Social Phones Disappear

by Judith Greenagard

Free social phones have vanished into the past along with the trolley system, the nickel and dime system, and the “real thing” in a Caltech student’s phone. Free phones were once a regular feature during the administration of Eliza Doolittle in the form of a white telephone placed in the residence hall a test of software versatility, several extensions were monitored for performance on the 60,000 to 80,000 message units on the entire system in order to test equipment. Software versatility, several extensions were monitored for performance on the 60,000 to 80,000 message units on the entire system in order to test equipment.

The fate of the phones will be decided at an IHC meeting next Wednesday. The situation has developed slowly because neither the master’s office nor the housing office was aware of the full implications of the installation of the phones, but its budget cannot support the old system. The president points out that no student body better and easily locate intruders. The addition of students as actual members of the security force has also played a major part.

Mr. Chapman complimented the students, and stated that the upperclassmen who are still needed to help man the student force. Two

Continued on Page Six.

Mud and Rape Decline

by Mojo

Most of you should be happy to know that the Caltech campus is a safer place to live than it was two years ago. This is the report from Lee Chapman, Director of Security for Caltech.

Whiles the FBI reports that crime on the nation has increased, up to 20% in some areas, theft and crime on the campus is down as much as 46%. The total value of losses across campus was down 26%, with the number of losses down 43%. The net value, meaning losses not covered, was down 26% and the net number down 42%. These figures are comparing this last fiscal year with the previous one. Theft from students living on campus amounted to $9,107 last year as compared to $15,243 for the previous year, a significant improvement.

Mr. Chapman attributes the improved security to an increased rapport between security and the students. The students at Caltech are losing the antagonism once held for peace officers in general, as a result the officers are able to get to know the student body better and easily locate intruders. The addition of students as actual members of the security force has also played a major part.

Mr. Chapman complimented the students, and stated that the upperclassmen who are still needed to help man the student force. Two

Continued on Page Six.

Equipment Recovered

Nearly $5000 worth of stolen electronic equipment was recovered by the Pasadena Police Department last Sunday. The equipment, $4610 worth of Telextron oscilloscopes and plug-in modules, was stolen from a trailer operated by Mobilscope Inc. in the yard behind Physical Plant.

It was apparently taken sometime between September 9 and 10. Security found the bottom of the door to the trailer pried open. The equipment was recovered by the PPD when the mother of a 16-year-old narcotics suspect

Continued on Page Six.

Frosh get their first taste of food service cooking last Saturday at the outdoor meal held in Rickets-Fleming court. More fresh orientation photos on page three of this issue. Photo by G. Bone

Newspapers

Health Center Open

The Health Center is now open during the academic year. 24 hours a day from Monday thru Saturday. (8:00 a.m. on Monday thru 12:00 noon on Saturday, to be more precise.)

A flu clinic will take place on Friday, Oct. 10. It is free for students and staff and faculty pay $3.00. The hours for this are 9:00 a.m. to 12:00 p.m. and 1:00 p.m. to 5:00 p.m. Contact Personnel at ext 2375 for scheduling. Flu season can be a real disaster for the visiting student in town.

An allergy clinic will be held on Tuesday and Friday only from 1:30 to 4:00 p.m.

All problems relating to Blue Cross Insurance are handled at the Health Center. Please come in between 9:00 & 12:00 Monday thru Friday and see Patti or call ext. 2394.

There is also a Weight Control and the center on Tuesdays, Wednesdays, Oct. 15 from 12 to 1:00 p.m. Please contact Patti at ext 2394 for more information.

Classical Note

The Musicale is a room with a good stereo and lots of classical records. It is located in the basement of the old houses by the music offices. Keys are $1.00 for the year. If you want one, locate Keith Neuman or leave a note in the O/C Rickets box.

PR Wants YOU!

The Public Relations Office is looking for students to give guided tours of the campus to visitors. The pay is $2.50/hr on weekdays and $3.00 for Saturday tours. Contact Chris Orlofki, Public Relations Office (located between Noyes and the Coffee House).

You’re Warned!

Just a note to remind you that on Monday, October 6, Security will start issuing warnings for anyone parking in the Athenaearm or on the Olive Walk. On Tuesday, they will start writing tickets. Take note.

Sighted Cowan, Sank Nakazono?

The second week of Caltech Gamers present World War 2 naval miniatures action. Due to the graduation of Bob Cowan, this year’s target will be Barry Nakazono. As usual, we will meet in Dabney Hall (not house) Lounge at 7:30 p.m. on Saturday.

Continued on Page Four.

It’s Our First Try

Rotation Guidelines

Rotation is nearing its end, so here are a few reminders about procedures to follow.

