Fred Groat was Student Body President in 1924.

T

PROBABILITY MACHINE DEVISED

Dr. Alexander Goetz and Dr. W. O. Gould have devised a method of determining the graininess of motion picture film and indicating it directly on a scale. The method involved has possibilities of other applications in dealing with statistics, and arriving at probabilities by mechanical analysis.

NEW CRELLIN LABORATORY DEDICATED

The new Crellin Laboratory of Chemistry, donated by Edward W. Crellin and Amy Hutchison Crellin was dedicated May 16th. Mr. Allen C. Balch, President of the Board of Trustees, thanked Mr. and Mrs. Crellin on behalf of the Board, for their material assistance in carrying on the Institute's program. Mr. Crellin responded with a tribute to those he had worked with in planning the Laboratory, and a regret that Mr. Gates and Dr. Noyes, who first interested him in the Institute, had not lived to see their dreams fulfilled.

Dr. Linus Pauling then spoke of the place the Laboratory would fill in research. "Organic Chemistry was developed into a great science during the nineteenth century—. There is however a related field—that has barely begun its development. This field deals with the correlation between chemical structure and physiological activity of substances—essential for orderly growth and the maintenance of life, as well as of the many substances which are useful in the treatment of disease. — Their chemical investigation has been made possible only by the development in recent years of highly refined techniques—."

Dr. Millikan then outlined the development of Chemistry at the Institute, paying tribute to Dr. Noyes, and those who had aided him. "Ninety-five per cent of all business ventures fail, and I suspect the record of philanthropic enterprises is not much better. The 'enterprisers'—the men who start things off and make them go—richly deserve all the credits and all of the social rewards which they ever get." He concluded "Thus the problems of bio-organic and structural chemistry—that is on the problems of life itself—are now provided through the joint interest of Mr. and Mrs. Crellin and the Rockefeller Foundation."

T

ZWICKY OBSERVES BRIGHT STAR

Dr. Fritz Zwicky came to the attention of "TIME," July 4th, in a few paragraphs relative to his observations of a brighter star than had been before observed. This star, when observed at the peak of an explosion, was figured to be 400,000,000 times brighter than the sun. It has since fallen off to a mere factor of 1,000,000. According to the article, this star is beyond the Milky Way and is extremely dense, weighing 6,000,000 tons to the cubic inch. It is probably only 60 miles in diameter.

T

CROSS JOINS BROWN UNIVERSITY

Brown University has announced the appointment of Prof. Paul C. Cross as an associate professor. During the years 1933-34 and 1934-35 he was a National Research Council Fellow in Chemistry at Cal Tech. He has been particularly interested in the study of compounds in which deuterium (heavy hydrogen) is substituted for ordinary hydrogen.

BOOK REVIEW

A synopsis and criticism by *Professor William Huse.*

A DAY OF BATTLE, *by* VINCENT SHEEAN.

The Day of Battle which Vincent Sheean has chosen as the subject of his latest novel is May 11, 1745, when the French won a victory over the English and their allies at Fontenoy in Flanders. It was a glorious victory, but the pomp and pageantry, the romantic appeal of the past, which form the staple of most historical novels, have no place in the author's scheme. His interest, rather, lies in exploring, against the background of his battle-piece, the personalities of the victors; in suggesting the irony of their divergent motives and the further irony of a magnificent victory which accomplished nothing.

We follow the fortunes of the battle now with Maurice de Saxe, the German-born commander of the French army; now with one of his aides; now with the Irish brigade of Jacobite exiles; now with Louis XV and the Dauphin, who, with their suites, watch the progress of the day from a safe vantage-point behind the lines.

For Maurice de Saxe, the battle is an exercise in military tactics and strategy. It is, moreover, another step in his long, self-imposed struggle to vindicate himself from the unhappy chance of illegitimate birth. And so he forces his pain-wracked, diseased body through the ardors of the day, imposing his will on his troops, on the King, on the futile-red-heeled grandees of France who resent him as an alien, a boor, and an upstart.

