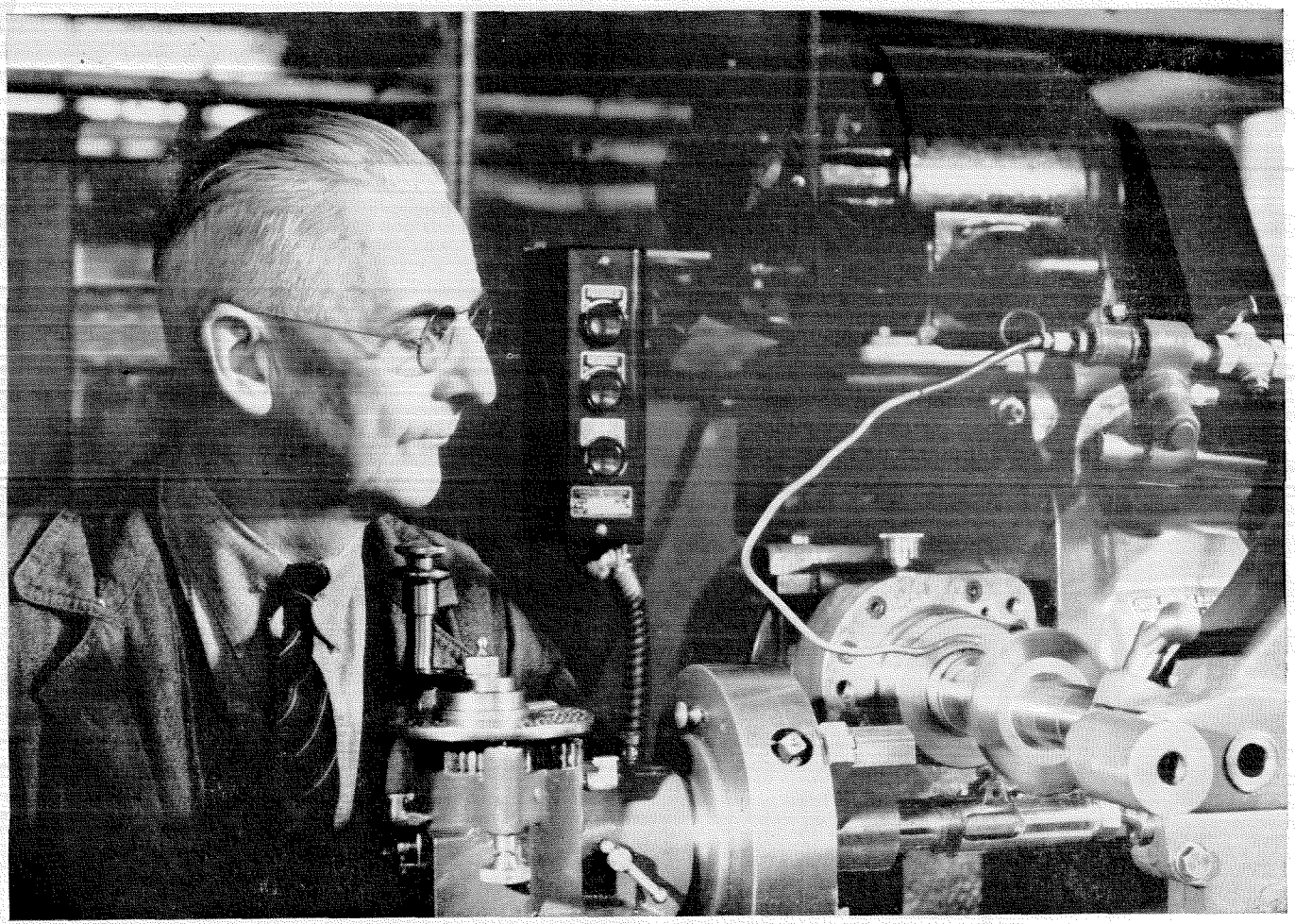
ALUMNI REVIEW

CALIFORNIA INSTITUTE OF TECHNOLOGY

ON THE AQUEDUCT

No. 5

JUNE 1938



AMERICA'S ANSWER

ALL over the world, nations are struggling to obtain a higher standard of living for their people. They are resorting to conquests, boycotts, experimental forms of government. But America has its own answer to this problem—a solution which has proved its worth. This American workman and millions of his associates, aided by the scientists and engineers of industry, are raising the living standards of all of us. They are doing it by constantly developing new and better products, and then learning to make them inexpensive so that millions of people can afford them.

For instance in 1927, when an electric refrigerator cost about $350, approximately 375,000 were purchased. In 1937, a better refrigerator cost only $170. And because the cost had been cut in half, *more than six times as many people* bought them.

In the same ten years the cost of a typical electric washer has been reduced from $142 to $72, a console radio from $125 to $53, and a 60-watt MAZDA lamp from 30 to 15 cents. And these new lower-cost articles, typical of hundreds of manufactured products, perform better and cost less to operate than their predecessors.

General Electric scientists, engineers, and workmen, by contributing to this progress—by helping to create more goods for more people at less cost—are hastening the day when all may enjoy the comforts and conveniences which only the rich could afford a few years ago.

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

90-29DH

1938—OUR SIXTIETH YEAR OF ELECTRICAL PROGRESS—1938

ALUMNI REVIEW

No. 5 June, 1938

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FAREWELL

It is with mingled feelings of pleasure and regret that I turn this magazine over to a new editor for the coming year. Pleasure in that the Alumni Review will be under the able guidance of Theodore C. Combs, '27, who has long shown a keen interest in alumni activities. Ted, as his friends call him, has had considerable experience in publication work having edited the Big T of '27 and the magazine and directory of the Gnome Club. Feelings of regret, because, if you will pardon the phraseology, I have a paternal feeling for this magazine which more than a year ago I saw through its labor pains and out into the world, and since have nursed each succeeding issue until the magazine has reached its present stature.

However, I have a strong feeling that the editorship of this magazine should change hands from time to time, first because a new editor will bring a different viewpoint and a fresh spirit into the publication, second because the task of editing the Alumni Review involves considerable time and effort and as the job is entirely gratis, it is unfair to put too much burden on any one alumnus.

The task of editing the Alumni Review has proven to be an interesting one — nay a fascinating one — for after all there is no study quite so absorbing or entertaining as the study of human behavior and I know of no more interesting group to observe than our own alumni. For although we have all been trained as engineers and scientists, careers range from movie directors to clergymen, from surgeons to salesmen.

As I relinquish the editorship of this magazine may I extend my sincere thanks to my many friends and correspondents for their generous help and assistance without which the task would have been impossible. Particularly do I wish to express my gratitude to William H. Pickering, Frederick Scott, and Stu Seymour, who have served on the staff during my term of office. Also I wish to thank Miss Dierkes who has been of intestimable value in gathering and checking information.

ALBERT W. ATWOOD, JR.

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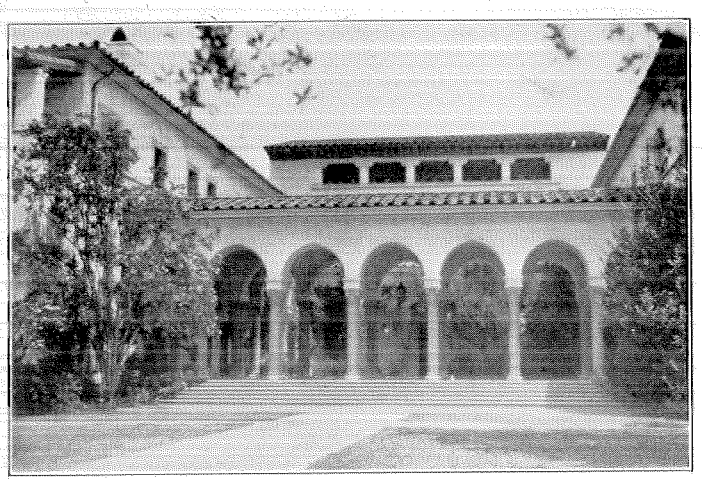
DIRECTORS PASS RESOLUTION

"RESOLVED that the Board of Directors, on behalf of the entire Alumni Association, express to Mr. Albert W. Atwood, Jr., appreciation for his faithful and diligent service as Editor of the Alumni Review and Chairman of the Publications Committee for the past year, and recognition of the fact that without his efforts the great development made by the Alumni Review since its inception would not have been possible.

"BE IT FURTHER RESOLVED that the Editor of the Alumni Review be directed to publish a copy of this resolution in the next issue of the Alumni Review."



The Athenaeum

ALUMNI BANQUET JUNE 10

The annual Alumni Banquet is to be held on the evening of commencement day, June 10, and as usual will be served at the Athenaeum. Dinner will be at seven, and if last year's capacity crowd of 234 is any guide there will be an overflow this year. Come early and see to it that you have reservations.

As the Board of Trustees of the Institute are to be our guests this year, it is a rare chance to get acquainted with the men who guide the destinies of our alma mater. Another prominent guest is to be alumnus Dr. Frank B. Jewett, head of the Bell Telephone Laboratories, who is in Pasadena to attend the graduation of his son from Caltech. Music and entertainment are also promised by program chairman Ed. Kinsey.

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DR. MILLIKAN OUTLINES NEEDS

The four new buildings which are just being completed on the campus extend quite satisfactorily the building facilities of the Institute in the fields of biology, chemistry, geology and paleontology. The next big building need is for a new engineering building to replace the wholly inadequate quarters which are now the lot of the mechanical, the civil, and the chemical engineering groups.

More important, however, than buildings of any kind is endowment for the support of the rapidly growing research program of the Institute, both in scientific and engineering directions. With decreasing interest on investments, this need is becoming daily more acute. It is a situation which affects all private institutions which depend upon endowment for their support, and the lot of the California Institute has recently been less hard than that of most such institutions because the decrease of income from interest has been partially compensated by the addition of new capital; but even at the Institute the problem is severe.

ROBERT A. MILLIKAN.

COMMENCEMENT

Commencement exercises will be held June 10, at 4:45 p.m., on the southeastern end of the Campus, adjoining the Student Houses.

The Right Reverend W. Bertrand Stevens, Bishop of Los Angeles, will deliver the invocation and the chaplain's address. The Commencement address will be given by Edwin Hubble, Ph.D., Sc.D., of the Mount Wilson Observatory of the Carnegie Institute of Washington. Dr. Hubble's subject will be "Experiment and Experience."