Friday’s (Tommy’s) dinner is at 6:00 p.m. rather than 6:30. Saturday’s lunch will be the meal after which each house will make its presentation rather than the evening meal. New students will be expected to talk to the upperclassmen after lunch. It will be a waited meal and begin promptly at 12:30 in all houses. Attendance at the evening meal is by ticket only. These tables will be served cafeteria-style in the North complex and in Chandler, served from 5:30 to 6:30. Those rotating in the south houses on Saturday are expected to eat in Chandler.

Each new student shall submit a list of four houses he is willing to live in to the Residence Associate of the house to which he or she is temporarily assigned. (Off campus students give the list to the RA of the first house rotated into.) This must be done by 8:00 p.m.

Students will find out which house he is assigned to by 8:00 p.m. Sunday night. Each house will have a list of its freshmen, with pictures, in its lounge.

On Monday, October 6, students will move if assigned to a different house. Take linens with you and give your room key to the new occupant of your room.

Be tolerant of those who may move late, there are difficulties and time and many cannot be able to move out when you want to move in.

For those off campus students who are not assigned to a house, including those in the Blacker/Dabney basement, notify your house president and he will make sure you are on the waiting list for that house.

We Need Frosh!

As the California Tech buckles down to another year of publishing assorted information and misinformation, we of the newly reorganized Editorial Staff (Read the masthead, Turkey!) are once again searching for that fine Mojo Jones in Ruddock, or Sandy McCorquodale in Ruddock.

Hello! Just a note to remind you of publishing assorted information and misinformation, we of the newly reorganized Editorial Staff (Read the masthead, Turkey!) are once again searching for that fine material that goes into a first-class staff of reporters and stringers. Working on the Tech can be both rewarding and frustrating. We don’t promise anybody any sort of joyride when they sign on. We are looking for people to convert the weekly fish wrap into a publication that Tommy Techer looks for at Friday lunch. Who are the candidates? The first people that come to mind are all yours:

FROSH—you’re 200 strong and gaggles of those interest sheets listed an interest in Newspapering. Next are all you freebie units of A and, (shades of Eliza Doolittle!) perhaps a little $$. Where can I join this fabled endeavor? Drop by the Tech Offices in Winniet or contact Ken Yoshida in Dabney, MoJo Jones in Ruddock, or Sandy McCorquodale in Ruddock. After all, what’s a GPA?
Friday, October 3, 1975

Volume LXXVII Number 2

Published weekly except during vacation and examination periods by the Associated Students of the California Institute of Technology, incorporated. The opinions expressed in all articles are strictly those of the authors and do not necessarily reflect the views of the editors or of the corporation.

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The California Tech publication offices are located in Wintern Center (100-611), California Institute of Technology, Pasadena CA 91125. Telephone: 798-6811, x3154. Printed by News-Type Service, 1504 Gardena Avenue, Glendale CA. Represented by national advertising purpuses by National Commercial Advertising Service, Inc. Second class postage paid at Pasadena, California.

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Life Subscription: $100

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NEW EYE-SAVER

Quasar Quest

The discovery of four quasars that are among the nearest of those known to astronomers was reported at the 146th meeting of the American Astronomical Society last week.

The discoveries were made as part of a sky survey for bright quasars, Richard F. Green, Caltech astronomer, told attendees at a meeting at San Diego State University.

The finds are of value in understanding how quasars are distributed in the universe. Green’s survey is part of a larger study on the extragalactic universe, which was done by Green’s adviser, Dr. Maarten Schmidt, astronomer of Caltech and the Hale Observatories who is widely known for his work on quasars.

Nearby quasars are especially important because it is easier to find cosmic objects associated with them for which reliable distances can be determined. There is a question about the distance scale for quasars. Bright ones are important because they are essential in determining the spatial distribution of quasars in the universe.

One of the “nearby” quasars appears to have a nebula, or cloud, around it similar to those found around a few other quasars. To some astronomers this means that quasars could be violent events in the nuclei of galaxies.

The most distant of the four new quasars is roughly 2.7 billion light years from earth, according to Green. Most quasars are rarely much further away, measured by the red shift yardstick. They are considered to be the most distant, energy objects in the universe. Many quasars radiate radio waves as well as light waves, but these quasars have not been detected in radio surveys.

Green’s optical survey covers most of the sky, and yet the new quasars have not been found in a fashion similar to the use of an electroretinograph, which is a device that records electrical waves on the retina. Instead it is stimulated by light, much as an electroencephalograph records brain waves. The retinal waves (ERGs) can be turned into images known to detect retinal illnesses, in a fashion similar to the use of the EEG and brain waves. The ERGs are measured on the eye’s surface. They are generated by the layers of cells that make up the retina and the electric signals to the optic nerve.

