Ethnic Scholar Desired

The following press release was received here at The California Tech, and normally we would print it without comment. However, we noted that, Caltech's required affirmative action policies notwithstanding, there seem to be few, if any, faculty members here who qualify for these postdoctoral fellowships.—ed.

The National Research Council plans to award approximately 75-80 Postdoctoral Fellowships for Minorities in a program designed to provide opportunities for continued education and experience in research to American Indians and Alaskan Natives (Eskimo or Aleut), Black Americans, Hispanic Americans/Chicanos, and Puerto Ricans. Fellowship recipients will be selected from among scientists, engineers, and scholars in the humanities who show greatest promise of future achievement in academic research and scholarship in higher education.

In this national competition sponsored by the Ford Foundation, with additional support from the National Endowment for the Humanities, citizens of the United States and citizens of one of the designated minority groups, who are engaged in college or university teaching, and who hold doctoral degrees may apply for a fellowship award of one year's duration. Awards will be made in the areas of behavioral and social sciences, humanities, EMP fields (engineering sciences, mathematical and physical sciences), life sciences, and for interdisciplinary programs of research. Awards will be made in professions such as medicine, law, or social work, or in such areas as educational administration, curriculum supervision, or personnel and guidance. Tenure of fellowship provides postdoctoral research experience at an appropriate nonprofit institution of the fellow's choice, such as a research university, government laboratory, national laboratory, privately-sponsored nonprofit institution or a center for advanced study.

The deadline date for the submission of applications is February 2, 1981. Further information and application materials may be obtained from the Fellowship Office, National Research Council, 2101 Constitution Avenue, Washington, D.C. 20418.

In Memoriam

David J. Bagnall

On Sunday, October 5th, at approximately 9 pm, David J. Bagnall, a Caltech freshman, suffered a blood clot in the lungs and died shortly afterwards at Huntington Memorial Hospital. David, who had just turned 18, was the son of Mr. and Mrs. Larry Bagnall of Gainesville, Florida.

Sunday night, after learning he had been picked as an off-campus member of Rickett's Horse, David was running down the Olive Walk when he stopped, complained of chest pains, and then fell into a seizure. Two students trained in emergency life-saving techniques administered CPR. Medical authorities later stated that his condition was such that little could have been done to save him. Paramedics soon arrived and continued treatment but David died shortly after being taken to the hospital. David's family has a history of a blood condition conducive to excessive clotting.

Institute officials have been in contact with David's parents and have sent cards of condolence and flowers to his family. David's funeral will be held this morning at 10:30 in Gainesville, Florida. David was planning to study engineering at Caltech, and his presence will be missed throughout the campus.

Parsons Project Opens Gates

From the Caltech News Bureau

The ornate Gates Laboratory, which has stood empty since it was damaged in the 1971 San Fernando earthquake, will now be restored. Although the building has been declared a historic structure, it is being restored to its former state and will be opened as a public building.

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Prof. Don Anderson Proposes New Earth Formation Theory

While there was concern about the volcanic eruptions of Mt. St. Helens, Prof. Don Anderson was analyzing the planet's accretion and the forces that may have caused volcanoes on other planets. He noted that if the earth's gravity attracted other objects orbiting about the sun, and then caused mutations in the earth, this process is known as accretion. If the meteorites were not the violent entities that they appeared to be, the earth did not melt, as this theory assumes, the relative distribution of minerals would be uniform throughout the earth. Because of new experimental results, Anderson's theory has been revised.
I would like to ramble today about Caltech life in general. I had occasion to live in one of the student houses over the summer and observe how things function in the absence of the majority of the students. First, I've got to say that I don't wish to do it again if at all possible. (The following remarks are not intended to slight any of the other summer residents.)

