
Participant

The
Pitzer
College
magazine

Spring
1980



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in village pond: Nepal
photographed by Ruth Munroe

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From the Editor

This issue of the PARTICIPANT is devoted to research. Usually one thinks of "major research institutions" in connection with university research, a description that certainly could not be applied to Pitzer. Yet for our size and the fact that we are an undergraduate institution, there is a surprising amount of original research going on, perhaps not so surprising to those who know the kind of curiosity, exploration, flexibility, and initiative that have become Pitzer's trademark.

Research can encompass many activities. It can include an intensive two-day seminar devoted to the observation of the state's government in action, or a laboratory experiment taking months or years to complete. It can involve endless hours in the laboratory or a cross-country trip to record contemporary America on film. One can research the dynamics of a third-world culture or the dynamics of dance. What research projects have in common is a structure and purpose relating them to the total academic experience.

A grasp of the purposes and goals of research is often needed to evaluate its importance, particularly

very basic research which may seem on the surface to be remote and useless speculation. As a writer once observed, "It's difficult to communicate to others that often when I am apparently just staring out of the window I am in fact working very hard."

Pitzer encourages research at all levels. Administered by the Research and Development Committee are funds to support both faculty and student research. Unusual indeed is Pitzer's support for the latter. This issue's photo essay shows some of the students' projects. Other articles deal with research in the humanities and in political studies; two anthropological studies and a number of psychobiology research projects show the diversity of research subjects and methods often encountered within the same discipline.

Editing this issue has been an exciting and enlightening experience, and I'd like to thank the many busy people who contributed their time and effort to provide all the material gathered in these pages. Special credit is due Lee Jackman, who originated the theme for this issue. I hope that readers of the *Participant* will share my enthusiasm.

Research in Non-Western Societies

by Ruth and Lee Munroe

Ruth Munroe, professor of psychology, and Lee Munroe, professor of anthropology, have been members of the Pitzer faculty since 1964. In 1977, they were awarded a two-year grant by the National Science Foundation (NSF) to carry out research on socio-behavioral factors in role determination across cultures, followed in 1980 by another grant from the NSF to analyze data and report findings on their research, a process they estimate will take at least two more years. They are the authors of Cross-Cultural Human Development (Brooks/Cole Publishing Company, 1975) and are the editors, with Beatrice B. Whiting, of the forthcoming Handbook of Cross-Cultural Human Development (Garland Publishing). The Munroes, each of whom has the doctorate from Harvard University, have conducted research in the United States and describe, in this article, research conducted in Kenya, Nepal, Samoa, and Belize (formerly British Honduras).

The truck with our goods had arrived ahead of us at the roadside village in Nepal. Relieved, we prepared to start the short but hilly walk into Bosigaon, the village that was to be our home and research site for the next three months. It was early summer, 1979, and we were about to begin work in a rural village for the seventh time in the 20 years since we began conducting research together. As usual, many hours in town — Kathmandu, the capital of Nepal, in this case — had preceded our actual village arrival. Assembling the minimum household goods needed is always a chore, despite the now-routine nature of the task. Where does one find cooking pots large enough to boil all the household water? How many blankets will be needed for what sorts of beds or cots or mattresses? Stoves and fuels present a challenge since local circumstances dictate the availability of fuel. And several trips to lumber yards are always necessary so that we can build our standard sets of shelves that hold everything from kitchen equipment to the mounds of paper that accompany every different project.

While choosing a village, finding housing, and, finally, setting up our

The people have been gracious and welcoming, allowing us to observe and ask about many details of their lives.

living arrangements is consuming work, it is time bound. The research itself is even more intensely consuming and far from time bound. Although we have spent only four years' total residence (and data-collection) time in villages in Kenya, Belize, and American Samoa, as well as Nepal, over the 20 years, much more time has been spent in thinking through the research questions we might look into, trying to figure out the best ways to answer those questions, organizing and puzzling over the data we collect, and writing up the reports of the research. These matters, of course, can be pursued, and have been pursued, right here at Pitzer amid

**Twenty years of research
cannot be summarized easily.**

such conveniences as clean running water (hot and cold), innerspring mattresses, and “electric toilets” (so dubbed by our youngest son when he was three and coming out of a year of living with a privy in Kenya). Research-thinking is positively stimulated by such things as class preparation, conversations with students in and out of classes, discussions with colleagues, and the reading of journals and books. And, also, one can think about the questions involved while doing almost anything (except, possibly, while attending committee meetings when one’s mind tends to blank out).