Dr. Robert A. Millikan, Chairman of the Executive Council, will report on the progress of the Institute.

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ROCKEFELLER FOUNDATION GRANT FOR CHEMISTRY

A few weeks before the dedication of the new Crellin Laboratory of Chemistry, the Institute was notified that it had been made a grant of $300,000 by the Rockefeller Foundation for research in chemistry. In part, this grant is to carry on the investigations in structural chemistry, which have been proceeding for several years under the direction of Professor Linus Pauling. In part, also, the new funds will be used for research in biology. Most of the sum, however, will be devoted to extending the work in organic chemistry, particularly of natural substances such as vitamins, hormones and proteins. The research program calls for analysis to determine their structure, and subsequently, experiments in producing them synthetically.

Dr. Joseph B. Koepfli, Dr. James English, Jr., and Dr. Edwin R. Buchman are already engaged in this work. Dr. Buchman was a collaborator of R. R. Williams in the synthesis of vitamin B_1.

Dr. Carl Niemann, who became a member of the Institute staff a year ago, but who has been on leave of absence at the University of London, will assume his duties as Assistant Professor of Organic Chemistry in July, 1938. Other additions to the research group in bio-organic chemistry will be made later.

Under the terms of the Rockefeller grant, the entire sum is to be expended in the next five or six years.

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HONORS

Dr. Carl David Anderson, '27, Nobel Prize winner, and Dr. Theodore von Karman, both of the California Institute, were among fifteen scientists recently admitted to membership in the National Academy of Sciences. The Academy is the most exclusive scientific society in this country.

On May 20, Dr. Thomas Hunt Morgan was awarded a degree of Doctor of Science at the Franklin Institute of the University of Pennsylvania in Philadelphia. Dr. Morgan was participating in ceremonies dedicating the Franklin Memorial, honoring Benjamin Franklin. Dr. Morgan is one of Caltech's three Nobel laureates.

THE ALUMNI YEAR

A REVIEW OF ACCOMPLISHMENTS AND AIMS

WARD D. FOSTER

Since this is the last issue of the Review for the year, a report herein of the activities of the Association for 1937-38 is appropriate.

The membership, which reached a figure of 854, is the largest in the history of the Association, and the expense incidental to acquiring this membership was kept exceedingly small. This was largely due to the efforts of the Membership Chairman, Ed. Kinsey, '26, and the Class Secretaries.

The general meetings and the social functions, including the annual dance, were well attended and well received. This work was carried on by the Social Chairman, Phil Schoeller, '32, assisted by Ed. Kinsey and others. The Annual Stag and Field Day, directed by Bill Mohr, '29, with the help of his assistants (and entertainers), secured an excellent turnout of alumni.

The Alumni Review, one issue of which appeared last year, was made a quarterly publication and maintained the high standard which the first issue set, under the continued editorship of Al. Atwood, '32. The enthusiastic reception of the Alumni Review, particularly by the members distant from Southern California, amply justifies the expense of its publication which amounts to about one-third of the total income of the Association.

Undoubtedly the biggest event of this year was the first Tech Alumni Seminar Week End, held March 5th and 6th upon the campus. This series of events included a very considerable number of most interesting lectures and seminars by the internationally famous members of the Institute staff who gave the Association every cooperation. The Seminar Week End deserved and secured a far greater attendance than any previous alumni event, and those who attended were unanimous in their requests that the event be repeated each year. Credit for this event is due to the assistants which the Alumni Chairman had both among the faculty and the alumni, and principally to the unceasing efforts of the Alumni Chairman to plan intelligently and in great detail all of the various events, and to execute those plans personally. The Alumni Chairman for the inaugural Seminar Week End was Clarence Kiech, '26.

Among the members of the Board of Directors whose two-year term expires in June, 1938, is H. Fred Peterson, '27,

WARD D. FOSTER
President Alumni Association
California Institute of Technology

whose organization plan for the Association has been carried on this year. Pete's interest in and help to the Association did not cease with his term as President, which consummated several years of work for the Association, but continued through this last year during his office as a Director. Edward E. Tuttle, '28, who is responsible for the corporate existence of the Association, has ably served the Association through two years, in the second of which he acted as Secretary, Wm. T. Taylor, '22, likewise has been very diligent in his efforts on behalf of the Association during his term of office in which he served as Treasurer and Chairman of the Finance Committee of the Association. These three men may well consider the obligation which they assumed when they became Directors of the Association as well and fully discharged.

Four men are to be elected soon to serve two years as Directors. All of the men nominated for such positions have spent many hours in serving the Association, and, in the opinion of the Board, deserve such recognition for their efforts. Al. Hall, '22, has for the past year been active as Assistant Treasurer, and has participated in the activities of the Finance Committee. Al. Atwood has been editor in chief of the Alumni Review since its first issue. Clarence Kiech was Director of the Seminar Week End. Bill Mohr was Director of the Annual Stag and Field Day. If such men are elected to the Board of Directors there is no doubt that the President of the Association during the next year will enjoy the complete cooperation and sincere and enthusiastic desire of the Directors to assist in every way the advancement of the interests of the Association, which it has been my privilege to have from the Board of Directors during the past year.

I can wish nothing finer for the new President of the Association than that he shall have from the Directors and Committee workers the same sincere cooperation and enthusiastic efforts which they have given me in the last year.

CALTECH MEN ON THE AQUEDUCT

By Gene Riggs, '27

The construction of the largest water supply system in the history of the world is rapidly nearing completion within a few miles of Caltech. The Metropolitan Water District of Southern California is building an aqueduct that will bring 1500 cubic feet of water per second from the Colorado River a distance of 300 miles over mountains and across deserts to serve the ever-growing population of Southern California. The aqueduct intake is located at Parker reservoir on the Colorado River about 150 miles below Boulder Dam. From here the water will be pumped into a tunnel which is large enough to accommodate a railroad train, and thence through a series of canals, conduits, siphons, tunnels, reservoirs and four more pumping plants until it finally reaches the water faucets in thousands of Southern California homes.

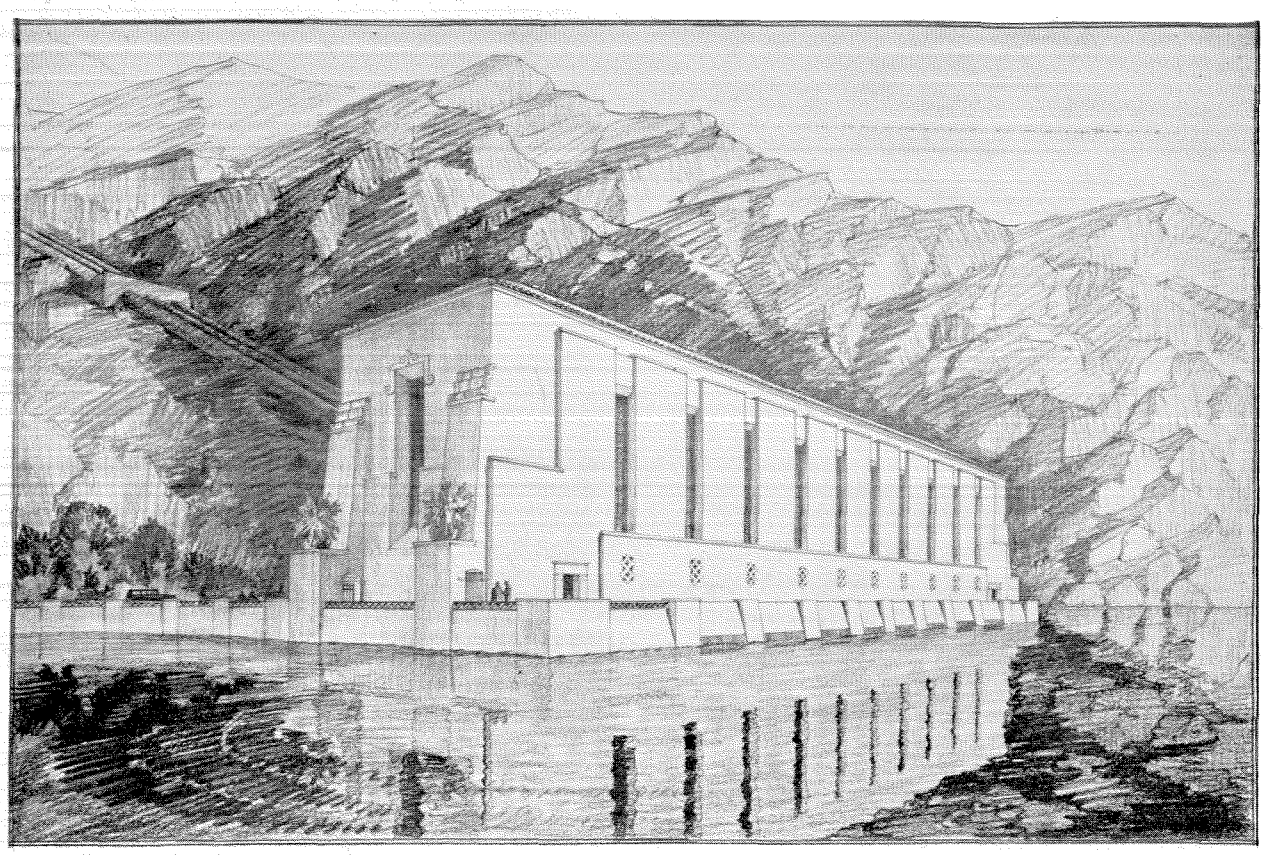
This great project, involving as it does nearly all types of engineering construction, has required the services of a large number of technically trained men. It was only natural, therefore, that Caltech, being situated so close at hand, should play an important part in this work. Many Tech alumni have been employed on the aqueduct in various capacities, several members of the faculty have been called upon to act in advisory, consulting, and administrative capacities; and the Institute's facilities have been extensively used for research purposes and for testing equipment and materials.

The governing body of the District is a board of directors composed of representatives of the thirteen member cities. These directors, who serve without pay, have had the responsibility of financing and administering this 220 million dollar project. Professor Franklin Thomas represents the City of Pasadena on the board and has served as its vice-chairman since the District was organized in 1928. The District has greatly benefited from Professor Thomas' wide engineering experience and knowledge of Southern California's water needs.