I happen to enjoy being at Tech. I don't think this is in itself a major indication of severe mindfuck, but there are differing opinions. In fact, I consider myself rather privileged to live in the close company of what I believe to be the most sensitive and intelligent community around. I am often shocked when I am forcibly yanked out of this somewhat sheltered environment and thrust abruptly into the real world—shocked by the lack of caring, understanding, and above all, trust. It takes several experiences in the 'real' world, after being acclimated to Tech life, to learn how not to trust people as completely and unreservedly as I, or anyone else, does as a matter of course each and every day. I like to trust people; it makes life a lot easier. (If necessary, I can get paranoid as the next person—but it plays hell with my mind.) I don't think I'm totally emotionally mangled and mangled, or Tech is turning us into gullible, easily-hurt people. (If the latter, don't tell me, 'cause I don't wanna know.) I suggest that either the great minds here at Tech work on altering the 'real' world to a Tech-like structure, or else that a course be offered (Pey Gabc?) in teaching those of us who are about to leave this place how to cope in what I think is a far less-perfectly functioning world.

—the realist

YOUTHGRANTS NOW AVAILABLE

The Youthgrants program of the National Endowment for the Humanities will offer $10,000 in cash awards across the nation this fall to young people in their teens and early twenties, including many college and university students, to pursue non-credit, out-of-classroom projects in the humanities. The deadline for submission of completed applications is November 15, 1980.

The grants, which offer up to $2,500 to individuals and up to $10,000 for groups ($15,000 for certain high-cost projects) are intended primarily for those between the ages of 15 to 25 who have a ways to go before completing academic or professional training.

If you are interested in the program, a copy of the guidelines should be on file at the campus Placement Office or the Office of Contracts and Grants.

Swedish Club Scholarship

Swedish Club of Los Angeles, Inc. is sponsoring scholarships for the present year, 1980-81, for full-time students of Swedish ancestry. The deadline is November 1, 1980, and further information may be obtained in the Office of Financial Aid, 208 Dabney.

Watson Fellowships

Seniors: the deadline for Watson Fellowship essays is October 24. Seniors wishing to apply for these travelling fellowships should come to the Deans Office and talk to David Wales or Chris Wood about their plans.
When I got to Caltech I wanted to have tons of fun. I tried drinking beer and shooting the "bull." I even sat around comparing SAT scores with other fres. Now you already know how much fun those things are. Even so, I would lie awake, dreaming of transcendental fun, of exponential fun, of fun exotic and fun sublime. I knew I'd have to try something different, even a little crazy, to win away the unnum hours of the day. I resolved that night to lead the perfect chase.

I came to Caltech knowing it was just supposed to be a good place to find my kind of girl. They're all cuter and funnier than I am. They're all at least passably fond of nerds. And, of course, I'd never find such a girl. But the chase, ah! If I could only find someone who enjoyed being chased as much as I enjoyed chasing them, life would be wonderful.

Someone once told me life wasn't supposed to be wonderful. It was just supposed to be gotten on with. Caltech is good for helping you get on with life. I always secretly hoped there was something else, a little mystery, a little magic. What does Caltech say? No magic. Period. Sorry.

I like girls. I especially like girls that Caltech would stake out. I don't think she's not looking for you. That's where the real fun lies. It's easy to tell, too. She'll say something like "hey, do you understand simple harmonic motion?" There's a temptation to follow her up to her room and help her with her biology. Don't fall for it. From then on you'll have to play her game, which won't be nearly as funny as yours. Be aloof and mysterious. Think Humphrey Bogart thoughts. Let her tell you about simple harmonic motion. Interrupt her often enough that she can't concentrate on her problem. Then suggest it's time to talk about her. Make like you're about to reveal your true identity now and again, then change the subject back to her. At all costs, keep her wondering. She'll never stop the chase if she doesn't understand what you're up to.

Dr. Paul Mac Cready
pioneering aero-nautical-scientist designer of the solar power, Gossamer Penguin and the Solar Challenger.
A film-lecture presentation:
Solar Powered Flight
Tuesday October 14
8:00 p.m.
Ambassador Auditorium
303 W. Green, Pasadena, CA.
Tickets ChargeLine 577-5511
THE SEQUOYAH SCHOOL in cooperation with Ambassador College

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I will offer you a deal you cannot refuse.

