

Statesman

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Toll Calls Residential College Program Meaningful

(Editor's Note: The following is an excerpt — approximately one-fifth — of President John S. Toll's annual report to the Chancellor of the State University of New York. The emphasis is ours.)

Campus Life

In the fall of 1967, the student body rose to 5199, an increase of 1247 over the year earlier. Included in this total were 689 graduate students, 67% higher than the number enrolled twelve months earlier. The freshman class contained 1357 students, the largest class to have been admitted to the University at Stony Brook.

Seven hundred and thirty-four degrees were granted in June, 1968. This compared with 402 the preceding year and continued the marked annual increase in graduating seniors observed since the first commencement in 1961. The total included 635 undergraduate degrees, 79 masters degrees, and 20 doctorates.

Services to students were provided at an increased rate. The number of counseling visits jumped from 3810 to 4650, placement interviews from 1100 to 2300, student health service visits from 10,000 to 13,000, and admissions applications from 7300 to 8500. During most of the year, offices providing student services had a backlog of requests and a waiting list.

The problems of overcrowding which were noted in the annual report of 1966-67 were accentuated in 1967-68 by the increase in enrollment noted above. The construction program failed to keep pace with the increase in the student population. The student body increased by 1246, while 1000 residential beds were added. At the beginning of the year, over half the resident students were "tripled." The only increase in the academic space was provided by the rehabilitation of space



Toll reports to Albany on campus.

in the attic and basements of the Biology and Physics buildings and the completion of the Social Sciences Buildings toward the end of the fall semester. Neither library space nor recreational space was added to overcome serious overcrowding in these areas.

For the students the normal problems incident to adolescence, campus life, and academic effort were accentuated by the overcrowded conditions on campus. The University took extraordinary steps to improve conditions; it leased living quarters off campus, made changes in the residence halls to increase the number of lounges and study areas, increased library hours and kept some classrooms open all night long for study purposes, and increased faculty contacts with students through the Residential College Program.

Two events brought these student conditions into the limelight and turned unrest into protest. On December 7, workmen left a construction site on campus and attacked students and staff members participating in an antiwar rally. On January 17, Suffolk County police made a highly publicized dawn raid on residence halls to arrest students suspected of possessing or "selling" drugs. Following these two events the whole campus was involved in serious discussions of fundamental issues of campus living, including the relationship of the University to students, parietal hours, student regulations, campus drug policies, police access to campus, search policies in residence halls, and policies governing student demonstrations.

These sources of anxiety were quickly related to other social issues of concern to the students, such as the draft, the Vietnam war, and recruiting on campus. Student demonstrations on many of these issues took place on campus, and in a few instances these were disruptive. However, classes were never halted by demonstrations and there was no appreciable destruction during the protests.

Important issues of academic freedom were raised when several faculty members refused to answer questions directed at them by the Joint Legislative Committee on Crime on the grounds that their relationship to students was and had to be such as to prevent public disclosure of personal matters communicated to them by students. At the end of the year most of the issues were unresolved; cases against the students were still pending, a grand jury investigation of the University was continuing, and an appeal of subpoenas issued by the grand jury to certain faculty members was before the New York State Court of Appeals.

An unfortunate aspect of these investigations was the many distortions and false accusations made by law enforcement authorities to justify their actions. A serious problem of illegal drug activities exists at Stony Brook as at other universities, but there is no evidence that the incidence of drug use was greater at Stony Brook than at the average major residential campus, and the University Center had been doing more than most universities to deal with this problem; these efforts have been continued and intensified.

The University made clear its willingness to cooperate with law enforcement agencies in efforts to discourage drug use on campus. At the same time, a revision of student regulations already underway was accelerated, with students and faculty members heavily involved. As discussions of these topics continued during the spring and summer, a Vice-President for Student Affairs was appointed, and a faculty-student Council for Student Affairs was created and given wide powers to recommend policies. The student government employed an attorney during the summer to investigate ways of insuring the rights of students.

The Residential College Program was operating in most student residences and assisted greatly to relieve tension through providing for extensive student-faculty interaction meaningful for both. A successful experiment with extended visiting hours in the residence halls was conducted. The year ended with the Stony Brook Council considering proposed revisions of student regulations and meeting with the Council for Student Affairs to discuss policies respecting the confidentiality of student records, illegal drugs, and room inspections. It was clear that campus concern with these and related issues would continue and that further changes could be expected.

CSA Approves Stony Brook Union Constitution

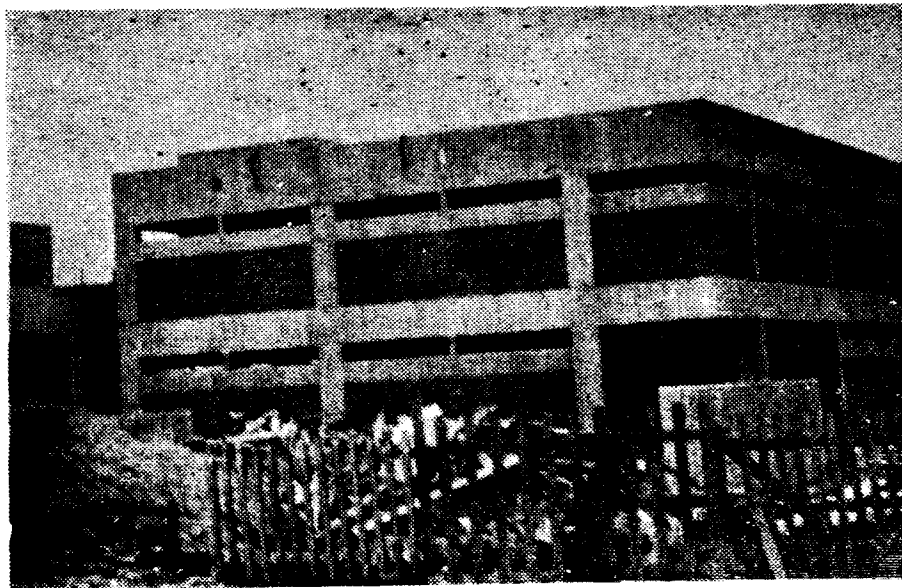
By ALAN J. WAX
Statesman Staff Writer

After a two-and-a-half-year controversy, the constitution of the Governing Board of the Stony Brook Union (formerly Campus Center) was unanimously passed by the Council for Student Affairs on Friday, Jan. 17.

According to the constitution:

The jurisdiction of the governing board embraces the facility (Stony Brook Union) and those adjoining areas functionally related to it, the programs and services provided by the Center; the overall supervision of administration through the development of policies, review of policy implementation, approval of the appointment of principal administrative officers, approval of budget proposals and general review of operational practices.

Membership of the Governing Board will include nine elected



The once Campus Center, now the Stony Brook Union.

members and five ex-officio members. Of the elected members, six will be undergraduates, one will be a

graduate student, and two will be members of the faculty assembly. Undergraduate members will be

elected in the Polity election to be held on February 12 with petitions now available at the Polity office. The ex-officio membership includes the chief executive officer or someone designated by him from the following: Student Polity, Graduate Student Council, Faculty Assembly, Director of the Campus Center, and the Chairman of the Program and Services Council.

Programming in the Stony Brook Union will be facilitated by the Program and Services Council which will consist of the program director and the building manager and one member from each of the following: SAB, Commuter Association, COCA, Music Department, Theater Department, Art Department and Poster Shop.

The name Stony Brook Union is to be used until a decision is made as to naming the Union after a famous New Yorker. Thus far, two names have been proposed: Lenny Bruce and John Steinbeck.

Survey Shows Ph.D. Shortage

WASHINGTON (CPS) — Unless changes are made in the present draft regulations as they affect graduate students, the nation's supply of trained Ph.D.s in the sciences will be "seriously curtailed" in the 1970's.

According to data furnished by 1,237 Ph.D.-granting science departments in institutions throughout the U.S., as many as 46 percent of first and second-year male graduate students are potentially liable to induction in the next few months. That's 50 percent of all graduate students who are also employed by universities to teach undergraduate classes, and 47 percent of those who are employed to do research in the sciences.

Shortage of Teachers?

Many universities told the Commission they will not be able to find enough

students to teach courses during the next year, and that research projects may have to be curtailed, reduced or delayed if no changes in graduate deferment are made this year.

The present policy of drafting oldest eligible men first means that first- and second-year graduate students, most recently reclassified since last spring's policy change, are first priority to fill draft calls, which are expected to stay at the 30,000-plus level through the coming summer. "But inductions are likely to be highest among this group, since current regulations require that a draft board fill its quota from the oldest available men. Few non-college men are available in the age group 22-25, where most of these students fall."

May Not Finish...
"Although many may be allowed to complete this school year if an induction notice is not issued before they are in the final term, this does not change the fact that most of these draft-eligible men may be unable to complete their graduate training prior to entry into the service. A substantial loss of first- and second-year graduate students inevitably will reduce the size of advanced Ph.D. classes in following years."

The survey was limited to science departments because the organizations which sponsor the Commission are scientific academic groups. It believes, however, that results of this first survey are roughly applicable to general graduate school enrollment.

Notices

Le Cinema Atelier Film-making Society is now holding open call casting for its first motion picture, **The Death of Tamerlane**. Parts are open for two leads, several supporting actors and actresses, and many extras. Le Cinema Atelier is looking for "attractive and/or interesting-looking" people of both sexes, any race, and every nationality. All casting will be done by personal interview later this week. To secure an interview, you must attend either of two general casting calls, to be held Wednesday, February 5, 1969, at 7:00 and 9:00 p.m. The casting will be in ENG 143. For further information call Jan Gershkoff, 4483 or Rob't. Schnitzer, 4231.

Le Cinema Atelier Film-Making Society is also seeking a rock and roll band that does original material to play and appear in its first film. Contact Robert Schnitzer, director, at 4231.

Anyone wishing to be a student guide for the spring semester should pick up an application at the admissions office.

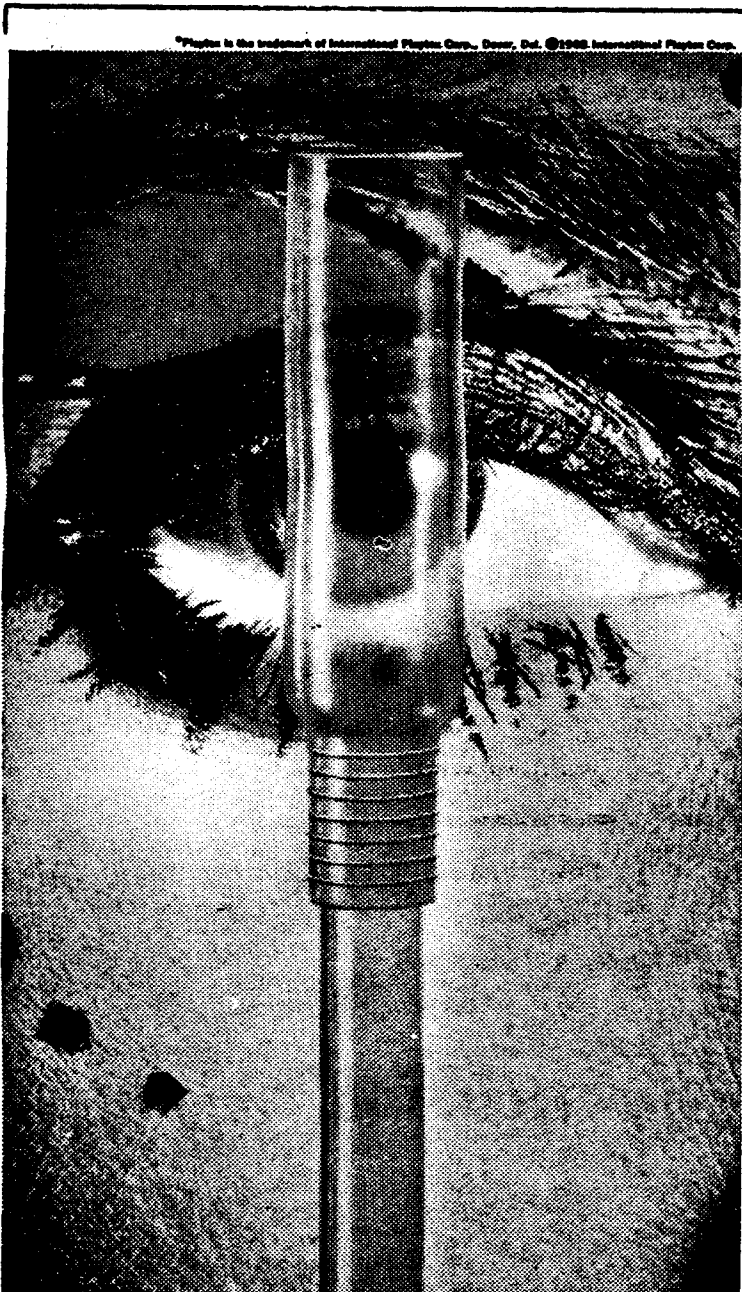
The Traffic Appeals Board is now fully authorized to consider individual appeals from summonses. Questions regarding an appeal may be forwarded to Mr. Charles Totten, traffic co-ordinator, at 7623, or Dr. Paul Croft, chairman of the Board, at 5063.

Comm. Defers Action On Ombudsman

The Executive Committee of the Faculty Senate has deferred any recommendation regarding ombudsmen pending a report of a subcommittee which has been asked to consider questions which have arisen concerning their role, constituency and selection.

Last year's ombudsmen were Dr. Theodore Goldfarb of the Chemistry Department and Dr. Robert Weinberg of the Physics Department.

Preparations are underway for publication of a faculty journal of opinion on a trial basis during the spring semester. A three-man Editorial Board responsible to the Executive Committee will retain an editor. The first issue is tentatively planned for March 1.



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7:00 and 9:00 pm

In ENG 143

★ Attendance at either call is necessary to secure an interview!

Jan Gershkoff 4483

Rob't. Schnitzer 4231

New Student Loans Legislated

WASHINGTON (CPS) — New legislation which makes it possible for a student to borrow money for educational expenses from his school — regardless of his state of residence — has gone into operation under the Guaranteed Student Loan Program. The new type of loan is authorized by recent amendments to Congress' Higher Education Act of 1965.

In most states, before the amendments were enacted, loans to non-resident students could not be insured. The amendments permit the Federal government to insure loans made by a

college to a student who, by reason of his residence, does not have access to a state or private loan insurance program.

The amendments also open the way for such organizations as commercial lending companies, insurance companies and pension funds to make federally insured loans to students.

Students may borrow up to \$1,500 a year to a maximum of \$7,500, including loans made for graduate study. Repayment begins after the student has left school, and may be extended over a period of from

five to ten years, with deferment while serving in the military, Peace Corps or VISTA, or during periods of return to full-time study.

On the other hand, recent legislation enables Federal scholarships and loans to be cut off from anybody caught in "disruptive" campus demonstrations. This law, if enforced, could put a purse-string around the necks of the 3 million students now getting aid.

Drysdale Issues Statement On Police Arrest Tactics

By NED STEELE
Ass't News Editor

Polity President Tom Drysdale, in a press release issued last Friday, has called for police discretion in the event of future drug arrests.

Drysdale's statement, while criticizing the tactics used by police in last January's bust, claimed that students here do

not want "special treatment" from law officers.

Drysdale called the bust "a day of havoc — with two hundred policemen and a full complement of newspaper reporters."

"This double assault had a traumatic effect on the entire population of the school. The fact that it occurred during finals and the scandalous publicity that followed the arrests of some twenty students caused the several thousand innocent members of the institution to suffer for the illegal activities of a few. In light of this we urge that the police make their arrests with less dramatic flair, so that the University Community that is not involved with drugs can continue their good work without having their integrity compromised by publicity conscious peace officers."

Drysdale stated that a moral code on a college campus differing from that of the American society would create a conflict between school and community, but that conflict could result in understanding on both sides with "a rational evaluation."

The Polity President concluded the press release by saying, "The only special treatment that we want is already extended to us in the form of basic civil rights and liberties guaranteed us in the Constitution of the United States of America."

Polity To Sue University

By ALAN J. WAX
Statesman Staff Writer

The Student Council, on January 12, authorized Polity President Tom Drysdale to direct Polity attorney Richard Lippe to initiate a lawsuit testing the validity and legality of parking regulations on campus. The Council also authorized Drysdale to hire a physician to consider, consult and recommend waivers for students desiring to be excused from the food plan. Drysdale and Lippe met on Jan. 15 and conferred about the nature of the suit.

Section 207 of the Vehicle and Traffic Law authorized the Commissioner of Motor Vehicles to prescribe the form of summons and complaint to be used in all traffic violation cases (except parking) and to establish administrative control over the disposition thereof.

The State Traffic Commission has established speed regulations at some colleges of the State Uni-

versity. The Uniform Traffic Ticket must be used for violations of these speed regulations.

A quarterly report dealing with the issuance of these Uniform Traffic Tickets is required by the Commissioner of Motor Vehicles.

The decision to hire a physician is the result of the Student Council's desire to expedite the wishes of those who want to get off the food plan.

Presently, to get off the food plan a student must submit a written excuse from his personal physician or clergyman explaining the medical or religious reasons for the student's removal from the plan. This excuse must be approved by the Director of University Health Services, Dr. John Dawson. Previously only a note was required. University policies requires students residing in dormitories to participate in the food plan.

Polity Statement

Seek More Police

In a statement issued by the Student Council on January 22, it was recommended that, in view of the recent robberies and muggings which have taken place on campus, the Suffolk County police be used to supplement the school's present security force.

The statement stressed the fact that the State University at Stony Brook is a growing community in the heart of Suffolk County and as such, it should be entitled to the same protection which is offered to other residents of the county.

The Student Council hopes that the proper authorities will take this matter to task and initiate the necessary procedures to insure the security of our community as it felt that "the present security force is not capable of adequately protecting the campus — a difficult function that requires highly professional techniques of police science.

The statement further said that with the help of the Suffolk County police, we can strive toward "making SUNY at Stony Brook a community where no one need fear for his person and property."

Calendar

TUESDAY, FEBRUARY 4

4:30 p.m. Cardozo & Irving Colleges Lecture, Speaker: Rhody McCoy, Roth cafe lounge

7:00 p.m. Sociology Forum & Panel with Rhody McCoy, Cardozo lounge

7:30 p.m. Whitman College Career Series, Mr. James Keene & Mrs. Margaret Delafield of the University Placement Office, "Services Offered by the Placement Office" Career Opportunities "After Stony Brook What?" Whitman lounge

8:00 p.m. Douglass College Lecture Miss Thomasine Hill, Miss Indian America XV, "The Forgotten Children — Our American Indian Youth" Douglass lounge

8:00 p.m. Gray College Lecture, Dr. Charles Levine of Political Science, "Mr. Nixon and His Cabinet," Gray college lounge

WEDNESDAY, FEBRUARY 5

8:00 p.m. Slides & Talk, Dr. Charles Wurster, SUSB, "A Trip Around the World in 200 Slides," Mount college lounge

THURSDAY, FEBRUARY 6

8:00 p.m. Film, Tom Jones, with Albert Finney & Susannah York, Physics lecture hall

8:00 p.m. Dreiser College Lecture, Dr. Max Dresden, SUSB, "What Happens When the Bomb Goes Off?" Dresier college lounge

3:30 p.m. New Cinema Program 1, Short films from international festivals, Physics lecture hall

3:30 p.m. Cardozo College Lecture, William Leonard, Prof. of Economics, Hofstra U., "The Auto Repairs Racket," Cardozo lounge

Read Between The Lines

if you can write, want to write,

or want to learn how to write . . .

if you know what's going on,

or want to find out . . .

if you want to learn how to take

pictures and do darkroom work . . .

if you can draw, enjoy doing graphics,

or wonder what layout means . . .

if you don't know what you like

but are willing to find out . . .

