

. . . OF INTEREST

ENGINEER GRID SEASON HOPEFUL

With bright new uniforms of royal blue and orange, three Rose Bowl games on schedule, and prospects as good as any in the past decade, Caltech's grid machine this year will bear a little watching on the part of Alumni. Coach Fox Stanton is starting his twentieth year at the Institute with favorable spirit and greater interest by public and Alumni than in many years. And unhampered by charges of "paid" athletes and squabbles with football czars over eligibility and player salaries the Beaver eleven may really accomplish something this fall.

As usual the team will be lighter than the average. But Stanton has ten returning lettermen, and thirteen players who received frosh numerals last year ready to start carrying the ball. Among the returning lettermen are Captain Stan Sohler, all-conference fullback, Henry Roes, 1940 conference baseball batting champ, Tom Elliott, whose promising start last year was interrupted by injuries, Bob Cooper, Merritt Eusey, George Lind, John Small, Stan Stroud, and Larry Widdoes. Eleven men on the squad weigh in at over 180 pounds, so the Beavers will not be too much handicapped by lack of beef.

The complete schedule is shown at the bottom of the page. The key game with Oxy will come on November 8, and special Alumni activities are already being planned for the traditional affair.

Make A Date for November 8
CALTECH vs. OXY
Rose Bowl 8:00 P.M.
Frosh Preliminary

Borsook Urges Government To Set Up Nutrition Board At Once

Citing the importance of nutrition to defense and the general health of the Nation, Dr. Henry Borsook, professor of biochemistry at the Institute, recently stressed the need to authorize a Federal body to be concerned solely with nutrition. Addressing the health officer's division of the 42nd annual convention of the League of California Cities, Dr. Borsook in his talk on "Nutrition and the National Defense" made the following recommendations:

1. A commission of competent nutrition experts and scientific representatives of the military services and of the different government departments concerned should be established. This commission would set up standards to determine the extent to which vitamins should be added to foods and deal with related matters.

2. The administrative division should be headed by a qualified executive director with the power to carry out the policy of the commission.

Dr. Borsook cited the need for improved nutrition of the people in peacetime as well as in war or defense time.

"AVIATORS' DIET"

"Our military forces should be given a diet that will afford optimum health," he said. "It is reported aviators of the Royal Air force are given large amounts of vitamins A and D in the form of concentrates, presumably to make certain their vision will be as good as it can be made. These young men report that they enjoy a general tonic effect, their appetites are better, they feel better.

"Our nutrition group has been able to make some study of the cost, and it appears that if the program were carried through on a national basis in this country the vitamins would cost approximately

COMING EVENTS

MONTHLY DINNER MEETING, featuring a talk by Judge LeRoy Dawson of the Los Angeles Municipal Court . . . authentic pictures of "The Second World War" showing the preliminary phases and newsreel shots of current military operations . . . and outline of plans for future meetings. Mary Louise Tea Room atop Barker Brothers, October 1st, dinner at 8:00 p.m.

OXY GAME OPEN HOUSE, with dancing and refreshments at the student houses on the campus after the Big Game with Occidental, Friday evening, November 8.

\$1 per person per year. This figure is so low I have reason to believe that the food industries could absorb the cost without passing it on to the customer."

Dr. Borsook recommended study of the British Scientific Food Committee accomplishments and policy of food fortification.

WOULD STUDY BRITISH

"The policy of the fortification of a staple food for the whole nation recently adopted by the British government is an historic event in public health," Dr. Borsook continued. "It is highly desirable that we send competent nutrition observers abroad so we may have the benefit of a close, continuous and objective study from the very beginning of the operation of this undertaking, first of its kind in which the government of a great country by deliberate plan and measure seeks to improve the nutrition of the whole nation, without calling on the individuals of that nation to do anything.

"The stress of the demand for increased production will grow on workers, executives and government officials. We can put to good use, in the building of our national defenses, all our reserves of health and strength.