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HOMEMADE PASTRIES: BAKLAVA, BURMA, AND NAPOLEONS

For Entire Month of October:
A Free Root Beer Float to All Seniors

Faculty, Grad Students, Attend!
Mondays and Tuesdays are Beer Days. Buy 1 pitcher, get the second one free!

On Lake Avenue
1/2 Block North of California

Any sailors out there?
Any members of last year's sailing team or new people interested in getting a team going this year, please contact Mark Maier at 578-9886 in Ruddock House.

The IHC will appoint a student representative for Upperclass Admissions to the Faculty/Student Committee. A sign-up sheet will remain posted at 105 Winnett until October 17. Interviews will be held the following week.

Chuck Nichols

anyone got my quarry staked out. I don't think she suspects yet. It's only the second week of school, after all. Anyway, you'll have to excuse me now. I still need a little work on my lascivious leer.
Earth
from one

Evidence, Prof. Anderson challenges the earlier, conventional theory. He theorizes that the mantle was melted by radioactive decay, and subjected to processing by chemical action and gravitation. The mantle was then differentiated into layers of different chemical makeup.

The evidence, accumulated over a decade, was found in mantle materials deposited on the surface of the Earth. The local magnitude was found to be different in two different sources of mantle material; the spreading ocean floor and the "hot spots" of continental crusts (e.g., Yellowstone Park volcanoes). These two different sources originate at different depths in the mantle. Hence, the evidence supports the theory of the differentiation of the mantle.

A local magnitude hadn't previously been determined for the 1906 quake because of the lack of appropriate seismic records, and thus seismologists didn't know how the temblor compared with more recent quakes in strength and other measures.

The local magnitude measures the size of an earthquake near the fault, while the surface-wave magnitude (Ms) or magnitude scale, usually measures the overall ground shaking near the fault.

The local magnitude had been devised in 1935 for southern California, and thus is of particular importance to earthquake experts. Their method of calculation provides the local magnitude of the quake from the recordings of strong-motion accelerometers, which are used to record data on seismic waves produced by the earthquake.

The Richter magnitude scale, which usually is used in reporting magnitudes of California temblors was devised in 1935 for southern California by Charles F. Richter, now Caltech professor of seismology. Richter and Caltech seismologist Beno Gutenberg extended the scale to worldwide earthquakes. The scale has since gained wide acceptance and is currently the most commonly used measure of earthquake size.

However, Richter's original concept was elaborated upon, so that several types of magnitude scales, such as the surface-wave magnitude scale, are in existence today. These scales provide earthquake specialists with a more complex variety of information about the different types of ground motions produced by a specific temblor than is available from the original Richter local magnitude scale.

Their method of calculation should prove particularly important in determining the local magnitude of large earthquakes, because the more sensitive seismographs near an earthquake epicenter are generally off-scale by very large temblors.

The two professors also have devised a technique to determine the local magnitude of a quake from the recordings of strong-motion accelerometers—other instruments used to record data on seismic waves produced by earthquakes.

Designed to yield a different type of information about ground wave motions than that given by today's seismograph readings.

In general, the Richter magnitude scale has since gained wide acceptance and is currently the most commonly used measure of earthquake size. Seismic studies also indicate that there is a layering of the mantle.

Another familiar objects in the solar system, have undergone similar melt processes. It has been shown that the moon was once an ocean of molten magma that subsequently solidified into chemically differentiated layers. The planet Venus is believed to be in its "magma" stage. The surface temperature on Venus is so hot that the crust does not cool enough to become dense and subsequently sink.

Using the recent mantle data, and analogies to the moon and Venus, Anderson believes that as the Earth was forming (about 4½ billion years ago) the accreted materials were melted. The surface temperature of the Earth was too high for convection to occur within the mantle, but, as radioactive materials decayed, the heat source diminished leading to a cooling of the surface. Convection started in the upper part of the chemically differentiated mantle and continental plates were formed.