When the electroretinograph was first introduced some 40 years ago, high hopes were held for it as a diagnostic tool. But for several reasons it evolved only into a tool that confirmed diagnoses. Retinal waves, being very weak (only 50 millivolts of a volt in intensity), are difficult to measure. Other stronger eye muscles or the facial or eye muscles can “drown” them out. Also eye waves are pattern complex changing with the amount of color of light going into the eye, the shape of the light pulse and other factors.

Another major problem was the method used in detecting an measuring the waves. It was too difficult to make the technique sensitive enough to detect abnormalities in the retina. When high waveforms were introduced into some 40 years ago, high hopes were held for it as a diagnostic tool. But for several reasons it evolved only into a tool that confirmed diagnoses. Retinal waves, being very weak (only 50 millivolts of a volt in intensity), are difficult to measure. Other stronger eye muscles or the facial or eye muscles can “drown” them out. Also eye waves are pattern complex changing with the amount of color of light going into the eye, the shape of the light pulse and other factors.

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THE CALIFORNIA TECH Page Three

Frosh Camp 1975

Upperclassmen displayed most of the excitement at Frosh Camp this year. Having been through Camp before, they know how to have fun, while the frosh just milled around looking confused and hostile to the lectures and discussions. Most eventually discovered requisite from the weighty premise of Camp, however. Swimming, hiking, volleyball, football, basketball, and frisbee were the major activities, but a few enterprising people managed to find "liquor stores" in the wilds of Camp Fox. Oceanings were also popular, and awarded to the power-mad leader and lanky dishwasher in the group.

Eye Savers

Continued from Page Two

Professor of biology and applied science here, and his graduate student, Arthur Koblasz, have eliminated the discomfort of large contact lenses, have greatly amplified the retinal waves, have tuned out unwanted signals, and have adapted a mathematical method of analyzing the waves that is very sensitive and powerful. The work is supported by the National Eye Institute of the U.S. Public Health Service.

To magnify the waves so that they could be detected, the Caltech scientists decided that a larger electrode was needed, since the signal magnification is partly determined by electrode size. They fitted the electrodes outside the eyelids and attached eye cups to goggles. The cups surround the entire eye and lids and are filled with artificial tears whose acidity matches that of the patient's own tears. The transparent fluid serves to conduct the electric signals to a silver electrode mounted in the eye cup.

The eye is so comfortable in this environment that it blinks perhaps only once every five minutes, Fender said. This greatly reduces the unwanted waves generated by contraction of muscles of the eye and eyelids. The eye looks through the fluid, not at a bright flashing light but at a wide screen on which light gently scintillates. If the eye's fovea (central area) is being examined, only the central part of the screen will scintillate. If peripheral vision is being tested, then only the outer part of the screen scintillates.

The randomly scintillating light strikes the retinal receptors, which transduce the light (with a photosensitive bleaching chemical) into an electrical impulse. The impulse is passed along in sequence to the other kinds of cells in the retina—the horizontal, bipolar and ganglion cells. Each of these cell types comprises a layer in the retina. From the ganglion cell, the pulse moves along the optic nerve to the visual cortex. If only two flashes of light are directed into the eye, one very shortly after the other, the ERG of the second one will be smaller than the ERG of the first. That is because the light-sensitive chemical in the retina's receptors does not recover instantly from the bleaching action of the light. Thus the wave pattern is a changing one. Dr. Fender's system looks at the ERG of the first, then the horizontals, next the bipolars and finally the ganglia.

The first such person was an albino, who has very little pigment in his receptors. As a result he is working in collaboration with the Doheny Eye Foundation of Los Angeles in the testing of persons with pathological eye problems, including glaucoma. "I don't think there's any virtue in this research if all we can do is to tell someone he's going blind," Dr. Fender emphasized. "That won't buy him very much. But if we can tell him he's in jeopardy and needs treatment, then it will all be worthwhile."
It is unfortunate that I cannot actually review anything at present, being new to the area, but hopefully the information will be helpful.

News Briefs

Continued from Page One

Oct. 4. If you liked last week's Alien Space, you'll love this. It's the same sort of game without as much crawling on the floor.

Bridge Trolls!
The first meeting of the Caltech contract bridge club will be at 7:00 p.m. Saturday in Winnett Lounge. The attendance at the organizational meeting will probably determine the fate of the club, so be there!

To the Bridge Trolls—You may not meet Saturday in Winnett without reserving it with Flora first.

Women Meet
All CIT women students and wives of students are invited to join the Caltech Women's Club.

Legalize Heroin!
The Libertarian Forum will hold an organizational meeting Thursday, October 9, at 7:45 p.m. in Clubroom 1 (Winnett). The LF exists to encourage discussion, and knowledge of libertarian—the political philosophy of minimal government and maximal individual freedom familiar to readers of Heinlein's The Moon Is a Harsh Mistress or Rand's Atlas Shrugged.