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Spring Semester, 69

Amidst rumors of impending raids, investigations, law suits, major academic reforms, abridgments of academic freedom and general unrest, the Spring Semester has begun. We are not being melodramatic when we say that the next few months will determine the fate of this University for at least the next ten years.

What Stony Brook needs now is a vast restructuring of the existing system that will simultaneously create more options for the students while clarifying the responsibilities of all members of this community to the University.

The student body must try to act as responsibly as possible. If and when a major event involving this campus thrusts us into the public eye, we have to show the outside world that we are reasonable people who are asking for reforms, not revolution. We must continue to try to improve the University. We must make the system work for us, for if we are forced into a physical confrontation, the Administration will be able to employ physical means of repressing dissent. We still need what former Polity Moderator Pete Nack called "the intellectual confrontation."

The Administration must act as fairly and as reasonably as possible. We hope the President and those around him realize that the issue of academic reform was not created by a handful of malcontents, but rather evolved from the dissatisfaction of many students and faculty members. These are times of rapid change in higher education. This University must be flexible enough to accept alterations in the present system. Stony Brook students do not want to take over buildings in order to dramatize their desire for change, but if this Administration fails to respond to responsible voices, then they must expect the hard core of student activists to employ physical, rather than intellectual, confrontation. Squashing physical demonstrations are ultimately Pyrrhic victories for universities.

The faculty cannot be content to sit back as arbitrators in the disputes between the students and the Administration. The faculty must begin to take an active, creative role in making Stony Brook something more than a glorified teachers' college. This University belongs to all members of this community. Each group and every individual must begin to make positive contributions towards the betterment of Stony Brook.

We must begin this semester to force this institution to live up to its own pretensions. Stony Brook can be a great university if and only if everyone works together in creating the structures that reflect a progressive view in higher education. We have all paid lip service to change. We now must synthesize thought with action.

The Letter

President Toll's recent letter to Chancellor Gould raises serious questions as to the true priorities of this University. In terms of sheer volume, only one-fifth of the report addresses itself to the most important part of the University — campus life.

The rest of the letter consists of listing various honors that have come to Stony Brook and naming the new faculty members. We wonder how important names and honors are when compared to the atmosphere that pervades on this campus. We ask the President what makes each university a distinct entity — is it merely names and numbers, or is it the academic environment that is created by the members of the community? We ask the Chancellor how he views Stony Brook — is this a research center or a University where undergraduates are given an education?

We have to wonder whether Dr. Toll is talking about this campus when he says "The Residential College Program was operating in most student residences and assisted greatly to relieve tension through providing for extensive student-faculty interaction meaningful for both."

The Residential College Program on this campus is at present a sham. It has the potential to be the finest part of the Stony Brook experience, but the apathetic attitude of all sectors of the University Community has inhibited the program's growth.

A lack of funds and facilities, and most importantly, the absence of a firm commitment from the Administration and faculty to view the RCP as a major aspect of the student's academic career, have prevented the RCP from becoming more than a token social gift to the students.

Above all, the President does not have the right to misrepresent what happens on this campus.

We hope the Chancellor will make his own investigation into what campus life at Stony Brook really means to this community. The President may be a legitimate spokesman for this Administration, but he certainly did not represent the views of the students. The Chancellor, and the people of this state, have the right to know what goes on here.

Don't Raid, Aid

It's about time that the Suffolk police started to get down to business and begin an adequate surveillance of the Stony Brook campus. Don't we also deserve equal protection along with the rest of the county? The time has stopped when all the police had to do was to bust some students and get free publicity. Recent muggings and thefts, not as publicity-spectacular as narcotics arrests, deserve their equal attention. We of the University do not want to be looked upon as drug fiends to be dragged down to Commack jail every 12 months, but rather as responsible citizens with equal protection under the law.

In addition to external protection, this campus needs internal surveillance under the form of ombudsmen. Bureaucratic idiocies, needless and immoral firings, and a host of other outrageous conditions demand an impartial judgment. Robert Weinberg and Theodore Goldfarb did a damn good job last year as ombudsmen, and Stony Brook needs them back, in spite of administrative ephemerons to the contrary.

On The Right

A Conservative Column by PATRICK GARAHAN

In the January 10 issue of The Statesman, there appeared an article by much of Stony Brook's radical left in response to a column I wrote in a previous issue. In my column, I had essentially questioned the motivation and ultimate goals of those involved in the grape boycott here and across the country. The writers of the article seemed to be incensed at my attitude toward the poor and disadvantaged, especially the grape pickers in California. These people assert that I "refuse to see" the fact that these people are poor. An examination of my original article (in column four) shows that I refer to "programs" for the poor.

A basic attitude of those who wrote the article and people like them is that they see an obligation for all to join with them: "Put your money where your mouth is and put your body in with ours." I feel that every man has the freedom, the right, and the ability to evaluate a situation and make judgments concerning what actions, if any, should be taken to rectify it. In the specific case in question, I have read the statements of Cesar Chavez and Jose Mendoza and I happen to disagree with the contentions of the boycotters and therefore, feel no obligation whatsoever to "put (my) body in with (theirs)."

These people speak of "50 million people (who) live in poverty in the U.S.," I think of the 250 million people in the Soviet Union, the 1 billion people in Communist China and the 80 million

more in the Communist-controlled countries of Eastern Europe who can't even aspire to the human and political rights held by the poor farm workers in California. If you disagree, imagine the response to the question of who has more rights: a Hungarian peasant crushed by a Russian tank in 1956, Alexander Dubcek, Jon Palach, etc. Yet, we don't hear from the SDS or any other pseudo-democratic society of the leftist fringe about these oppressed peoples.

In response to a query in the article, "Since when have you been so concerned with the individual human being?" let me make clear a few salient points. First, concern for the individual human being is not restricted to members of radical leftist organizations. Second, my personal concern does not have to be consistent with the Port Huron Statement, Mitchell Cohen's fanaticism, or the concern of the editor of *Ramparts* to qualify as concern for the individual human being. Third, if disagreement with the writers of the article automatically qualifies one as insensitive to the poor and their problems, then these writers have a lot to learn about the meaning of democracy.

In conclusion, I would like to respond to the attack made on the United States and its economic system. I submit that this is an imperfect nation, as all things artificial must be imperfect, but nevertheless, a country dedicated to striving for freedom—personal, economic and political.

Faculty Comment

Eco Prof Speaks Out

(Editor's note: Since Dr. Robert Lekachman has said it so well, we offer this excerpt from his review of *The Committee in Commentary*, July, 1968).

If it is difficult to recall how one felt during the McCarthy period, recent events on my own campus have jogged memory quite suddenly. Here are colleagues in 1968 testifying before a legislative committee and responding by invoking their constitutional rights. Once more local patriots are demanding their summary discharge. Owing to the vagaries of New York State law and the apparent definition of members of university fac-

ulties as public officials, it is quite possible that refusal to testify before a Grand Jury now sitting will result in the offenders' removal from the public payroll. Happily, 1968 is not yet the 1950's all over again; the N.Y. Legislature's Hughes Committee is not HUAC; and the climate of general and academic opinion is such that if jobs are actually lost on grounds like these, sympathy will generally be with the faculty members and better jobs may well come their way. All this is true, yet the faculty members in question have already been put to some legal expense,

(Continued on Page 6)

FUN WORKING IN EUROPE



GUARANTEED JOBS ABROAD! Get paid, travel, meet people, SUMMER and YEAR ROUND. 20 countries, 9 paying job categories offered. For FREE cultural program literature including details and applications, write: "ISTC admissions, 866 United Nations Plaza, New York, N.Y. A Non-Profit Student Membership Organization."

Haven From Reality?

So you get home from the paradise that Stony Brook could be (any time but finals week), and the first question your parents ask is, "Did you go to that tea thing last week that we ready about on the front page of the paper?" Whaa-you plow through your mind and then deduce that she must be talking about the Lemar tea-in, which evidently received full treatment in the Long Island Press, complete with colorful description of the "hippie guitar - carrying types in beads and bells." You reassure your parents that no one you know would ever do such an evil thing as smoke marijuana (drop a little mesc, maybe? ?), but you're glad to know that the media is keeping the public informed as to vital pursuits at the University.

Nixon has just been inaugurated, and you hear that we should all "give him a chance," since he hasn't actually made any errors as president yet. Besides, those radicals who went down to Washington to protest his inauguration weren't being polite and considerate.

Meanwhile, as you listen to people talk about decentralization, racists and anti-Semites pop out from behind every door. You learn that free speech, over your favorite radio station doesn't apply when the topic is Albert Shanker and Jew-boys. You hear murmurs that they are getting arrogant this year. In hushed tones, people whisper to each other, "It

could happen here, you know."

You sit down on a couch in the lobby of the museum and an old lady, deciding you are "safe" (funny, you never realized you looked respectable), ventures to seat herself beside you. The inactivity of her feet is made up for by the wagging of her tongue, and you soon gain insights into "truth." She tells you that she sees no excuse for an art show about Harlem, since "it's an ugly neighborhood - I never go there, except on my way to Westchester." She pauses for a moment to view the multi-ethnic array of people in the room, and comments that "they never should have put the U.N. in New York - it brought in too many 'foreigners'." She turns up her nose at the various "bearded freaks," and repeats that things were better in the good old days. Enlightened with more "wisdom" than you can take, you move on.

A few days later, over dinner in the Chinese restaurant, your parents decry the lack of supervision at Stony Brook (Law'n'order! Law'n'order!). "But someone should know where you are at all times." You mentally conjure up a picture of where you are at all times, and thank the heavens

that it's only your roommate who keeps track of you.

Things are different in the outside world. Your grandmother announces, "these are bad times we are living in." You contradict her automatically, then realize that maybe they're all just struggling with fear in the face of things they can't understand. You go to sleep hearing Dylan's voice singing, "Something's happening, but you don't know what it is, do you Mr. Jones." So the next day, you leave Mr. Jones to his limited world, and you go back to Stony Brook to your own limited one, where at least reality is only what you believe.

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1966 Dodge station wagon, \$100 or best offer. Two new tires. 751-8535.

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Washington Protest

Protestors Knock Nixon At Counter-Inauguration

By MATT ROSENSTEIN

The events of the following narrative began at 12:00 Sunday, Jan. 19, when we landed at the National Phallic (Washington) Monument. A tent was set up to be a headquarters for the demonstrators and inside, some virulent feminist was ranking out the conception of a "real man." A soldier from the Bethesda Army Hospital, who had lost an arm in Nam, spoke movingly but briefly about the war. The area around the tent was very muddy. There were people passing out pamphlets, selling buttons and calling for the formation of their various groups as the parade was being organized. The usual types were present, around ten thousand demonstrators, some carrying NLF and DRV flags or signs with the Liberty Tree that read "Liberty or Death."

The parade slowly moved out, down Pennsylvania, traveling the route that Nixon would follow on Monday, but in the opposite direction. Fifty GI's led the march; there were quite a few observers and a noticeable absence of police. The weather was

overcast, but the marchers, mostly college students from all over the country, were in good spirits. They were just ambling down Pennsylvania Avenue, looking at the flag-bedecked buildings, the silent observers, and the police helicopters overhead. It was a very peaceful, almost prosaic, march. There was no spirit, just this unconnected bunch of people walking in the same direction.

Near the White House, we turned and ended up in the plaza of the NASA building. There was a large U.S. flag flying in the center and a struggle erupted between those who wanted it to stay up and those who wanted to pull this hated symbol down. After a brief, half-fought struggle the flag remained. The group was then told to break up and reassemble at the tent at 7:00 p.m.

That night at the tent was the most beautiful scene I have ever had the pleasure to participate in. There were all these "freaks" of every conceivable kind, from every-

(Continued on Page 6)

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THE The STATESMAN

It started in 1957 at a small teachers' college at Oyster Bay, L. I. Students began a newsletter and called it the Sucolian. Twelve years later, the small teachers' college was well on its way toward being a multiversity, and the Sucolian had become the Statesman.

During this time, the newspaper has seen as many changes as the community it serves. Yet through it all, the interest and dedication of students have made its continued existence possible. And though the size and tone of the paper have changed, its ultimate goal hasn't—to serve the information and communication needs of the community.

Hopefully, the evolution hasn't come to an end. If you'd like to contribute your ability or energy toward making this a better newspaper, come join us.

STATERMAN

Statesman

Succession

Wed. April 12, 1967

PUBLICATION OF STATE UNIVERSITY OF NEW YORK AT STONY BROOK

Rates From LIRR

By GEORGE LOCKER

Reduced rate trips to the Concord, the Bahamas or Europe are commonplace offerings to students here at Stony Brook. While organizations such as the FSA have made some efforts to present a varied and interesting assortment of travel possibilities, until now nothing has been done to alleviate the extraordinarily high cost of travel into New York City. If you are in a group of thirty or more students, you can make the journey for \$1.65 round trip. A round trip excursion ticket can be bought for \$3.00, but it's only good for the same day, and strictly limited to weekends. Thus, if you want to go to a museum during the week, if you must do library research (faculty, are you listening?) or if you must stay overnight you must pay almost \$6.00. We are therefore forced to limit travel to Saturday or Sunday, when rates are lowest and New York's facilities are most crowded.

Can anything be done? Hopefully, yes, if Dr. Toll has any say in the matter. In an effort to establish a far more flexible discount system for the Stony Brook community, Dr. Toll has written a letter to the President of the LIRR in the hope that a top level meeting can be arranged to develop such a vital and long-needed program.

In his letter, Dr. Toll cites existing student economic burdens, New York City's great educational offerings, and our growing community of nearly 7,000 people as the basis for his request. He has suggested that the LIRR sell to the University blocks of undated, reduced rate round-trip tickets to New York City usable by individuals on designated weekday and weekend trips. This procedure, already approved in substance by the FSA, would enable any member of the academic community to purchase a ticket on campus for a substantially reduced rate. Cumbersome group arrangements would be eliminated, greatly facilitating travel into the city.

With this program's appeal to both faculty and students, Dr. Toll can finally count on unanimous support from the University Community as the talks commence. Hopeful students are awaiting the LIRR's reply to this unusual request.

Editors Note: The preceding article is not a hoax! Student George Locker submitted the letter to President Toll and after a considerable amount of coaxing (or pestering) he obtained the president's signature. Statesman supports his endeavor to lighten the financial burden of the students.

Protest

(Continued from Page 5)

where in this country. The big flood lights were turned off and the familiar, pulsating shapes of a light snow was played on the blue and white stripes of the tent. Phil Ochs started singing; he played his standard repertoire, but with a lot of feeling. Then he began "The War Is Over."

In the morning, the people there discussed various courses of action — whether to assemble at the parade route (at 14 St. & Pennsylvania) or to gather at a park nearby

and march to the parade route. Both ended up doing the same thing — we all met at Pennsylvania Ave. There were guys with helmets of every kind, a large American flag with a peace symbol in the upper corner instead of the stars, a couple with toy machine guns, and people burning guns, and people burning small American flags.

As the various dignitaries passed by, we would scream curses at them. I had the tremendous satisfaction of yelling "F--k you!" at General Earl Wheeler, Army Chief of Staff. After watching the inaugural parade, our

demonstration was officially over.

The police were very intent on dispersing us, and thus were chasing our collective asses all over north-west DC. They would spot a large mass of demonstrators by helicopter, and police cars would pull up, disgorge a few pigs, chase us a few blocks, and then leave. It was very similar to a circus — there were these four thousand people wandering all over NW.

Total impression — there were three events: the parade and ball on Sunday, and the demonstration on Monday. They were not effective means of changing political decisions, but a collective experience in struggle with my fellow fighters.

Prof. Speaks Out

(Continued from Page 4)

further expenditure is entirely possible, and their personal lives and those of their friends have been dominated by an accidental circumstance: they were called to testify largely because they were young, popular teachers suspected of knowing what their still younger students were up to. In short, the present situation is no fun at all for the young professors involved and no joking matter for their university either. Few academics will care to join a faculty whose members are defined as synonymous with the remainder of the state bureaucracy.

Poetry & Lace

By ROBERT WOLFF

Lazy, confused, and ignorant, the mind draws caricatures of all but the closest people to it.

And even then it lightly sketches pictures of distortion.

The cartoonist in everyone limns lines of personage and types to his liking.

These designs have constant shades of color. They swirl around on the head's carbon paper, scratch with a subtle and dominating power on feelings.

So one flourishes in a mirage of openness, deceiving self in critical tones, emotions forever pounding.

And affirming this there is the knowing smile on the face, congratulating itself for its shrewd perceptions.

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Touch Of Evil
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Michel Simon in
Marcel Carne's
Bizarre Bizarre
- MARCH 16
Louis Bunuel's
Un Chien Andalou
AND
Jean Cocteau's
Blood of a Poet
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- MARCH 23
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Howard Hawks'
Red River
- APRIL 13
Carl Dreyer's
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- APRIL 20
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- APRIL 27
Cary Grant and
Douglas Fairbanks, Jr., in
Gunga Din
- MAY 4
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Each program begins at 8 p.m. in the Physics Lecture Hall. Tickets will be necessary as of the February 23 showing.

—we begin promptly—

While Waiting For The New Footlights

An Appraisal Of Theater Last Semester

By HAROLD RUBENSTEIN Statesmen Arts Editor

By
HAROLD RUBENSTEIN
Statesmen Arts Editor

It's heartening to know that the masterminds of Stony Brook are so far-reaching in their thinking. Just think of the way they play for the future! Why, do you realize they go so far that not one member of the present student body will be around when they complete the Fine Arts Center? Sort of takes your breath away — and your hope for a cultural center on this campus.

But not everyone has forgotten his aspirations until his grandchildren can reap the benefits. Last semester sparked a new life in Stony Brook. Somehow, from somewhere, as evidenced by three productions, theater appeared. Not only did it appear, but it was accepted, appreciated, and most surprisingly and happily, was discussed.

Last year had been a near disaster. The New Campus Theater Group did a revival of Dylan Thomas' A Child's Christmas in Wales. IQET died, slowly and without dignity with a fizzling attempt at Man of La Mancha. The foundation of the Theater Department, the University Theater, produced three lackluster productions culminating with the unmitigated boredom of Fuente Ovejuna. Amidst the rubble of these stood some good performances, some interesting effects, and lots of good intentions. There was only one glimmer of interest. The last production for the year was a trio of student plays. The selection of plays were questionable for they suffered from the same mistake that the University Theater had. They were aimed too much at intellectualism, didacticism, shock and "the reality of existence". However, the student productions boasted a number of impressive performances, good direction and technical skill. It stood as proof that underneath the mustiness of the plays there lurked talent.

This year the cobwebs have been destroyed. The New Campus Theater Group has yet to do anything, but a new student facility has emerged. The Gershwin Music Box was not, and hopefully will not be, designed as a club, but as a theater where students can take part in full-scale productions on a small-scale stage. The most important word behind the Music Box was entertainment. Nothing probing or browbeating, but a haven for commercialism and a chance for students to have fun being in and watching theater.

The Music Box has succeeded beyond its expectations. From inside a converted lounge burst forth some of the loudest laughter and happiest moments

heard or seen on this campus last semester. Students walked out excited, exhilarated and ultimately spreading the word about the theater. With Star-Spangled Girl and How to Succeed, the Music Box proved that theater here was not solely oriented to a small clique who did plays for their own feeble attempts at soul-searching. Not only was theater opened up to more people but exposed and presented a host of new talent, in the way of actors, set designers, singers, directors, etc., and raised the potential of what can be done. All the Gershwin Theater needs now is more money.