The theory is being subjected to scientific review, but so far, no major objections have been cited. The basis for the old theory was the equivocal abundance of the trace material, neodymium found in the spreading ocean floor and hot spots. Anderson showed that the evidence was ambiguous because, during melting, certain processes occur between rare earth elements which cause the neodymium level in the melt to be the same as in unmelted.

The other trace elements support his theory.

Prof. Anderson is now researching the distribution of lead isotopes in the mantle. Deeper layers of the mantle should contain less lead than those near the surface. The problem with studying a sample which originates in the lower mantle is that it must first pass through the lead enriched layer which causes contamination. Prof. Anderson is analyzing the data with these factors in mind.
Lost: TI-58 Calculator with master library and statistics modules. Call James, 578-9769, x2698A or leave a message at the Dabney House mailbox. REWARD.

NATIONAL HISPANIC SCHOLARSHIP FUND
Scholarships are available to graduate and undergraduate students of Hispanic American background from the National Hispanic Scholarship Fund. Applicants must have completed at least two quarters or one semester of college work prior to the submission of their applications. In addition, applicants must be U.S. citizens and presently enrolled as full-time students. Applications may be submitted between August 15 and October 15. Awards will range from $200 to $600. Applications are available in the Financial Aid Office, 208 Dabney Hall.

Newest Northrop Fighter Advances F-5 Family
March 24, 1980 - Hawthorne, California
The new generation of Northrop's F-5 family of low cost tactical fighter aircraft, the F-5G, was announced at Hawthorne today, stepping up a nearly 20-year evolutionary program for the company. The single-engined F-5G was conceived to meet world defense needs today and through the 1980's, and offers an affordable, supportable defensive system that keeps pace with the changing requirements for national security.

October, 1980
Northrop Aircraft is still designing and building high-performance aircraft today in the company's mile-long, modern complex in Hawthorne, California. For 40 years, we've promoted the people associated with our products and furnished one of the finest benefits packages available in the industry including educational reimbursement for employees in an accredited graduate study program; a convenient savings plan - for every dollar invested, Northrop contributes 50 percent; and generous vacations - including a week long Christmas holiday. In addition to a creative work environment you'll enjoy Southern California's year round recreational paradise. And, Northrop's recreation club sponsors many enjoyable activities such as skiing, golf and fishing.

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Hawthorne, CA 90250

Equal Opportunity Employer M/F/H
'Time Lines' Trace Esthetic Past

By Margie Farrell

What's the weird construction in Dabney Garden? Is it a solar collector or just some of B&G's Garden? Is it a solar collector?

Time about his work Tuesday at made of wooden slabs and Ancestors" inspired by such structures as these materials: stucco, painted wood, glass, steel, and marble. Davis explained that the piece was inspired by various styles of California architecture through history. He was also inspired by such structures as the Great Wall of China which has a foundation of wood helping to hold up the stone. Knowing that the work was based on this principle of foundations partly hidden by finishing materials gave it an underlying logic important to being able to understand the art and to not see it as just random and sometimes bizarre combinations of materials.

The first wedge, covered with multi-colored stucco that had sand and bamboo mixed in, represents American Indian building. The second has thin strips of wood painted in muted and pastel shades nailed to it and represents frame homes. The next two units are about the height of an average person and arranged around the perimeter of a square. This creates an outline of a courtyard within a courtyard. The purpose of this layout is to show the desired effect of a richness of many cultures. He said he intended for the piece, like real architecture, to show the effects of its environment: staining and weathering of the wood by the elements, debris accumulating in the sculpture's hollow spaces.

The scale and positioning of the units are also important. They are about the height of an average person and arranged around the perimeter of a square. This creates an outline of a courtyard within a courtyard. The purpose of this layout is to show the desired effect of a richness of many cultures. He said he intended for the piece, like real architecture, to show the effects of its environment: staining and weathering of the wood by the elements, debris accumulating in the sculpture's hollow spaces.