Other faculty members who have been employed as consultants for the district include Professors Sorensen, Buwalda, Martel, Converse, Daugherty, von Kármán, Knapp, and the late Professor Ransome. Professor Sorensen assisted in the design of the 240 miles of 230,000 volt transmission line that will supply power for the aqueduct pumping plants from Boulder Dam, and in the design of the transformer, switching, and electric motor installations at each plant. Professors Buwalda and Ransome prepared the geological reports that were used in determining the route of the aqueduct and the location of over 90 miles of tunnels. Professors Daugherty, von Kármán and Knapp were consulted in the design and testing of the main pumps, which will have to lift water through a vertical height of more than 1600 feet.

The Institute's high voltage laboratory was used to test the porcelain insulators that are a part of the District's 230 kv transmission line, and the hydraulic laboratory was used to solve some important problems of pump design and operation. This hydraulic laboratory was financed jointly by the District and the Institute and has already paid for itself many times over by increasing the efficiencies of the aqueduct pumps. Since each of the five aqueduct pumping plants will ultimately have nine main pumps, each with a

Bob Allen, '16 | J. M. Gaylord, '02 | V. D. Elliott, '15 | E. H. Riggs, '27 | W. W. Aultman, '27 | Neal D. Smith, '25



Architects Sketch of Intake Pumping Plant

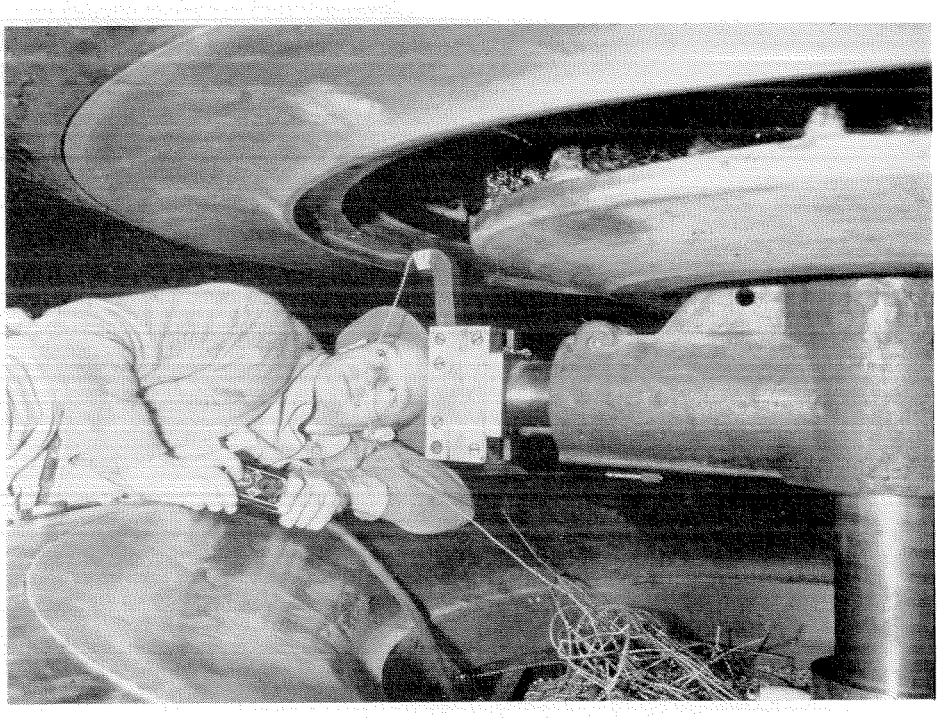
capacity of 200 cubic feet per second against heads varying from 146 feet at Iron Mountain plant to 444 feet at Hayfield plant, it is easy to see that a small increase in pump efficiency will result in large savings in operating costs.

During the construction of the aqueduct there have been more than one hundred Tech graduates and ex-students employed by the District, and at present there are about twenty-five of these still in the District's employ. There have also been many Tech men employed by contractors on the construction of various parts of the aqueduct, and by manufacturers supplying materials and equipment for use on the aqueduct. Since it is not possible in the space here available to tell what each of these men has been doing in connection with the aqueduct construction, it will be necessary to limit the account to some of the jobs that are representative of the various types of work that the Tech men have been doing.

Jim Gaylord, Throop '02, is the District's Chief Electrical Engineer and is in charge of the design and construction of the pumping plants, transmission lines, telephone system and other electrical and mechanical features of the aqueduct. Verne Elliott, '15, is in charge of the office engineering work in connection with the construction of the pumping plants and transmission lines, and Al Atwood, '32, is one of Verne's able assistants. Bob Allen, '16, has been the division engineer in charge of the construction of the 230 kv and 69 kv transmission lines, and Jordan Lummis, '21, helped Bob sag in the conductors for these lines.

Walt Gilbert, '23, was assistant personnel officer for the District and had the job of interviewing and classifying thousands of applicants for employment. Carl Heilbron, '25, and Bill Saylor, '32, have been doing structural designing. Carl also had charge of the hydrostatic tests on one of the concrete siphons. In making these tests he had the unusual experience of doing some deep-sea diving in the middle of the desert, for it was necessary to don a diving suit and go into the water-filled siphon to read the strain gauges.

Neal Smith, '25, is one of the old timers on the aqueduct, having worked on the project since April, 1928. Neal is now office engineer at Eagle Mountain and Hayfield pumping plants. Another office engineer is Dick Rofelty, '29, who serves in this position at Division 1. Bill Aultman, '27, is running the District's experimental water treatment plant at Boulder Dam, gathering information about the treatment of Colorado River water. Gene Riggs, '27, has had the job of writing the specifications for the construction of the pumping plants and appurtenant works, and for the equipment and materials that go into them. Al Capon, '27, has



Boring a seat for the seal ring inside one of the huge aqueduct pumps.

been doing electrical design work. Al also represented the District at the General Electric, Westinghouse and Allis Chalmers factories during the testing of the main pump motors. Wendel Morgan, '33, started with the District as a substation operator and is now in the electrical design division at Los Angeles.

Ralph Watson, '27, had charge of the District's pump testing at the hydraulic laboratory until about a year ago, when he went to Harrison, New Jersey, to work for the Worthington Pump and Machinery Corporation. Another man who landed a good job with an equipment manufacturer is Sterling Beckwith, Ph.D., '33, who went from the District's electrical design division to the Allis Chalmers Manufacturing Company at Milwaukee.

Emmet Irwin, '24, had charge of the electrical construction work at the hydraulic laboratory, and is now in charge of the electrical work on the Institute's 200-inch telescope at Palomar Mountain. Ralph Baker, Ph.D., '36, also worked at the hydraulic laboratory and later in the electrical design division in Los Angeles. Ralph left the District last fall to accept an assistant professorship at the University of Utah.

Some of the other Tech men who have, at one time or another worked in the District's Los Angeles office are Harlan Asquith, '29; Don Barnes, '30; Ray Binder, '33; Bert Coupland, '30; Linne Larson, '22; John Monning, '33; Frank Wattendorf, '33; Paul Joseph, '35; John Sinnette, '31, and Gleb Spassky, '27.

A numher of Tech men have worked at the District's concrete testing laboratory at Banning, helping to test all the cement and concrete that has gone into the aqueduct. This concrete lab is known along the aqueduct as "Banning Tech," due to the stiff training course that is given there to all concrete inspectors. Dick Stenzel, '21, and Byron Hill, '25, are ex-members of the "Banning Tech" faculty.

Besides those Tech men who have worked in the District's Los Angeles and Banning offices and in the hydraulic and concrete laboratories there have been quite a number employed in various field jobs where they have had a hand in the actual construction of the aqueduct. De Wolfe Murdock, '31, for example, is a construction foreman on the San Jacinto tunnel. This tunnel is next longest of all the aqueduct tunnels, being 13 miles in length, and is the most difficult of all to drive, because of the large flows of water that have been encountered.

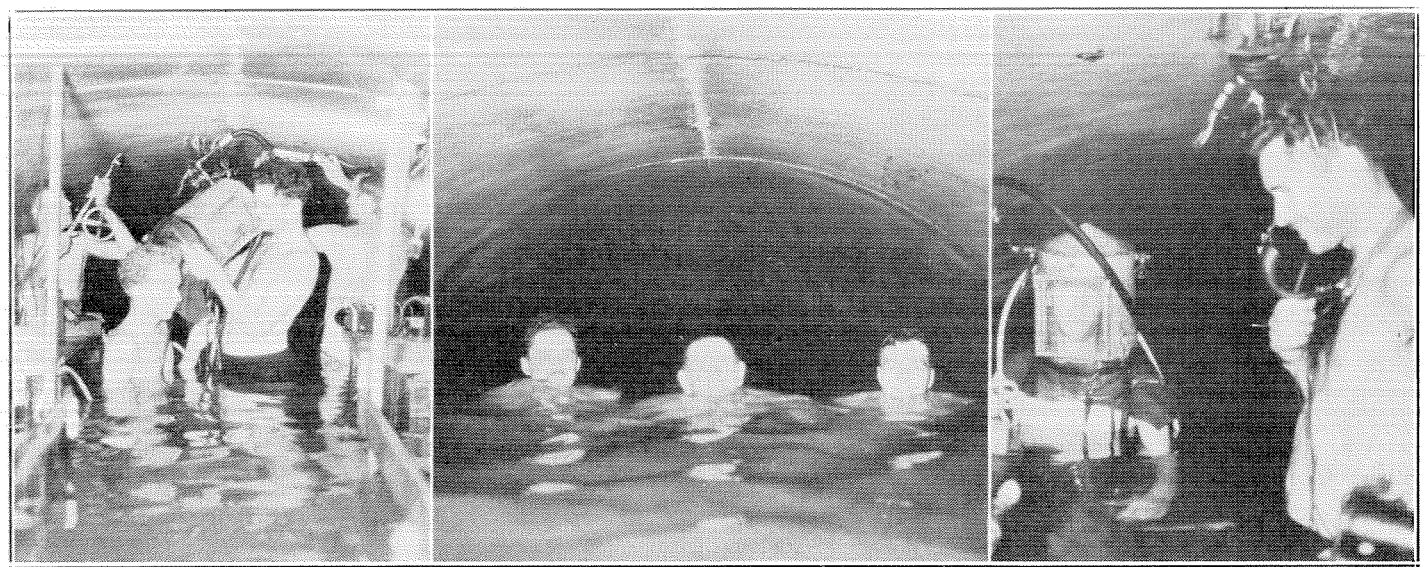
Among those who have watched the growth of the aqueduct through the telescope of a transit are John Bascom, '32; Lewis Behlow, '32; Francis Noel, '28; Elliott Bennett, John Mendenhall, '33, and Charles Spicer, '33. Some of those who have been rodmen or chainmen are Gordon Bowler, '32; Bob Carr, '30; Ed Core, '34; Phil Craig, '33; John Daly, '29; Francis Frazier, '36; Bob Grossman, '33; Ray Jensen, '36; Glenn Myers, '32; Harold Roach, '32; Mervin Schubert, '32; Dick Searle, '32; Jim Thomson, '26, and Prentice Willis, '34.