For the Jacobite exiles, a victory promises an open way to the Channel and to England, and the restoration of the Stuart dynasty. For them—some of them in the third generation of exile—time and distance have added an extra glamor to their homelands, and they are actuated less by devotion to the Stuart cause than by a homesickness for the Scotland and Ireland which some of them have never seen. So they play their decisive part in the crisis of the battle, with no premonition of Culloden, which, a year later, was to end their hopes forever.

For the King, a victory represents above all an opportunity to enhance himself in the eyes of Madame Lenormant d'Etioles, soon to be introduced at Versailles as the Marquis de Pompadour. For this, the King has come himself to witness the battle, with his enormous, useless retinue; and when for a time the French success seems dubious, he is less concerned with the realities of defeat than with his disappointment at not being able to present his new mistress with a victory as a pledge of his love.

For the courtiers, the King's trust in Marshall de Saxe is an affront to their own pride of birth and position; and the commander's grim realism is a further affront to their code of chivalry, which is fantastically out of place in the realities of warfare. Only one of them, the Marquis d'Argenson, Louis' Minister for Foreign Affairs, has any perception of the larger complex of impersonal forces behind the battle. He is aware that more is involved than the fortunes of the day; that in the background lies the struggle for India and Canada, and ultimately for the supremacy of France or England. And while he is "professionally bound" to believe that a victory will achieve French domination in the colonies and in Europe, an inner conviction, growing out of his knowledge of the decay and extravagance and corruption of Versailles, tells him that a French success at Fontenoy can have no permanent affect on the rising tide of English power.

Toward the close of the novel, the ironies of personality and situation are further enhanced when the author takes us from the battlefield to Etioles. There Jeanne Lenormant is just finishing her preparation for Versailles. The Abbe Bernis, who has been assigned by Louis to instruct her in the ways of the magnificent world in which she is soon to play a great part, has learned to be genuinely fond of his pupil. Voltaire, who drives from Versailles to spend the day with the two, is attracted to her as he is to any rising star who may further his own fortunes. The Abbe profoundly distrusts Voltaire; Voltaire amuses himself by mocking the Abbe. And Jeanne, already savoring in anticipation the power which is to be hers, preserves the balance between the two men in a delicate comedy of manners which continues through one quiet country day, while the battle is being fought at Fontenoy.

In his Forword to the novel Mr. Sheean says, "To look upon the losers in their moment of victory, to reflect upon the lost cause when it seemed to win, and to feel by some system of imaginative transference what men and women felt on the day of Fontenoy, was the hope of the author . . ." One can only say that he has succeeded.

—— T ——

HUGO BENIOFF GOES MUSICAL

Dr. Hugo Benioff of the seismological staff has recently announced the construction of a cello and a violin without the conventional resonance chambers. By converting sound waves into electrical waves and amplifying them, sending them out again through a loud speaker he is able to get not only greater volume but particularly, new depth and range of tone is also said to be realized. The new development is a result of spare-time work for the last eight years.

—— T ——

BOWEN LEAVES TECH

Dr. I. S. Bowen, California Institute of Technology physicist who has done notable work in the investigation of cosmic radiation, has been appointed Alexander F. Morrison research associate at the Lick Observatory of the University of California.

Professor Bowen also is known for his observations and analyses of the laboratory spectra of various elements, and for his epoch-making analyses of the spectra of the gaseous nebulae.

NEWS OF CLASSES

1918

Corliss A. Bercaw has been appointed its Chicago representative on transportation by the Westinghouse Electric and Manufacturing Company.

Frank R. Capra, of the Columbia Pictures Corporation, continues to be the top ranking director of the motion picture industry. As such he was the subject of the feature article of the August 8, 1938, issue of "Time."

1923

Richard U. Seares is the proud father of a daughter, Martha Ann, born on June 29, 1938.

1924

Mr. and Mrs. Fred J. Groat (Peggy Sorensen) are the proud parents of a daughter, Virginia, born on June 18, 1938.

Jule H. Coffey is vice-president in charge of sales for the Pomona Pump Company, with plants located at Pomona, Calif., and St. Louis, Mo.

1925

Caryl Krouser is the father of a second son, John, on April 8, 1938. Caryl is the publisher of the Printer-Review at Barstow, Calif.