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By Peter Grieve

Have you ever wondered why you turned out the way you are? A partial answer to this question was given Wednesday at the first Earnest C. Watson Memorial Lecture of this season.

The title of the lecture was "All You Ever Wanted to Ask About Chromosomes But Were Afraid We Didn't Know" and it was given by Caltech Professor James Bonner.

Dr. Bonner has been in the Caltech Biology Department since 1929 and so has had first hand experience with many of the major breakthroughs in genetics.

After an introduction by Institute President Marvin Goldberger, Bonner began with a few words about genetics in general. He cited the similarity of separately raised twins in regard to intelligence, height and health as evidence for the power of the chromosome. Then he covered the history of our Biology Department from 1910 to 1935. This included the discovery of "crossing over" (

The mechanism whereby a pair of chromosomes exchange information), the creation of the first map of genes, and the discovery of "eas" observed chromosomes in the chromosomes of fruit flies.

After this, Dr. Bonner told of what we now know about DNA and its activities in the cell: replication, transcription, production of enzymes. He also explained the way chromosome can store a DNA strand 2 centimeters long (Hint: it has something to do with coiling up.)

He then explained the technique of cloning an recombinant DNA, but wouldn't talk about the applicability of this technique to human beings. "People that talk about it get in trouble," he stated, citing the front page of the October 8 L.A. Times. Titles for future lectures include: "Quasars and Continental Drift," "I, California Overdue for a Large Earthquake?" and others. Lectures begin at 8 p.m. in a Seminar Auditorium, and are held on a random schedule Wednesdays.

"COSMOS" Myth Exploded

'Letdown' is the best word to describe the second episode of KCET's new series, Cosmos. For a program that cost more than $10 million to make, Cosmos was dull and reminded one of a course outline given during the first day of a biology course. That is not to say there weren't portions that were interesting, because there were. But too often, the show took unbearably long to get to the point. A prime example was the story of the Japanese warriors, which after some time led to the point of artificial selection.

The highlights of the series so far have been the special effects along with writer-narrator Carl Sagan. There weren't any spectacular effects as there were in Star Wars, but they were new and unusual.

Sagan himself is none of the few elements that keeps the program tolerable. There has been some criticism of Sagan's dictation, but actually his choice of words was more than suitable. And his seemingly genuine interest in the subject he is exploring does generate some excitement in his topic. Hopefully Cosmos, which airs Sunday nights at 6:00 on channel 28 (re broadband a 11:00 am on Tuesdays or channel 58), will improve over its next eleven weeks.

—Doug Mackenzie
**Pie Dip**

1. Package Cheese Cake Mix  
2. ¾ Tbs. Salt  
3. 1 Bowl Black Cherries  
4. 2 Cups Graham cracker crumbs  
5. ¼ Cup crushed potato chips  
6. 3 Tbsp. Onion Dip

Make Cheese Cake according to directions on box in a large mixing bowl, add cherries, chips, dip and crums. Mix to a smooth blend and heat. After baking, cool in freezer. Serve cold.

---

**Time Line**

He began making three-dimensional “wedge cuts” and “hill cuts,” inspired by the image of a road cutting through a hill. The implications of the man-nature interaction interested him. He would leave some of these works outside, such as in rivers, for varying lengths of time to see what changes would occur in them. This has been an important part of most of his later art.

Two events helped his work develop his wedge themes. One was living near a harbor, which let him see boat shapes that were almost inverses of his hill shapes, and got him thinking about wedge shapes in general. The other was buying a table saw, which enabled him to build much larger structures. He described some of the influences on his work. Trips to Mexico, where he saw buildings made with any available material, along with an interest in ancient cultures, were important, as was an interest in early science and alchemy. This led him to make a wedge piece of layers of copper, lead, brass, and wood, with plate glass windows at the ends. This work oxidized from the inside and gave the effect of looking at a heavy snowfall. This changing of the art by nature over a period of time is often used in Davis’s work. He puts many pieces outside in fields, deserts, even oceans for up to six months. He claims never to have lost a work by doing this. Sometimes these sculptures become homes for small animals, others are meant to look like boats camouflaged with ocean colors and a false horizon.