The main thrust of our research, in very general terms, has been directed toward two questions. The first asks in what ways the range of “the normal” is extended when we look beyond ourselves and investigate the customs of other societies. The second question is whether the findings from Western-based research hold up when we carry out studies in cultures very different from our own. We share these interests with a small band of colleagues, including our former graduate school teachers. Our years of research have been facilitated by continuing collaboration with them. The investigation of these questions depends heavily, of course, on the high level of cooperation we have

found in the villages where we have worked. These people have been gracious and welcoming, allowing us to observe and ask about many details of their lives.

Twenty years of research cannot be summarized easily; we will focus instead on several examples that illustrate our continuing concern with the effects of both cultural and individual practices on children’s development.

In a Kenyan community that we began studying in 1967, no mother in our sample could tell us exactly why she and her family were following particular practices with an infant, yet it was clear that the level of caretaking in most respects was more intensive than in our society. Babies were responded to with great alacrity when they cried, and they were held by a caretaker literally half the day even at one year of age. Investigation





Left: Mother with baby tied to her waist, leaving her arms free to work: Nepal.

Above: Father and son in their Sunday best, on their way to church: American Samoa.

Photos: Ruth Munroe.

The training of children into adult work roles differs quite dramatically from society to society.

showed that the care pattern depended on the sheer number of persons available in the home setting. Whereas families in the United States usually have few children and the mother is often the sole caretaker, the Kenyan families were large and all child and adult female members acted as childtenders. And the more people who lived in the house, the more frequently these one-year-olds were held — 83% of the time in the most extreme case — and the quicker the response when they cried. This very high level of care, then, was not part of some aberrant pattern of child rearing, or even a matter of ideology, values, or love, but an opportunistic adaptation to the social conditions of the Kenyan home.

Four years after the initial study, we revisited our Kenyan children, tested them, observed their daily behavior, and compared the results with their experiences in infancy. What were the effects of all those caretakers — did it matter that everyone from a 6-year-old sibling to an elderly grandmother had carted the baby around? In American society, we tend to believe that it is mainly the mother's relationship with the child that affects its character. Much child-development research in the United States, taking cognizance of the mother's role as the main socializer, makes the same assumption. To our surprise, we found that this Western-based belief about the importance of the mother seemed to gain support in a totally different setting. The East African children's cognitive development

and emotional reactions were strongly related (in complex ways) to their mothers' early patterns of care, but completely unrelated to the socializing influences of other household members.

We visited these children again in 1978. Twelve years of age this time, they submitted once more to a battery of tests, which we are now analyzing to see whether the earlier findings have remained stable. We hope, too, eventually to return and find out what kinds of adjustments these individuals make in adolescence, and what career- and life-choices they make as they enter adulthood. We will continue to try to ascertain the degree to which their early experiences have some measurable and meaningful effect on the modes of behavior they adopt in later years.

Research we originally conducted in Belize (formerly British Honduras) in 1962 and in Kenya in 1966 and 1970 led us to a comparison study, conducted in 1978-1979. We had noted, in this previous work and in the work of several colleagues, that the training of children into adult work roles differed quite dramatically from society to society. In North America and Europe, public education, exposure to the world of work through mass communication, and glimpses into