The University Theater does not suffer from money problems as much as it suffers from its stage. It is not really a stage, but a converted section of the gym with a low ceiling, a very restricted playing area and a dearth of technical equipment. Rarely was the stage used effectively, until this semester. Room 166 has not been overshadowed by the Music Box. The Theater only produced one play last semester, but it accomplished more than all three did last year.

The production of Horatius, unfortunately never reviewed in Statesman because of the time of its production, was fresh, different, and stimulating without being morbid. It was not the wisest selection: Corneille's tragedy of allegiance and values rambles, has too many monologues and is excruciatingly pedantic. Mr. Bell's adaptation superseded this. In a stylized production in black and white, Mr. Bell took the stage and brought it forward, even into the audience, and used the advantage of the length of the

stage rather than hopelessly trying to fight the low ceiling. Most effective were his use of films. The films themselves were not used to further the story, but to supplement, enter the memories of the victims and probe what couldn't be reenacted. The acting was uniformly good and the rough speeches were not muddled and lost because of the strange acoustics of the room. But most important was that the audience was kept in mind. Horatius was not a play for the sole practice and experience of the actors. If it had been, the films would have been superfluous. The audience left without the feeling that they had been mocked and insulted for their supposed prudery and stupidity. They had been instructed, though too heavily, and asked to experience a reevaluation of what is "right". The little office in the gym had become aware of the campus.

Word of mouth is as powerful as "Dragon mouth". How to Succeed, before it earned its own reputation, sold tickets on the strength of the previous production. Hopefully, now that both the Music Box and University Theater have enriched

the campus, neither will suffer from lack of support. The University Theater will be doing Tom Thumb or a Tragedy of Tragedies, a comedy by Henry Fielding that parodies Shakespeare, and a Polish play, Ivona, which, as of now, only Dr. Newfield knows about. The Music Box has not yet decided; it's young, new, following still slightly confused and dazed from last season. Everything from Under Milkwood, to The Importance of Being Earnest to The Fantasticks has been mentioned but nothing has been finalized. But what is significant is that both groups are moving, and working to provide vital and fresh theater on campus. Neither facility is a club. Auditions are open to all who want to come. The more who come the more chance there will be for the newness and the excitement of last semester's theater to continue. The hall of concrete and glass which will house "culture" on the campus is still a dream, but theater at Stony Brook is no longer a desire, it exists now and will thrive as long as students want to project and watch the experience of creating new realities and fantasies for the mind and senses.

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Pats Plaster Plattsburgh, New Paltz, CCNY

By JERRY REITMAN
Statesman Sports Staff
The Stony Brook basketball team has played three games since the last edition of Statesman, winning all three! Playing at home the weekend before finals, the Patriots notched victories over Plattsburg (66-57) and New Paltz (54-53). This past Saturday, the Patriots dealt the City College Beavers a resounding 56-41 setback.

In the Plattsburgh game, the Cardinals opened with a fast breaking attack and a tough press, but Stony Brook fought to a 20-20 tie with 5:26 remaining. At

this point the Pats opened up a decisive lead. Mark Kirschner, Mike Kerr, and Glenn Brown each scored, then Gerry Glassberg hit from the outside at the buzzer for a 30-20 half-time lead.

After the tap the two teams traded points, neither team being able to dominate. Stony Brook held at least a seven point lead all the way, and went on to win 66-57. The attack was blanked, and four players broke double figures for the Patriots: Kirschner led with 18, trailed by Kerr with 16, Glassberg with 13, and Brown with 10.

Home for the second night in a row, Stony Brook hosted the New Paltz Hawks. Following the opening jump it was all New Paltz, and they completely dominated the first fourteen minutes of play with phenomenal outside shooting. Mike Kerr scored six points, but otherwise the Pats found the going rough and trailed 25-8.

Up against the wall, Stony Brook reversed the tide and took command during the last six minutes of play, exploding to outscore the Hawks 21 to 5.

The second half was a seesaw battle, and neither

team ever led by more than four points. The score was knotted at 51 when Kirschner made his first shot in the one-and-one situation and when his second attempt missed, Kerr grabbed the rebound and scored. Kirschner and Kerr led the home team with 17 and 14 respectively.

Facing CCNY, the Pats were up against a team which plays national powers (Columbia). They would also be facing Jeff Keizer, one of the top cagers in the metropolitan area.

Stony Brook came back from a 21-16 deficit to lead by a 26-21 margin at half-time. The surge was sparked by Kirschner, Lou Landman and Gerry Glassberg.

Stony Brook won the game 56-41 on accurate shooting from the floor (46%). Much of the credit for the win goes to Kirschner who finished with a game high of 27 points, and to Glassberg, who finished with 11. In addition, Landman came off the bench to ignite some spark.

The Pats put a 7-5 record on the line tonight on the road at Pace in a Knick encounter.

Mermen Drown Lehman

By JEANNE BEHRMAN
Statesman Staff

The tritest of them all floated around campus Sunday night — "Have a good vacation?" You either went to Florida, slept all morning in your dreary house while Mother cleaned and yelled, or grumbled about your non-existent schedule. Typical students. The swim team practiced here all week, and it proved fruitful as the Pats easily beat Lehman (Hunter uptown) College Saturday afternoon, 59-41.

Until diving, midway through the meet, the Pats took first in every event. Explained Co-Captain Paul Epstein, "It was an easy meet; we knew we were going to win. Since we weren't out to kill them, in the second half Coach Lee gave the remainder of the squad a chance to swim in competition."

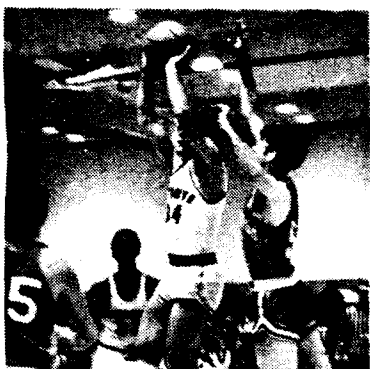
There were two close races, both involving the Pats' Bill Linn. In the 200-free, John Sherry took first in 2:20.4. The Lancers' Bernardo placed second in 2:25.3, with Linn 1/10 second behind. In the 500-free, the host's Lichter took first in 6:48.2, as Linn garnered second in 6:48.4, and teammate Al Neiditch placed third.

Another semi-close race was the 100-free. Lehman came in first in 1:02.2. The Pats' Gene Indenbaum took second in 1:05.9, and teammate Pete Angelo placed third in 1:08.2. In

the 200-breast, Roger Fluhr, swimming with an injured knee, placed second. He is expected to be back in shape for Monday's meet against St. Francis.

Among those individuals garnering a first place at the Lancers' pool were Rocky Cohen in the 1000-free, John Sherry in the 200-free, Paul Epstein in the 50-free, Peter Klimley in the I.M., and Dave Gersh in the 200-fly. The team also won both relays.

Patriot Picked To All-Tourney Team



Stony Brook's Mark Kirschner was a unanimous choice to the All-Tournament team selected following the Sacred Heart Holiday Classic.

Kirschner scored more than half the Patriot total in a game in which he collected 33 points in a 63-61 victory over Marist in the semi-finals and came back with 26 markers in a loss to Sacred Heart.

Informal Concert

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statesman

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Story Behind An Experience

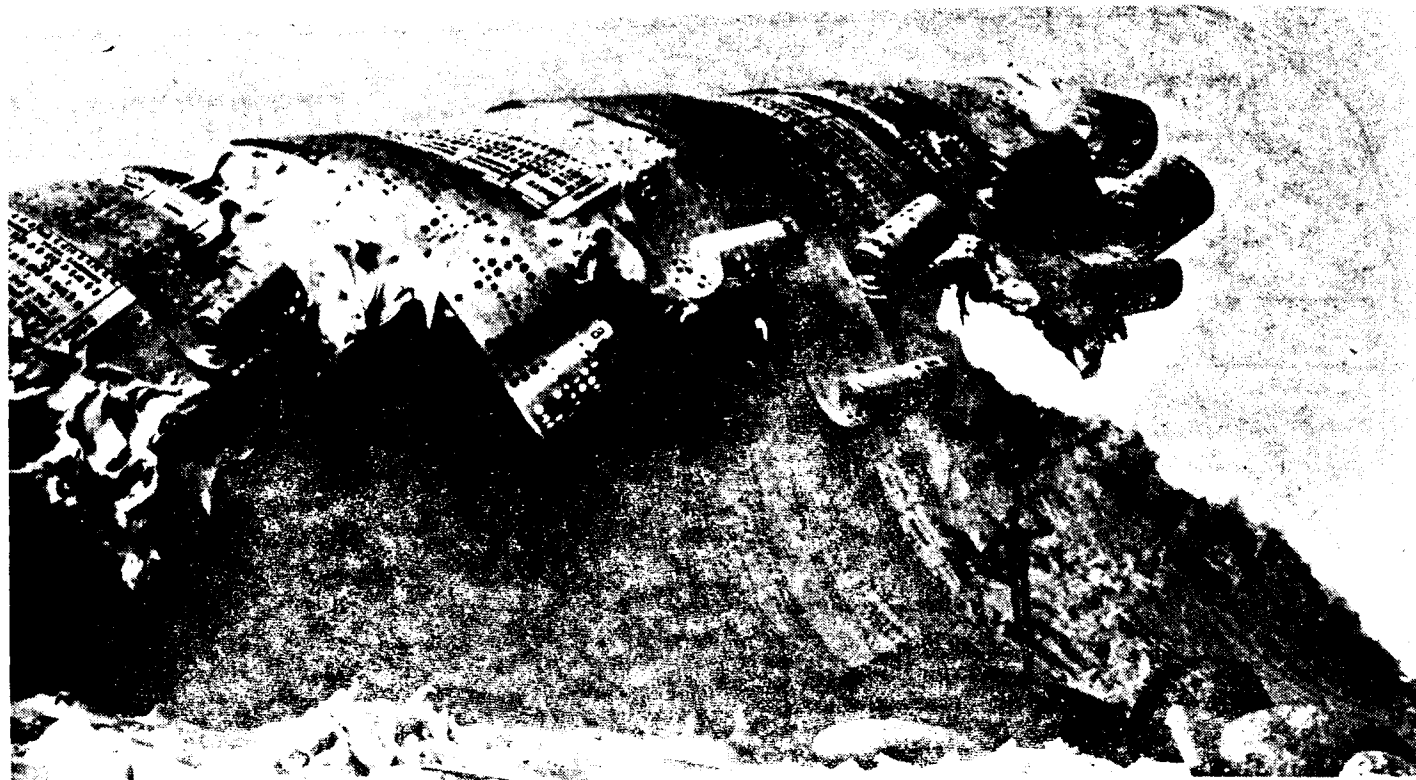
(From Page 1)

the country. This tabloid is one of the results of one of the many projects carried out by USSPA with that money. Higher education and new technologies are its subjects. Those involved in the project were staff members of USSPA and students from newspapers in the Western states.

As you will gather from reading the paper, we greeted the technologies we saw with mixed admiration and suspicion. The medium being the message, though, a word is in order about the process that got these words and images onto paper and into your hands. It is a vignette that may throw some interesting light on the way young people think and act today—perhaps as much as can the words they write.

As administrators of the Higher Education Project financed by Carnegie, Frank Browning and Robert Johnston make it their business to stay in touch with interesting developments in education; and while this means that they spend a lot of time reading the minutes of dull conferences, it also means they run across a little of the Rube Goldbergish: the computers, the electronics, the hip psychotherapeutic approaches, and the generally adventurous. They resolved to get as many as possible of these into one seminar, held in San Mateo, California, at the end of February, 1968.

There were some touches of futurism to the seminar: it was held at the Villa Hotel, a rather garish plaster building resplendent with rubberish plants, picked out of the phone book because it had free transport from the San Francisco airport. The theory was that in our middle ages the world's largest office buildings will be found at airports, where businessmen will fly in and out for their face to face business; we might as well start getting used to that mode of operation. Then again, this report is printed in a far from usual way. The color cover and double truck, the high speed offset (which we have taken ad-



Reprinted with permission from Kaiser Aluminum News

vantage of to print a number of underlays and other effects) are the work of the Sacramento Union, a Copley newspaper which is at the moment building one of the most modern plants in the country. As this is being written, the staff of the Union is operating out of the old plant, a number of trailers and some parts of the brand new printing plant. We are grateful to Charles Walheim in the publisher's office, and Bill Hofer who heads the production staff—both for their generosity in printing this supplement and for the trouble they took to help us at a time when extra work was particularly inconvenient for them.

Working at the Union, by the way, meant some interesting insights on future newspaper technology. The bright young consulting engineers one associates with the aerospace industry were for once a major force in the paper: shuffling their print-outs, musing over their flow diagrams, and working at their buttons and switches. Having been around hot lead and letterpress since I was about eight, it was a little saddening to walk through the dark and dusty com-

posing room of the Union, where a sedentary guard waits for the linotypes to be taken to the junk heap.

Type at the Union is now phototypeset, by Photon machines with IBM control mechanisms. And it is some consolation to the romantic in one to be told that the relay that turns the whole mess on and off only works when it is tilted at an angle, never when it's right side up.

Meanwhile, back at higher education: thirty students came to San Mateo met each other, talked about their expectations for the seminar, and then scattered to the corners of California with cameras, video-tape recorders, audio-tape and note-books. Among the places they visited were the computer installation at University of California at Irvine, a movie-making project for young black people in Richmond, the secluded Centre for the Study of Democratic Institutions at Santa Barbara, the Computer Aided Instruction installation of Stanford, the electronic music labs of Mills College and the social revolution laboratory of San Francisco State College. A fair sample of what is happen-

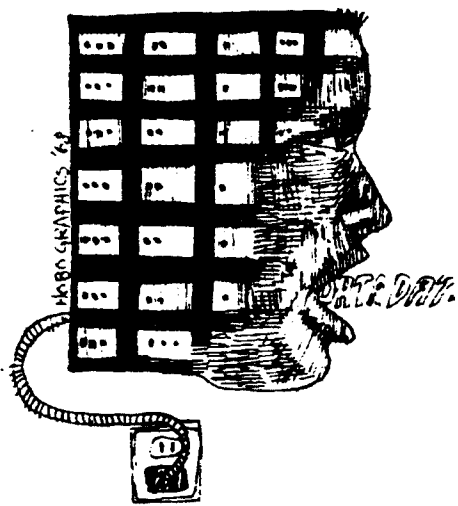
ing to the sensorium and the intellect at the hands of a variety of avant gardes!

Finally, there remained the problem of getting it down on paper. The center section of this tabloid is based on the USSPA College Editor's Conference "Alternative Futures and Present Choices," and was collated by me from material supplied by participants in the conference. The rest of the report was written by participants in the San Mateo Seminar, either at the seminar or at home, and was pulled into this shape at two planning sessions at Los Angeles and Portland Oregon in early April. Final dummyming was done by Frank Browning, Karlyn Barker of the Berkeley Daily Californian and myself, with the help of Lester Dore, a San Francisco artist.

We cannot hope that this is a complete overview of the future of education and technology. But we hope you gain from this taste.

—David Lloyd-Jones

Programing Kids to Learn Change



other art experience, were always successful.

We were just condemning technology, and condemning it from the point of view that it pre-programmed the learning experiences of kids rather than letting them create for themselves their own educational experience, taking care of the motivational properties by becoming involved through their own self-determination. I asked the question, "How many of the kids here have dropped out, and one girl said she had because it was boring, and somebody else said it was too structured, that the teachers seemed to hold back on the grades as a kind of reward for a good behavior. And my criticism of technology has been it takes this model of education and concordizes it in the computer program or the multi-media experience that kids have.

HECKSCHER:

There has to be an integration of some sort of program; a number of people are depending on what you want to be, if you want to be anything at all. Somewhere a body of knowledge meets this enthusiastic motivation.

BUSHNELL:

How would you do it though, when you talk about the programming? Would you lay out a menu from which the now-motivated student could select, or would you prescribe for him not a menu but a series of experiences in the order in which he might encounter them?

I would give him a great deal of freedom. For example, if a child makes up his mind he wants to be a doctor, you can't fool around.

But you still have to get certain things across to him, and he has to have it in his mind when he graduates.

HECKSCHER:

Motivation and enthusiasm has to become a program, an acquisition of skills.

At the USSPA seminar on New Technologies and Higher Education a good deal of sitting around the swimming pool was done.

This is an edited transcript of a conversation among Don Bushnell, Vice President of the Brooks Research Foundation in Santa Bar-

bara; Harry Silberman, a researcher at System Development Corporation in Santa Monica; Huntley Goodhue, Editor of the Portland State Vanguard; and Phil Heckscher, a young cinematographer, graphic artist and Princeton graduate student.

SILBERMAN:

Doesn't this interact with age level? You wouldn't for example assume that a first grade child is going to decide what he ought to learn and pursue on his own. This would probably result in him not learning very much.

BUSHNELL:

But Montessori does . . . She has the experiences there but the kids can choose and select from among these experiences, right? The materials are all well-planned, and they have a specific instructional objective; the children are required to take the educational toys in a specified sequence. Although it ap-

tion level. He is capable of what I call library learning. That means he pursues an attack on his own. He acquires experiences that are broadening and he has some set of objectives which are his, where at the lower levels, necessarily you have a set of values which society deems important. They feel for example the children should be able to communicate, take turns, they should stand in line in some instances because if they didn't they might get hurt, and these things are taught as the common curriculum.

BUSHNELL: I think you want to learn from people the moment that you have a need to learn and that we kind of follow the educational experience through the nose and you may choke on it before you're ready for it. So somehow you have to have the motivational aspect in life and then let the kids go out and ask questions.

We only have one mode of instruction and that is the printed word in the textbook and we need to open it up. We did a survey in Philadelphia to look at programs which involve kids actively, like the football team and the choir, or any

(Please Turn to Next Page)

A Conversation At Irvine

(In the following interview, seminar participants Keith Justice, Phillip Heckscher, and David Lloyd-Jones talk with Leo Keller about computer instruction at the Irvine campus of the University of California.)

HECKSCHER: Students are using the machines (computers) for instruction, but we are also interested in knowing whether and to what extent provisions are made for students using the machines on their own initiative for their own research work in their courses. What kind of provisions are made for that?

KELLER: Well, one of the systems that runs on these kinds of terminals is sort of a computational style language; it is like the FORTRAN language, but it is operational directly from the terminal, so that a person can sit down and write a little program and have it executed and get the results back immediately.

HECKSCHER: He does his own programming then?

KELLER: Yes, in this sense he is using it as a problem-solving tool the same way he would use a regular computer at a computer center. He would write his program and put it in and then sometime later get his result back. This way he gets his result back immediately.

HECKSCHER: I understand that you must have a faculty sponsor to use a computer in this fashion. Do any of the extra curricular organizations have access to computers or is it just for formal courses.

KELLER: The way we have been

operating here, any student has been able to use the computer any time he wants to sign up for it.

LLOYD-JONES: Is the only material which goes into the computer subject matter set down by the academy, by the school?

KELLER: There are programs written for purposes of peoples' own—for artistic purposes, for organizational purposes, and so forth. As for the other type of program, the standard lesson part which would be a portion of a course, those are usually developed by faculty members. However, this on-line computational capability that I was talking about is available to anyone. You just sit down and write your program to solve whatever problems you want.

HECKSCHER: Another thing that we have been interested in is the problem of what a computer can be used for in teaching traditional courses, and what it is less suited for. It has been suggested to us by several people that the instructor faces a continual series of decisions as to when to use the computer and when not to, because of course it tends to present material in a fashion that is quite different from traditional instruction. Is that the way you see the use of the computer as a continuous deciding, weighing of values in a continuous series of decisions, or is it just the allure of the increased efficiency and rapidity of a computer that decides people to use it or not?