Davis has also done large scale outdoor constructions. As example, built on a beach in New York City, was a house composed of two rooms connected by a concrete corridor, with a long entrance hall. The hall’s ceiling was wire mesh covered with rocks and leaves to give an impression of being underground. The rooms glowed with green light and had radiation warning signs on the walls. It looked like a tomb. The work oxidized from the inside and gave the effect of looking at a heavy snowfall. This changing of the art by nature over a period of time is often used in Davis’s work. He puts many pieces outside in fields, deserts, even oceans for up to six months. He claims never to have lost a work by doing this. Sometimes these sculptures become homes for small animals, others are meant to look like boats camouflaged with ocean colors and a false horizon.

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**Research and development in**

- electronics  
- computer science  
- mechanical engineering  
- physics  
- mathematics

See our representative for an on campus interview Thursday, October 16

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Fairchild is proud of its record as an affirmative action employer and we encourage women, members of minority groups and handicapped to apply.

On-Campus Interviews: October 20, 1980
Wild Life
from seven
Wildlife Preservation Trust, here starts Durrell's pas-
tionately endeavors to save en-
tangled species by breeding them in captivity. Recent pro-
jects at the Manor Zoo include search into breeding tech-
niques, including artificial in-
mation.
In his film, "The Edge of Extinction," Durrell explains his need of man's care and sup-
port for hundreds of en-
tangled species and why their survival matters to us all.
Ensuing Leakey Lectures will be talks by Tepilit on January 11, Thor Heyerdahl on February 3, Mary D. Leakey on March 31, and Donald C. Johnson on April 14 and Roger Payne on May 28, 1981.
On May 2 there will be a special attraction outside the series, Jane Goodall, Jane Dixson and Brute Galikas (with Donald Johnson as moderator) will discuss and debate "Man and Ape."
Admission prices: single lectures $6.50; students $5.50. Six-lecture series: $33.00; students $30.00. "Man and Ape" panel discussion: $12.50; students $10.00. NOTE: for each series ticket purchased, one may be bought for "Man and Ape" at the subscribers rate of $11. Student series ticket holders $8.00. For further information phone 794-7043.

Theresa Hits the SAC
By Tracy T. Furutani
Though Caltech is not a very complexly structured or large college, the number of campus organizations and clubs it now contains serves to confuse unwise neophytes. Hence, the office of the Coordinator of Student Activities (SAC) was set up to alleviate this problem, and, as is the case with such offices, its tasks grows with the years.
This year, the job fell to none other than Theresa Callahan Meising, the Resident Associate of Fleming House. Theresa, a graduate of UCLA with degrees in English and Medieval Latin, came to Caltech with her husband, Kris. In 1979, they became the Fleming RA's, and Theresa has enjoyed working with students ever since.
As SAC, Theresa assigns the various rooms of Winnett Student Center to clubs who need the space. This also entails the maintenance of these rooms; altering Physical Plant to repair damages, accepting reservations on the rooms and easing evidence of ruckus. She also dispenses information about the many and varied activities and clubs on campus with the help of her voluminous files and she works closely with the Dean's office, distributing "literature" to new students and the like.
She also gives comfort in trying times, providing starved undergrads with her coffers of coffee, tea and chocolate. She provides recreational aid. In other words, if you want to gain entry to the Game Room, such as it, is Theresa the one to talk to.
Finally, she answers phones, attends ASCI BOD meetings, and agrees to do things that have to be done.
Her office can be found in 105 Winnett Student Center, the Tech Office, and is open from 10 am to 4 pm weekdays.