parental work serve to acquaint children with the sphere of expected adult activity. In less complex cultures, children are more likely to learn working roles at a younger age and through direct community and familial efforts. Our earlier research led us to the suspicion that certain types of societies accomplished this in regular, but different, ways. It seemed probable, for example, that learning to garden would be more likely to proceed on a participatory-modeling basis in societies in which fathers and mothers worked together at these tasks. In societies where only certain segments of the adult population worked at these tasks, children seemed most likely to learn by being highly directed, with strong punishments (and sometimes) rewards used as incentives. This is the research question which led us back to Kenya and Belize and on to two villages where we had had no previous research experience: Ta'u, in American Samoa, and Bosigaon, the village in Nepal. The contrasts among these four societies are dramatic: in Kenya, men work in the fields only during the short periods when planting and harvesting take place while in Samoa, women participate less than men in gardening except in the continuing



harvesting process; in both Belize and Samoa, men do most of the fishing; in Kenya, large animal care is performed primarily by men, while in Samoa and Belize, care is more evenly distributed; in Nepal, men seldom prepare meals while in Samoa, traditional open-oven cooking is the responsibility of men. The results, for this particular study, are not yet analyzed but our impressions tell us that children's activities vary greatly from society to

society. In Kenya, children participate in adult work activities at a younger age than do children in the other three cultures. In Belize and Samoa, children have more free play time than in Nepal. And the levels of responsibility for the care of younger children appear to differ strongly.

A third research question for us arose out of a knowledge of the Western social science literature on the effects of high population density and our initial experiences in a heavily populated area in Kenya. We found that some of the urban effects of density were in evidence in this rural group. A high level of competition over land, for example, had arisen, just as heavy competition for scarce resources emerges in the studies of Western urban areas. In addition, the people displayed more dislike, mistrust, and suspicion of neighbors and kin in the crowded rural area than in neighboring, less crowded areas. This less charitable response pattern can be interpreted as either a reaction to the need for competition over basic resources or,



*Far left: Young girl selling bread:
Belize (formerly British Honduras).
Photo: Anthony Munroe.*

*Near left: Farm woman winnowing
rice: Nepal. Photo: Ruth Munroe.*

*Right: Twin brothers parked in field
nearby their sibling caretakers who are
hoeing: Kenya. Photo: Ruth Munroe.*

not incompatibly, to a sheer blocking out of others and their needs when one cannot cope with the sensory overload provided by multiple people and events. The latter interpretation was first offered by Milgram to explain the apathetic or non-noticing behavior of persons living in crowded Western cities. The rural area has, in this case, provided us with a naturally occurring laboratory in which we study the long-term, or developmental, effects on people who grow up in environments with highly different population densities.

These interests and a number of others have stimulated our thoughts over the past 20 years. Each allows us to ask whether "extremes" in normal behavior produce the results we would predict from social science studies conducted within Western societies.

Research on the Spot

Political Studies in Sacramento

Sherry Jeffe, assistant professor of political studies, has long been active in California politics. She was a member of the staff of the California Legislature; she has also served on the Democratic State Central Committee, as Director of Internships for the California Democratic Party in Southern California, and on various governmental associations and advisory committees. Professor Jeffe has her B.A. from Goucher College, her M.A. from Rutgers University, and her Ph.D. from Claremont Graduate School.

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Pitzer students participating in the seminar were Diane Arakaki, junior from Honolulu, Hawaii; Susan Feinberg, sophomore from Van Nuys; M'Leigh Koizol, senior from Los Angeles; Sara Pollman, senior from Glendora; Lori Stahl, junior from Dallas, Texas; Maria Sutter, junior from Oakland; Lisa Weisenfeld, junior from Woodland Hills; and Pomona College student David Gamson, from Van Nuys.

The California State Senate and Assembly serve the state in many ways; one of its more unusual functions is that of research laboratory. For Sherry Jeffe, assistant professor of political studies, it's a most important aspect of the state's legislative body. Each spring she accompanies a group of students to a seminar sponsored by the California Center for Education in Public Affairs. There students have a chance to observe state government in action.

Field research in the state capital is essential, Professor Jeffe explained, to understand the workings of the governmental process on the state level, an aspect of political science often glossed over in favor of national politics and government. About 200 students from all over the state attend the seminar, where, in addition to watching the Assembly and Senate in action, students attend panel discussions on such subjects as legislative reapportionment, the media, and nuclear energy, moderated by faculty members from colleges in the state. This year, Professor Jeffe was one of the moderators.