KELLER: As we can see from the system that we have here, with the typewriter terminal, first of all there are quite a number of limitations. A student can read much faster than a typewriter

can type. So where you have a lot of information to present, you can't want to do it with a typewriter terminal, obviously. With a CRT (television screen) type terminal, the information is able to be presented much faster; we can put a whole page up almost instantaneously, and there you get away from this reading problem. Many of the systems and the current system we have operating does not have CRT.

The other point of deciding what concepts or what battery of materials can be presented best and which would best be presented by some other means (like perhaps lectures or discussion groups) is partly a matter of ingenuity on the part of the instructor. Some things have been found to work and some are more difficult. Also, the programs need to be designed such that they take care of all kinds of contingencies that might arise; and this involves thinking ahead and trying to think of what contingencies will actually occur in the course of the program. Again, this is more or less a matter of ingenuity.

LLOYD-JONES: Are graduates of Irvine going to be the sort of people who are going to be able to use the technology of the world without taking it too seriously, without letting it be their masters?

KELLER: I think that's fairly accurate.

LLOYD-JONES: I hope you're right. We want to go to Dr. Justice if he is still here.

JUSTICE: I am Dr. Keith Justice. I am in biology, using a computer in a little different way from a number of other people on the campus. I'm using it as a

substitute for the laboratory exercise. Many of the areas of biology are difficult to handle in the laboratory. For example, if we want to study the population growth of humans in the world, we would have difficulty setting up a biology exercise in this area, to say the least.

The same thing goes for population growth in human organisms and studies in genetics of organisms. There are many other areas of biology where, for cost reasons, we cannot set up a normal biology laboratory exercise. Many of the concepts we now discuss in biology are based on experiments worked out with very, very expensive equipment: electron microscopes, ultra-centrifuges, very delicate separation techniques, etc.

It is my thesis that these exercises can be conducted by simulating the biological system on a digital computer; we do this many times using our on-line computational system that Prof. Keller just described.

LLOYD-JONES: Is the computer really cheaper than that stuff?

JUSTICE: Yes, it is. It is cheaper not just in money but in time, both the students' time and the time of organisms. For instance, we can simulate 2,000 years of human evolution with respect to certain traits, in a space of few minutes on a computer. We do this not in a pre-destined manner, you might say, but we allow the student to design an experiment in human evolution or in intra-human evolution, and to simulate this using a program which we have previously loaded.

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Aspects of 'Turning On' to Education

(From Page 2)

BUSHNELL: I think that's the thing that kills education. You're presuming that you know — you as society — know what experiences these kids should be brainwashed in and by the time they get to the third grade they're dead as students.

SILBERMAN: I believe that every child should be taught to read. If this means brainwashing, fine. Then let's brainwash him. I think we ought to make a distinction between instruction and learning. Education has to do with instruction primarily. Learning takes place at all times.

BUSHNELL: Education in the schools is instruction primarily, but learning can be education outside the school.

SILBERMAN: I submit that the public schools represent a social institution to develop some kind of cohesive set of values to prevent society from splitting asunder. Learning is something that takes place everywhere — on the block, at home, regardless of what the particular experience is — but instruction generally differs from learning in this sense in that it is formalized.

HECKSCHER: "We're talking now about the content of education in the lower grades. I think you make a very useful distinction between learning and instruction. But really, what we were talking about before is how to bring to learning the enthusiasm and the natural reaching out of the learning process, and how to bring that into a situation which is instruction;

SILBERMAN: Ask yourself the question: What are the conditions under which the desired objective — being highly turned on — are established? And, it's not, I think, unreasonable to say that its over-simpli-

fied to say merely, "Let everybody go his own route," and they would be highly motivated and turned on. I think that's baloney.

Indeed, I would suggest that there are a number of different elements underlying the conditions which determine the state of being motivated. One of them has to do with the extent to which the social reinforcers are operating and by social reinforcers I mean the stimuli of getting praise by one's peers for doing something pretty well. Not competition, but cooperative effort.

I'd like to talk about that one too, because I think all too often because of our *laissez-faire* attitude we let them play in the school yard and what happens? They do compete. What are we developing? Aggressive behavior, very strongly reinforced later on in the high school when everything is for the teen. If we're going to eliminate that kind of motivation we've got to program it. We've got to

say, "How do you produce cooperative behavior? How do you produce children who are sensitive to the needs of other children even when they've never met them, when they live on the other side of the world, and what are the conditions?"

BUSHNELL: Who does the programming?

SILBERMAN: In the education system today, there are a number of different decisions makers. The teacher probably represents as important a decision-maker as anyone. And when the teacher takes the other two, let them play.

BUSHNELL: And who does the teacher represent?

SILBERMAN: The teacher represents himself as far as I'm concerned.

BUSHNELL: Really? and not the establishment?

SILBERMAN: Once that door is closed, she's her own boss.

BUSHNELL: But she isn't her own boss in the sense that she's gone through the system and as the result of going through that system, she now represents the status quo out there.

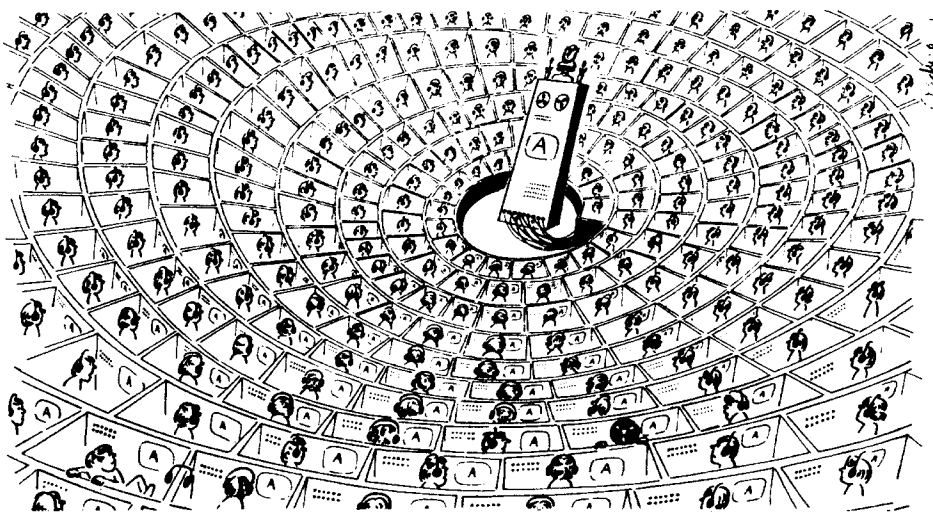
HECKSCHER: I think we're talking about two different things. I think we're talking about who is going to decide what the content of education is and that's sort of a big problem. I think that the problems that we have experienced touching on dropping out aren't necessarily about the courses that we have to take, so much as the way they have nothing to do with learning. It's sort of absorbing. All of us

BUSHNELL: The problem of those who are programming the machines and the technology is that they represent one point of view; and that is that the program is established, and the kids are guided and, by God, it's determined; the goals are set and the criteria are set, and they are to go through this experience, and when they get through they are educated!

SILBERMAN: First, let me back off a little bit and say that I'll buy the notion that the middle class power structure in America determines the objectives, and they determine these objectives in a number of different ways. They select the teachers, and the teachers generally typify the system which they espouse: Be clean. Be neat. Work hard. Achieve. You know, the whole cluster.

And there's another element. This is the publishers of instruction materials. I don't care what kind of instruction the teacher has. Show me the reader that the children are using, and I'll show you what kind of instruction is going on in that classroom. The materials, in a sense, determine the system; that's another element.

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Technomania Astray



One is shocked on meeting the gurus of the new automated higher education at their naivete, their innocence, their child-like belief that making a whole new world does not really change things. Like most young people I have read a good deal about the new magis that are to govern our lives; I have absorbed the usual images of the men of Rand, System Development Corp., the Think Tanks and the rest. On coming into contact with them through the USSPA higher education program and elsewhere I find the usual nature attributed to these men — far-seeing and high minded, broad of vision and professionally competent — ludicrous.

Time and again one hears the head of this research project or that Computer Science Department say "we're just packaging information in a better way," "the effect of the technology depends on the men who run it," or, succinctly and cutely, "garbage in, garbage out." All of which is idiocy. At the risk of belaboring an obvious point: Computer Assisted Instruction, for instance, is not just a new way of carrying out an old function, instruction or exercise. It is a set of mechanisms and programs which subject the student in its maw to entirely new and unforeseen psychological conditions.

Again, to say that the effect of a technology depends on the men who run it is like saying that the effect of a bomb depends on the character of the bomber pilot. Or once more, "garbage in garbage out" sounds as though it means something, but ignores the fact that in real life some people take garbage and make something useful out of it, while some processes (say Hollywood) take perfectly good material and make garbage out of it.

In short, the assumption that the New Technomaniac is just an innocent researcher, a dedicated engineer or whatever, at the service of the education establishment — a man making faithful machines which have no in-built biases or extra-curricular effects — is hogwash. Yet few of the technocrats have thought of the possibility that students who learn to answer one line questions from the computer console may,

offhandedly and incidentally, be trained in the mode of passivity and minimum response to stimulus.

The technician and the hardware salesman pose as those who merely relieve of tedium, ignoring the fact that their question and answer programs and their "here's a problem, plug in some parameters" games are at best frivolous distractions, at worst mechanical martinets for the mind.

This should not be taken as meaning that I object to new technology; I do not, for I have many a beautiful dream of what the genius of the Norbert Weiners and Vannevar Bushes can make possible for us. But before I turn to the good side of the technologies, let me make one final comment about many of the men in the field at the moment:

I am irritated by their pretentiousness.

To be blunt, many of the machines around at the moment are pretty cruddy, yet the men who own, service and administer them preen and strut around them as if they had something really wonderful. At the Irvine campus of University of California, for instance, the CAL programs, though in some cases written with some intelligence and wit, are rendered unbearably dull by the fact that the vaunted machine has a reaction time unworthy of a sclerotic sloth. The academic papers written by one man at System Development Corporation, though perhaps intrinsically interesting, are rendered idiotic by the concentration on the great conglomerations of machinery he convenes to reach pretty damn simple conclusions.

The over-rating of the hardware installed is astounding, and it gives one pause to consider that most of the operating CAL set-ups are in primary schools with predominantly black and chicano student bodies. Though the men who run the equipment pretend to be "upgrading" the "culturally deprived," one wonders why these middle class white men don't experiment on their own kids first.

In short, Harold Innis, Edmund Carpenter, Marshall McLuhan and Father Ong have demolished the information-field assumptions of the pre-television

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System: Flexibility Vs. Fad Switching

(From Page 3)

Third: The peer group determines what happens as far as objectives are concerned. Kids learn much more from each other than they learn from anybody else, or materials, etc. The Coleman report brought this out very beautifully. They essentially found that in a nationwide sample that differences in quality as measured by teacher salary, per capita expenditure on students, and so forth make very little difference. What makes the big difference is what the population of peers is like. That determines what gets learned.

Now, the pattern in the history of America has been that the middle class power structure, as a result of all these various techniques, pretty much determines what shall be learned and how it shall be learned. When immigrants came in, this had been a force to assimilate the values that were different into those that were dominant. Now we have a new phenomenon occurring, particularly in the large urban areas where the central ghetto parents don't want to buy it. They don't want to be assimilated; they're saying, "Let's incorporate one set of values along side of yours and make some part in this educational program." This is just manifestation of deeper conflict — a social conflict, and perhaps the outcome of that conflict will determine the future objectives and the nature of the so-called school.

If you look ahead, you ask yourself what the trends are in technology, what is apt to happen to these objectives, what are going to be the important objectives in the near future and what will be some of the roles that these professional educators play in that future? By various techniques it is possible to make such extrapolations, and one can look ahead and say, "Well technology is improving so fast, the pace of rate of

change in the world is going quicker all the time." Consequently, the ability to accept change is going to be an important objective: the anti-rigidity phenomenon. Getting kids to desire learning, and changing behavior.

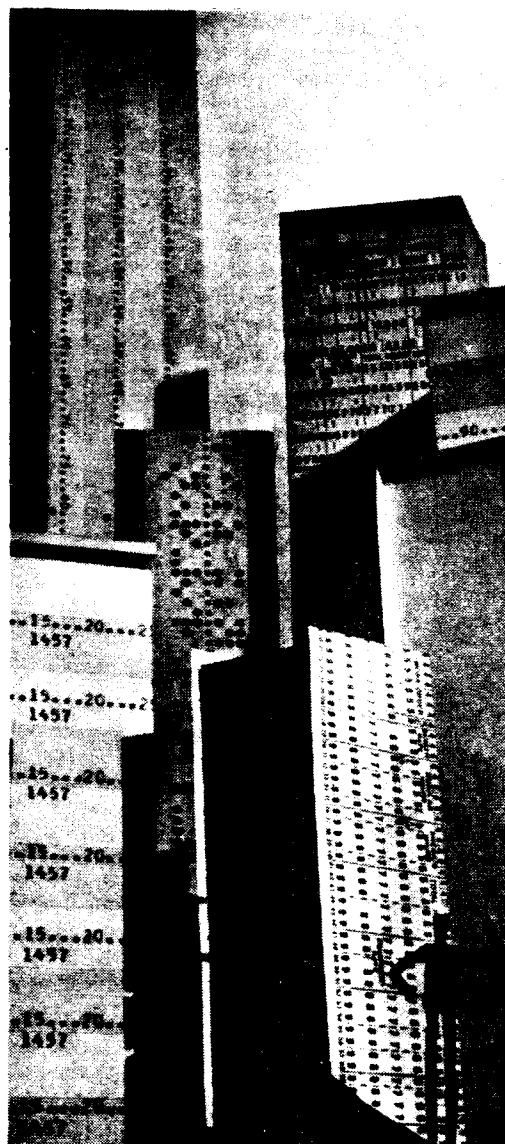
Another important objective is going to be increased awareness of the importance of being able to appreciate leisure time activities without guilt.

We're breaking away from the Puritan work ethic and in the future its going to be more important for people to be steeped in the humanities, being able to enjoy their leisure time.

The third one I've already mentioned is the ability to be sensitive to the needs of other people because the world is getting smaller all the time.

Now how do we get there? Obviously, the current school structure is not doing the job. Project Head Start and other projects are beginning to point the way.

First, there is going to be a shift towards the lower age level; children at younger age levels are more permeable. They change more readily. By the time the kid hits kindergarten the whole pattern is pitched. You can predict once you know who you've gotten when they come into school, what the rate of progress is, and this doesn't change regardless of what the school does. So when does it count? Maybe in the crib. Maybe the only solution—and I'll throw this out as a point that I don't necessarily accept but is something to consider. Maybe the only solution to maintaining the coherent cohesive society is to have society—and you define what that means, whether it be the existing power structure or some new democratic form—assume greater responsibility for the education of the infant to inculcate these common values. What happens? We have a situation where by the time the kid is three his dad is teaching him to beat up the kid next door, who is a little bit smaller and



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by the time the kid gets through kindergarten its too late.

Now, if you want to say that programming vs. freedom is the real issue, you can play that game; but I think its a pseudo issue. I think when you're talking about trying to establish a set of objectives you mean that you're going to try to change children's behavior in some desirable direction and the desirability is the political issue that is determined by democratic moves, we hope.

In addition to this conservative objective that I've just outlined — I mean those objectives that are designed to maintain a coherent society — there are other objectives which you pointed out that I think are equally important, and these are the objectives of using education to shape the nature of society to come. And this is not a new concept. Progressive people in the '30s said it was possible to use education to shape the future — to determine what kind of society we're going to be living in — but at that time they didn't have the technology to pull it off. I mean, as long as everybody was enthusiastic, the energy sapped in and a little got done. But as soon as those wonderful people died, everything died off. Until you have a system — some set of procedures that are codified, a set of materials, something that's programmed (meaning planned) so that certain desirable effects can be predicted and implemented, until you have a system, all you've got is everybody going from the latest fad to the next new fad.

BUSHNELL:

You are continually in the process of change and taking on new experiences and become wiser, hopefully, you're redirecting yourself and that's why education should have flexibility—it should be

(Please See Next Page)

Critiquing Computers

The use of CAI programs in a college course raises several questions about the limitations of the technique as well as suggesting additional applications. The limitations are of three sorts; psychological, pedagogical, and technical. Extensions of the technique depend most heavily on the teacher's ingenuity, but also on the development of more complex CAI technology.

Many teachers question the kind of learning that goes on in students using CAI. Most objections of this sort assert that the student does not learn or, if he learns, he "really doesn't understand." One answer is that since "learning" can be defined as "a performance change over trials" and "understanding" as "the ability to do a specified activity", students both learn and understand what the program teaches. The more important issue here is whether programs can help students to perform as well or better than they would otherwise.

Certainly a bad program may be worse than a bad book, in terms of the students' reaction, but a good CAI program can challenge a student as no book can. Furthermore, in writing a program that is effective, the author is forced to break the subject matter into small units (frames) and spell out quite explicitly what is to be learned; the result seems to be more careful development and presentation of the topic, not the opposite. Yet it may be disturbing, more to the teacher I fear than the student, to see extremely complex topics presented in this "simple" manner. Yet if a program can teach and students learn and understand, there is much to be said for CAI and programmed instruction. There is a clear need for hard answers to these questions.

Clearly related to this is the question of where CAI fits in a curriculum or course, or more specifically, what can (or ought to) be programmed? The best hard answer is that subjects that are more mechanical (logic, foreign language, mathematics, economic theory, English grammar) are best suited for programming, although the use of CAI is less demanding than other programmed media in this respect. More relevant are the ingenuity of the teacher-programmer and the sophistication of the CAI system he has access to; the growing use of simulation games is an example of just one sort of approach to more complex, but well defined, subjects.

Most severe of the limitations on the use of CAI is that imposed by the technical capability of computer systems. The seminal state of time-sharing computer systems and of instructional programming languages seriously inhibits use of CAI at the college level. Most currently available systems are intended for rote teaching (and learning) of simple topics, usually at the elementary school level. The ability of such systems to handle the richness and complexity of mature students' English language responses is quite limited as is their algebraic and logical capability; combinations of the two types of responses are nearly impossible to process.

These technical constraints are more severe when one considers the extent of current research on computer processing of English. Computers are able to "understand" and answer complex questions based on data stored in their memory when these questions are in standard English. Yet most computer systems have nothing resembling the general question-answering capability. When it is available, it is seldom possible to use in an instructional program. The desired flexibility, that of a computer system capable of a wide range of human teaching skills, is within our technological grasp now; yet implementation of existing techniques in the near future is only a promise.

To foresee the directions in which CAI will expand requires little imagination in light of the advanced state of computer technology. Each of the limiting factors mentioned will be of trivial importance in five years. Time-sharing computer systems with encyclopedic memories full of verbal and numeric information will be available on a wide scale; programs to allow their systematic interrogation by students will permit their substitution for lectures. To the extent that authors are able to construct structured instructional programs, these can be called on for more systematic learning. The danger however of *deus ex machina* stalking the campus need not materialize. For the professor can then truly be freed for the teaching that is not "programmable," for the true exploration of perplexing questions, with all students.

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Karl B. Radov
Professor of Economics, UC at Irvine



Programmed Environment That Worked

(From Page 4)

alive in the sense that you can modify your course as you suddenly gain new insights.