Wesley Hertenstein has recently been appointed Superintendent of Buildings and Grounds at the Institute.

Harold C. Sheffield has been commissioned a second lieutenant in the Quartermaster Reserves, U. S. Army.

1926

James M. Carter, who has been employed by the Linde Air Products Company at Buffalo, N. Y., has recently transferred to Southern California. He still is a walking enthusiast, but has not participated recently in any championship matches.

1920

H. R. Linhoff, manager of gas and gasoline operations for Richfield Oil Corporation, was recently elected president of the California Natural Gasoline Association.

1927

J. Henry Gunning, ex '27, was married to Miss Violet Rosamond Bartosh in Los Angeles on June 25, 1938. He is employed as an engineer at the Douglas Aircraft Company in Santa Monica, Calif.

John B. Forester is temporarily hospitalized at 423 North Primrose Ave., Monrovia, Calif., and would be pleased to receive visitors.

Thurman Peterson, who has been teaching at the Shipley School, Bryn Mawr, Penna., has resigned to enter industry in California.

1928

Lieutenant Kenneth Crosher, ex '28, was seriously injured in the crash of a United States Army bomber on the beach at Paitillo Point near Panama City on July 11, 1938.

1929

Tom Noland was married to Miss Mildred Hilling in Denver, Colo., on November 25, 1937. He is employed in the Denver office of the United States Bureau of Reclamation.

Walter Grimes is in charge of three projects for Sacramento River improvement, totaling $1,500,000, for the U. S. Engineer's Office at Rio Vista, Calif.

Robert White is the father of a daughter, Karen, born on August 23, 1938.

1930

David Scharf is working for the Independent Exploration Company of Houston, Texas, on seismograph surveys, at present being in the vicinity of Casper, Wyoming.

Stuart West is doing research for the Subterrex Company of Houston, Texas, a geophysical company using electrical and chemical methods.

Richard Crane, who is an instructor of physics at the University of Michigan, recently reported the discovery of the neutrino, whose existence was indicated ten years ago.

1931

Calvin B. Frye was a candidate for the State of California bar examination in September.

Lawrence L. Ferguson, who is in the controller's office of the General Electric Company at Schnectady, N. Y., has completed a round the continent trip emphasizing mountain climbing.

Sam Eastman is a member of the advertising firm of Dozier, Graham and Eastman at Whittier, Calif.

Raymond Peterson is the father of a daughter born on May 17, 1938.

George Langsner has been working on the design of the proposed Arroyo Seco Parkway, between Los Angeles and Pasadena, in the Los Angeles office of the California Division of Highways.

William Cogen is doing research in the correlation with heavy minerals for the Shell Oil Company at Houston, Texas.

1932

Robert Wherritt is general foreman at the Santa Fe Ice Plant at Fresno, Calif.

F. W. Bowden is the father of a son, Frederick Gregory, born May 26, 1938.

John H. A. Brahtz, (Ph.D), was recently commissioned a lieutenant commander in the United States Naval Reserve Corps, being the senior reserve officer in Denver, Colo.

Donald P. Barnes, (M.S), has been transferred by the U. S. Bureau of Reclamation to the Institute Hydraulics Laboratory, where he is assisting in the pump tests for the Grand Coulee Dam.

Dr. Wm. H. Pickering has joined the staff of University of Southern California where he will lecture on physics.

1933

Gregory K. Hartman, who is doing graduate work at Brown University, Providence, R. I., was recently initiated into the Brown chapter of Sigma Xi.

John C. Monning has been placed in charge of the West Los Angeles Office of the City of Los Angeles Building Department.

John E. Meskell is the father of a daughter, Sheryl Jean, born on April 28, 1938.

J. S. Johnson has purchased the Foss Heating and Engineering Company of Pasadena, manufacturers of Holly gas furnaces used in theaters, business houses, and residences. The firm has been re-named the Holly Heating and Manufacturing Co.

Robert D. Fletcher, the lad with degrees in mechanical engineering and meteorology, is entering M.I.T. to work for a doctorate in meteorology. He is on leave from American Airlines.