Students' preconceptions about

the legislative process were often altered. "I had a mental picture of suited men proceeding in an orderly fashion," said Sara Pollman, "but in fact it was like a three-ring circus." Others agreed. Maria Sutter was impressed by the amount of intercommunication among

"Power" and "energy" were the words most frequently used to characterize the atmosphere in Sacramento.

members of the Assembly during the sessions — "people lobbying and passing notes back and forth." A psychology major, she perceives politics "in relation to people." Lisa Weisenfeld agreed, and added that she'd been pleased and surprised to see "how receptive they were to us." "They wanted to hear us express *our* views, too," was Diane Arakaki's observation. "Obviously, the political environment is so unique," commented Lori Stahl, "and there was an opportunity to see the theory we study in 'Political Power and Interest Groups' — that's the course we're all taking from Professor Jeffe

— put into practice, to see politicians and lobbyists close up and see what they do every day.”

“Power” and “energy” were the words most frequently used to characterize the atmosphere in Sacramento. Susan Feinberg spoke of the excitement of “being in Sacramento, the capital of my state, able to observe how issues are discussed and pursued, to see people walking around and talking about government, people really concerned and involved with issues at the decision-making level.” Equally impressive was the heterogeneous makeup of the state’s lawmaking bodies. “There were a lot of different types of people but there were more women, especially black

women, than I expected which was a pleasant surprise and implies that women’s status in politics is slowly turning in a more powerful and positive direction,” Sara Pollman commented. Lisa Weisenfeld compared the Sacramento atmosphere with that of Washington. “There’s a *difference* in decision-making. California’s a lot more informal, and the Assembly is a lot more casual. You see fewer greyhaired men in business suits, and it’s exciting to see *young* people in the state’s lawmaking bodies. California is much more relaxed and casual, with a sort of chaos you don’t see back East where everything is more steeped in tradition, more formal.” David Gamson, a Pomona student in

the class with whom Pitzer students joked about being their “exchange” or “foreign” student, observed that “there’s a sense of energy in state politics in the capital.” In addition to seeing the politicians at work, students had a number of one-to-one encounters.

As good Pitzer students, who examine subjects and ideas carefully, they had some criticisms of the seminar. “There was not enough room to explore,” objected Maria Sutter. “The experiences were all packed in together, and the time just flew by.” “Some panels were successful and some were not,” Lori Stahl explained. She did commend the breadth of the issues dealt with, especially the nuclear power seminar



Professor Sherry Jeffe talks informally with students (left to right) Diane Arakaki, Lori Stahl, Lisa Weisenfeld, Maria Sutter, and (second row) Sara Pollman, Susan Feinberg.

from both the point of view of the environmentalist and the engineer, but thought the media panel “was in agreement about almost everything and not critical enough of the media.”

M’Leigh Koziol summed up the major result of the seminar: “Instead of just studying the theoretical, you finally see the practical.” She also commented that it’s much more informative to analyze a practical situation than a theoretical one. Diane Arakaki found that “having the views on issues from people who have to deal in practice with the

problems we discuss in theory, who have the power to change things,” provided a wider perspective on the issues themselves.