Are You Good At Sitting?
During this academic year, there will be a limited number of opportunities for paid work as gallery sitters (attendants) and substitute. The number of hours per week will be assigned according to the individuals' availability during gallery hours (12-5, Tuesday through Sunday) and the number of regular sitters employed. If you are interested, please contact Madeline Shea, in one of her classes or the Club, the Cycling Club, and the Coffeehouse got their programs underway for the year.

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All interested persons are invited to attend. For further information, contact D. Miller (15 Blacker) or R. Pfeiffer (242 Ruddock).
October 15th is HEWLETT-PACKARD DAY!

A company representative will be here to demonstrate Hewlett-Packard products and to answer questions.

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Come in and see these great new calculators today.

CALTECH BOOKSTORE
Bibliophila

The Caltech Library extends a warm welcome to new students and faculty. Did you know that there are about forty libraries and reading rooms on the campus? This is a special characteristic of library resources at Caltech. There is actually no real central library collection. Even the collections in the Millikan Memorial Building are mostly individual subject collections.

There are some centralized collections and library services in Millikan. The Reserve book service is located in the first floor, for books and publications which have been assigned for specific reading by professors. Here you will also find a collection of records and some listening equipment.

On the second floor is the general reference collection and the union card catalog of holdings in most campus libraries. Readers’ Services Librarian, Rod Casper, will be there to report your way to the various collections. On this floor you will also find an extensive collection of telephones and indexes to Caltech dissertations. The interlibrary loan office is here, for the convenience of faculty and graduate students.

You can sign up here for the intercampus vehicle which operates between Caltech, UCLA and USC. It also stops at the Norris Medical Library (part of the USC School of Medicine, located near the County Hospital) and the Clark Library (part of the UCLA system but located elsewhere, specializing in 17th and 18th century English civilization).

Schedules have been expanded to include two evening returns, so that you can spend a long day at UCLA and still get your books that afternoon.

On the fourth floor is the Humanities and Social Sciences Library. This has many books of general interest, like a small public library. Here you will also find a large collection of college catalogues and information on scholarships and grants.

On the fifth floor is the government documents collection. Mrs. Catherine Rowlinson will be glad to find you if you specialized information in your subject field. Here also is the microform center. Many publications and journals are available on microform, and we have readers and printers available. This room is closed at 5 p.m., and on Saturdays and Sundays (due to lack of staff), so arrange to visit it during regular weekday hours.

This floor also has humanities journals.

The upper floors are science oriented - 6. Engineering - 7. Mathematics and Physics; 8. Chemistry; 9. Biology. Each floor has its own card catalog and there is a librarian on the 6th floor, Mrs. Lyons, and on the 8th floor, Mrs. Rowlinson.

In the basement is the photoduplication facility. The staff there can also provide a cheap but excellent binding for your term papers, dissertation, etc. This room is open from 8 a.m. - 4:30 p.m., Monday - Friday. A self-service copying machine is on the first floor.

The charge-out of books you want to borrow is on the first floor. In order to avoid long lines you can fill in the new edge-notched circulation card on the floor where you find your material. Then bring the card and book to the ground floor. The attendant will ask you for your Caltech I.D. card, which establishes your right to borrow. If you are not carrying any books or briefcase, you will not be stopped.

The Millikan Library is a natural magnet for students from other schools, ex-Caltech students publications are owned by local companies, etc. We do our best to discourage these people from using the library, especially evenings and weekends, so that members of the Caltech community will have priority of access. It is primarily for the faculty and students.

Continued from Page Eight

UNCLAIMED SCHOLARSHIPS

If you have any cash, please give it to your charge account in most campus libraries. Readers’ Services Librarian, Rod Casper, will be glad to find you if you specialized information in your subject field. Here also is the microform center. Many publications and journals are available on microform, and we have readers and printers available. This room is closed at 5 p.m., and on Saturdays and Sundays (due to lack of staff), so arrange to visit it during regular weekday hours.

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Continued on Page Eight

Biblioopia
Here’s a checking plan that’s designed especially for students. For a dollar a month, you can write as many checks as you want with no minimum balance required.

You will get a statement every month. And if you decide not to write checks over the summer, there’s no monthly service charge at all. We’ll still keep your account open, even if there’s no money in it, until you return to school in the Fall.

We also have a Master Charge credit plan for sophomores, juniors, seniors, and graduate students. It provides extra money when you need it — a good way to build credit standing. Plus you can have overdraft protection on your checking account at no additional cost until you use it.

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I'm sorry, I don't understand what you're asking for.