1934

John Pearne is working as a patent examiner in the U. S. Patent Office at Washington, D. C.

1935

Robert Lincoln Kramer was married to Miss Lorraine Edna Ulrich in the Music Hall at Occidental College on June 20, 1938.

Herbert Ribner is working for his doctorate at Washington University in St. Louis.

Jack Schwartz was married to Miss Jeanne Leighton in Los Angeles on July 3, 1938.

Robert C. Warner is working for his Ph.D. degree at New York University, College of Medicine, in the Biochemistry Department.

1936

William Campbell of Charleston, West Virginia, spent his vacation in California.

William Humason was married to Miss Ruth Petty on June 10, 1938.

Everette Griffith, who received the degree of master of Business Administration from Harvard University in June, is now with the Technicolor Motion Picture Company in Hollywood.

Everett B. Henderson is with the Crown Cork and Seal Company in Baltimore, Maryland.

Peter Serrell has returned from a year's study at the Technische Hochschule, Darmstadt, Germany, and is now working at the C. I. T. Aeronautical Laboratory designing wind tunnel rigging.

Henry Welge, (Ph.D.), is now teaching Freshman Chemistry at the Texas A. & M. College, College Station, Texas.

1937

Alan J. Grobecker, who has been with the General Geophysical Company of Bakersfield, Calif., has just returned from a trip to Europe and will continue his graduate studies at the Institute. While with the General Geophysical Company, Alan's crew discovered the first gas bearing field north of Sacramento.

Joseph J. Peterson is employed at the Peoria, Ill., plant of the Caterpillar Tractor Company.

On September 10, **James W. Daily,** (M.S. '37), became the husband of the former Miss Sally Atwood, in Washington, D. C. He is in charge of the Hydraulic Machinery Testing Laboratory, C.I.T., hence the Daily's will shortly return to Pasadena. The bride's brother, **Albert W. Atwood, Jr.,** '32, was best man.

Robert Mahoney was married to Miss Avangia Marian Ving in Billings, Montana, on June 16, 1938.

Jasper Leggett is doing geophysical work in Cairo, Egypt, for the Mott Smith Company of Houston, Texas.

Lawrence Fleming and **Ted Fahrner are** patent examiners in the U. S. Patent Office at Washington, D. C.

Nash H. Miller, (M.S.), is an assistant observer in Trinidad, British West Indies, for the United Geophysical Company of Pasadena, California.

Paul F. Hawley, (Ph.D.), was married to Miss Ruana Coit, Institute Librarian, in Los Angeles on September 2, 1938. Dr. Hawley, as a representative of the Western Geophysical Company, presented two papers at the mid-winter meeting of the Society of Exploration Geophysicists at New Orleans.

Noel L. Owen, Jr., was recently married to Miss Helen Grider in Glendale.

1938

Edward M. Frisius of the Mott Smith Company, Houston, Texas, is in Egypt doing geophysical work.

Samuel L. Watson is working in South America for the Texas Company.

— T —

MISSING ALUMNI

Please read the following list carefully. It is a partial compilation of names whose appropriate addresses are not up to date in the alumni office files. We want to list their correct addresses in the forthcoming directory and more important, we want them to receive the various mailings. Assistance in locating these men will be appreciated.

