worrying about—and the addition of last-resort safety devices only increases a reactor's complexity and decreases its overall safety. Similar views exist in the U.S. nuclear industry.

Seaborg saw no indication that this philosophy might be changing, but Squires and Kintner did. Kintner said that officials acknowledged that "safety requirements will grow with an increase in the population [of reactors]," and that the bigger they are, the more dangerous they are. Squires said he got the impression that the Soviets have "no intention" of putting their large new reactors near major population centers (the Leningrad reactor is near a small town, about 20 miles from the city itself.) Ironically, large new reactors in the United States are being built increasingly close to major eastern urban areas, on the assumption that reliability and safety are improving with time and experience.

In a telephone interview, Squires said "the propriety of our situation in the Soviet Union" prevented asking pointed questions and getting specific answers. Nonetheless he came away with the feeling that Soviet authorities are "moving to lessen the possible consequences of the type of accident we've been talking about all along."

Talks during the 15-day trip touched on support of civilian R & D in nuclear energy, but American officials said that they were unable to compare Soviet and U.S. budgets. "I felt they were genuinely trying to tell us about this sort of thing, but the two systems are so different it's very hard to compare them," Seaborg said. For one thing, the Soviet State Committee, the AEC's counterpart, functions both as the AEC and as an industrial manufacturer, in that it conceives, designs, builds, and delivers power reactors to the Ministry for Power and Electrification, the state utility. Seaborg did, however, hazard an unwilling guess that thermonuclear fusion research receives twice the support in the Soviet Union as here. "But that's not a responsible guess," he insisted.

Conversations during the tour only skirted broad energy policies and such topics as the economic competitiveness of nuclear energy and fossil fuels. It is generally understood, however, that only about 10 percent of new power plants in the Soviet Union are nuclear, whereas the figure is about 40 percent in the United States. Seaborg said that Soviet authorities say that they are currently committed to building about 10,000 megawatts of nuclear power, in contrast to 100,000 megawatts of nuclear power to which U.S. utilities have so far committed themselves. This slower pace is generally attributed to Russia's greater endowment of untamed rivers and untapped reserves of fossil fuels, although in the Soviet Union, as in the United States, concentrations of people and industry are often far from cheap supplies of fuels.

But whatever the pace-setting forces at work, Soviet nuclear authorities were clearly proud of their achievement at Leningrad and seemed anxious to build a good many more reactors like it—perhaps to the exclusion of other types. Seaborg said he sensed a "definite switch to the new design." And Squires concluded that "while they didn't come right out and say they were abandoning pressurized water reactors, that's the impression you get."

—ROBERT GILLETTE

(The Soviet fast breeder reactor program will be discussed in another article.)

The Berkeley Scene, 1971: Patching Up the Ivory Tower

Berkeley, Calif. For 5 of the past 6 years, *Science* has reported on the state of the Berkeley campus of the University of California—not just because reporters seek some relief from the wretched Washington summer climate, but because of the widely held notion that events here serve as a barometer of the student movement and the state of American higher education. This could be the last report in the series. Berkeley may still be a barometer, but its significance now stems from its academic reputation. The revolutionary fervor has vanished. In spite of the years of sit-ins, riots, tear gas, broken windows, shootings, vindictive assaults on the Berkeley campus from Governor Ronald Reagan, budget cuts, and countless predictions of its imminent doom, the campus still stands as an entirely solid monument to the traditional values of academia.

"This has been the quietest year in recent history," remarked one official in the campus administration. Recent history, as most everyone knows, began here in the fall of 1964 with the Free Speech Movement. From then on it was marked by a series of crises, each of them seemingly more critical than the last and each leading to an increasingly harsh backlash from the state's populace and the state government. At times, particularly during the strike for a third-world studies program in the fall of 1968, the period following the bloody battle over People's Park during the spring of 1969, and during demonstrations against the ROTC program in the spring of 1970, the presence of legions of riot-equipped police on the campus became an almost routine event. Such was the popular image of Berkeley as a hotbed of student rebellion that some of the city's more conservative residents displayed bumper stickers reading: "I'm from Berkeley, and I'm not revolting."

Except for one miniriot marking the second anniversary of the People's Park altercation, nothing has happened recently to throw faculty, students, and administration back into their accustomed battle postures. Indeed, this past year was a quiet one on most campuses. But in Berkeley, where the confrontation had almost become institutionalized, you can hear the quiet.

With the demise of political disruptions, faculty and students seem to have rediscovered academic pursuits and embraced them with an almost religious fervor. Decidedly absent is an old disease known locally as Berkeley fever,

whose symptoms included an inability to perform experiments, study, or attend classes with tear gas wafting through the buildings' ventilation system.