Another popular field job has been that of inspector. Since most of the construction work has been done by contract, the District has had to employ a regular army of inspectors to check up on the contractors and see that the

work is done in accordance with the plans and specifications. Some of the inspectors who hail from Caltech are John Hesse, '30; Frank Schack, '34; Perry Boothe, '31; Al Buxton, '26; Carroll Craig, '34; Art Duncan, '23; Charles Morse, '36, and Wally Swanson, '36.

One of the more important field jobs is that of junior engineer. Junior engineers are those slide rule and calculating machine artists who spend their lives computing quantities of excavation, cubic yards of concrete, and tons of steel. Tech men who have been junior engineers in the field include John Anderson, '30; Don Graff, '32; Harold Holton, '34; Maynard Anderson, '31; Dean Batchelder, M.S., '32; Ed Kanouse, M.S., '34, and Kenny Swart, '32.

The big job is now almost finished and before long the melted snow water from the upper tributaries of the Colorado River will be flowing through the aqueduct, to supply water for the homes and factories of Southern California. What was, only ten years ago, the dream of a few far-seeing engineers and business men is rapidly becoming an actuality of concrete and steel. Those of us who have helped a little to make this dream come true, feel, as we drift away to other jobs, that we have had a part in a great achievement.



Saylor, '32, Ayers, '30, and others, go deep sea diving in aqueduct.

FASTEST IN THE WORLD

A recent advertisement appearing in the California Tech was worded in the form of a series of questions and answers. The question, "How fast do the electric elevators travel in Radio City, New York?" The amazing answer, "Some of the elevators in Radio City, believed to be the fastest in the world, travel at the speed of 1400 feet per second."

Sorry but I have an old fashioned stomach so prefer to walk up the stairs. (Yes that is right you slide rule artists, it figures out to be 954 miles per hour.)

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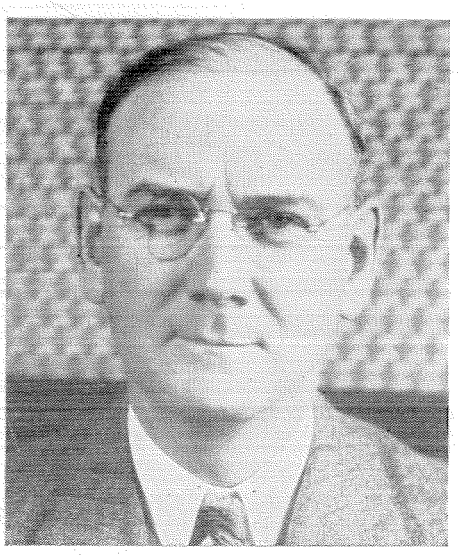
ALUMNI ASSOCIATION FINANCES

The Board of Directors of the Alumni Association announce that copies of the annual financial statement will be available in mimeographed form immediately following the official audit, early in August. Any member wishing to review this statement is asked to write the Alumni office at that time, requesting that a copy be mailed to him.

TECH COOPERATES IN SEARCH FOR TITANIUM

Even before the new geology building has been finished, a room in its basement is already in use as an ore testing laboratory. Work is being done on a titanium ore which is found in the San Gabriel mountains. Titanium is chiefly used in the form of titanium oxide—a white pigment which is now a constituent of most paints. It has the advantage that it does not discolor with age as do other white pigments. At present there is no large commercial deposit of titanium being worked in this country and hence, with the increasing demand for the material, an extensive search is being made for deposits. The Du Pont Company, one of the largest users of titanium, has had a party working in this district for some time, and now they have enlisted the support of the Institute to investigate the value of the ores found. Dr. George Anderson, Ph.D., '33, is in charge of the project and he is hopeful that the San Gabriel ores may prove to be a valuable source of the metal.

A TRIBUTE TO



PROFESSOR FRANKLIN THOMAS

In the fall of 1913 a young civil engineer journeyed to Pasadena to become Professor of Civil Engineering at Throop College of Technology. Already a leader in his profession, his reason for joining the faculty of a relatively obscure institution of higher learning was undoubtedly the same one which prompted other leaders to follow a similar career: an opportunity to build the now famous California Institue of Technology. The vision, talent and diligence of Franklin Thomas have been a major factor not only in the success of the Institute but in the success of its many graduates as well, particularly those in civil engineering.

As head of the department of Civil Engineering, Franklin Thomas has, for twenty-five years, been a respected leader. As chairman of the administrative committee of the faculty in 1917 and in 1920-21, during the absence of the president and following his resignation, Franklin Thomas was a capable executive. But even beyond these important tasks, he served both his profession and his fellow citizens.

At the age of 18 he was a chainman with the C. B. & Q. Railway. Shortly thereafter he studied at the State University of Iowa (B.E. '08 and C.E. '13). Before securing his degree of Civil Engineer, however, he had worked a year with the Mines Power Co., Cobalt, Ontario, Canada; had served as instructor in the department of engineering, University of Michigan; had become married to Marie Elizabeth Planck; and had served the Alabama Power Company as a designer on Coosa River, Muscle Shoals, and Tennessee River Projects. At this point we find him on his way to Pasadena at the age of 28 with diplomas, experience and family—to become a professor of civil engineering.

In 1918 he was a first lieutenant in the Corps of Engineers. In 1919 he was on leave as assistant engineer, U. S. Reclamation Service. During 1921-27 he was a member and vice chairman of the Board of Directors, City of Pasadena, and in 1927 he was president of the Pasadena Chamber of Commerce. He has also served as president of the Pasadena Community Chest.

Since the inception of the project to deliver Colorado River water to Southern California cities, Franklin Thomas has been an engineer-executive who, as much as any other man, has made this unprecedented aqueduct a reality. He has been vice chairman of the Board of Directors of the Metropolitan Water District of Southern California since 1928.

As a member of the American Society of Civil Engineers, he has been president of the Los Angeles Section, member of the committee on irrigation hydraulics and member of the national board of directors. Other affiliations are the Society for the Promotion of Engineering Education, Sigma Tau, Sigma Xi, Tau Beta Pi, and fellow of the American Association for the Advancement of Science.

The Alumni sieze the opportunity afforded by Professor Thomas' twenty-fifth anniversary with the Institute to express their tribute to an outstanding engineer, civic leader and educator.

ALUMNI YOU SHOULD KNOW

OIL COMPANY EXECUTIVE

HOWARD G. VESPER

Howard G. Vesper, B.S. in Chemical Engineering in 1922, Junior Travel Prize Winner in 1921, Editor and Business Manager of the Big T, Publicity Manager, Football Manager, and member of Tau Beta Pi and the Gnome Club while at the Institute, has carried the abilities and interests displayed on the campus into industrial life in a big way.

Starting to work for Standard Oil Company of California a few weeks after graduation as a laborer at El Segundo, Howard Vesper has risen rapidly through such positions as control and analytical chemist, research engineer, assistant to the Eastern manager in New York, until today he is assistant to the general manager in charge of manufacturing for the whole company. In this big position he serves as an advisor on marketing and manufacturing problems, expansion programs and the like.

Vesper, in his present position, is back on the Pacific Coast again with headquarters in San Francisco where he takes a most active part in Alumni activities, initiating, for example, the Alumni luncheons which are held each Tuesday noon at the Engineers' Club in the Bay City.

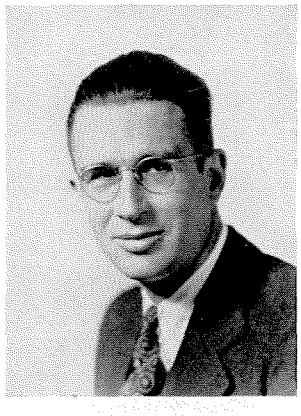
He is especially interested in tennis, golf, music and particularly photography, which is a hobby that is becoming of increasing interest to many technically trained men.

TELEPHONE MAN

Graduating in electrical engineering with the class of 1922, William T. Taylor went immediately with the Southern California Edison Company on the "Big Creek" project. There he engaged in field survey work and later became Field Cost Engineer. Not satisfied with life in construction camps, Bill tried electrical testing for the Los Angeles Railway and drafting before coming to the Traffic Department of the Southern California Telephone Company.

He now fills the position of Division Traffic Employment Supervisor with its related personnel activities. Bill's career with the Telephone Company has been both varied and promising. During the expansion period just prior to 1929 as Engineer of Traffic Planning Work, he had a large part in laying out the Southern California network of long distance trunk lines. Sometime later and just prior to his present assignment Mr. Taylor's work in the traffic statistics organization laid the foundation for his reputation as " watchdog of the budget." In his capacity as treasurer for the Board of Directors of the Alumni Association, this trait has been invaluable.

Mr. Taylor in his hobbies exhibits the same thoroughness and ability that characterizes all his undertakings. He is an expert on radio circuits, color photography, motion pictures, enjoys grand opera and has lately found time for the study of horticulture which he practices at the Taylor home in Brentwood Heights.