"Is it not time then for a national nutrition policy for the United States, for a competent government body to be concerned solely with nutrition? So, just as we are now organized to use all our

(Continued on page 16)

1940 FOOTBALL SCHEDULE

DAY	DATE	TIME	OPPONENT	PLACE
Friday	Sept. 20	8:00 P.M.	Cal. Poly	San Luis Obispo
Saturday	Sept. 28	8:00 P.M.	Glendale J. C.	Rose Bowl
Friday	Oct. 4	8:00 P.M.	Whittier	Rose Bowl
Saturday	Oct. 12	2:15 P.M.	Arizona State	Flagstaff
Saturday	Oct. 19	2:15 P.M.	Pomona	Claremont
Friday	Oct. 25	8:00 P.M.	LaVerne	LaVerne
Friday	Nov. 8	8:00 P.M.	Occidental	Rose Bowl
Friday	Nov. 15	8:00 P.M.	Redlands	Redlands

Institute Sponsors Industrial Relations Seminar for Alumni

Intense Alumni interest in the new Industrial Relations Division of the Institute, and the current importance of better understanding of the entire problem of labor relations and labor laws have led to the establishment of a special seminar course by the Institute for Alumni only. This course, officially called Seminar in Industrial Relations for Caltech Alumni (Economics 110, a,b,c), will be held every Wednesday evening for the coming school year for a period of two hours.

Registration for the course will be Wednesday, September 25, with the class limited to twenty-five men. Tuition will be at the nominal fee of ten dollars per term.

OUTSTANDING DISCUSSIONS

Under the direction of Robert D. Gray and Arthur H. Young, nationally known industrial relations experts now on the Institute staff, the course will feature down-to-earth discussions of labor and employment problems with outstanding personnel directors and labor union officials invited to participate. The seminar itself will be coordinated with the general program of the Industrial Relations Division as outlined in previous issues of the Alumni Review, and Alumni who take part in the discussions are expected to derive much that will be of value to the practical business executive.

The tentative outline of the course is shown below. It has been stressed by the sponsors that the content will be flexible enough to meet the needs and wishes of the men, and that a rigid program will not be adhered to for the year.

FIRST TERM: BUILDING A PERSONNEL PROGRAM — (A)

- Sept. 25—Organization meeting of class. At this time the program for the year will be discussed. It is possible that changes in the content of the course will be made if the majority of those registering for it so desire.
- Oct. 2—What does a worker want in his job?
- Oct. 9—What does the employer expect of a worker?
- Oct. 16—
 - (a) Conflict of interest between employer and employee.
 - (b) Mutuality of interest between employer and employee.
 - (c) Organization and function of Personnel Department.
 - (d) Role of supervisor.
- Oct. 23—Beginning of discussion and non-financial incentives; wage payment plans; criteria for choosing financial incentives; guaranteed annual wage plans.
- Oct. 30—Measuring output of workers; employee rating.
- Nov. 6—Factors affecting base rates and differentials.
- Nov. 13—Job analysis.
- Nov. 27—Job evaluation.

Borsook Urges Government Nutrition Board

(Continued from page 15)

knowledge of science and technology in the construction of engines of warfare, we shall also use modern science and technology for the lasting improvement of the health of the men and women of America."

"I have good reason to believe from a personal communication that the diet of the German army has been designed by nutrition experts, that modern scientific knowledge of nutrition has been used and

- Dec. 4—Non-financial incentives.
- Dec. 11—Final examination.

SECOND TERM: BUILDING A PERSONNEL PROGRAM — (B)

- Jan. 8—Profit sharing and employee stock ownership.
- Jan. 15—Hours of work. How long should a man work; effects of rest periods; Wages and Hours Act.
- Jan. 22—Working conditions: light, heat, ventilation.
- Jan. 29—Working conditions, continued: accident prevention and workmen's compensation.
- Feb. 5—Selection of employees: sources of labor.
- Feb. 12—Selection of employees, continued: testing and interviewing of applicants.
- Feb. 19—Training of employees.
- Feb. 26—Training of supervisors.
- Mar. 5—Elements of a personnel program — summary.
- Mar. 12—Limits to a personnel program — critical analysis.
- Mar. 19—Final Examination.