Aggeler, William F., '25
Alexander, C. K., Ph.D., '37
Alwart, Harold J., M.S., '37
Applegate, Lindsay M., M.S., '33
Backus, Harrison, '33
Barton, Paul D., '20
Berkley, Merrill G., '33
Blunt, Allyn W., '25
Boggs, Chester A., '21
Borys, Edmund, M.S., '36
Briggs, Thomas H., Jr., M.S., '29
Cameron, George H., Ph.D., '26
Campbell, John S., '26
Chase, Carl T., M.S., '26
Clark, John D., '30
Clark, Loren T., M.S., '35
Cohen, Jeffrey S., '36
Cox, Edwin P., M.S., '22
Craig, Robert W., '21
Crawley, Clyde B., Ph.D., '34
Davidson, Leonard, 1900
Davis, Edwin N., M.S., '33
Dix, C. Hewitt, '27
Dykes, J. Christopher, M.S., '37
Eastman, Luther, '28
Effman, Karl, '30
Ellis, Eugene, '30
Fleming, Thomas J., '22
Foster, Alfred, '26
Fox, Joseph, '21
Freeman, Hugh B., '24
Garner, Clifford S., '35
Goodhue, Elbridge, '20
Griest, Raymond, '32
Hall, Alva C., '23
Hand, Ross, '36
Hansen, Raymond J., '25
Harshberger, John D., '34
Harshman, Elbert N., '32
Hastings, Robert C., '24
Hayward, Russell, '38
Herlin, Robert G., '33
Higley, John B., '35
Hisserich, Charles A., '28
Honn, Harry T., '24
Humphrey, Norman E., '12
Johnson, Donald H., '29
Jones, Herbert J., '25
Karp, Nathan, '35
Keith, Clyde R., '22
Kells, Edward, M.S., '35
Kinney, Edward E., M.S., '30
Koehm, Edward, '30
Laslett, L. Jackson, '33
Launer, H. F., M.S., '32
Lewis, Stanley M., '11
Lloyd, Paul, Ph.D., '37
McCarter, Kenneth, '26
McCutchan, H. C., '04
Magden, John L., M.S., '34
Maier, Joseph B., '21
Marsland, John E., '27
Martin, Victor J., M.S., '35
Mercerau, James T., '24
Milan, Lwo, '36
Miller, James C., '07
Milliken, Donald B., '29
Moore, Bernard N., '27
Morgan, Stanley C., M.S., '28
Munier, Alfred, M.S., '37
Murdock, Keith, M.S., '33
Murdoch, Philip G., '29

ALUMNI CHAPTER RELATIONS

ALBERT W. ATWOOD, JR., '32

Chairman Chapter Relations Committee

As our alma mater grows more mature and the number of graduates steadily increases it is possible to find groups of alumni in most of the major cities of the country. By far the greatest number of alumni are in and around Los Angeles, hence it follows that the main organization of the Alumni Association should be located there and on the campus. However there are cities, such as San Francisco, Boston, and many others, where groups of the alumni have organized or at least hold occasional meetings.

These groups are and should continue to be local self-governing organizations, that hold meetings when and where they see fit. However, it must be borne in mind that these local groups have a great deal in common with the Alumni Association as a whole, especially in the realms of publications and placement.

An essential purpose of any alumni organization is to keep its members in touch with one another and with the college that occupies such a warm spot in their memories. This our Association is doing through the publication of the Alumni Review, a magazine that is being extended and enlarged as rapidly as finances and the growth of the association will permit. This publication takes, at the present time, approximately one-third of the income of the association.

Another function that affects alumni all over the country is the placement service towards whose support the association makes a substantial contribution. Besides these there is, of course, considerable overhead expense to be borne in the handling of membership drives, collecting and recording dues, mailing of notices, ballots, etc.

The Board of Directors wish to do everything in their power to help these local groups of alumni throughout the country, and there are two principle steps they have taken to accomplish this end. First: financial assistance in the form of returning to each recognized chapter the equivalent percentage of dues spent on local functions in the Los Angeles area. This percentage is remitted to the local secretary-treasurer for every dues-paying member within a 100-mile radius of his chapter. Second: the designation of a member of the Board of Directors whose duty it is to carry on correspondence with the local secretaries. For the year 1938-39 this person is Albert W. Atwood, Jr., '32, University Club, 614 South Hope Street, Los Angeles, California—and all inquiries, requests, notices, etc., should be sent direct to him.

The following is a reprint of Article 14 of the By Laws of the association and it gives the details on the formation of chapters.

ARTICLE XIV.

CHAPTERS

SECTION 1. FORMATION.

A chapter of the Alumni Association, California Institute of Technology, may be formed by resolution of the Board of Directors upon receipt of a written application signed by ten or more members of the Association whose dues are paid for the current year, and shall exist at the pleasure and discretion of said Board so long as compliance with the provisions in this Article of the By-Laws is evidenced and until revocation of the charter by resolution of the Board of Directors.

SECTION 2. MINIMUM MEMBERSHIP.