WILLIAM T. TAYLOR

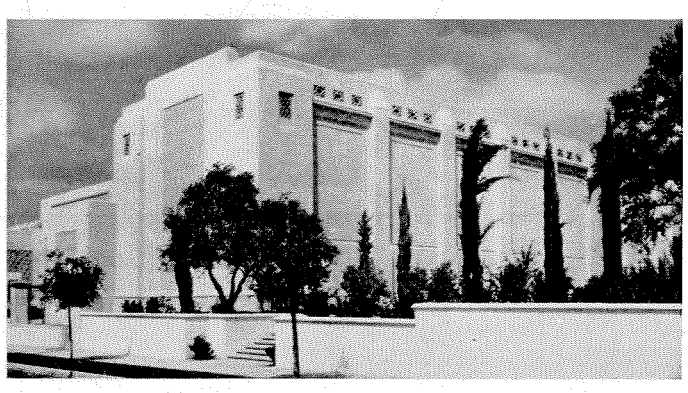
SEMINAR WEEK-END

By Theodore C. Combs '27

The Seminar Week-end, conducted March 5 and 6, marked a new high in alumni-campus relationships. Undertaken as a combined get-together and refresher course for graduates, it exceeded all expectations—both as to attendance and success of the program. It proved a contention that only our Alma Mater can present such an event of far reaching significance. It demonstrated that the classes of '26 and even '12 are as much interested in serious lecture room sessions as in group social activities.

There are several reasons why the Seminar Week-end was bound to succeed. Few, if any, institutions of higher learning possess a more notable faculty. These men, despite their many other time-consuming activities, in effect said, "Our time and talent are at your disposal. How may we best serve you?" Coupled with this was the often expressed desire of alumni to keep contact with the campus, learn of new developments in their respective fields of engineering and science and (although it was not so stated) submit themselves to the stimulus which comes with interest-inspiring effort. Mention seminars to any one of the 450 who attended and you will learn that the stimulus persists.

Just as important in this experiment was the catalyzing agent: the organizers. The committee comprised Clarence Kiech, '26 (chairman), Fred Ewing, '27; Ward Foster, '27; Wesley Hertenstein, '25; Don Clark, '29; A. D. Hall, '22; William Humason, '36; Edward Tuttle, '28, with other members of the Board of Directors acting in an advisory capacity. These men arranged for speakers, subjects, campus arrangements, registration, overnight accommodations and publicity. Miss Theresa Dierkes of the Placement office undertook a big burden of secretarial work. Their's was a big task, well done and much appreciated.



Optical Shop where the 200 inch mirror is being polished.

Aside from general assemblies, seminars were conducted simultaneously in groups of from two to eight. Those in attendance were permitted to visit sessions in accordance with individual preference. Following is a brief listing of the program:

"How the Institute can Help an Alumnus and How the Alumni Association can Help the Institute," by Prof. E. C. Watson.

"The Cancer Problem," by Prof. Seeley G. Mudd and "Vitamins in Health and Disease," by Prof. Henry Borsook. Prof. Mudd discussed certain phases of the cancer problem and the treatment of mid- and late-stage malignant lesions by 900kv. X-rays. Prof. Borsook gave interesting new facts on the physiological aspects of vitamins.

"The Pursuit of the Absolute Zero," by Prof. Alexander Goetz. Discussion of the physics of the lower end of the temperature scale and of the methods of reaching the absolute zero within a few hundredths of a degree. Latest speculations as to a possible "eventfulness" within the last fraction of the last degree may modify even certain thermodynamic aspects and render the attainment of the absolute zero possible.

"Uncle Sam's Domestic Tranquility for the Next Fifty Years," by Prof. William B. Munro. A vital discussion of prospects and how they will affect this and the next generation.

"The New Particles in Physics," by Prof. Carl D. Anderson, '27, Nobel Laureate. The anatomy of the atom and how new findings compel modification of former concepts. A discussion of recent discoveries, including Dr. Anderson's recently-announced X-particle.

"Astrophysics," by Prof. Ira S. Bowen. An exposition on what we can learn about matter from the stars.

Electrical Seminar, led by Prof. Royal W. Sorensen who spoke on general advances in electrical engineering. Discussion of advances in electrical welding and high voltage equipment, by Prof. Maxstadt. Presentation of advances in vacuum tubes and electronics, by Prof. P. S. Mackeown.

Mechanical Seminar, led by Prof. Robert L. Daugherty who discussed advances in mechanical engineering. Prof. Clapp reviewed developments in materials and design. Prof. Knapp discussed hydraulic developments, including soil conservation work.

Civil Seminar, conducted by Profs. R. R. Martel and F. J. Converse, comprised advances in civil and structural engineering.

Chemistry Seminar, led by Prof. Linus Pauling, who discussed advances in theoretical chemistry, including a brief survey of molecular calculations, magnetic properties of blood and their significance, and protein structure as related to the specificity of anti-bodies and the like. Prof. Lacey discussed phase equilibria of hydrocarbons. Prof. Yost discussed the use of radio-active elements formed by transmutation as tracers in chemical and physiological reactions. Dr. Buchman discussed vitamin chemistry and physiological effects of structure.

Physics Seminar, led by Prof. William Houston, comprised the general aspects of modern physics. Prof. Robert A. Millikan, Nobel Laureate, discussed cosmic rays. Transmutation of elements was discussed by Dr. Fowler. Prof. Potapenko reported on ultra-short electromagnetic waves. Dr. Du Mond reported on X-ray spectrometry.

Geology Seminar, led by Prof. John P. Buwalda who also described the new geology buildings. Prof. Ian Campbell discussed geological exploration in the Grand Canyon. Prof. Chester Stock discussed recent developments in vertebrate paleontology. Prof. Hugo Benioff reported progress in design of geo-physical and seismological instruments.

Aeronautics Seminar, led by Prof. Arthur Klein, included advances in aeronautics and comments by members of the staff.

Economics and Current Literature Seminar, conducted by Profs. Graham A. Laing and Clinton K. Judy.

"Ethics and the Engineer," by Prof. Theodore Soares. A chapel session conducted by Mr. John Price, Tech Y. M. C. A. Secretary.

"This World's Troubles and How They Affect Us," by Prof. Horace Gilbert. What's going on in the international picture and what to do about it. A long-range viewpoint of the significance of events in Germany, Italy, Spain, Japan, and China.

"What Genetics Means," by Prof. Thomas Hunt Morgan, Nobel Laureate.

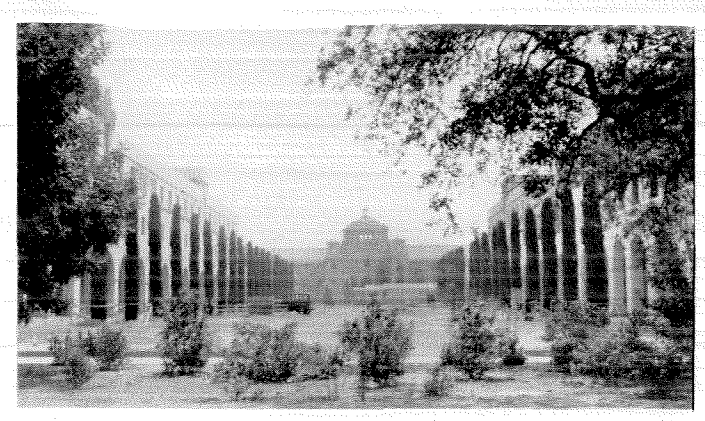
"Biochemistry at California Institute of Technology," by Prof. Henry Borsook.

"The Discovery of Plant Hormones," by Prof. F. W. Went.

"Chemistry in World Affairs," by Prof. Arnold Beckman. New chemical discoveries in industry; how chemical discoveries are creating new products and new jobs; how chemistry may revolutionize agriculture; chemical utilization of petroleum, etc.

"The Quest for Truth," by Prof. E. T. Bell. "Seek and ye shall not find." Is man's age-old search for truth, logic and proof futile? Possible progress by denial of the "self-evident." Where are modern science and mathematics leading us?

In addition to the foregoing seminars, several other events were sandwiched in to round out the program and complete the picture of Tech progress. On Saturday afternoon



New Science Buildings Complete West Approach to Throop Hall

a tour of new buildings was conducted by Wesley Hertenstein, '25; Lawrence South, '23, and Arthur Duncan, '23. These three engineers impressed visitors with the magnitude of the Institute construction program. Buildings were seen in varying states of completion.

Following this, an inspection of the tenth-scale model of the 200-inch telescope was conducted by Dr. John Anderson. This is an exact model, completely mechanized even to the automatic control equipment. It has been valuable in advance preparations for the huge Palomar Mountain Observatory, just as the production of small lenses has pioneered the way for the precise technique now being employed on the 200-inch lens.

On Saturday evening a dinner session was held in the Pasadena Athletic Club. Speaker was Prof. Arthur Raymond, chief engineer of the Douglas Aircraft Company, who chose "The New Douglas DC-4" as his address. He described the new 42-passenger ship now being developed and emphasized many innovations which it will contain. Attendance was gratifying.

Those members of the faculty who helped make the Seminar Week-end such a success, deserve our heartfelt gratitude for the way in which they gave of their time and energy. Particularly Dr. Millikan, Dr. Munro, and Professor Watson, were active leaders and generous hosts.

Alumni within ready traveling distance of Pasadena who failed to attend can indeed be regretful. Here was an opportunity unparalleled. No convention has ever provided such a brilliant array of speakers and topics—or such a concentration of fellow Tech men. The old grads—who attended 450 strong—say, "Once is a habit." It is hoped that the Seminar Week-end can become at least an annual affair.

THOMAS MANN, JOSEPH, AND TIME

A BOOK REVIEW

By Harvey Eagleson

The most important single theory in physics since the work of Isaac Newton is Einstein's Theory of Relativity. The theory is concerned with the problem of time and space. It is not merely coincidence that Virginia Woolf, the greatest living woman novelist; Thomas Mann, the greatest living German novelist; Marcel Proust, the greatest French novelist this century has so far produced; and Gertrude Stein, the most notorious and sensational figure in modern American letters, have all interested themselves in this same problem. Stated in an overly simplified fashion the Theory of Relativity holds that events do not occur in absolute time or absolute space, but exist only at what might be termed the point of contact between them and the observer. Time cannot be measured except with a coincident concept of space, and space cannot be measured except with a coincident concept of time, again depending on the observer.