THIRD TERM: COLLECTIVE BARGAINING

- Apr. 2—Trade unions in the United States.
- Apr. 9—Trade unions abroad.
- Apr. 16—Employee representation.
- Apr. 23—Present status of trade unions in the United States.
- Apr. 30—Economic weapons of labor; how to conduct a strike.
- May 7—Content of union agreement.
- May 14—Arbitration and mediation of labor disputes.
- May 21—National Labor Relations Board; organization, powers, procedures.
- May 28—Selected cases before National Labor Relations Board.
- June 4—Suggested changes in National Labor Relations Board.
- June 11—Final examination.

that it is fortified with vitamins.

Dr. Borsook declared the cheapest and easiest way to improve nutrition of Americans is to add vitamins and minerals to such staples as flour, corn, and sugar and to some canned and bottled foods, at the source where these foods are processed. These, he said, must be added in measured amounts, under government regulation, and subject to government inspection.

WOULD EXTEND PLAN

The scientist held that the Food Stamps Plan, if extended "as it should be, can go far toward preventing serious nutritional diseases such as pellagra and scurvy among the poor by providing enough to eat and improving the quality somewhat."

He added that the Food Stamps Plan alone will not insure an optimum diet for the whole Nation, declaring that "the policy of fortification of foods which our group has recommended to Washington would not interfere with the Food Stamps Plan, but would make it an even more effective measure in improving the diet of those who use it.

"We are confident that an effective national nutrition program based on fortification of foods with vitamins and minerals, supplemented by such measures as the Food Stamps Plan, could, for example, bring about the eradication of pellagra in the South within a year of its full operation."

Regarding costs of fortifying food with adequate amounts of dietary essentials, Dr. Borsook illustrated the low cost by stating, "A friend of mine with relatives in England asked our nutrition group for advice on what he could send to tide his relatives over the serious food situation which is expected in England this winter.

"We drew up a small list of food materials which supplied abundant dietary essentials—first class protein, calcium, phosphate, iron, vitamins A, the B complex, C and D. These dietary essentials with some fat, any available protein, and any carbohydrates for calories will supply his relatives with a first class diet from a nutritional point of view. The essentials will cost him (without transportation) 7½ cents a day per person."

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ARMY ENGINEER BOARD

When the German army *blitzkrieged* through Flanders and Poland, the panzer (armored) divisions and dive bombers were of tremendous importance. The successful and continued advances of the medium and heavy tank divisions were possible only because of the skillful and coordinated work of the German army engineers.

Impartial observers have noted that a factor of great importance in aiding the work of the German engineers was the simplified bridges, capable of sustaining military loads, which in design, were far in advance of those of any other army.

Under the stimulus of the European War, the army of the United States is seeking to profit from the lessons so painfully demonstrated on the proving grounds in Flanders and the Low Countries.

Army engineer boards on the Pacific Coast, and elsewhere, have been working mightily to turn out simplified fixed and pontoon bridge designs.

One board, under the chairmanship of *Capt. Ted Combs*, '27, included among other officers, *Capt. Ben Benioff*, '22; *Capt. Jack Shield*, '22, and *1st. Lieut. Rolland A. Philleo*, '27.

Philleo has been working on a simplified light pontoon bridge, while the rest of the Board has already turned out a successful design for a wooden, portable, demountable and variable span bridge capable of withstanding highway loads up to 10 tons.

The latter bridge, of simple truss construction, was tried out, with gratifying results during the current 4th Field Army maneuvers at Fort Lewis, Washington.

Judging from this experience, it is probable that many Tech officers have their work cut out for them in the coming National Emergency. Design officers, in the new mechanized total war may prove to be more essential than combat officers.

This is one example of the type of contribution which Tech is making to National Defense.