SILBERMAN:

Let me tell you about a classroom I visited last week. This was in a section in East Los Angeles where Mexican-Americans are about 99 per cent, and under a Federal grant some people from one of the state colleges decided to do something that was very free and flexible. They had asked industry to come to their assistance. They had a computer, and they had all kinds of games, and they had every conceivable form of material, and they had two or three teaching assistants, para-professionals, and they had people from the college roaming about. Then they had a relatively small class, about 26 or 27 students in this junior high school class. First of all, that implies an awful lot of programming, because after all, all these materials are mathematically oriented. Somebody said this section of these students was going to be related to quantitative matter. But then if you looked at the materials you found that nothing was related to anything else in any kind of systematic way. I mean one kid was banging on a very expensive piece of equipment. He jammed the keys, you know, and they were free

BUSHNELL:

I would say the kids were rebelling, not being free, and it seems to me that's precisely the kind of environment that we like to avoid by first, taking care of the motivational problem.

I would suggest to begin with that if they were setting up a course now for that particular school, that they should involve the kids in the determination process. Now, that doesn't mean that the

kids are going to sit down and argue dialectically the objectives of the course. But, by God, the course should be theirs in one way or another—and perhaps the only approach is a highly informal approach, without the materials, without the computer, without a lot of adults imposing the structure from without. The only one that in my estimation and my experience that works is when the structure is imposed from within.

Now, we have the experience that has had some success and that is to simply put a camera in the hands of this gang, most of whom have dropped out of school, tell them to go out and make a film, and they go out and they shoot each other on the basketball court. They come back and then in 24 hours we bring the film back into the gang hideout and they see themselves on the screen. Well, we've already thought through the whole course content of that film-making experience, but almost immediately within the first week we've scrapped the whole course concept—the whole program—because they're re-writing the program and they're re-determining the objectives of that course.

Okay, now Harry could you describe how that process might be done with the computer aid as a course of instruction?

SILBERMAN:

Let me tell you how we're using the computer. We observed first grade classrooms, and we discovered that most of the teachers don't know what's going on. You ask them, "What can this child do? Can he discriminate two diagrams on the basis of initial consonants, or what kind of skills has he got?"

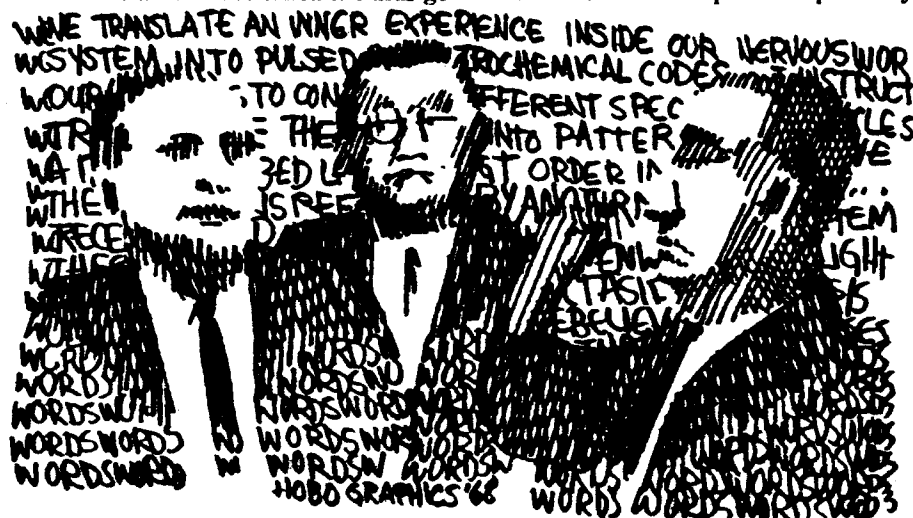
Let's ask if the child can distinguish between two words that have three letters in them, and says rat and the other one says mat. Teachers say, of course,

they can and then we say fine, let's go around and ask these kids to see if they can. And they can't.

And then you ask other questions and pretty soon you get a picture that these teachers have a vague notion that correlates with what the brightest kids can do and that's their image of what the children are able to do. When the kids go

GOODHUE:

The very fact that people raise that question, "What do I do now?" is crucial, because one has to raise that question before he starts to learn. In other words, that you have to experience failure—you have to struggle with "do-nothingism"—before you finally see that in order to be a responsible person you



to the next teacher, he assumes they have all these skills, which they don't. They get failure. When they fail, there's avoidance behavior and then suddenly we discover these kids aren't motivated. They have a succession of thousands of trails worth of failure. Why should they be motivated? People are interested in those things in which they have a little bit of success in, and if you sequence things carefully such that people don't have failure, then often times they build an interest and become motivated.

have to choose what you want to do. All I'm suggesting is that if it's important for children to be able to determine some goal for themselves, then we ought to lay out a systematic plan for causing that skill to happen and to the extent that we just say, "It'll happen," then it won't. If we're serious about that goal, let's look at our curriculum and let's say we're going to actually plan a set of situations which have built in uncertainties, and that we're going to start with situations that are not too uncertain because then you just give them failure and they tune out on you.



San Francisco State: Calif. State Colleges: Berkeley: Calif. State Universities=

—although in the case of state, renegade would seem more appropriate to its less than romantic appearance and its lack of financial resources so necessary to the propriety of being a rebel these days.

I'd been to State only once before this trip — just a week prior to the Oakland demonstrations — for a brief "encounter" with the editor of the then only "official" campus paper (The Daily GATOR). The ticky-tacky-mess of the place disappointed my pet mental images. The atmosphere, the history, the legend of State contradicted the campus-concrete, the GATOR's more than a little distorted view of reality, the statistics.

Huddled in the Mission district just south of Golden Gate Park, State attracts most of its students from the immediate area—students who work part-time, of an average age of 25 with 35 per cent of the male students having fulfilled military requirements, with families to support, and returning to finish their MAT's or to get their teaching certificates. State is not endowed, offers no athletic scholarships, has no alumni association to ask for support. Its only fraternity is located in a dilapidated house several miles off campus. In the last seven years, the College has had six presidents, Summerskill resigning just recently. State is not a prestige campus and California politics are anything but attractive to serious educators. All of which produces at State the unusual condition of the students being the stable element of the institution, the real "guardians of the system".

Hence, it is the student element which also creates the system, revolutionizes the institution. From this unlikely, overtly middle-class group has come some of the more radical changes in education to date. From the earliest beginnings of "the movement" at Berkeley, State students have been involved in radicalizing the educational system. The W. H. DuBois Clubs were founded at the College in 1962. The San

A REBEL

Francisco sit-ins of December, 1963, to April, 1964, were organized by State students. And before the civil rights movement came to the Coast in force State students were marching in Selma and forming the Black Student Association on campus and developing what later became their community-involvement program.

Community Projects: 2-Way Learning

Because of its urban situation and the concern of its students for their community, the normal distinctions between university and the "outside community" are ambiguous at best. The students are less cautious than administrators in experimenting with the institution—their loyalties lie clearly with the community in which they live, of which the College is only a part. They see no necessity for the College to protect itself from assimilation with the community — their interests, in fact, tend toward hastening the process. One of the earliest projects developed by the students was the community-involvement program — which began as an effort to improve the community through the application of principles and ideas learned in the classroom and has since become a part of the course work of most of the students. The program is based on the premise that not only can the students contribute constructively to the community projects, but they can also learn from them.

The continued concern with civil rights caused the students to develop their tutorial program in an effort to counter new state admissions requirements which all but wipe out the black student enrollment. Since its creation by all white students — committed but inexperienced — it has expanded to include the Upward Bound Program — a cooperative effort between the education department and the experimental college to work with socio-economically deprived individuals at all levels of schooling to help improve their level of achievement. The tutorial program at State is considered the model for all other such programs across the country.

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Black Youths Make Films in Richmond

(A warm February afternoon in North Richmond, Calif. at Neighborhood House, a BLACK community organizing center where four WHITE college newspaper editors came equipped with videotaping equipment to find out what was going on and tape it. Neighborhood House is unique in centering much of its activity around adolescent directed film-making projects. The WHITES' interview session—here edited—was a part of an USSPA seminar on New Educational Technologies)

WHITE: Could you explain a little bit about the people on this program, maybe how it is funded, where the money comes from for it and a little bit of what you plan to do in this program.

BLACK: I don't know too much about the money aspect, but most of the people working on the program are mostly youths, there are some ninth, tenth and eleventh graders, and we do work in the community such as we attend meetings and conferences and try to better relations in the city as far as the races are concerned...

Could you maybe tell me a little bit about the strength and the feeling of the Black Nationalist movement among the youth. Could you tell us a little bit about how the people, the high school age, say the age from 13 to 19 feel about Huey Newton, how they feel about Stokeley Carmichael, Dr. Harry Edwards down at San Francisco State, maybe also what kind of organization is being set up by these people.

Well I know Huey Newton and Stokeley Carmichael they are definitely heroes around here.

My name is Bruce Montgomery; I

work here at the youth center.

Could you tell me a little bit about what your official duties and what your unofficial duties are?

Mostly, I do what I am assigned to like a conference, or maybe a film conference or a conference of just black people gathering and I am starting to work with a police group in order to get a better relationship with the youth of Richmond.

You mentioned the film conference, have you worked on films too, or is this just something that you go in and see films and recommend or do not recommend them for others.

No, I haven't worked on films directly; I help in making the films in just speaking for us, but when we do show a film, something that we have made at Neighborhood House, we send a speaker along with it to explain the purpose, and who made the film. I am not one of the militants who edited or put it together, but I am one who can explain what motivated the making of it.

What particular films stand out in your memory that you have worked with, that you have gone along with as a speaker. One of you who was in here before mentioned a film called "Inside Out," he didn't tell us much about it. Could you tell us a little bit more about the film?

That's a film that does stick in my mind, "Inside Out." It is more or less an example of what can be done by black people who put their efforts together productively, in the sense that this film was a chance to speak out, to say how they felt, how they wanted to feel without being put down upon by the white establishment or any other establishment. They got to speak free for a chance on film, to say what they really wanted to say; I mean you couldn't tell

who the voice was by, because the pictures shown on the film wasn't by the voices at the time so they wasn't held in from saying what they wanted to because of being afraid of being looked upon by police or any other established form. But the film itself was a good way to ease tension which I think was quite high at that time in North Richmond; I think it served this purpose more than anything else; a tension easier that brought the chance to speak so we can all understand.

Do you go to school now?

Yes, senior high school; Richmond High.

What do you plan to do next year?

Well, I haven't made up my mind yet. I'm going to college, I know, but I don't know if I wait around a year, see, can I get out of the draft or something. I definitely don't want to go into the service.

You don't?

So I might go just straight into college and try to carry enough units to keep me out, or I might take some other form of escape to keep from going to the service.

Do you have anything in mind as far as a career that you would go to college for?

I want to be a social worker, eventually a parole officer to work with youths.

Why a parole officer?

Because in this job I feel that I can be myself. I wanta be the kind that the kids identify with; I don't wear a tie; I wear what I wanta wear and speak the

language that I wanta speak. It won't be the official type language that I look down on the kids that I'm workin with. We would feel that as we're together he can feel that he can communicate at any time—not necessarily when I'm on duty, but he knows my phone number he call me and I can call him and talk together. This is the kind of relationship I can build up as a parole officer, and this is the only field that I think this can be done. This is something I really want to do.

What's your name?
Myron Met.

And where do you go to school?

South Campus.

Is it a good school?

Yes, it's all right.

Brown intimated that perhaps had some bad feelings about the school; is that true?

In some cases yeah. Well, like the counselors; I don't think they help too much because most of em is prejudiced. I don't like that.

Are there any black teachers or counselors at South Campus?

We have some black teachers.

And how old are You?

Is that important? OK I'm 16?

(After which ensues a half hour of "Who are you? How old? What school? What do you like to do most? What's it like to be black?" questions. At which point the WHITES give the videotaping equipment to the BALCKS for a table-turned interview.)

(Please Turn to Next Page)

The Poor Need Technology

USSPA Page 7

North Richmond, Calif.

Technology can be a powerful tool for helping the university understand the problems of the poor, but the poor themselves will have to control the technology if it is to be used meaningfully. That point became clear as a team of three college journalists spent a day with videotape equipment in this urban Negro ghetto with the intention of "telling it like it is."

Located on a tidewater flat outside San Francisco, North Richmond is literally "across the tracks." Its 6,000 residents are penned into a 20-square-block area by railroads on all sides. But if the tracks physically separate North Richmond from the rest of the city, they also symbolize how North Richmond's citizens are locked out from the opportunities which the city has to offer—decent housing, education and especially jobs.

But against this picture of poverty, something is stirring in North Richmond: Neighborhood House, a service organization set up and run by the people to provide recreational facilities, including a unique film-making project for Negro teenagers. It was here that we brought our video tape equipment.

Our purpose was to talk to the people, find out what concerned them and take our findings back to the conference which had sent us out. But as long as the media remained in our hands—the television camera and the microphone—we didn't get very far.

There was a difference in power between "us" and "them" to begin with,

and our control over the media accentuated it. We were white, we had come to question THEM and we had the equipment. There were black, they were obliged to answer US and they had only themselves to draw on. Meaningful dialogue between us was impossible. We, on the one hand, became assertive and condescending. They, on the other hand, became defensive—at one point in an interview, a young Negro playwright from the community angrily pushed aside the microphone we held in front of him.

The conversation which did take place was superficial; from both sides, it did not arise from deeply felt needs to encounter one another as people. Instead, the interviewers sounded like reruns from the Huntley-Brinkley show.

An example:
"What is your name?"
"Shirley Haines."
"What do you do here?"
"I used to work for the County Health Department."
"What are the main health problems in the community?"
"Venereal disease."

It might have gone on all day except someone—one of the Black kids—suggested an alternative. Why not turn over the video tape equipment to us, he suggested, and let us interview you?

So we did.
With the tables turned and the power

of the media in the hands of the people instead of us, our assertiveness turned to humility, their defensiveness broke down and things began to happen! A high school girl lined us up on the couch, took up the microphone and put a series of sharp questions to us—about the call for violence this summer, about the role of whites in the ghetto, about what in hell we were doing in North Richmond anyway. As we began to answer out of our own very real emotions, the girl responded with her own feelings. By the time the questioning was over, the barriers had fallen. Conversation flowed freely. A moving scene took place.

One of the journalists with us, a girl who edited the newspaper at the University of California at Irvine in ultra-conservative Orange County, was all hung up on how she, a white person, would be "accepted" in the ghetto.

It must have been her first trip to the ghetto for she boldly told a Negro woman that she loved all men, made no distinctions between black and white and yet was afraid of rejection by the black community which was asserting that it wanted to handle its own problems. The Negro woman, leaning toward the girl and becoming very intense, told her that she didn't need to be saccharine sweet to the people in the ghetto, that rather she should just be herself and that the people could tell if she wasn't "real." The girl broke into a broad grin, as if grateful for the straight talk, the woman's eyes flashed with kindness and a bit of understanding took place between them. And it all happened in front of a camera and microphone over which the blacks had control.

Provide the poor the resources. Hand the media over to them and let them do their own thing. Only if we know about the ghetto from their point of view can we know about it "like it is." That's the model we discovered in our day at North Richmond. Right now—I mean NOW—it could be implemented at universities around the country.

The need is there—the core city is sick, revolution is in the air, the people have something to communicate, the university needs to hear it.



The resources are there—the video tape equipment we used costs about \$1500. Why not invest in it instead of the professional films that are shown in most sociology classes today?

And the willingness is there—I think. If the model is to work, white must turn the control of their technology over to blacks. We must reverse the traditional power relationship and let them be in charge.

Huntley Goodhue
Portland State College

Blacks and Whites Reverse Roles

(From Page 6)

BLACK: OK, what is really the purpose of this program? What do you have to gain from it?

WHITE: From this thing? (Yes, this right here.) We hope to learn from this kind of equipment. That's the basic reason I came out, and because I'm interested in community organization.

The questions here have focused mostly on the problems of the black community. Did you ask them just to be asking questions that popped to your mind, or are you really or are you really interested in the answers?

I'm really interested in the answers because I think, it's my impression that we're closer to a revolution than a lot of whites, in fact the majority of whites think.

Well I'm gonna ask you a question because I consider this Malcolm X week because this is the anniversary of his death. How did you feel about Malcolm X?

I think that Malcolm X was probably the greatest black man that ever lived. How do you feel about Malcolm X? (to a white girl.)

Malcolm X? I guess I feel the same way. But I guess I'd like to say something to you too about what I've seen going on here. It really disappoints me that we as white journalists would come

in and interview you. Because I don't think that as whites we can generate the kind of discussion that we need to hear. What we oughta do is turn this whole thing over to you and let you take pictures of each other, let you interview each other, so that we'll really know how it is from your point of view.

OK, how do you feel about—if riots happen this summer, how would you feel about it? Do you feel riots are going to happen this summer, and if so, why?

I feel they're going to happen this summer.

I mean what gives you the impression that they're going to happen. We discuss this every year before school lets out and nothing really happens.

Well I'm sure they're gonna happen this summer, because I know people that are planning them, now.

Do you feel that anything productive ever comes out of riots?

Well, I'm kind of split on the question, and it's hard to answer because I've never been in one. But I think it is good that people be able to take out the feelings that are inside of them instead of keeping them bottled up and destroying themselves internally.

I want to ask you all something about yourselves. What do you like to do besides going to school and all that?

About all I do is three things: I go to

school, and I work for the paper, and I work pretty closely with a black student group at UC at Santa Barbara. And I think it's for the better they don't need me any longer or they don't want me anymore.

This is the black student group?
Yeah.

Why do you think they don't need you anymore?

Because they can do it by themselves, damn it. All I've been is say a millstone around their necks.

Well I don't know about that group, but I work in a predominantly Negro group and we have two colored workers and one white worker and we really like him, you know. So, maybe that isn't the feeling at all.

The thing is that on college campuses there is a hell of a pressure on all the blacks. The thing is you here are in a predominantly black neighborhood and most of your interaction is with blacks. But down there there are 70 blacks on a campus of 12,000 students and I think they realize that if they don't stick together, they are going to be absorbed into the white culture which they don't want and I don't think is the right thing either.

I understand what you're trying to say. They should stick together instead of going out; the white people don't want integration and the black people don't want it. So just let em go.

I think the majority of whites are integrationist: They want integration on THEIR

terms which means, "You make it in our game." And the blacks are saying, "To hell with your game. Let's play our game for a while."

It's like our school is a predominantly white school, and they're always saying: "Let's get together. Let's get together." Well, it's kinda hard. Mostly, the only time I see white people is AT school, you know, or if I go to concerts or something. But as far as my home life's concerned I never see any white people cause I live in a Negro neighborhood. It's hard for me to get together with them. We have no common interests and it's hard to do anything with them, but they're always hollarin, "Get together, get together!"

Yeah, do you have anything to say about that. Do you think they should get together?

Yeah, I do think they should.

Why?

I guess because I have a basic faith that all human beings are pretty much alike.

I think before you can get together on anything, if as she say, she only meets them at school, she don't know them, they don't know her—what it is lack of communication. How in the world are you gonna get to know each other unless you socialize, unless live in the same place with each other, you see each other every day, you get a chance to say, "You tell me your problems and I'll tell you mine." You look at it this way: we are all humans, and that is it.

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An Introduction to Electronic Sound

If you are trying to keep up with musical trends, then put down that electric guitar; it is already getting out of tune with modern music.

The Mills College Electronic Music Center, one of several on college campuses around the nation, is working proof that contemporary music is in for some jolts. Technology has firmly invaded the fine arts.

For several hours a week, Martin Bartlett, a young musical genius doing graduate work at the center, can be found playing with the college's electronic music equipment.