The philosophical implications of this theory have been siezed upon by the humanists though these implications are not new to philosophy. Carlyle, among others, developed them fully in *Sartor Resartus* nearly a century before Einstein. If time and space have no existence except at a point of contact, that point of contact must be *now*, the present. Unless a third concept, call it X, is introduced, and no one has so far suggested it, there can be only now, what William James and his pupil, Gertrude Stein, have termed the "continuous present." The time-space relationship may be conceived of as a recurring cosmic pattern, the illusion of events in time and space being merely identical events or pattern forms existing simultaneously and now. For instance the famous pairs of lovers in history, Antony and Cleopatra, Titus and Berenice, Abelard and Heloise, Nelson and Lady Hamilton, Edward Windsor and Wallis Warfield, are identical events, recurring convolutions in the cosmic pattern. They are the same story re-told. Fundamentally there is no difference between the lot of them, involving as they do, passion, sacrifice, and tragedy.

It is in part with this problem that Thomas Mann has concerned himself in his series of novels dealing with the Biblical characters of Joseph, *Young Joseph, Joseph and His Brothers,* and the most recent (1938) *Joseph in Egypt.* When it was announced that Mann was going to devote several novels to the story of Joseph, it seemed to many an unfortunate diversion and waste of great talent. Why re-tell a story which the Old Testament writer had already done so effectively? The published result has denied these expectations of waste. The story of Joseph is merely a peg on which to hang Mann's brilliant speculations on time and history. The series is unquestionably one of the most profound works of our period.

Mann accepts the pattern theory of events in time. The incidents in Joseph's life are chosen to illustrate the fixed incidents in every man's life. The relation between Jacob and Joseph is the fundamental relationship of father and son. Jacob is himself, he is *the* father, he is fathers. Joseph is himself, he is *the* son, he is sons. The relation between Joseph and his brothers is likewise specific and at the same time general. The series is also an allegory of the larger, spiritual and philosophical entities. Mann sees in the early Hebraic Adonis myth, the annual death and resurrection of the world in winter and spring, and in Joseph's incarceration in the well and his release from it, and in Christ's burial and resurrection, the same event, the same recurring cosmic pattern, the continuous present and everlasting now.

KERCKHOFF DEDICATION

The William G. Kerckhoff Laboratories of the Biological Sciences of the California Institute of Technology will be dedicated Friday, June 10, at 2:30 p.m. The dedication ceremony marks the completion of the second unit of the laboratories. Like the first unit, this new addition, which doubles the facilities for instruction and research in the biological sciences, was built with part of a fund provided over a decade ago by the late Mr. William G. Kerckhoff and Mrs. Kerckhoff of Los Angeles.

Mr. Allan C. Balch, President of the Board of Trustees of the California Institute, will preside over the dedication exercises. The program includes the following speakers: Mr. Henry W. O'Melveny, Second Vice-President of the Board of Trustees, will give a brief address on his personal reminiscenses of Mr. Kerckhoff, recollections of a life-long friendship. Dr. Robert A. Millikan, Chairman of the Executive Council of the Institute, will outline the history of the Kerckhoff Laboratories, and Dr. Thomas Hunt Morgan, Chairman of the Division of Biology, will chart the future development of study and research in biology at the Institute.

Following the formal exercises, there will be a tea in honor of Mrs. Kerckhoff in the library of the new building. This library, a handsome, two-story room, panelled in dark wood, was planned as a special memorial to Mr. Kerckhoff. His portrait, by Mr. Seymour Thomas, will hang on the west wall.

After the tea, the laboratories will be open for inspection, and special demonstrations will be arranged in some of the newer developments in the fields of genetics, plant hormones, and biochemistry.

Because of limitations in room, the dedication exercises are not open to the general public.

TWO DIRECTORS RESIGN

Since the last issue of the Alumni Review appeared, two Directors of the Alumni Association have seen fit to resign. Both of these men, Phil Schoeller, '32, and Bill Humason, '36, felt that they could not properly perform their duties as directors due to the fact that their respective jobs required so much of their time and took them out of town a good deal. It was with regret that the board accepted the resignation of two such capable men.

Each of these men leaves an unexpired term of one year. These positions will be filled by appointment of the new Board of Directors at their first meeting this summer.

ANNUAL ALUMNI DANCE PROVES GAY AFFAIR

On the clear, dry evening of April second several hundred alumni and their lady friends travelled through devious canyons and winding lanes to congregate at the beautiful and spacious Riviera Country Club for a gala evening of dancing. Bill Ament's orchestra furnished first class music to all who whirled across the wide marble floor.

Highlight of the evening came when the orchestra leader announced with a blair of the trumpets the engagement of Lucille Meyer and Frederic Moore, '38.

A lengthy bar kept many a person in the large game room below stairs where a group of gypsy singers serenaded them.

All who attended were most enthusiastic and I am sure that they all join in extending a vote of thanks to Paul Arnerich, who so capably planned and staged the affair.

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ROCKET MOTOR DEVELOPMENT

Rocket research which may lead to the development of motors capable of propelling sounding rockets 100 miles above the earth's surface is currently being carried on in the Guggenheim School of Aeronautics at the California Institute of Technology. Frank J. Malina and three young aeronautical students are conducting tests which, together with data obtained in earlier experiments by Dr. R. H. Goddard and the American Rocket Society, may provide the basis for developing such motors.

Whereas it is at present possible to send balloons and recording instruments to heights of about 20 miles, Malina said that the ability to send instruments to greater heights would be of inestimable value in weather and cosmic radiation study. Therefore the development of rocket motors, which might be capable of carrying equipment to heights of 100 miles or more, is being watched with much interest by physicists and meteorologists.

The motor being studied at Pasadena has a cumbustion chamber in which a mixture of ethelyne and oxygen burns at 5000 degrees fahrenheit, about half the temperature of the sun. The flaming gas comes out of the propelling nozzle at terrific velocities, speeds of 11,000 feet per second having been reported by earlier experimenters in Europe.

Flight at such great heights, however, presents several new problems, Malina stated. Keeping the rocket in vertical flight is a rather difficult problem, for example, and further study will be required to successfully solve it. Theoretical studies have also shown that the decrease in the earth's gravitational pull with increased height may aid the reaching of great altitudes.

CALTECH REJOINS CONFERENCE

After four years of free lancing, Caltech is again a member of the Southern California Conference. Acting on the recommendation of the Athletic Council, the Executive Council of the Institute, meeting during the middle of May, officially accepted the invitation of the Conference to rejoin.

Professor Sorenson, chairman of the Physical Education Department, stated, "We are very glad to resume our relations with the other conference members. The differences in the past were merely due to minor technicalities but they are now straightened out and we are looking forward to our future relations with anticipation and pleasure."

Although the reentrance into the Conference becomes effective at once, football schedules for next fall have already been made up and approved. However Caltech had already scheduled four conference teams for next fall and the results of these games will affect the conference standings. The conference teams to be met on the girdiron include Redlands, La Verne, Pomona and our old rival Occidental.

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GYMNASIUM FUND STARTED

As a class gift, the Class of 1937 has deposited with the treasurer of the Institute the sum of one hundred and forty dollars to form the nucleus of a gymnasium fund. Hats off to the men of '37 who have started the hall rolling towards proper athletic facilities.

This year an innovation was tried on Exhibit Day in the form of a two bit charge to view the wonders of the scientific world. The money thus raised was placed by the undergraduates in the gymnasium fund. This amounted to approximately two hundred and sixty dollars, hence in the space of a few months the fund has grown to be in excess of four hundred dollars.

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UNDERGRADUATES FIND A NEW POND

For a number of years now the physics pool has been fenced, to the great annoyance of the student body, who find the fence too high for ease of handling the victims. Last month some genius discovered a new pool of noble proportions and, more important, of easy accessibility. Its only disadvantage, if you would call it that, is that it must be used at night. The location—Pasadena City Hall patio. On several occasions recently the night watchman and the police have rescued a shivering undergraduate stranded, naked and wet in the draughty corridors of the home of Civic Dignity.

STEPHENS WINS AWARD

William E. Stephens, 25 year old Caltech research physics student, who will receive his Ph.D. degree this June, was recently awarded one of five new scholarships given by the Westinghouse Electric and Manufacturing Co.

Stephens, a native of St. Louis, received both his bachelor's and master's degrees from Washington University. He has been working at the Institute under Dr. C. C. Lauritsen since 1934. He has studied the productions of neutrons by bombarding boron and nitrogen with high energy deutrons, and has also been aiding in the development of a new type of high voltage discharge tube.

Under the terms of the scholarship that he has just received he will take up his work on nuclear physics at the Westinghouse Research Laboratories in East Pittsburgh. He will became an assistant in work with the 5,000,000 volt Westinghouse atom-smasher.

Stephens' award was one of the first made under a new plan recently announced by the Westinghouse organization. The awards are to support the work of young physicists on fundamental studies broadly related to the electrical industry.

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YOUNG SCIENTIST PASSES

On May 20 the Institute lost one of its brilliant younger scientists with the passing of Dr. Sinclair Smith. Dr. Smith was an alumnus, of the class of 1921, and also took his Ph.D. degree here, receiving it in 1924. Following this he studied in Cambridge, England, and then returned to Pasadena to work on the Mount Wilson Observatory staff. Since 1929 he has been associated with the Institute in the Astrophysics department. His most recent work has been in connection with the driving mechanisms of the 200-inch telescope. Dr. Smith was well liked by all his associates and his sudden passing will leave a gap that will not be easily filled.

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TECH GETS MUSIC GIFT

On Sunday evenings this year a group of students have been sponsoring a weekly musicale in Dabney lounge. They have used a reproducer belonging to one of the members, and have managed to borrow the records necessary to give a fine series of concerts. These have been well presented with comments on the music by qualified critics. In recognition of the initiative of the students and their interest in this project, the Carnegie Corporation has presented a fine instrument and a library of records to the Institute. This gift is one of several to be made to schools throughout the country to promote music appreciation. It will be installed in Dabney lounge, and should be ready by September.

DR. BELL WINS GOLD MEDAL

Dr. E. T. Bell, has been awarded the Commonwealth Club of California gold medal for the "best work of scholarship and research" published by a resident of the state in 1937. The award was made for his book, "Men of Mathematics," which deals with thirty-four of history's foremost mathematicians. Since this book appeared, Dr. Bell has published two other books, "Hand Maiden of the Sciences," and a new edition of "Queen of the Sciences."