The minimum membership of a chapter shall be ten Alumni who are members of the Association and whose dues are paid for the current year.

SECTION 3. MEETINGS.

A minimum of four meetings per year of each chapter will be required, one of which shall be held on the date of the Alumni Association Banquet.

SECTION 4. LOCATIONS.

A chapter may be formed in any community which does not lie within an area circumscribed by a radius of 100 miles about Los Angeles or any previously established chapter, and may solicit active membership therein except where such an area would overlap a similarly described area about Los Angeles or that of any previously established chapter.

SECTION 5. OFFICERS.

The officers of any chapter shall consist at least of a Secretary-Treasurer who shall establish and maintain communication with the Board of Directors or a member designated by said Board.

SECTION 6. REMITTANCE OF DUES.

The Secretary-Treasurer of each chapter shall submit the names of each member of the Alumni Association residing in his area immediately after August 1st of each year and the Treasurer of the Association shall remit to each chapter an amount to be determined by the Board of Directors for each year for each such member whose dues are shown by Association records to be paid as of that date, to compensate such members for their inability to attend Association activities in the Los Angeles area. A second list shall be submitted immediately after March 1st of the following year containing the names of the additional members paying dues prior to that date and the Treasurer of the Association shall remit to each chapter an amount to be determined by the Board of Directors for each year for each such additional members whose dues are shown by the Association records as being paid as of such a date.