Bartlett is a large gangling German with wild hair curling around his collar and constant smile, and is an expert with electronic consoles.

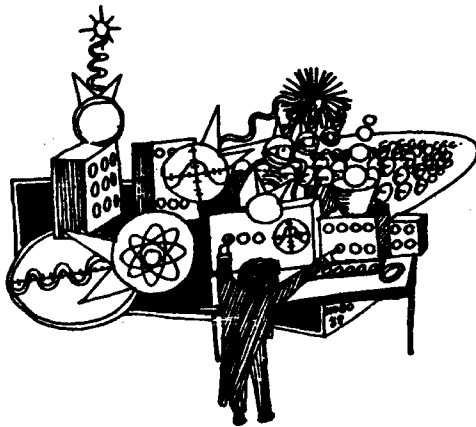
The consoles at Mills are two similar upright boxes which resemble small tube-testing machines. Numerous switches, outlets, and dials cover the front of the compact devices which were built specially for the center by Don Buchla, a local engineer. Cost was about \$2000 per console.

The equipment makes music by producing sound waves and changing these for varied effect. A "sine wave" appears on an oscilloscope (a screen showing changes in a sound wave pattern) as a continuous, varied wavy line — the vertical changes showing loudness and the length showing time. A "saw tooth wave" he described as a sine wave with all its harmonics, and a "square wave" looks like a squared-off sine wave with some harmonics.

Music is created through six basic operating devices, Bartlett explained. They are: oscillators, which produce pitch; frequency modulation; voltage control,

which is acquired through "gating", use of a sequencer, and a keyboard; mixers — of the parts arranged; an amplifier, and a speaker or tape deck.

Gating is done with the use of "patch cords" of varied lengths that have plug-in devices on both ends. Eventually, the whole face of a console can become



covered with them, creating a "patch", a network of cords with both ends plugged into outlets, some connecting one console to the other, and each one changing the sound waves.

The keyboard is a narrow, flat, rectangular piece of copper with about 10 slight indentions to mark "keys." Each key may be tuned and also the beginnings and ends of sounds may be changed. Finger

pressure regulates volume and length of the sounds.

To demonstrate, he began arranging patch cords in outlets, turning modular dials and flicking switches. His large hands worked swiftly, showing a seasoned knowledge of the machine; and "music," unfamiliar to more conventional music listeners, blared loudly from the speaker.

He knew just what parts of the console would produce what sounds and added cord after cord to the patch. When the machine produced one particular variation, he stood back with his chin in his hand and looked quizzically at the equipment.

"Now I wonder why it's doing that?" he said, thinking that it should have been giving off a different effect.

Showing the various techniques of the consoles, Bartlett, with the aid of a tape recorder, fed his voice into the machines to let the equipment "re-modulate" it. The change in tonal qualities which it made produced a tinny, squawky, impossible to understand—much like Donald Duck's voice.

How is electronic music being accepted and what of its future?

Bartlett feels that it is becoming an essential part of college music departments. "There is a definite interest for electronic music among students," he said and commented on the 40 Mills students who, for a small fee, experiment with the consoles every week.

Janet Christ
Portland State College

Computer Composes, Musicians Plug In and Turn On

The fact of the matter is that all the music we hear these days is electronic. Even if you listen to Beethoven's Symphony, chances are you're listening to it on a record that has been modified in the recording process — and it is a totally different kind of experience from a concert situation. And so, once those kinds of techniques have been established and we are used to them, it was only natural that people would think of using those devices to make music directly. The beginnings of this were 20 or 30 years ago when people recorded pieces using text discs that electronics companies put out to test equipment.

What we have here is a modular electronic music system, MEMS, which is a compact way of doing all the operations which an electronic music studio should be able to do. The basis of any setup such as this is a device known as an oscillator—a device which produces the pitch. We speak in a lot of types of wave forms and particularly the sine wave. A part of this equipment is a number of sine wave generators; those are devices which produce the kind of sound we call a sine wave, and if you have an oscilloscope, you have a way of visually realizing something that happens electronically.

The lowest sine wave we have runs about 30 cycles per second, which means we get a wave formation happening 30 times every second; a sound wave generator will produce that sound through a complete range of pitch, right down to about 30 cycles or up to about 15,000 cycles, which is the threshold of hearing.

All these devices have the potentiality of producing other wave shapes. A sine wave is the very simplest sound; if we add overtones or harmonics we get other kinds of patterns. Now, do you feel a change in tone? Well, we're

changing the sine wave shape like — or like —. A saw tooth wave is a sine wave with all its harmonics: an infinite number of harmonics.

We have another kind of sound, a square wave: one that is infinitely tunable in most limits. Finally we have just noises: & "+!-". Quiet noise is the most complex sound; on the oscilloscope it just looks like a mass.

In the early days of electronic music, those were the resources you had. If you wanted more complex sound you recorded sounds like this on tape and then you recorded other sounds on top of them and you cut the tape up; you measured and spliced until you built up a piece of some complexity. But as with everything else, the system is now automated to such a degree that we can do quite complex things much more easily.

THREE students from the Higher Education Seminar went to the Music Department at Oakland's Mills College to find out what is happening there in electronic music composition. Their interview with Martin Bartlett, a graduate student in music, follows. A duplicate of the original recording-demonstration from which this transcript was edited may be obtained from USSPA for \$15.

The basic route through the equipment is this: the bases are the oscillators, sine wave and square wave generators. From the oscillators one gets more complicated by modulation, of which there are various kinds. A demonstration will explain: there is a sine wave: — Now I modulate that sine wave to another one: —. One is frequency modulation; a second is amplitude modulation. Now, another thing we can do is called voltage control; to these devices we add a gate, which is an electronic device which switches on and off something else—an oscillator, for example.

Here are some possibilities. Take a sine wave and apply 16 different voltages to it; you get 16 different pictures in that kind of sequence. So this is a kind of gauging operation; we're still using that basic oscillator sound, but we're not processing it with another voltage. We

can make things more complex by frequency modulation.

If we were now condemned to always have that regular rhythm, we would very rapidly get tired of it, but we can use new regular patterns to regulate the regularity; we can adjust the regularity and if we like that we can set other rhythm on top of a sequence. Next we have a keyboard, which is still another kind of voltage control, or gauging apparatus. With it, we can control each pitch of the oscillator by means of the pressure of our fingers. We have two sequences and two keyboards; we have 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 oscillators and modulation of one sort or another is available on each one.

Sooner or later one gets to the question of aesthetics; namely what one finds pleasing. I certainly like to allow

my aesthetics to be dictated by the machine; I get into the machine and I see what it likes to do. After listening to what it has cooked up, one rejects some things and accepts some others.

All this does not mean we can forget about things like melody and harmony. To start with, a piano for example has 88 keys and makes 88 different pitches. But the oscillators will make a continual range of pitches. You can have as many pitches as you like; so we are not just thinking in terms of scale of pitches. The machine does make a noise very easily, and so we start accepting noise as a musical resource. Of course there have always been noises as a musical resource — drums and cymbals and things like that are noise-making instruments which have been accepted in the orchestra for hundreds of years. But we tend now to use noise a great deal more, to accept all the kinds of sounds that one can make.

One interesting thing about this equipment is that no connection you make will destroy the equipment. In other words, I can't plug something into something else and get an explosion which will end it all. So it is child's play from that point of view.

If you like serious music or classical music, the traditional forms have been abolished. It is an accomplished fact that no one can write sonatas anymore without making me laugh. String quartets written by contemporary composers strike me as rather bad experiences. As far as rock groups go, they have a different kind of problem because rock — although many of the groups are very adventurous and they are interested in the new sounds — is basically a kind of folk music, a kind of folk tradition. It is based on certain very traditional chords and attitudes toward rhythm. It does seem to me that there is a limit to how far those groups can go with their electronic devices and still be rock. I think it's groovy if they decide to change into something else and go where it leads them; but whether they will still have their audience is another matter.

As far as popular music goes, another problem is the fact that the audience which likes immediate effects, which doesn't have perhaps the kind of cultivated listening power some people think desirable.

How interested is that audience going to be if composers decide to go all out? It is certainly true that people are more open towards this sort of thing now; twenty years ago they would have thrown stones, and now one gets an attitude of polite interest. But people's ears are becoming more and more open to new things. Partly there is a craving for the sensational; our whole lives are becoming jaded; we hear the same things over and over again and people say, "Good God, give us something new!"

I spoke earlier about the aesthetic view that you take toward the equipment, and there are a number of different composers who work with this equipment who take quite different viewpoints. Some people want to spend a long time tuning the oscillator to get "just the right sound." Others attempt to have a more provisional view, which is basically giving the machine its own hand. Then there are others who like to use electronics in a rather chancy way. That

The New 'Generated' Music

The basic development of the symphony orchestra was completed over 100 years ago. Since then there have been a few refinements in instruments, the number of players in a few sections of the orchestra have increased somewhat, and occasionally "modern" instruments such as the saxophone or vibraphone have been added. But most concerts today are given with a group very much the same as Wagner had at his disposal in 1830.

In time, the age of electricity added sheer power to musical sound and, through recording, the mass distribution of musical performances has begun; but only in the past twenty years has electricity become a real influence on the actual tone quality of instruments. In the thirties and forties the ideal was to get a "life-like" sound from recordings. Now when popular disks are made it is very common for the major effort to go into the generation of electronic sounds. As a result it is literally impossible to have a "live" performance of the music we hear from our phonographs.

Since World War II many serious composers have been attracted to the possibilities of electronic media. The first primitive efforts were made by manipulating spliced tapes, making a

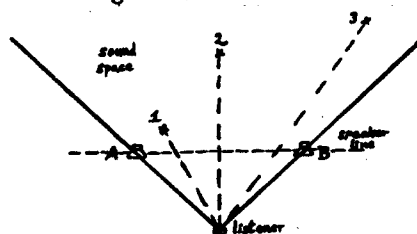
sort of sound montage. Much was done then with sine wave generators, filtered white noise, echo chambers and as many electronic gadgets as the local budget could afford. Still there was much to be desired in the realm of flexibility and control. Many hours were spent creating sounds which might be lost forever if not recorded the first time they were produced.

About 15 years ago several people began thinking of ways to turn the computer's vast potential to the task of sound generation. At the Bell Telephone Laboratories a basic sound program was developed which has since been adapted and revised at many locations. At Stanford we concerned ourselves with converting the computer generated sound system into a highly flexible musical instrument which might be used by musicians who have only a slight knowledge of the inner secrets of the computer.

The basic idea behind computer sound is really quite simple. The computer puts out a string of binary numbers, which are converted into minute voltage shifts such as you might get from an ordinary microphone. These voltages are then fed into any standard amplifier to produce sound. Any numbers from the computer will produce some sort of

sound (usually noise). The trick is to control these numbers so as to get exactly the sounds desired.

Elaborate computer programs will now give us in a few minutes any wave form imaginable. Since these wave



forms are the closest things to the physical reality of music and contain all the information we get about the apparent nature of the source of the sound; the door has been opened to many new ways of thinking about music.

In addition the spatial element has often been an important element in music but only occasionally have composers made specific requirements concerning the locations of their sound sources. With the computer we are now able to compose this element right into a piece by exact control of the various elements which contribute to our perception of sound in space.

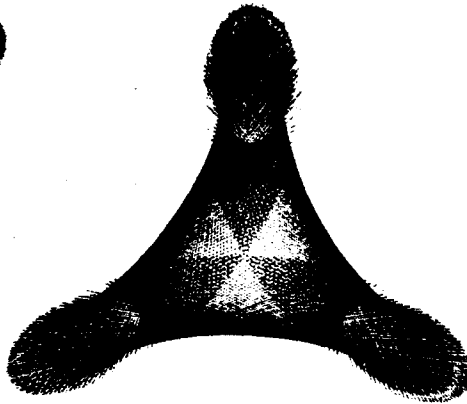
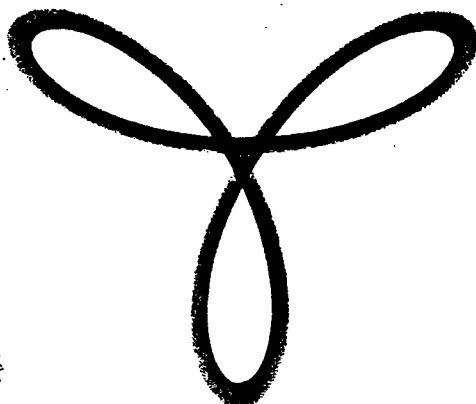
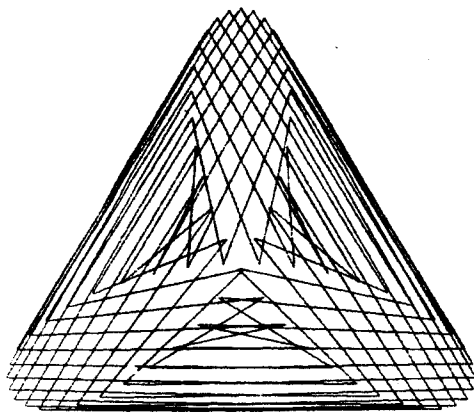
In two-channel sound it is an easy matter to specify the exact amount of sound to be heard from each speaker. This gives us our left-right information. It isn't enough that a sound gets softer for us to believe it is moving away. What must be added are the elements of a synthetic acoustical environment. It is very rare indeed that we find ourselves in a place where there is no reverberation. The relation between reverberation and the direct, or non-reverberated sound is the most important element in distance perception.

In the sketch (Figure 3) location 1 might become the apparent source of the sound by specifying that we hear 90 per cent direct sound, 10 per cent reverberated; 75 per cent sound from speaker A, 25 per cent from speaker B. For location 2, 85 per cent sound, 15 per cent reverberated; 50 per cent from each speaker. For location 3, 70 per cent direct sound, 30 per cent reverberated; 15 per cent from speaker A, 85 per cent from speaker B.

The next step is to consider what happens when sound is produced by a moving source. We have all experienced the Doppler effect; as a train zooms past its whistle drops from a high to low pitch. This effect is clearly perceivable even when the movement is over only a few feet. So to simulate moving sound sources it is necessary to exactly control pitch fluctuation.

Through the efforts of John Chowning (a musician) and David Poole (a computer specialist) a program has been developed which allows one to "draw" on a TV screen the apparent path of movements the sound will take. Then the computer works out all the details as to speaker distribution, reverberation and Doppler effect. Imagine we wish the sound to move in a circle at a constant speed. The sketch shows how the com-

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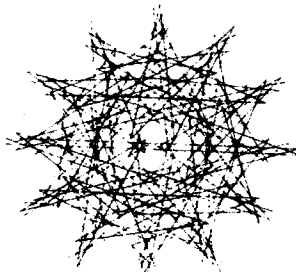
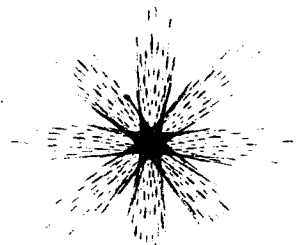


A 3-dimensional Theme of Life

To "put something in perspective" is a familiar phrase of popular rhetoric. The defense lawyer will point out that his client, who is being tried for theft, was only trying to find food for his starving children. The TV repairman will tell a customer sardonically that his problems will be solved if the set's plug is plugged in.

Putting something in perspective is therefore simply providing more information about a particular issue or problem than was previously used in understanding it.

But the term can also be used literally; the visual process of putting something in perspective is analogous to the informational one. One could put the drawings (above and aside) in perspective by viewing them in three-dimensions. On paper (as though a single human eye or ordinary camera) only two dimensions at a time can be examined. But it is possible to show in several drawings of the same object, each done from a different angle, its three-dimensional form—just as we might explore the form of an ashtray in three dimensions by picking it up and turning it around and over in our hands; looking at it, in other words, from a number of angles.



These drawings were generated using mathematical equations with a high-speed computer. Basically this is done by giving the computer a more or less complex equation and then programming it to solve that equation using various parameters—that is by changing systematically parts of the equation that would otherwise be constant. Each solu-

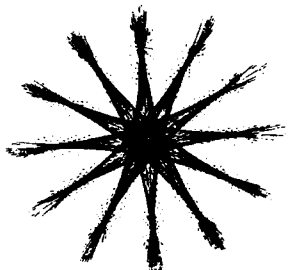
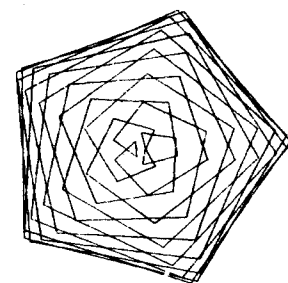
tion with each different set of parameters can be represented on paper (i.e., it can be graphed) using drawing equipment hooked up to the computer.

The equation being used is simply a mathematical representation of what is drawn; the processes are conceptually similar to recreating the sound of a violin over a phonograph speaker rather than actually playing the instrument.

As it happens, it is no more difficult theoretically to put a three-dimension drawing in a computer in mathematical form than it is a two-dimension one. On paper the computer can of course show the drawing in only two dimensions; but it can "put the drawing in perspective" simply by drawing it from a number of different angles. The equations of the three-dimensional form tell completely how that form could exist in three-dimensional space; to draw it in two dimensions, the computer simply "looks" at the form from whatever angle is specified and draws what it "sees."

What are some related possibilities?

Just as designers are now reluctant to sink too much of their clients' resources in projects that employ forms and patterns very different from common ordinary run-of-the-mill ones for fear of get-



ting something that does not work at all as it should, so any social organization—whether an entire society or a university, a family or a government—is reluctant to experiment with ideas, norms and systems of belief that stray too far from the conventional, familiar wisdom. Such exploration can be very costly, and in any case is difficult to control; it is therefore perceived as a threat to the established order of things, even though it might be well-intentioned for everyone concerned.

But now we begin to see the possibility of conducting such exploration with a computer—just as engineers and architects test alternative designs for a project "on paper" (in the computer) be-

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Machine's-eye View of Things

(From Page 11)

fore actually going ahead with building. Social organizations can theoretically be expressed in mathematical equations (or, more likely, form of symbolism) as easily as drawings can.

And a computer can therefore explore them as it or we might explore a three-dimensional physical object—by looking at it (drawing it) from a number of different angles. Just as the computer only needs one mathematical model of any three-dimensional form to draw it endlessly from every direction and with a wide variety of variations, so only one model of a social organization, in whatever convenient symbolic form we can devise will be needed for thorough study in advance of possible changes in ourselves and our social institutions.

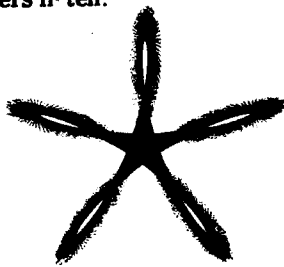
Using these techniques, the computer can serve as a new and very useful tool for engineers and architects. These professional designers must work daily with what might literally be called the hard facts of absolute reality.

In general, each project for which an engineer or architect is responsible goes through several phases of thinking, though, sketching, drawing and blue-printing, and modeling before it is finally built. But once it is built or is in the process of being built, there is little or no chance to correct errors that are discovered late.

The bridge or chair which collapses, the airplane which cannot fly, the ugly house, or the street too narrow and the car too wide: all these represent failures which the presumed users of architects' and engineers' services will neither forgive nor forget. A mistake once made cannot be thrown into the wastebasket and forgotten; to be changed it will probably have to be rebuilt from the ground up.

Through exploring so carefully such a

wide range of possibilities, the design process can be far more effective. Far better mousetraps, houses, urban plans and transportation systems than any we can conceive can be devised. What a thousand years of trial and error has accomplished in the engineering and architecture professions will be possible with high speed computers as design partners in ten.