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MEMBERSHIP

The time of year has again arrived when it becomes necessary for the Alumni Association to appeal to its members for support. The past year has been outstanding in that the Alumni Association has offered its members events ranging from football rallies to spring dances, from regular meetings to a stag field day; and two noteworthy new activities, the regular quarterly publication of the Alumni Review, and most popular of all, the Tech Seminar Week-end. This later event was attended by some 425 men, the largest turnout in alumni history. Another branch of Alumni activity is the placement service towards whose support the Association contributes.

Needless to say such activities cost money and it will be readily understood that your early remittance of dues will enable the directors to form a budget outlining next year's activities. As you know, the membership fee is $2.50 per year or life membership may be obtained for the sum of $50 payable in one sum or on various installment plans. At present there are more than 100 alumni who have taken advantage of the long range thrift of the life membership plan.

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WASHINGTON AWARD TO FRANK BALDWIN JEWETT

(From Civil Engineering, June, 1938)

Frank Baldwin Jewett, past-president of the American Institute of Electrical Engineers, was formally presented with the Washington Award for 1938 at a dinner in Chicago on May 5. The fifteenth recipient of this award, Dr. Jewett was cited "for inspiring and directing scientific research leading to improvements in the art of communication."

The Washington Award was founded in 1915 by John W. Alvord, Hon. M. Am. Soc. C.E., and is adminstered by the Western Society of Engineers. It is described as an honor "conferred upon a brother engineer by his fellow engineers on account of accomplishments which preeminently promote the happiness, comfort, and well-being of humanity." The Commission of Award includes members of the Western Society of Engineers and of the four Founder Societies."

Dr. Jewett (Throop Polytechnic Institute, '98) is a member of the Advisory Council of the Institute. He is the father of Frank B. Jewett, Jr., '38, and is one of our most outstanding alumni.

BOSTON GROUP ACTIVE

The Alumni in Boston seem to be a most energetic and active gang who get together frequently and from reports that drift westward seem to have some mighty fine times.

At a recent meeting at the Hofbrau in Boston one of their members took time to prepare a series of biographical sketches of the fellows attending. The entertaining comments of this most worthy correspondent follow.

HUGH COLVIN, '36. Basketballer and incidentally a Chemical Engineer at Pasadena. . . . A grind at the Business School at Harvard with "distinctions" plastered all over his record . . . said he thought there couldn't be any better school than Tech though . . . and then laughed like hell! . . . plans finally to settle in Los Angeles . . . though at this meeting he's wondering if it's still there after the flood. . . . As to pulchritude in women, Southern California definitely gets his vote. . . . Recently elected an officer of the Harvard Business School Association.

FREDERICK DION, '37. Harvard Business School and doing well as might be expected. Fred is heading for Montana as soon as June arrives. Fred has no children yet.

J. S. EDWARDS, '37. Elected Secretary-Treasurer of the Boston Bean Chapter of the Alumni for the next year. Planning to get even better grades at Harvard Business School now that he has an office of trust.

ROBLEY D. EVANS, '28. Assistant Professor of Physics at M.I.T. Unable to attend meeting because of Mrs. Evans' illness and tenth wedding anniversary. Congratulations, Bob. Glad to report that Mrs. Evans is well on road to complete recovery.

CLARK GOODMAN, '32. Physics Dept, M.I.T. Working with Robley D. Evans, '28, in the "Determination of Geologic Ages by the Helium Method". Hopes to get Doctor's Degree in reasonable time. Elected President of Cal Tech Boston Alumni Assoc., March 10, 1938, because he made the loudest noise. Due to the limited resources of a college position, and the honest belief he is a handsome fellow, Clark has lately been posing as a male model for the "Boston's Friendly Baked Beans Co.," (*Motto*—They sneak up on you friendly like)—Clark's wife would be interested to know that he suggested going to the Old Howard (Boston's Follies Casino) after the last Alumni meeting. Clark recently startled the American Physical Society out of their sleep last June at their annual convention in Denver by a paper on his work on the age of the earth. Clark knocked off 50 million years by means of the traditional misplaced decimal point, but after applying a C.I.T. "Skinner's Constant" everything was O.K.

EVERETTE GRIFFITH, '36. Griffith drinks "liters" holds chief post on spelling team of the Harvard Business School, heading for California as soon as possible, to Northampton more often than possible, keeps the wires hot to Wellesley and Claremont. No children, Women first.

HOWARD HAMACHER, '36. First year at Harvard Business School. Spent last year working for "American Smelting and Refining Co., Selby, California"—as Chemical Engineer. School is wonderful, i.e., fairly good—i.e. *almost* as good as Tech. Hamacher is *the Brains* of the Harvard Business School. He attributes it all to the Hofbrau Brew. He *is still anticipating a future on the West Coast.*

TETSUO F. IWASAKI, '32. Unfortunately "ice hockey" has trouble with his eyes and was forced to discontinue his work toward a master's degree at M.I.T. However, we understand from a reliable source that he did very well during his year here. He has returned to Southern California. We're all sorry to see him leave and hope he will be back soon in good shape.

SAMUEL Y. JOHNSON, '33. Johnson finishes a crack two year course at the Harvard Business School this year. It is whispered that he is a candidate for a degree with distinction. Surprising it is, Sammy is still a single man. We don't know how this has been possible. Sam explains, "It is because I care for so many". He is the core of most of the "Big Apples" around Boston. Sam reports to have visited Bob Smallman last Christmas vacation at Schenectady. He hopes to be off on the Boston Night Boat next Easter.

ROBERT C. JONES, '37. Studying Chemistry at Harvard. Two more years to go, can't decide whether to produce or be a Professor. Much thinner—must be working hard. Has another fellowship for next year.

ANTHONY J. LARRECQ, '29. Tony Larrecq, who has been with the General Electric since graduation, was transferred from Schenectady to Lynn about a year ago. He is in a new department specializing in aeronautical equipment. Superchargers are one monopoly of this department, but he is working on an exhaust turbine for airplane propulsion. Romance has actively entered Tony's life. At a Pop Concert last June, Tony struck up an acquaintance with a girl sitting near him, and they are to be married on the anniversary of this meeting June 11. The fiancee's name is Alice Bogdan.

HARRY MILLER, '37. Is a first year *medical student. Likes to dance* well. Is getting along fine with his work. Hopes to specialize in surgery. Seems to have several hobbies but names are not known.

RICHARD NELSON, '35. Dick is chasing electrons through M.I.T.'s physics dept. in search of a Ph. D. degree . . . writing thesis on Thermionic Emission and expects to finish this June. . . . Plans to stay in East because of necessity, but still prefers the wide open spaces of native Wyoming.

BOB SHARP, '34. Bob dragged back into Greater Boston around the first of the year after a full investigation of Nevada during the summer and fall. It being assumed that he snaked up a bit on his thesis ("Cenzoic Geology of the Ruby-East Humboldt Mountains, Nevada"), he'll be awarded his Ph.D. in Geology this spring. He plays a good bit of squash and occupies himself with less important pursuits. After June he'll be waiting for the first University smart enough to snap him up. Likes New England but not well enough.

J. DAVIS SHUSTER, '27. Mr. Shuster, the gentleman on my right, of whom I am requested to give the "cold dope" so to speak, has been in these parts since graduation. Apparently he likes the climate (better circulate a little more propaganda, you Californiaites). Upon graduation he worked for about 3 years for *General Electric at Schenectady* and then transferred his allegiance to the Grace Line, being chief electrician on one of their ships operating between New York and Chile, South America. At present he is working in the electrical division of a subsidiary of the Bethlehem Steel Corp. He is an excellent fellow of rare talents and apparently enjoys *Hofbrau beer in spite of being* married. From the looks of things Mass. seems to be the majority choice of those who left the sunny clime, Harvard Business School being well represented. Tech men seem to do very well back here.

MICHAEL SILVERMANN, 29. Keeps Navy clear of decks: Late of Washington, D.C. Now "Hitting the Deck" Braintree, Mass. Still looks as well preserved as in 1929. Likes New England. Not married yet. Nose dives into ski banks when not howling on the green. Guzzles plenty of beer. Remembers old Tech friends.

FOLKE SKOOG, '32. University of California at Berkeley, in 1937. National Research in Biology and Physiology, Ph.D. in Biology from Cal. Tech. in 1936. Left his skiis in California. Moustache — Harvard haircut —. Married five years. No children. Still would like to have a chance to race Glen Cunningham.

W. G. McSPARRAN, 37. Harvard Business School this year and next and he is working harder than at Tech (hearsay). Civil engineer at Tech. Business administration at Harvard. Going to be a business man, civil engineering not very profitable.

LAWRENCE STUPPY '35. Third year at Boston Medical School. One more year. Greatly enthused about his work. Last summer motored to California for a short visit. Now is working in Massachusetts General Hospital Clinic along with his studies. Is not confined to Psychopathic Hospital, only lives there. Stuppy appeared with typical "Haa--vd" bow tie. Stuppy has recently given up chasing debutantes from Chicago to Washington via New York. He is now cultivating a Southern accent in an effort to gain access to Boston's exclusive Southern Club. Stuppy is making a study of joints — he says from an arthritic point of view—we doubt this but we'll let it pass.

TYLER THOMPSON, '36. Studying at Boston School of Theology and working three days a week running a church. (Barrie, Mass., 1,000 people in community.) During spare time he spends three weeks in Florida singing to the natives. (Last two winters with choral group.) Marriage seems to agree with him.

MARTIN HASKELL WEBSTER, '37. Harvard Law School. Thinks it a lot better than Tech. Thinks Boston is more interesting, more varied, more lively than Pasadena. Thinks Wellesley makes the difference. Planning to get married in April and planning to become Patent Lawyer with plans to live in New York. Loves skiing (great stuff).

VICTOR VEYSEY, '36. Vic is graduating this June and he shows promise of being the fair haired boy of the Harvard Business School. True to his undergraduate environment, our hero has been very active as one of the founders of the "Harbus News," the Business School newspaper. As further evidence of his adaptability to every environment, Tech's shining light boy has become one of New England's better skiiers.

HUGH WARNER, '37. Studying at Harvard Business School.