Although Berkeley students look as shaggy and smoke as much marijuana as students in most other universities, teachers report that last year attendance in undergraduate courses was high and the competition for grades fierce. Graduate students, including those who have for years spent most of their time at political meetings or "out organizing," can now be most easily found in the lab or in the library. The chairman of one of the large science departments reports that he has just completed a campaign to clear out the "dead wood" from his department—graduate students, some of them in their sixth or seventh year, who had fallen victims to Berkeley fever and appeared to be making no progress toward their degrees. "I told them," he said, "that science is no way to make money these days, and if you aren't interested in tinkering in the lab, then get out."

The same professor relates how "in the past few months, I've been churning out papers like crazy—stuff that I've been wanting to get to for years—and I'm very happy about it."

That story can be heard around the Berkeley campus over and over again—even from faculty members who have involved themselves almost continually in politics. "Everybody is working harder than they ever have," said a professor of zoology. "The faculty members are reexamining their reasons for being here. We're all very insecure."

Part of the insecurity stems from finances. Since taking office in 1967, Governor Reagan has made it a policy to slash the budget of the university. From the Board of Regents' request for the next fiscal year, he vetoed $45 million, denying for a second year cost-of-living salary increases to faculty members, and leaving the operating budget of the entire university essentially static for the third straight year. Also affected are building programs, the hiring of staff, and the state's contribution to research programs. As one official of the Berkeley administration put it, "Every institution has some fat, but we've been boiled down to the bare bones."

In addition, many faculty members seem to have become gun-shy of political involvement, and they appear eager to reaffirm their status in academe. Following the invasion of Cambodia and the killings at Jackson State and Kent State in the spring of 1970, Berkeley, like many other campuses, was thrown into a state of confusion as students engaged in a frenzied variety of projects, and many classes were either canceled or "reconstituted" into forums for political discussion. Paradoxically, in spite of the nearly universal participation, it was the events following Cambodia that marked the end of radical student politics at Berkeley.

Suddenly the political arena was crowded with thousands of students who voiced contempt for the tactics of confrontation. Most of their projects centered around activities such as door-to-door canvassing of Bay Area neighborhoods and the gathering of signatures for petitions to Washington. Along with these students, the faculty involved themselves in large numbers, bringing politics into the classroom on a scale that the radicals had accused them of failing to do during past crises. The Academic Senate (a body composed of all full-time faculty) voted to deny academic credit to ROTC, a decision that observers believe would never have been reached but for the crisis atmosphere. The decision was quickly denounced by both the statewide administration and the Board of Regents. After the campus calmed down, the issue was dropped like a hot potato. Now, even the proposal's most ardent supporters seem happy to forget the whole thing—so credit for ROTC remains.

White House Adjusts Patent Policy

After almost a decade of study and discussion, the White House has revised government patent policy to allow federal agencies more flexibility in granting title to inventions produced by government-sponsored research.

The 23 August statement, the first such revision since a presidential memorandum spelled out a government-wide policy in 1963, embodies the recommendations of a Committee on Government Patent Policy set up in 1965.

Briefly, the new directive is concerned with research affecting public health, safety, and welfare. Sponsoring agencies are given greater authority to grant ownership or exclusive use to their contractors on inventions "where it is deemed necessary to create further development and marketing."

The new statement does not call on government agencies to relinquish patent rights to contractors, but states more explicitly the conditions under which exclusive and nonexclusive rights may be awarded on the results of government-funded research and development.

There has been a long-standing conflict in Congress over whether all such inventions should remain the property of the government—that is, public property—or whether development of inventions can best be spurred by granting exclusive rights to private enterprises. Senator Russell B. Long (D–La.) has long been a proponent of the former view. In explaining the Administration's more flexible stance, O. A. Naumann, executive secretary of the patent committee, pointed out that some 20,000 government-sponsored inventions are now "sitting on the shelf," and new incentives are needed to get them to the stage of marketability.

Pharmaceutical manufacturers are expected to take on more federal research under the new policy, since the 1963 memorandum required the government to retain title to most inventions in the health field.

The new ruling has already been challenged by consumer advocates under the aegis of Ralph Nader's Corporate Accountability Research Group. In a petition filed on 3 September with the Department of Agriculture, the group attacked the proposed granting of four exclusive patents to Welch Foods Inc. and the Upjohn Co. Nader says the removal of these licenses from the public domain means a "giveaway" of property the taxpayers have already paid for.—C.H.

For the faculty, the experience of the spring of 1970 was cathartic. Following charges of unethical conduct on the part of the faculty, especially from Governor Reagan, statewide university President Charles Hitch asked the faculties of each campus to draw up rules and regulations governing their own conduct. The Berkeley rules, providing penalties for "failure to meet scholarly responsibilities," including prohibitions against the introduction of extraneous material into the classroom and attempts to force a political viewpoint on a student, passed the Academic Senate with little opposition. Few faculty members fear they will be unable to comply.