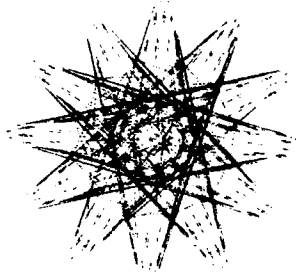


Congress could know the range of changes and effects that the Medicare bill would have in advance of passage rather than ten years after.

California could study a wide variety of variations in the design of its system of higher education to plan for greater efficiency, equity and other desired social benefits in advance, rather than

piecemeal, haphazard and with a high degree of uncertainty.

Using current commonly accepted procedures, even a row full of draftsmen and junior engineers can draw only a few "perspectives" on a particular project and then test them out thoroughly using standard but limited criteria for evaluating their strength, durability, or



cost, or essentially personal criteria for evaluating beauty, prestige or comfort.

But a computer can take a basic, tentative design and look at it or draw it from thousands of perspectives; and from each perspective it can evaluate it according to each of hundreds of criteria. Through thousands rather than tens of such design tests, many more "bugs"

can be found and eliminated than would otherwise be discovered, and the product accordingly will be much improved.

There is another possibility. It is also possible for the computer, turning out drawings at the rate of ten or twenty a minute, can not only examine one design from a thousand different perspectives and according to a 1000 different criteria, but it can systematically vary that design over a limitless range and test each variation as thoroughly as the original.

Philosophers could explore the ramifications of whole new systems of philosophy with one-year rather than hundred-year studies.

International and national political scientists could disestablish the American government and test out at length substitute systems of social authority.

The possibilities are endless; and now, for the first time in history, with the aid of the computer, we can explore thousands times more than we ever could before.

Robert Johnston
USSPA

Computers Compose Controlled Cacophony

(From Page 11)

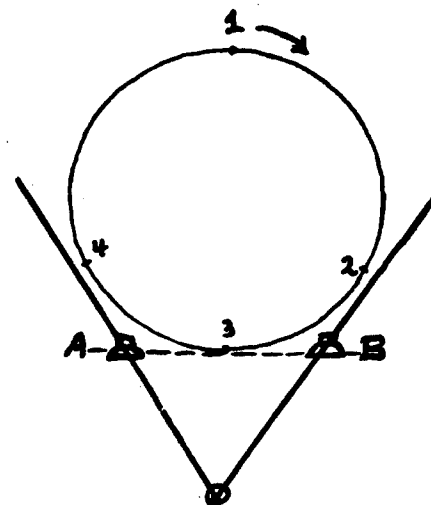
puter would control three elements of the sound.

It is one of the paradoxes of the contemporary scene that chance music and music of total control have dominated the output of many of our finest composers. Most people are aware of the computer's talent for total control. Less well-known are the various computer programs for random selection. In any live musical performance many elements are subject to random selection. Vibrato, exact amplitude, pitch and rhythm; these things are never produced exactly the same way twice. In

Jazz improvisation we find a kind of controlled randomness. Although there are rather clearly defined rules which are agreed upon, every performance varies greatly in detail.

It is not especially difficult to write a computer program in FORTRAN which will select notes to form an "improvisation" over the standard harmonic progression of the Blues. This program can be coupled with the sound generation program so you end up with the computer both composing and playing the music. The artistic quality of such production will depend entirely upon the sense of musical values put into the FORTRAN program and the capacity of the computer to produce a wide variety of sounds. I have developed a program whereby every dimension (parameters, we call them) of a musical sound may be chosen in terms of a scale from total random selection to total control. Making music with this is a little like playing dice with complete control over just how "loaded" they are.

The use of the computer in this manner leads one to ask many basic questions about the nature of art and the nature of the thought process itself. The computer can become a real tool of the mind. The artist is always faced with the problem of "what can happen next?" In an instant he rejects all possibilities which fall outside his self-imposed value



system, but it is quite likely that he follows through on only a tiny percentage of the artistically consistent possibilities. The computer does not tire easily. Why not leave the hack work to the machine and let the artist devote his energies to the much more important problem of value judgment? It seems certain that the creative artist will eventually find that the computer has just as much to offer him as it already has offered to the creative scientist.

Leland Smith
Associate Professor of Music
Stanford University

Traditional Forms Are Abandoned— New Music Anticipates the Future

(From Page 10)

school has given rise to whole groups of odd people with live electronics who do things with performers where sounds are modified in the concert situation by electronic devices.

Which brings me to an interesting piece performed here about a month or six weeks ago. Variation Six basically consists of one accululating in the concert area all of the electronic equipment you can find — electric razors, radios, record players, tape recorders — these things — as many amplifiers and speakers as you can possibly get, and also providing as many performers as possible. We had six performers and enough patch chords to connect virtually anything to anything. The piece, which lasted all evening, consisted of the performers setting themselves various sound-electronic projects. Such a project might be to take two sound sources and to put them somehow through four intermediate stages and then send them out over three speakers. The way that you deal with these materials is by following this cord, which consists of a large number of cutout symbols. The symbols indicate sound sources, amplifiers, and speakers, and you shuffle these together and drop a handful of them around on a sheet of paper. That indicates how many of these you are required to do.

The result is that there are six peo-

ple working in the same area with the same equipment trying to fulfill their own projects — interfering with each other, taking apart something someone else has just laboriously set up, turning down something that someone else has just a moment ago turned up, and so on. With this kind of inter-action, sounds that result are extremely chaotic, to say the least.

But it is very beautiful because after all, it makes a piece out of a process that we are dealing with all the time. This very process has gone on this morning. I brought these things down here, first of all, and connected them all to each other and then we went about making some connections on the face of the instrument.

Now we have passed the purely experimental stage. We are going into a phase where there is nothing to prevent all sorts of people from just seeing what they can do. It is not hard to work the equipment. People come to the studio here without any previous experience in electronics, and they take the introduction course and after a couple of months become electronic composers. Whether you have any ideas, whether you know what is going on behind it is one thing and whether you have any idea of what to do with or you just come to the studio and sit and stare blankly at the box waiting for inspiration is another matter.

Conversation at Irvine

(From Page 3)

LLOYD-JONES: That, I think, brings us to one of the things it is easiest to be optimistic about with computer usage. You turn out students who not only know the material but who also have an awareness of modeling, as you put it, of dynamic interactions, of a reality check that comes out in terms of your model being wrong and therefore of your results being wrong. Do you think this will end you up with students significantly different from, say, your classmates when you were an undergraduate at a university?

JUSTICE: I expect so. We have already begun to see some differences in the types of thinking among many of these students. In fact, we ourselves are only beginning to realize the crudeness and the inaccuracy of many of the classi-

cal models, the mathematical models, which have held forth in biology for 15 or 20 years now. In this area, 15 or 20 years is a long time.

LLOYD-JONES: Apart from the change that comes about with the material, just with the new research and new insights what kind of change do you get in the students?

JUSTICE: We really don't know yet. This is one of the things we want to do in some of the educational research projects we are involved in. But I am just saying that judging from my own experience, there must be change taking place, because certainly my own contact with a computer has led to a changing of my attitudes towards the biological models we worked with before with pen and pencil.

REVOLT

ON

CAMPUS

Proposed: Guerilla Revolt
Against Power Automated
(Motivated) Universities By:

John Seeley and 4 Student Editors

SEELEY: Students are much too polite, much too easily hoodwinked, and the presidents turn out smooth kids who don't hassle them much. When I went up to a Teach-in at the University of Toronto, it just blew my mind, because the faculty had really captured the Teach-in with talk about balance and a whole lot of other things. As soon as anything started to happen, when anyone got passionate or anything, they tempered it down, dooled it out.

A guy is supposed to come in, know what he wants, and til very recently, there has been little disposition — if, say, he wanted to be a mathematician — but to start him on a course of mathematics; then either get him kicked out if he wasn't up to it or going right through the math.

STUDENT: If they're not politically active there, are they more scholarly?

SEELEY: No, I don't think it's because they are more scholarly.

No, I think the kids are more apathetic in Canada, partly because there isn't the war to add to the urgency of the problem. There is this poisonous belief in politeness, maturity and responsibility, and I've watched this game played with kids from kindergarten all through the high schools.

STUDENT: What about the University of British Columbia? I've just seen their paper, and it's very liberal, quite left, and quite activist, it seems.

SEELEY: Probably things are breaking somewhat loose at UBC. Right next to it is a new university, the only one in Canada that I know about that's really exciting, and that's Simon Frazier. That place is really swinging in more ways than one. In the first place, it looks as though they may not jell into departmental structure. There's one vast center called the communications and the arts, and nobody knows precisely what that means. But it really means kids coming in who are interested in somehow finding a way to talk or express themselves or get in touch with other people. You've got everything here from anthropology to people doing sculpture and God knows what all else. And the school at the moment is organized in such centers, which is in itself intriguing. A strong number of professors who don't fit into the conventional scheme.

In its first two years of confronting students very early, it made some bad blunders but had the

sense, decency and openness to back up and reverse itself.

The last time I was out there there'd been a tremendous row. The university is on top of the mountain and the administration thought that since students and professors might run out of gas on top, they obviously needed a gas station on the campus. They made a kind of a minimal provision to see that the thing wasn't too unsightly, and then thinking it still within their province, they signed a 99 year lease with Shell Oil to operate this single monopolistic gas station.

But as soon as they did all kinds of hell on principle broke loose. Can the administration alter the environment in which students live without consulting them? Are there no aesthetic standards which should be either debated or shared with students? And who in hell would have chosen Shell Oil, which in Canada is connected with a U.S. firm involved in napalm manufacture? Who above all would have given it to Shell Oil virtually in perpetuity without consulting students?

Within three days the thing had escalated to the point where the students looked as though they had enough power to demand that either the matter would be debated by the administration in the full presence of the faculty and students and a new deal be made, or they would simply bulldoze the gas station down the hill.

So after not too long a period — you know it wasn't like Berkeley spread out over three years or something like that — within 10, 20 days, the president came back and said that on consideration and after listening, he thought he'd committed a major error. He had taken this in the ordinary way, as being just one of those little things that you do. He could see the validity of their arguments, and he offered a compromise which they accepted.

STUDENT: Do you see any significance in what happened there and some of the other cases for what we call student power in the United States? I think now of my own university where recently the students were given an "advisory vote" in the matter of choos-

ing a 2.5 million sports complex. We indebted ourselves to the tune of \$12 a semester for the next 35 years to pay for this. And now it appears that because we have agreed, they are going to put the stadium a mile and a half north of campus across an inter-state for the mere convenience of access.

SEELEY: I think that's pure shit. The advisory relationship is in my own opinion, after watching the whole thing for a lifetime, one that should be refused absolutely everytime. Because what it does — it doesn't matter whether it's faculty or students, — the game is played worse on faculty in a sense — is saddle you with the responsibility without any control whatever.

The object of what is called the presidential advisory committee is to capture and make partly responsible, all the potential opposition so that the very back of the opposition is broken. One side is morally broken, but on the other the people who would be active in opposition are so busy on these presidential advisory committees that they haven't the time to fight.

STUDENT: What about the worse situation where the president sees himself as some kind of Simon Legree, the students as niggers and the idea is that he doesn't even offer an advisory position.

SEELEY: First let me say that I think that they are not kidding. Compared with the Canadian game we were better off at Brandeis where — just barely short of words — the president said, "Look, I built this university, I have absolute power in it, and I propose to have it til the day I die." You know; then you didn't waste four-fifths of your energy sitting in advisory committees and fighting ghosts. But, in that kind of situation, it is much clearer that anything and everything is justified.

If the president wants to make the thing a test of power, then I see no obstacle, moral or other, to invading his house and not letting his car get out.

If his argument is you must do what he tells you, because he has the power and I don't know what else it can be — then my answer is, "Let's see who indeed has the power." rather than that kind of head on confrontation, where the police would be immediately called in and so on, my preference is really a sustained incalculable guerrilla movement in which students one day borrowing a president's house and by the time he's organized and got the University police

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Drop City for Well-Known Intellectuals

Listening at Democratic Studies Center

(The author, a student at the University of Colorado in Boulder, Colorado, spent a day during USSPA's February Higher Education Seminar at the Center for the Study of Democratic Institutions in Santa Barbara, California. She gives here her impressions and reactions, and tries to extrapolate from the small group experience at the Center to the general state of undergraduate education in the "megaversity.")

Hidden amidst the greenery and warmth of Santa Barbara, California, at the end of a winding road on Eucalyptus Hill, is an intellectual Shangri La — remote from financial ties with IBM or the Department of Defense, away from the lawn mowers and shopping carts of suburbia and from the sit-ins, bitch-ins, or blubbering at the University.

At this emerald-enclosed enclave, the Center for the Study of Democratic Institutions, 23 men talk and write.

Although it is physically and financially isolated, the Center imports technocrats, students, diplomats, professors and exports books, pamphlets, audio-tapes. It is a Drop City for well-known intellectuals, including past University of Chicago President Robert Hutchins, Bishop James Pike, and Michael Harrington (author of "The Other

America" the book which spawned JFK's war on poverty).

The literature of the Center asserts that the institution's "prejudice is democracy; its operating procedure, the dialogue." Fellows debate issues surrounding the Negro, the city, the Indian, the Constitution, the University, peace, or students. An independent, non-profit institution started in 1959, the Center has distributed 6,000,000 copies of some 175 publications.

One intriguing idea four visiting students heard in February there was Frank Kelly's proposal for an Annual State of Mankind Address, to be delivered by the United Nations secretary-general. The address would "bring to you in living color" the central problems of mankind. If technological color were not available, radio, newspapers, pamphlets, public lectures—drums—would promulgate the secretary's world community news.

John Seeley, author of the "Americanization of Unconsciousness," sat with us on the floor of his home to talk about how students can survive without "psychological castration."

Another group discussion the same day among the Fellows included a debate on legal and social justice. The Fel-

lows sat around a table, clicked their coffee cups and played with their sharpened pencils while they listened to a visitor, who was a veteran of an 18-month jail term in Rhodesia.

The setting was strictly "think-tank," but the script seemed somewhat lacking.

Have the Center's discussions and publications rippled into society and spawned reforms? Yes, if we accept John Kenneth Galbraith's view of technocrats as the knowledgeable elite who, as the most scarce factor of production, have the most power. As those educated in the intricacies of the technocratic structure, the Fellows are among these specialists. Presumably, their educated views are assiduously studied by corporate business, government and other educators. This is certainly true in at least a few instances—as when JFK started his war on poverty after Harrington's book.

But direct links between Center thoughts and society's actions are rare.

In the midst of the electro-technocratic era, the Center is without stockholders' meetings, an eight-hour daily schedule, gray flannel suits (some Fellows wore sport shirts), computer, time clock or government research contract.

But despite its nakedness, the Center's fellows have "produced" (sometimes to the irritation of the government, as when Harry Ashmore visited North Vietnam).

The Center defines and conducts its studies collectively. Vice-President Hallock Hoffman says of the dynamics of learning from each other, "We're not very good at it, but we're the best of anyone I've seen."

The Center is a kind of anachronism using an unstructured format of Platosymposium vintage. Whatever its shortcomings it does seem incredible that most undergraduate teaching has forgotten this means of learning—small groups, collectively defining and acting on what the participants view as important. The educational medium of seminar discussions, based on what students think they should learn, seems obviously necessary if we are to resurrect the mummies now sitting at their classroom desks.

But even as the Center presses its criticism and discussion forward, the megaversity is enlarging the unit of learning and increasingly standardizing its goals. A study published last fall by Joseph Katz of the Stanford Institute for

(Please Turn to Page 14, Col. 1)

Berkeley and S.F. State

(From Page 6.)

As for the experimental college-free university, it has grown from its somewhat dubious beginnings to its present position at State — offering almost 100 courses this term in "life theory" with an enrollment of over 2,000 students (some of whom come only to the e.c.) and officially recognized by the administration and faculty senate. Completely organized and operated by students with some faculty and departmental support, the e.c. has introduced a radical challenge to the education system that has caused educators and students to answer with similar experiments within their institutions and has produced the phenomenon of the '60's: the separate-identity experimental college.

The paradox I'd only glimpsed my first trip out drew me back for a longer, deeper look at State. This time I talked with the editor of the Real student newspaper (THE OPENPROCESS), some of his staff, and students at large. On any other campus OPENPROCESS would be the campus-off-campus "underground". At State it's an official campus paper and "the voice of the students." Well-written, graphically clean and pleasing, OPENPROCESS has a reputation among the students for raising legitimate questions and for offering an alternative to the GATOR distortions. One graduate student in history saw the differences between the GATOR and OPENPROCESS as the polarization of campus viewpoints. And State continues to support both publications — OPENPROCESS getting its knocks from the administration, the GATOR getting its blows from the white and black radicals.

The blacks have their place among "the huts" — temporary quonset huts set up next to the Commons that house all student activities from the GATOR and OPENPROCESS to the student association to the e.c. to the Black Student Union. Although they are struggling to establish programs and curricula independent of white support, they are presently working within the budget and limits of the experimental college. The black studies curriculum has grown from one class in

the spring of 1966 to eleven classes (amounting to 33 units of credit) this spring. Relations between the blacks and the OPENPROCESS people are close — both exploiting the other for their own survival.

Academia Sans Brotherhood

The graduate students at State tend to be the leaders. The few grad programs are too new yet, less research-oriented, to attract real scholars. There is less brotherhood with academia, more openness to change. Those who come to State come looking for opportunities to create their educations, willing to devote the time and effort necessary to "getting involved".

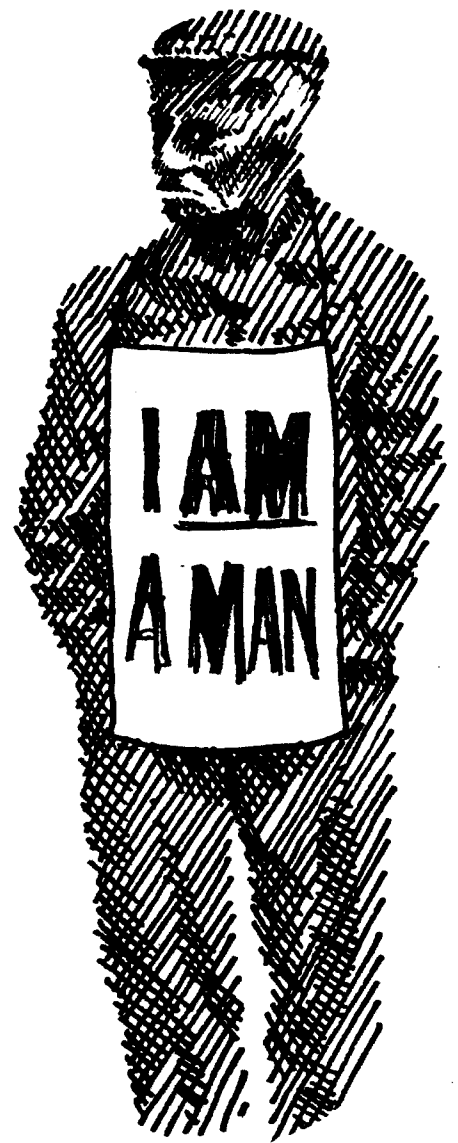
S.F. State students are communication oriented. The degree to which they are informed is really impressive. The bulletin boards are cluttered — but up-to-date. Both campus publications and the San Francisco CHRONICLE are read carefully and discussed minutely. As far as the students determine the system at State, education is aimed at living, and communicating takes a primary chunk of that education.

San Francisco State sits across the Bay in the shadow of Berkeley — deferring to the reputation of its Big Brother institution. Berkeley is the avante garde in higher education I the impact of its revolutions are felt nationally. But State with its institutional inferiority complex is the real innovator.