A GOOD MAN IS HARD TO FIND

By Eddie Green

GTE LABORATORIES

October 23, 1980

"Looking for You Everywhere"
Coach Parker: A New Breed

By Lisa Grenier

Forget your stereotype of football coaches as callous, sub-verbal drill sergeants—Caltech’s new football coach, Lin Parker, is friendly and articulate. Although he has previously coached only high school football players, he has adapted readily to the advantages and limitations of Caltech students.

Parker assesses the average athletic skill of the football team as being about equal with that of a team at a small high school, but the greater maturity and aptitude for learning which Caltech students possess enables them to consistently progress towards higher levels of athletic capability. His acknowledgement and acceptance of the fact that Caltech assigns a high priority to academics and a low priority to athletics leads to a relaxed atmosphere in which the students can improve athletic skills while maintaining a friendly relationship with Parker, based on mutual respect and admiration. To improve playing skills Parker concentrates on football fundamentals in practices and ensures that all members of the team play in games. Part of his success in relating to the students may be helped by his unusual (for a college football coach) belief that football was meant to be fun and supplied much of the offense for the Beavers.

Caltech quarterback Terry Thomason completed 6 of 15 passes for 50 yards and was intercepted twice. P-P’s passing attack was also slowed, with only 6 of 14 passes completed for 90 yards.

Pomona didn’t need to pass. They dominated the ball with 48 running plays to Caltech’s 26, and a staggering 381 yards to the Beavers’ 83.

Heavy smog, heat, lack of conditioning, and a lack of players that forced 7 people to vying for three forward positions. Returners Job McNally (who likes the color pink—go figure), Nick Grou, Russell Quong and Freshman John Krebiel all see time continued on page 10

Another Fan

To the Editors:

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Soccer Kicks

By Jake

Caltech’s undergraduate soccer team dropped their league opener 10-0 last Saturday at Pomona-Pitzer.

Returning Caltech coach Don Cameron was not upset at the loss stating that Pomona-Pitzer was easily the best team played almost even throughout the first half, but got progressively worse as the Sage Hens peaked out 14 points in the third quarter and 20 in the fourth.

The crowd of about 75 continued to support the team through the entire game (mostly). The cheerleaders, suffering like the team from lack of practice, did surprisingly well in support of a losing cause.

Caltech plays La Verne here next Friday at 3:00 pm.

The swimming Beavers pulled a 7-5 win over the withered Alumni last Saturday.

Caltech came close to vanquishing their hated rivals of Pomona last Saturday. Fiercer than ever, the Beavers plan to chew La Verne today at 3PM at Caltech.
Halfback. The fullbacks are Brian Dunkeld, Terence Barr, Larry Fridrich, John King, Greg Houseman, and Luis Monsalve.

Although last year's team had problems scoring, this year's team is having more problems keeping the other team from scoring. After four games Tech has scored 14 goals to their opponents 31. Coach Cameron has been changing between Sophomore Chuck Lindsey and Freshman Doug Sdore in the goal.

Preliminary predictions have the Beavers finishing fifth in the league this year, very respectable for the league's smallest college.

By Mignon Belongie

e to the u du dx, e to the x dx

Cosine! Tangent! Secant! Sine! 
Three point one four one five nine
Square root, integral, u dv
Slapstick, slide rule, C.I.T.!!

C.I.T. Rah! Rah! Rah! 
C.I.T. Rah! Rah! Rah! 
C.I.T. Rah! Rah! Rah! 
Technology! Technology! Technology!

That's right, believe it or not, Caltech actually has cheerleaders! There are 12 cheerleaders, and we cheer for both the football and the basketball team. (Yes, we have those, too.) The returning cheerleaders are Mara Freeman, Ginny Konjikowski, Becky Sheets, Norma de la Puente, and the head cheerleader, Gloria Badilla. This year's new cheerleaders are Thelma Nunes, Laura Wilson, Clare Watson, Janet Tamada, Daniela Bonafede, Kathy Sheedy and Mignon Belongie [Who also works on the Tech ed.].