SAN DIEGO ALUMNI MEET

On the sixth of April the San Diego Alumni held a meeting at the University Club at which Mr. Edward Price of the Solar Aircraft Company gave a very interesting and profitable talk on "Tolerances". Mr. Price reviewed the rise and decline of religious and political intolerances from the time of the Greeks to the present, thus giving a background for judgment of present intolerances.

There was a pretty fair turnout for the southern city among whom were the following alumni: Maynard Anderson, '31, who is connected with the engineering design department of the W.P.A.; Perry Booth, '31, who works for the San Diego Electric Railway; Jack Rossum, '35, a water chemist for the National City Water and Telephone Co.; Byron Hill, '25, in charge of the construction work at Mt. Palomar; John Gates, '36, who is a chemist with the Kelco Company; Dan Schuman, '37, who is in the right of way department of the San Diego Gas and Electric Company; Lee Pratt, '31, from the production department of the Kelco Company; Art Mathewson, '33, who is in the sales department of the Solar Aircraft Company; John Rutter, '33, of the State Division of Highways; Fred DeSilva, '22, who is a professor of Mathematics at La Jolla High School; Maurice Ross, '24, a member of the Board of Education of San Diego; Bob Heilbron, '27, of the Heilbron Electric Company, and Dan Mathewson, '34, who is in the design department of the Solar Aircraft Company. Incidentally Dan Mathewson is in charge of the next meeting to be held June 1st at the University Club of San Diego.

FENWICK MARRIES

Kenneth Fenwick, '28, and his brother, Hobart Fenwick, were proud bridegrooms in a double wedding on May 14 at All Saints' Episcopal Church, Los Angeles. Perhaps this should be called a double-double wedding, for the beautiful brides, the former Misses Darelyn and Marjorie Walker, are sisters. But this occasion was even more notable, for the brides are nieces of Governor James V. Allred of Texas who was present to give them away in marriage.

Following a honeymoon, Ken and his Darelyn have returned to Los Angeles where Ken has resumed his work with the State Division of Highways.

FRANK CAPRA '18 WRITTEN UP IN SAT. EVENING POST

In the May 14 issue of the Saturday Evening Post there appeared an article by Alva Johnson entitled "Capra Shoots As He Pleases". Mr. Johnson presented in a highly entertaining manner the success story of this famous alumni.

Frank Capra, '18, was a brilliant student at Tech; he also took an active part in undergraduate affairs, being editor of the college paper. That Mr. Capra has maintained this interest is shown by the fact that he was one of the first men to take out life membership in the Alumni Association.

Some years after leaving Tech a quirk of fate and a big bluff gave Frank Capra his start in the movies and once in he went from one success to another. Today he is one of the most outstanding directors of Hollywood and known to all for his direction of such pictures as, It Happened One Night, Mr. Deeds Goes to Town, Lost Horizon, Lady for a Day, and many another top notch picture.

If you missed this story you will find it both worth while and entertaining to dig out the May 14 Post and read Alva Johnson's story of Columbia's ace director.

SERRELL WRITES FROM GERMANY

Akademische Auslandstelle
der Technischen Hochschule
Darmstadt, Germany
April 20, 1938

The Alumni Association,
Calif. Inst. of Tech.,
Pasadena, Calif., U.S.A.

Dear Bill Taylor or Ed Tuttle, or whoever is interested (probably Miss Dierkes):

Here are my eleven dollars toward my life membership. I don't know when they're due, but fairly soon as far as I can remember.

The quarterly Alumni Review is great stuff, especially for those of us who are in exile, even though voluntarily and for a short time. My job this year is Exchange student to Germany from Caltech, and it's proving to be a most interesting year to be in Europe. If you need a space filler for the next review, here's some dope you may be able to use.

When the Institute of International Education informed me that my application had been accepted, they continued to add that my language recommendations were remarkable only for their scarcity, and that the fellowship would be granted only on the condition that I go over early in the summer and take some of the vacation courses. To this I agreed readily, and sailed from New York on the 20th of June. Just to get in the proper frame of mind, I took the Hamburg America liner "Deutschland," which was so full of Americans that my good intentions of studying a grammar book went completely by the board. We had a pleasant passage, and arrived in Hamburg harbor on the evening of June 28th. My first and deepest impression of Europe was how long the days were. I had never been north of New Hampshire, and for the last ten years, nowhere north of San Francisco, and daylight from five a.m. to after ten-thirty in the evening was something entirely new to me. My second deepest impression was how small many familiar things, especially automobiles, were here. Next, the unbelievable intensity with which everything was cultivated, including forests, and finally, the amazing number of uniforms all over. Not only the soldiers (and there were plenty of those) but even the taxi drivers and street cleaners wore them.

Hamburg is a lovely city, and impressed me as having much more atmosphere and charm than Berlin, where I went directly after landing, and where I spent two months studying at the foreign institute of the University of Berlin. I lived with a German family and learned probably as much from them as from the courses. Parts of Berlin are very nice, but on the whole it gives the impression of trying to be what it isn't quite able to be, a great cosmopolitan city. In size it's great all right, but it sprawls without much rhyme or reason, and is full of Baroque architecture, which is fine for those who like it. My stay there was pleasantly punctuated by the arrival of Placement Director Donald S. Clark, and Gottfried Dattweiler on their last summer's European tour.

From the beginning of September to the beginning of November, I made a tour of Germany, avoiding English-speaking people and enlarging my meager vocabulary. With a knapsack and a bicycle, which I took on the train with me over long, uninteresting stretches and during bad weather, I headed up through Hamburg to the Baltic coast for what was left of the sailing before the season closed. From Kiel and Flensburg I biked eastward through the deserted beach resorts and the anything but deserted Hansa cities to Swinemunde. From there I took the steamer to East Prussia where I spent a week looking at Konigsburg and making a sightseeing trip as a guest of the government. From there back by boat to Swinemunde and by train via Berlin, Dresden, Leipsig, spending a few days in each city, to Jena, the home of Carl Zeiss and the wonderful optical instruments. I should have liked to have seen how Contax cameras, etc., are made, but was informed that few who are not employed there ever get inside the factory. From Jena to Eisenach I biked through the Fall colors of the Thuringen forest, took the train from Eisenach to Cologne where I visited Erwin Keutner, the German boy who was at Caltech last year. Finally I took the steamer up the Rhine and biked from Wiesbaden to Darmstadt.

The Hochschule here is good, but otherwise Darmstadt isn't much. If one wants to get historical, Darmstadt is the capital of the former Grand Duchey of Hessia whose mercenaries were hired by England during the American Revolution. It is at present the home of a large number of bureaucrats. However, the surrounding country is pleasant, and an exchange student isn't required to keep his nose too close to the grindstone, and Frankfurt am Main and Heidelburg are not too far distant. I do mostly research for which the opportunities are good here both in Strength of Materials and Metallurgy, and listen in on a couple of lectures.

During Christmas vacation, a bunch of us went skiing in the Allgauian Alps in Southern Germany, and on the return trip I visited Munich. During Spring vacation (the month of March) I buzzed through Southeast Europe, Austria, Hungary, Yugoslavia, and Italy, including Sicily. It was amazing to me how the people differed from one country to another. In each country I got a new slant on it and all the others. Hitler had not yet rescued Austria while I was there, but the country was definitely in the process of going German. The Dalmation coast of Yugoslavia was wonderful, prettier even than Italy, and reaped the golden tourist harvest much less obviously. If one bargains for it, life in Italy is extremely cheap. However, Italy will never have a Jewish question as has Germany; only the very smart Jews can out-jew an Italian and exist there. Finally I spent the Easter week-end in Paris, which quite exceeded my expectations as being a beautiful city.

The German people love Hitler, who, after all, has done quite a bit for them, having restored national pride by knocking holes in the treaty of Versailles, removed unemployment, and added to the "Reich." They pay high taxes, but are willing to provided they feel they are getting something for it. The impression one gets from the American publications, especially the weekly with the red bordered cover, should be discounted about ninety percent.

And finally, here are two true stories to illustrate two different national temperaments. The first was told me by a German and concerns the bureaucracy connected with driver's licenses. Motor vehicles are divided into four grades: those with under 200 cc. piston displacement and less than 20 Kmph top speed, motorcycles, those with a weight of more than three and a half tons empty, and all the rest. For the first group one needs no license. A motorcycle license is no good for a car or truck, and vice versa, which is not too unreasonahle. However, if one buys a motorcycle with 199 cc. displacement, he can climb on board and ride without thinking of a license. But, if he has the machine, which he may have ridden three years or more, rebored, so that the displacement is 200.5 cc., he must get a license before he dares ride the thing again.

The second was told me by a lady in Paris who had the occasion to take the French air line from Munich to Paris. They had been up only a little while when they had to turn back because of motor trouble. They landed, and the pilot and his assistants began to tinker, which they hated to do in front of the Germans who gathered around with their hands in their pockets and broad grins on their faces. Finally international relations became so strained that the French boys tied up the job with bailing wire, or its equivalent, and took off again. The repairs didn't last long, for all the oil ran out of one motor, which had to be shut off, but instead of turning back again to Munich, they preferred to go on with one motor to the nearest French port.

You are welcome to use the less mercenary parts of the above as you see fit.

When I get back this Fall about the beginning of September, I'll probably be among the unemployed, so might as well make myself known to the placement service. I prefer Machine Design or research, but will take what I can get, and geographical location makes little difference.

Best regards to all.

Peter Van H. Serrell.

Mr Mrs

and

Chesterfields

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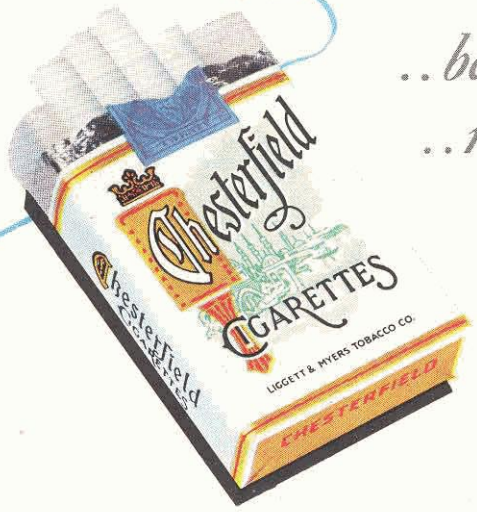

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