Quiet Desecration

For all its reputation of rebellion Berkeley tends to perpetuate the present system of education — the elitist academia with its scholars and its libraries and its government research projects and its prestigious faculty positions. And State, for all its apparent middle-class mediocrity, continues to chart new goals for higher education, to create silent revolutions in the Institution, to desecrate the sacred cows of the System, to challenge the "self-evident truths". S.F. State, not U.C.-Berkeley, has and will really change the face of American higher education.

Patricia Sweeney
USSPA



Technomania Astray

(From Page 4)

pre-computer era. Paul Goodman, Sylvia Ashton-Warner and others have utterly eradicated any reason for trust in the conventional wisdoms of education. And Vietnam, Berkeley, Dallas and Memphis have shown that fact-stuffed, liberal, automated America, rife with operations research, systems analysis and hip blue-sky men simply doesn't work.

My critique is essentially that the Apostles of Automatic Data processing have found themselves a way of making a buck out of the machinery of Shannon, Weiner, Bush and Watson, and they are so busy selling the hardware to anyone with a budget to administer that they have no time to spend dreaming of what this really extraordinary technology could do. Since schools in this country spend a lot of money, these guys are spending a lot of time hanging around the

At the Center

(From Page 13)

the Study of Human Problems documents this academic repression. It finds that freshmen's grandiose ideas—their yen to work with the world-shaking—is stifled by professors aghast at the freshman's inchoate thoughts.

The professor's impatience with a rambling student reflects a retreating view of the professor as sole source of wisdom. Cool seminars—where the student must define and participate in his education (and call on experts when he wants them)—are essential to nurturing the undergraduate interest in learning.

The small group seminar will inevitably be revived as the computer minimizes the professor's role of transmitting knowledge. Hip groups—of students and professors—within the university will continue to pursue their guerrilla strategy of subverting the professor's one-way communication to a student blob. Educational enclaves can abstract from that blob human beings—learning what they think they should. These pocket Shangri La's can transform the university from service station for society to thinking community.

—Carol Bozeman

school-house door, but there is little evidence that they have spent any time thinking of what they could be doing for education, other than automating the most otiose and frivolous aspects of the worst of didacticism. They want the money so they approach the school-board but without being able to do as much for a child as an afternoon's fishing would.

Now suppose: suppose we want young people to communicate with old people — surely a societal-regenerative function of education—then why can't a few wires, diodes and boob-tubes be hooked up to let ten year-olds watch on oil plant running? (A small step forward from cybernated Dick and Jane and their exorable dog Spot.)

Suppose we want young adults to be able to find out about abstruse and esoteric facts — a generally broadening experience — why don't we set up automated total environments here and there around the city for them to drop in on at their leisure so they can groove on electrical engineering or Restoration England when they feel like it? (A small step forward from sonsoles chattering banalities.)

Suppose we want people to be able to test their competence — a personal exercise often valuable to one's self-respect — can't the machines be programmed to give some more real sense of accomplishment than a programmed "Yes, very good" and "No, try again?"

But suppose even further: suppose that the new technology does more than give us a chance to take steps forward in the traditional functions of education. A simple heirarchical sorting program can be used to tell people about others with complementary or similar interests and knowledges — computer mind-mating. Why don't we add something like it to the repertory of education. Satellite technology makes it easy to see anyone in the world any time. Why, apart from the cost of the war, isn't there some preparation being made for first graders to "visit" other countries a couple of times a week?

My imagination is limited, but of one thing I am sure: the post-war techniques of information handling make it possible for the first time for us to feed, cloth and house the whole world; they enable us to have facts at our finger tips and free our minds from petty arithmetics. The computer can let us make a new and almost certainly better world.

This being so, why oh why are the technocrats satisfied to use their wonders only to produce new mechanical versions of the same old garbage? Perhaps because their vision is limited by the glibness of "garbage in garbage out."

—David Lloyd-Jones

On Revolt

(From Page 13)

there, somebody is messing up the library by taking books out and handing them back every half hour, or something like that in masses. And by the time they've got a staff organized to deal with that, then there should be students bothering the clinic and as soon as they've got enough doctors or policemen to keep you out of it, then have everybody go see the dean and tell him he doesn't really know if he ought to be in the courses he's in.

STUDENT: Of course the problem is that most colleges are not Berkeleys and in many situations you'll find that the large majority of the campus is totally opposed.

SEELEY: I don't know what to say about how long a period of time it takes to radicalize students—apart from the basic strategy of Berkeley, which was really to keep some sustained pressure against the administration, and then wait for it to commit one atrocity after another. And we still don't know three years later — four years later — a long way from '64; we still don't know whether they're going to win or not. It's in the students' favor.

But it's still not clear whether or not the University of California is going to be a dictatorship. It's moving more that way.

STUDENT: Do you think in any kind of student power campaign that a certain number of graduate students are necessary for success. I know FSM had a good number, especially on the executive committee.

SEELEY: I think a university like California which is almost totally dependent on its Teaching Assistants is a natural target. And if they strike or if they sabotage or slow down or even if they were to do the opposite, like the railway unions do, and follow all the orders meticulously so that the registrar's office is constantly overloaded with information — if they do any of those things the university will collapse.

STUDENT: It's three minutes after your next appointment.

SEELEY: Did you find out anything of any use?

STUDENT: Oh yes, definitely, we found out how to foment revolution on campuses. There's a going to be four more revolutions.

STUDENT: Isn't there some federal law against counseling to insurrection?

SEELEY: It would be up to my lawyer to prove that this was not insurrection, and that we are true patriots and trying to get the constitution adhered to, and that the young are people. That's the new dispensation. We've got to get recognition that young people are human beings, just as we had to get recognition that the slaves were human beings.

STUDENT: That eliminates four-fifths of the professors from the university.

GETTING OUT OF LINE

Same ol' Story— Individuality Out, Conformity In

(The author is a student from Montana State University in Bozeman, Montana. Caught for three days in a maelstrom of new education technologies at USSPA's February Higher Education Seminar, she came away with the following opinion-reaction.)

"Now I want you to rewrite your stories on good white paper, and let's see what nice, neat papers you can turn in. Pay special attention to your penmanship and be sure your hands are clean."

Close your eyes and you can be back in your gradeschool classroom, biting your lower lip and grappling with your fat, black pencil. This is probably the type of classroom you knew but, that was ten or twenty years ago, and it was an antiquated idea even then.

The teacher above will undoubtedly get back enough pretty white papers to fill her bulletin board for the week, but chances are that little of it will be original. She is unwittingly thwarting the creative drive of her pupils by placing emphasis on writing the thoughts down instead of on the content of the thoughts.

Before children come to school and are taught to learn, they have developed an elaborate learning mechanism all their own. It involves investigation, curiosity, random play and open-minded perceptivity. They have no concept of an unacceptable answer, and they aren't afraid of failure. There is no punishment for the four year-old who sits on the sofa and blows it trying to tie his shoe. He just quietly licks his lips and tries again.

But once kids hit school, they learn to stand in lines, sit with their hands folded and express their love of learning by raising a hand.

They must learn to squeeze their own method of learning into this rigid structure, or they begin to feel the claustrophobia of failure. It's no longer a simple matter of trying once more; everybody is watching and they might fail again. Some conform — they quit trying anything original as insurance against failure. Some get so hung up they don't try anything at all. A few say to hell with the teacher and do what they want to do anyway. They are labeled as "unmanageable."

Our educational filing system is squashing more than the passing whims of childhood. It effectively subverts natural enthusiasm for learning and private investigation. It cuts off an unknown quantity of potential creativity and convinces many children they are useless and stupid.

A child writing on unlined paper will write "loud" as LOUD, in letters two inches high. And if he wants the reader to pause, he might use 12 periods to separate his thoughts instead of the traditional 3 or just a big space. Their papers are works of art incorporating design elements to bring another dimension to the meaning of what is written. Straight lines and evenly spaced letters are a side product of machines, not people.

A child will draw as he feels things, not as he sees them. In a picture of boy picking an apple, the hand that picks the apple will probably be two or three times the size of the other hand. Or maybe the boy won't have another hand at all. And why should he? Of what importance is the other hand? As soon as he is informed that he has made a mistake, that his picture is no good, he either quits drawing pictures or else.

But most kids at age seven trust the superiority of adults. They need encouragement.

Once a child has a firm foundation of faith in himself and the value of his own contribution, then he is ready to accept with understanding, and perhaps a grain of salt, all the necessarily rigid material that will constitute much of his later education.

—Diane Travis
Montana State University

Breaking With The Tests and Papers Regime

(Dianne Bechtold, who participated in USSPA's six-week seminar on higher education last summer, is herself a temporary dropout from the University of California, Berkeley on unofficial sabbatical for experimentation in education. She is currently studying mathematics and biology under the direction of a tutor and plans to audit classes during the summer).

At Berkeley, as at many other campuses across the nation, there has been an increase of undergraduate students who for one reason or another find it necessary or preferable to interrupt their formal studies for a time. This phenomenon of "temporary dropouts," students who leave school for a term or two to "find themselves" or continue to study on their own strongly suggests a maladaptation of many undergraduates to the rigidities of the traditional semester or quarter system with its regime of classwork, tests and papers.

Many of these students seem to be in the throes of what is referred to as the identity crisis. The cycle of heavy assignments, tests and term papers has left them little time to think seriously about basic personal issues such as the quality of life and relationships with others or the pressing problems of finding a meaningful career. Too much of their student life has been spent in the meeting of university requirements and standards. For many students a term or two away from school provides a partial solution, but for undergraduate men the pressures of the draft often preclude this.

Other students wish to drop out of school because of criticisms of the current educational process itself. These students want a greater hand in the formulation of their own education, more control over both content and format of courses. Some suggest that a radical reevaluation of the classwork and semester system is in order and suggest alternatives. The proposals vary.

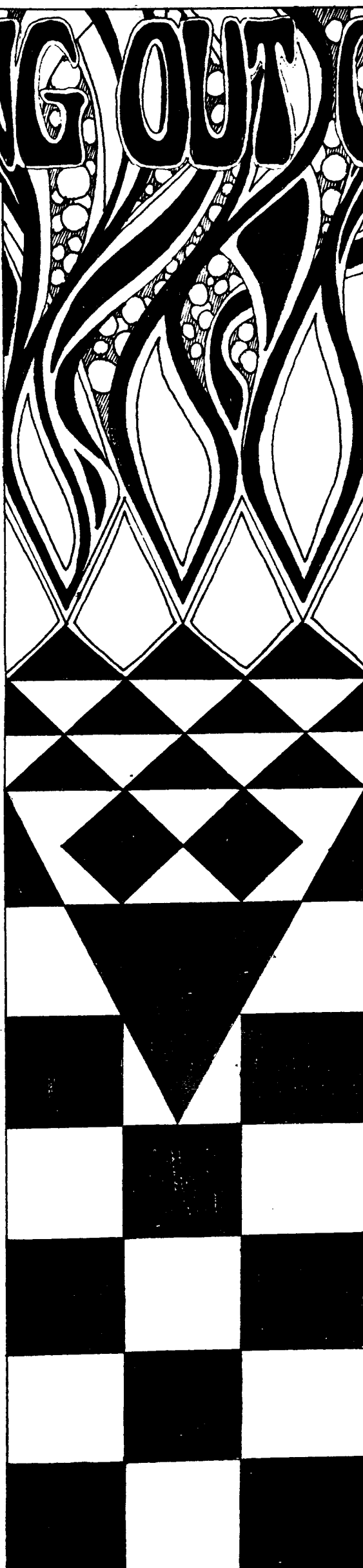
One of the major problems students face in seeking acceptance of their proposals for educational reforms, in addition to overcoming the conservatism of faculty, administration and society, is the fact that rarely do the students have personal experience of the methods of learning which they propose. This results often in a lack of confidence in specific proposals and an absence of empirical evidence to substantiate their cause. This facilitates the victory of the tried over the untried.

The failings of American educational institutions are not unknown to student groups interested in educational reform. What is lacking is widespread experimentation with alternatives. The institution of undergraduate sabbaticals for the purpose of experimentation with educational forms could be a powerful instrument for promoting educational reform substituting experimentation for speculation and for providing a backlog of experience from which proposal for educational reform could be put together and defended.

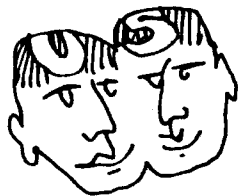
Individuals and groups could explore and invent many possibilities. Some suggestions for experimental sabbaticals are independent study projects, field research projects, tutorials and the issuance of audit passes so that students could utilize classroom resources in accordance with individual objectives. In addition even apart from experimentation with educational forms the idea of undergraduate sabbatical for travel, leisure and private study is an important one which grows more feasible as educational resources increase.

Although it is preferable because more influential to conduct these sabbaticals under university auspices and financial backing, it may be necessary to seek initial support from foundations and organizations interested in educational reform. The success of these ventures hopefully would invite subsequent university sponsorship as well as facilitating the enrichment of the individual students and strengthening the convictions and morale of student groups interested in promoting educational reform.

—Diane Bechtold
Berkeley, Calif.



HOB0 GRAPHICS '68



The planet is becoming a university. This means that the educational act and the political act are becoming one.

With the advance of technology and the shrinking of the world through communication, man can decide to have the kind of world he wants.

And yet, we don't really have the alternatives ready. We haven't dreamed the big dreams about what we do want. If someone walks up to us and says, "You can have any kind of world you want," how many of us can say that much about it?

—Rick Kean writing in *Motive*



In the history of education, the most striking phenomenon is that schools of learning, which at one epoch are alive with a ferment of genius, in a succeeding generation exhibit merely pedantry and routine. The reason is, that they are overlaid with inert ideas. Education with inert ideas is not only useless: it is, above all things, harmful. Except at rare intervals of intellectual ferment, education in the past has been radically infected with inert ideas. That is the reason why uneducated clever women, who have seen much of the world, are in middle life so much the most cultured part of the community. Every intellectual revolution which has ever stirred humanity into greatness has been a passionate protest against inert ideas. Then, alas, with pathetic ignorance of human psychology, it has proceeded by some educational scheme to bind humanity afresh with inert ideas of its own fashioning.

—Alfred North Whitehead in *The Aims of Education*



From Elementary School Through the University Computers Replace the Absent-Minded Professor

A hundred years ago John Stuart Mills spoke of an enlightened society in which the elite would be privileged to receive a "liberal education"—a small group of young men leisurely engaging in philosophical rhetoric and occasionally meandering into the great Greek and Roman classics.

With the shift in balance of traditional political structures and a heightened attentiveness to technological advances, Mills' vision slowly began to decay. With the two world wars and a depression acting as catalysts, the total destruction of a 2000-year-old concept of education has become complete.

The question of what to do about mass education and how to do it is the question of the '70s, and by the time we get around to answering it our answer will be obsolete.

If we elect to meet the exponentially expanding population and offer them all the preferential right of education, then we are faced with a choice. Either try to accommodate this increase within the existing system, or try to produce a new system which can be efficient and yet retain what Plato would call the essence of our social being.

Amid the debate over philosophies, "computerized" education is quietly growing.

At Brentwood elementary school in mostly black East Palo Alto, Calif., first and second graders are learning reading and mathematics with the aid of an IBM 1800 computer, used in supplement to their classroom work.

At Stanford University in Palo Alto, students taking a computer-based course in first-year Russian are doing three times better, as measured by exams, than their counterparts in the traditional classroom course.

At Morehead, Ky., second and sixth graders are learning arithmetic by following computerized instructions on teletypewriters.

At McComb, Miss., sixth grade students are studying logic on a computer-linked teletypewriter.

The Brentwood Computer Assisted Instruction laboratory is the first in the country to be an integral part of a public school. The million-dollar project is funded by the U.S. Office of Education and is in its second year of full-time operation. Its purpose is to find out "if it is really possible to teach with this kind of technology, and to do it over an extended period of time," Karl Anselm, a research assistant there, claims. The lab is operated in conjunction with Stanford University. Computerized instruction costs from five dollars to 50 cents per student hour, as compared with 25 cents to 35 cents for a teacher.

Brentwood pupils work at the CAI equipment in half-hour shifts of 16 pupils at a time. Each child has a television screen, used to display letters, numerals, and some pictures and special symbols; an image projector, used to project color pictures from a 16 mm film strip a set of earphones, through which a recorded teacher's voice instructs the child; and a teletype keyboard and electronic pen, which the child uses to respond to each question presented on the screen.

The system is basically a linear one. A problem (in either reading or math) is presented along with pictures or other aids and the student is given several optional choices.

Each mistake made is recorded by the computer, and the areas of weakness are stressed in

the succeeding meetings with the computer. The computers are designed to become the child's friend. Verbal instructions are given in cheery voices and animated drawings are interspersed to hold the child's interest. In the middle of a lesson, a game might be injected. They vary from hopscotch and bingo, to the subtle "find the rule game" which really relates back to the lesson. Anselm sees no limit to the possibilities which exist through proper programming. One possible idea is utilizing the computer as a cybernetic psychoanalyst. Anselm believes that if the proper relationship is developed between child and computer, the child would trust the computer.

A hypothetical example would be: The child comes to his computer each morning; the computer asks the child "and how are you feeling today?" If the child answers in the negative, the computer asks him why; the child explains; the computer offers counsel.

Operation of a computer-based Russian course at Stanford differs from the Brentwood project. In that, students work only with a teletypewriter and earphones controlled by the computer. They receive instructions from a tape recording made by the Russian instructor, then they respond on the teletype machine. The computer analyzes their answers, activates the keys to tell the student what is wrong with his responses, and tells him which items to review.

Since the equipment has no capability for receiving an oral response, the students regularly attend the language labs, and in addition make tape recordings monthly with the Russian instructor, in order to practice the spoken language.

Russian professor Elise Belenky points out a particular advantage of this system is that the student is spared "passive" time in the classroom, listening to other students' incorrect responses.

But along with this evident satisfaction with computerized instruction and enthusiasm about its potential, there are misgivings about the loss in personal contact. Even though the student is being individually responded to by the computer, he is being responded to in a mechanical fashion, from a source which, although programmed by humans, is limited in its range of responses. Also, the machine must always have the last word in any communication with it. If the user "signs off" the computer, it will always answer, "you are signed off."

Don Bushnell, vice president of the Brooks Foundation, which does research into the applications of computer technology, wrote in an article called "The Information Utility and the Right of Anonymity," "This information in many instances will have to be explained or defended by the student, because information on every step in his educational history will be available.

There seems to be no real alternative to using computers to help us cope with the increasing complexity of our society. But, as Bushnell writes, we must "provide the proper balance between administrative efficiency and individual privacy . . . the decisions we make must be based on a set of humanistic principles that are to be taken as categorical imperatives."

Martin Rips, UCLA
and

Dennis Stephens, Portland State College

When millions of freshmen flock through the gates of their college each September, they find that the school of their choice has a whole series of policies and structures designed to ward off the annual student invasion. The more perceptive students soon come to the conclusion that their personalities and expectations are of little concern to the college. What is important is that the students behave as required so that the college can achieve its own goals of survival and expansion, and the primary of these goals means that the education of the students has rather low priority.

—The Student in Higher Education, from Report of the Committee on Higher Education, 1968



In no field of human endeavour is competitive notoriety and a painstaking conformity to extraneous standards of living and of conduct so gratuitous a burden, since learning is in no degree a competitive enterprise; and all mandatory observance of the conventions—pecuniary or other—is necessarily a drag on the pursuit of knowledge.

—Thorstein Veblen. *The Higher Learning in America.*