Most of the new cheerleaders came a few days early to start practicing. Gloria was already here, and we had about three practices a day, until we left for Frosh Camp. Once school started, we practiced once a day, usually. We cheered for the first time at the football game last Saturday. The Pomona Sagehens beat us 41-0 for other article in this issue of the Tech], and our cheerleading was less than perfect, but we had a lot of fun.

The cheerleaders here at Tech are not terribly serious about cheerleading. We do it mainly because it's something to do to get away from homework. It may seem odd that a bunch of physics and chemistry majors are being cheerleaders, but we really enjoy it.

Note: The above cheer is originally an M.I.T. cheer which has been borrowed and altered slightly by Caltech.

This Week In Sports

Soccer Club:
Saturday, October 10, 6pm, at Rio Hondo
Caltech vs. Rio Hondo Academy

Soccer:
Saturday, October 10, 10am, at Whittier
Caltech vs. Whittier Wednesday, October 15, 3pm, at Loyola
Caltech vs. Loyola
Today, October 10, 3pm at Caltech:

Football:
Saturday, October 10, 11am at Caltech:
Caltech vs. La Verne J.V.
Cross Country:
Saturday, October 10, 10am at Caltech:
Caltech vs. Redlands, Occidental & Whittier
Water Polo:
Saturday, October 10, 10am at Chaffey:
Caltech vs. Chaffey College

Caltech vs. Cal State Los Angeles

The HP-34C makes finding roots and solving integrals as easy as adding or subtracting.

The HP-34C's Solve and Integrate functions put an end to laborious computations and the trial-and-error approach for determining the roots of an equation or computing definite integrals of a function. Now, a single keystroke gives you the answer. This means real time-savings for you math, engineering, and science majors who will be performing these calculus operations over and over again.

Solve and Integrate are but two examples of the problem-solving power of the HP-34C advanced programmable. Dynamic memory allocation automatically converts the 21 data registers, as needed, to provide up to 210 program lines. And remembers these allocations so you don't have to. Up to 5 keystroke instructions are automatically merged into one program line expanding memory to make the HP-34C comparable to calculators having as many as 370 program lines. And editing is a snap. The HP-34C's editing keys let you review your programs and insert or delete instructions as needed.

The HP-34C also features Continuous Memory that retains your data and programs even after the calculator has been turned off. Retrieve them as often as needed, without the bother and lost time of reentering.

Visit a Hewlett-Packard dealer now and experience problem-solving made easy with the HP-34C. For the address of your nearest HP dealer, CALL TOLL-FREE 800-547-5400, Department 658M, except from Hawaii or Alaska. In Oregon, call 738-1010. For details write: Hewlett-Packard, 1000 N.E. Circle Blvd., Corvallis, OR 97330, Dept. 658M.
FLYING

People are interested!

For those of you who saw the news brief last week about building an airplane, the first meeting of the Caltech Redesigned Airplane Student's Hindsight Center (CRASH) will meet in Winnett Student Center (Clubroom 2) at 7 PM on Monday October 14. This will be an organizational meeting. For those of you who don’t know what I’m talking about: CRASH is a new organization of students devoted to designing, building and flying an airplane of the pedal-power type. We need AE’s, ChE’s, ME’s, Ph’s, Bi’s, MS people, extra hands, anybody! During this last week, several people showed an interest in CRASH. The meeting on Tuesday will decide just who will be doing what.

Come to CRASH, Tuesday at 7 in clubroom 2.

GET TEE'D OFF!

If you like to play golf and are interested in playing on the golf team this year, please come to the team meeting at 4:30pm this coming Thursday, October 16 in the classroom at 1:30. We need you to show up or the gym office will not have enough potential players, we may be forced to drop out of the league. So come to the meeting so we will have a good chance to beat other schools.

OVERSEAS

The International Association for the Exchange of Students for Technical Experience is now accepting applications for training abroad. On-the-job training abroad is available for students in Engineering, Mathematics, Architecture, and the Sciences. Application Information can be obtained in the Placement Office, Room 8, Dabney Hall.

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