See The Rose Bowl Game!
CALTECH vs. OXY
Friday, Nov. 8 — 8:00 P.M.
Frosh Preliminary

JOHN HUDSON POOLE

☆ ★ ★

Colonel John Hudson Poole, Treasurer of the Institute's Board of Trustees, and a widely known Southern California philanthropist, died at his San Rafael Avenue home September 1 after a short period of ill health.

A noted collector of American historical objects, Colonel Poole in 1939 donated a new wing to the Southwest Museum in Los Angeles, and presented the Museum with his fine collection of 2446 Indian baskets, representing the work of 112 different tribes.

AIDE TO ROOSEVELT

Colonel Poole's colorful career in the military field began during the Spanish-American war when he served as an aide to Theodore Roosevelt during the Cuban campaign. In 1918 he was on the staff of General John J. Pershing in France. He came to Pasadena in 1919 and had lived here continuously since, taking an active part in public and educational affairs, and in charitable work. He was for a long time a member of the advisory board of the Security-First National Bank of Los Angeles, Pasadena branch. He was active in club life especially in Midwick Country Club. To that club he presented an annual prize, called the J. Hudson Poole Trophy, played for by the Midwick golfers at the Memorial season, as an incitement to patriotic memories.

Colonel Poole had a deep love of country, part of his heritage. One of his ancestors, Edward poole, was a colonist from England in Massachusetts in 1635. His father, DeWitt Clinton Poole, named after New York's famed early governor, was a Union colonel from Wisconsin in the Civil War and remained in the Army for a period afterward to fight outlaw Sioux and other Indians on the plains. Colonel Poole wrote a book of recollections of his father and about his time, called "American Calvacade" in 1939.

The colonel himself grew up in the Midwest, where the family had interests. He was president of the Missabe Mineral Company, owner of iron-ore holdings on the Missabe Range in Northern Minnesota.

The December Issue of the
ALUMNI REVIEW will be
devoted to the subject of
PETROLEUM
with interesting articles by
-- Tech Alumni
Watch For It!

"NOW EMPTY, PLEASE!"

By G. AUSTIN SCHROTER

Did you ever sit in the dental chair
Fighting, and groaning, and gulping air,
While a clutching hand and a grating drill
Sent to your marrow, a nervous chill?
And the eyes of the surgeon impersonally
scan
The inner, most sacred, part of your pan?
With unfounded fears of oral disease
You sigh with relief at, "Now empty
please!"

Have you ever noted the tiny grains
Safe in the ceiling (away from your pains),
Of inanimate plaster and pallied paint,
While you lie on your back in a semi-faint?
While the Dentist suggests that you will-
ingly chew,
With your nose awry, and your lips askew,
A vile-tasting type of paraffine cheese,
While you struggle and beckon for, "Now
empty please!"

Write off your dread, as the needle you spy
When you find it's intended for some other
guy,
Who's trying without, in dumb agitation,
To settle his nerves by pure cogitation.
And efforts to focus his wandering sight,
While sinking still deeper into the fright
Brought on by the loss of everyday ease,
With eternity dragging, till, "Now empty
please."

With mirror in hand and preoccupied air,
The white-coated Doc leans over the chair.
With a quick, deft, flip, he peels back your
lip.
And the nurse, on the dot, guides in the tip
Of a coldly distasteful, fluid ejector.
With cotton and probe, and reflecting in-
spector,
He hopefully searches for dental decease
While you numbly wait for, "Now empty
please."

With your gobbling-blocks on a throbbing
spree,
Thumping and aching, in dental glee,
With cusps on edge, and pulp on fire
The one sure way to quick perspire,
Is to hie yourself to the same old seat
Prepared to beg. And to feebly bleat
About anesthetics and drugs to appease
The sporadic chances to, "Now empty
please!"

With cavity opened, you breathe in relief,
But alcohol swab soon adds to your grief.
With tightly-clenched hands and pitiful
moan,
You strain from the probe with many a
groan.
The Dentist and Nurse care never a tittle
As he softly mumbles, "I mav hurt a little."
Little indeed! As you woefully freeze
Your intent to demand a "Now empty
please."