—— T ——

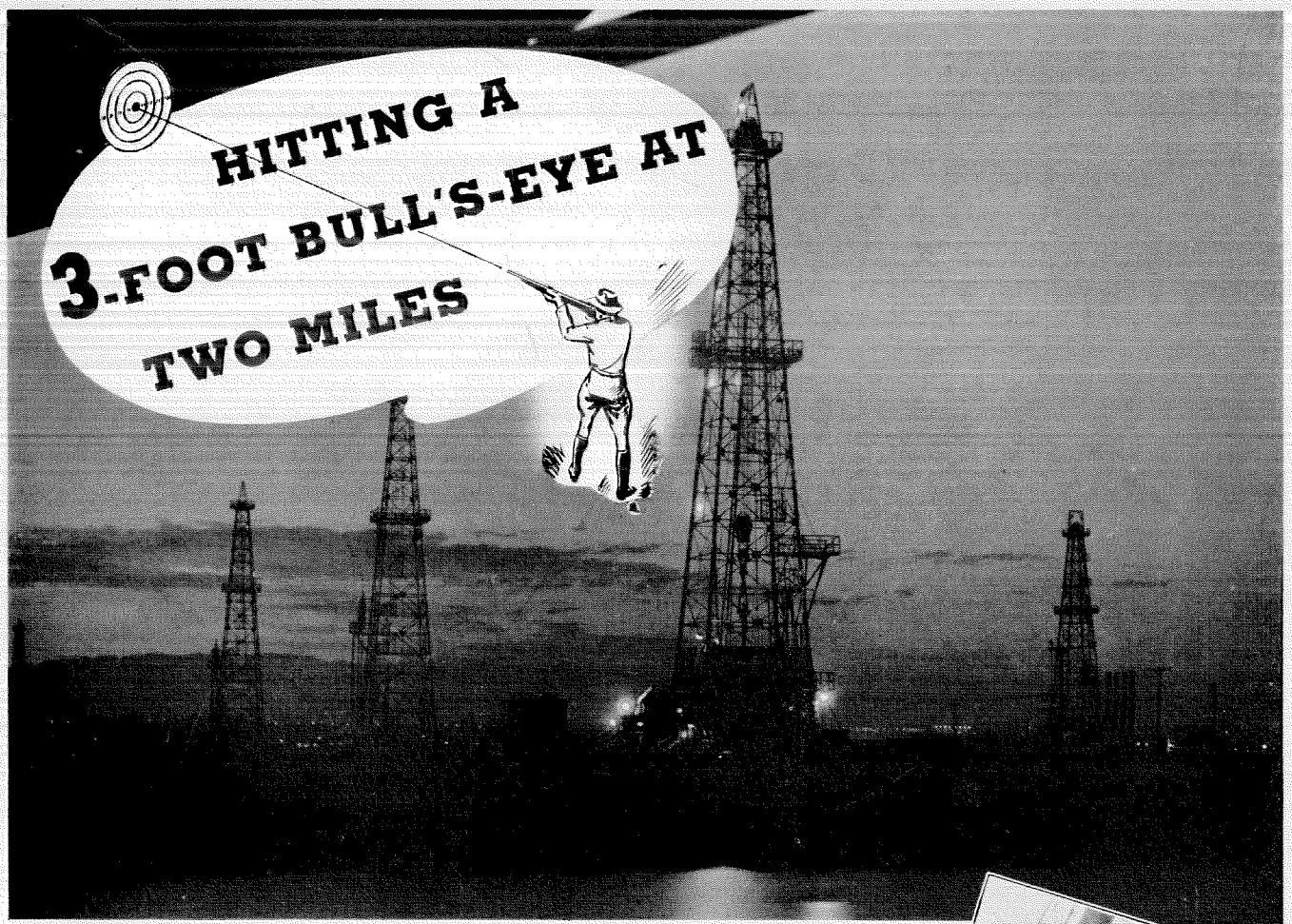
FRISCO STAGES FIELD STAG

Northern California alumni held a successful field day at the Mt. Diablo Country Club last May. Some seventeen members showed up for the golf tournament which was won by Howard Vesper.

Those turning out for the golf match and their scores were:

	GROSS	NET		GROSS	NET
Vesper	86	70	Anderson	114	86
Dorresten	86	72	Ungrin	116	88
Allyne	89	73	Bungay	128	98
Wyatt	102	74	Edwards	144	114
Baldwin	103	74	George	151	121
Sparling	100	76	Coffee	Darkness—	
Woodward	92	77	Henderson	did not	
Fisher	103	81	Nichols	finish.	
Durfee	114	84			

Sturgess, Bowman, and others unable to arrive in time for golf, showed up for dinner which was followed by ping pong, poker and other indoor sports. Everyone had a grand time and recommended bigger and better field days for all alumni groups.



AN expert rifleman would have difficulty scoring a bull's-eye at two miles, even if he could see the target clearly.

Yet we hit the bull's-eye consistently—on order—in oil wells throughout the world.

The Gun Perforator plays an important part in present-day oil well production methods.

Wells which once were allowed to exhaust themselves unchecked now produce more oil, for a longer time, at lower cost.

Gun Perforation is only one of many Technical Oil Field Services with which Lane-Wells is aiding the advancement of the Oil Industry. The complete story is available at all Lane-Wells Branches.

Bulletins on the company's technical oil field services are available on request.

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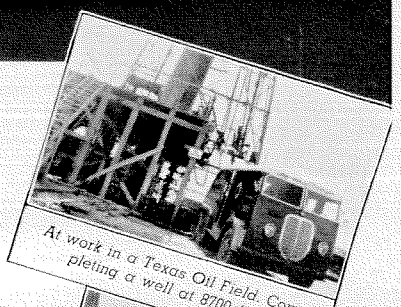
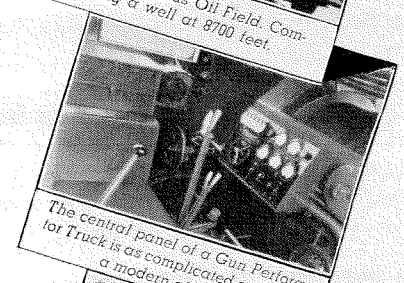
TECHNICAL OIL FIELD SERVICES

TECHNICAL OIL FIELD SERVICES


At work in a Texas Oil Field. Completing a well at 8700 feet.


The central panel of a Gun Perforator Truck is as complicated as that of a modern air liner.


The well comes in after 47 shots.

The Order of the Day ... Chesterfields for MORE PLEASURE

This new uniform is now the order of the day for dress in the U. S. Army.

. . . and everywhere every day, the order of the day among smokers is that up-to-the-minute pack of Chesterfields.

Chesterfield's refreshing mildness, better taste and more pleasing aroma give *more pleasure* to more smokers every day.

They Satisfy ..millions