Administration Pleased

Not surprisingly, the lack of confrontation over the past year pleases members of the campus administration even more than it does the faculty. "One's spirit approaches euphoria when you contemplate that there is now time to return to all of the fundamentally important education tasks that have been neglected for the past 5 years," said Jack Schuster, a special assistant to the chancellor.

Will the calm last? Hardened by the experience of the past, few observers of politics at Berkeley would deny that the whole thing could explode any minute—and a minor event at Berkeley can quickly be blown up into national significance. The campus is covered by full-time reporters for four Bay Area newspapers and part-time correspondents for both wire services, *Time*, *Newsweek*, and several out-of-town papers. But while sociologists have yet to inundate campus bookstores with essays on the quieting of the student revolution, several factors point toward a continuing peace on the Berkeley campus.

For one thing, virtually all of the familiar radical leaders have forsaken the campus, many of them turning toward community organizing or alternative life-styles. Their absence is crucial: except during the periods of most extreme campus crisis, the vast majority of students have always shunned politics. At times, it was not uncommon to see hundreds of students, wearing makeshift face masks, walking to examinations through clouds of tear gas or past long lines of police or national guard troops.

Moreover, the bond that long existed between the students and Berkeley's radical, bohemian subculture has been severed. Thus, while the city is still a mecca for the American counterculture—hairy young families tending their organic gardens in front of wooden frame houses can be seen everywhere—the flow of bodies that once went between student and drop-out status and between on-campus and off-campus politics no longer exists.

This is particularly evident along Telegraph Avenue, the area that has long served as the interface between the off-campus subculture and the student body. The issue of nonstudent involvement in campus politics has been a standard feature of most Berkeley crises. Critics of the university used to charge it with attempting to scatter the subculture population in order to rid itself of pesty radicals. As evidence, the critics pointed to university support for a plan to "renew" Telegraph Avenue, widening the street into something resembling a shopping mall. The renewal is now complete, but perhaps more significant than the replacement of some bookshops and coffee houses with franchise outlets for goods ranging from popcorn to "hippie" clothing and trinkets is the change that has come over the population hanging out along Telegraph Avenue. Gone are the intellectual radicals and bohemians who fueled many a campus crisis. In their place are the "street people," tough advocates of nonintellectual pursuits. For a time, the street people were a political force, particularly when it came to open confrontations with the police; but even that activity has waned, especially as hard drugs inundated the Telegraph Avenue area. To most of the students, Telegraph Avenue has become, as one undergraduate put it, "a scene that we just don't relate to." The final break in relations between the students and the street people came officially last year, when, following some particularly nasty incidents, the student senate voted to exclude the street people from the lounge in the student union.

Outside the Telegraph Avenue area, Berkeley still pulses with virtually every variety of left-wing politics, but few participants pay much attention to the campus. The widely publicized election last May of three radicals and a sympathetic mayor to the city council would not have been possible without student votes—a fact that has obvious implications for many other college towns with the enfranchisement of 18-year-olds. Yet neither the election nor the subsequent debates over the city's future has affected the campus in any significant way—nor have the food-buying cooperatives, the community-run day care centers, the political communes, the free clinic, and the countless other forms of political expression found around the city.

An additional sign pointing toward future peace on the Berkeley campus is that attacks from the right have leveled off as student political activity has declined. This is particularly evident in some recent actions of the statewide Board of Regents, who, in the eyes of many, had administered the university, and the Berkeley campus in particular, with a vengeance. For one thing, Albert H. Bowker, appointed by the regents to succeed Roger W. Heyns as chancellor of the Berkeley campus, is widely regarded as a moderate. Furthermore, in a direct rebuff to Reagan, the regents voted 12 to 6 on 16 July to ask the state legislature to restore the $45 million the governor vetoed from their budget. While it is doubtful that the legislature will respond to the request, the vote was taken by many as a sign that Reagan's domination of the Board is ending and that financial relief might come in the next year or two. Even the more conservative members of the Board have moderated recently their efforts to punish left-wing faculty members, and attacks on President Hitch and the chancellors of the various campuses have ceased. In an interview with the Los Angeles *Times*, regent chairman William French Smith said that the Board is now engaged in "a major effort to avoid what you might call needless confrontations."

Dire Predictions Wrong

Throughout Berkeley's periods of upheaval, predictions abounded of a mass exodus of top-flight academic personnel, leaving Berkeley a mediocre institution. That never happened. The ideal climate of the Bay Area, troubles elsewhere, and the paucity of jobs in the few places that match Berkeley in stature doubtless persuaded many faculty members to persevere. Few regret the decision. At least for now, the sailing ahead looks smooth indeed.

In the shadow of the University of California at Berkeley, a community that represents, depending on your viewpoint, the hope or the curse of the future has appeared. Yet, back on the campus, it looks strangely like 1963.

—ROBERT J. BAZELL