

# ALUMNI REVIEW

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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 inestimable 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.



## 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.



## 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<sub>1</sub>.

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.



## 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.

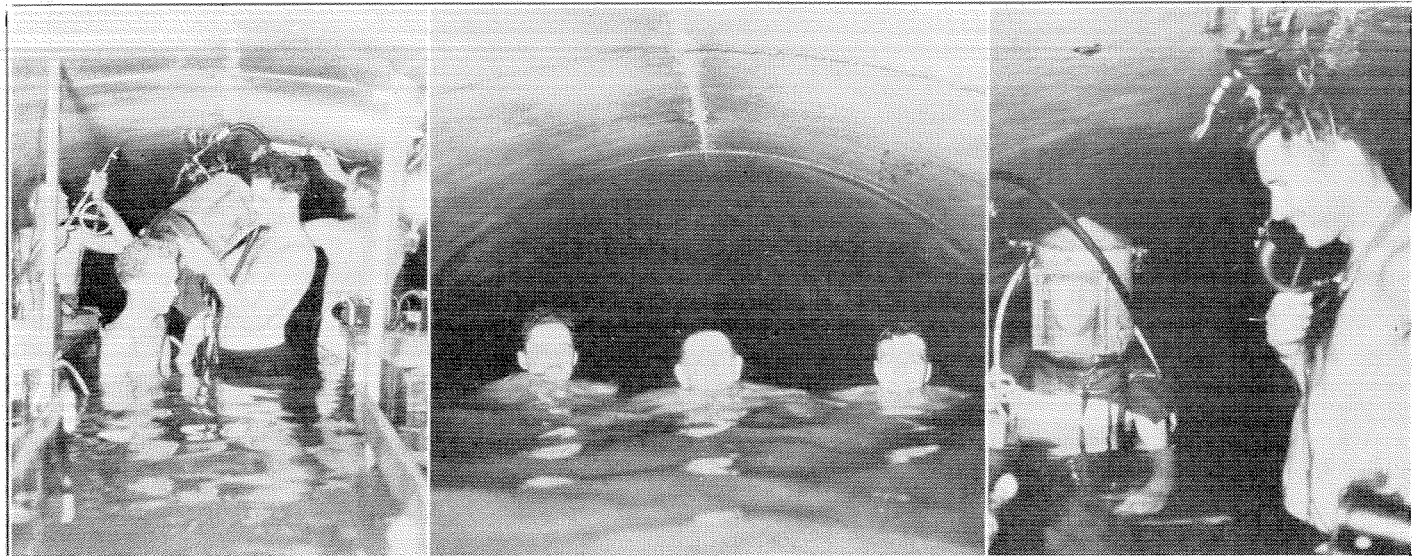
On May 20, Dr. Thomas Hunt Morgan was awarded a degree of Doctor of Science at the Franklin Institute of the University of Pennsylvania in Philadelphia. Dr. Morgan was participating in ceremonies dedicating the Franklin Memorial, honoring Benjamin Franklin. Dr. Morgan is one of Caltech's three Nobel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

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 Hol-

ton, '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.

# 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 seized 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 reminiscences 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.



## 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 combustion chamber in which a mixture of ethylene 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."

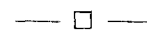
Although the reentrance into the Conference becomes effective at once, football schedules for next fall have already been made up and approved. However Caltech had already scheduled four conference teams for next fall and the results of these games will affect the conference standings. The conference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



## 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 ball 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.



## 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 deuterons, 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 become 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 administered 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.