There is no one to tell of your sad dismay
 When you lose the plug (that will never
 stay),
 Of limpid wax, from the yawning hole
 Which your tongue seeks-out as its con-
 stant goal.
 You swallow and gag on the nasty stuff,
 And with rapt concentration, the food try
 to luff
 Away from this hollowed, pre-molar frieze
 Which you hope to preserve for, "Now
 empty please!"

Your inlay is hammered with brutal pain,
 Rap-a-tap-tap, resounds in your brain.
 With drill through the ivory and into the
 soul,
 Abdomen distended, you strive to control
 Your twitching and jerking, and grim pal-
 pitation.
 Such efforts are wasted. For mental stag-
 nation

Rewards all your flinching; and you only
 tease

Your hopeful desire to, "Now empty
 please."

And just as you think that it never will end,
 With the push of a lever, you sit up and
 bend

Your expectant fixation, with squeals of
 elation,

On bridgework or filling, in grim medita-
 tion.

You gasp with dismay at your sense of
 confusion

At humbled-up, jumbled-up, lack of occlu-
 sion.

Now poets may sing and orators wheeze —
 But give me a simplified, "Now empty
 please!"

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CHAPTER NEWS

BOSTON

June 14, 1940

I have some bits of news that I thought might interest you. At the last meeting of the Boston Bean Chapter of the Caltech Alumni Association I was elected president and Ken Bragg, '39, secretary-treasurer. Also at that meeting plans were laid for the summer meeting of the Boston Chapter which meeting is to be held on some sunny California beach. The details of the plans are in the hands of Clark Goodman.

Dave Shuster just called to tell about some kind of a get-together that we are going to have with Sorensen when he is here for the AIEE convention next week.

As far as the meetings of the Boston chapter over the past year have been concerned, I think they might be called simple but successful. We have had four dinner meetings, and all have been well attended. Dr. Clark was present at one of them. I think I can report that there has been a considerable growth in the cohesiveness of this group during the past two years.

The men in the second year at the Harvard Business School made quite a record. Out of a class of 427, ten graduated with High Distinction; and of those ten, three were Caltech men, Charlie Clark, Lowell Hulbirt, and Frank Jewett. Jack McLean graduated with Distinction. Hulbirt, McLean, and I are going to be back at the school as research assistants next year.

Sincerely yours,
 Frank Jewett, Jr.

NEW YORK

The annual meeting and election of officers of the California Tech Club of New York was held Friday, June 7, 1940, at the Western Universities Club. It was one of the most sociable stag meetings of the year perhaps due in part to the "good spirits" dispensed at the club bar.

The program was furnished by members of the Club who talked on recent developments in the activities in which they are engaged. The speakers were:

Paul Ames, '22 (Fish, Richardson & Neave, Patent Attorneys), who discussed recent developments in patent law as well as several interesting and amusing patents.

Bev Fredendall, '29 (National Broadcasting Co.), who described frequency modulation and some of its probable effects on the radio industry.

Bill Hacker, '31 (American Pencil Co.), who gave some interesting sidelights on the problems of a sales manager in the South American markets.

Herb Ingham, '31 (Metallizing Engineering Co.), who described the metallizing metal spray process and its applications.

Archie Kemp, '17 (Bell Telephone Laboratories), who recalled many of his experiences and achievements in chemical work for the Laboratories.

Harry St. Clair, '20 (American Gas & Electric Co.), who discussed the activities of a large power system. Harry also brought along some very interesting sound movies of electric power system developments.

The following officers were elected for the ensuing year:

(Continued on next page)



Ever changing, but always the same

- Considered as a group, the same people who originally owned Edison Company stock still own it, but there are more of them. Californians have always owned and controlled the Edison Company, and over 80 per cent of the present 98,094 stockholders are Californians. Most of the changes in ownership have not really been changes, but *additions*, as more and more Californians shared the ownership of the company.
- Now as always, the Edison Company is an integral part of the industry and agriculture of the ten central and southern counties that make up Edison territory.
- Southern California Edison Company Ltd.