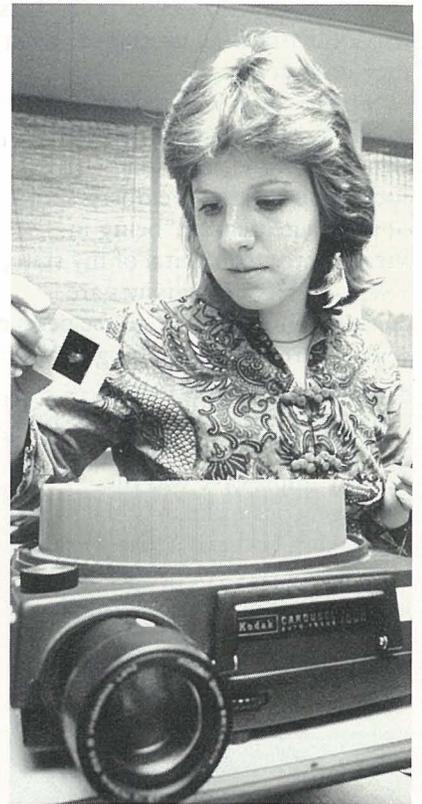
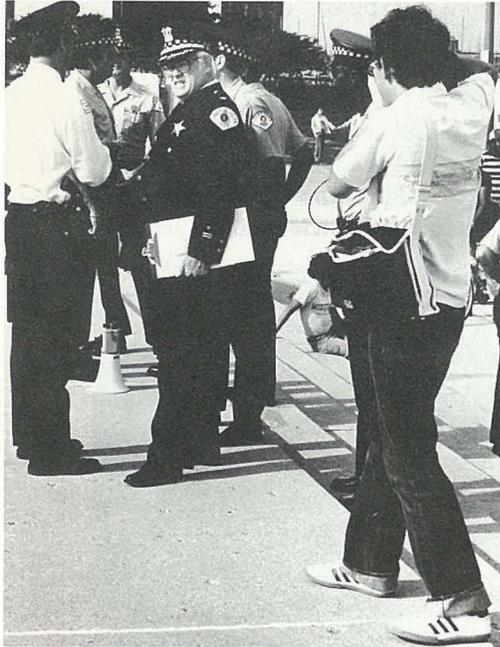
Among the students attending the Sacramento Seminar were those enrolled in the “Political Power and Interest Groups” class, engaged in research on the organization and activities of interest groups in the policy process, members of the “Presidential Nominating Process” class reviewing the impact of elections on California, and members of the “Women and Politics” class who used the

opportunity to observe political women in action.

Overall, the Sacramento Seminar added a vital dimension to the students’ knowledge and understanding of their state government. In the absence of many courses which deal extensively with California government and politics, this experience took on added significance for students who have discovered a new and important laboratory for political studies research.

Students' Research Projects

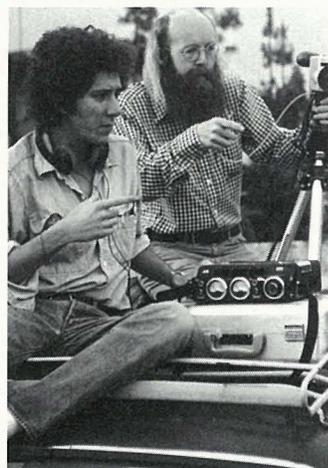
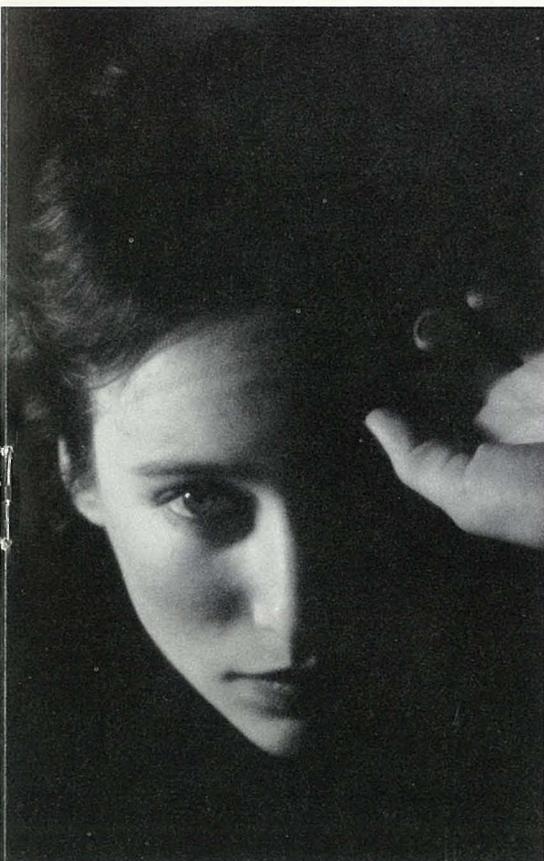
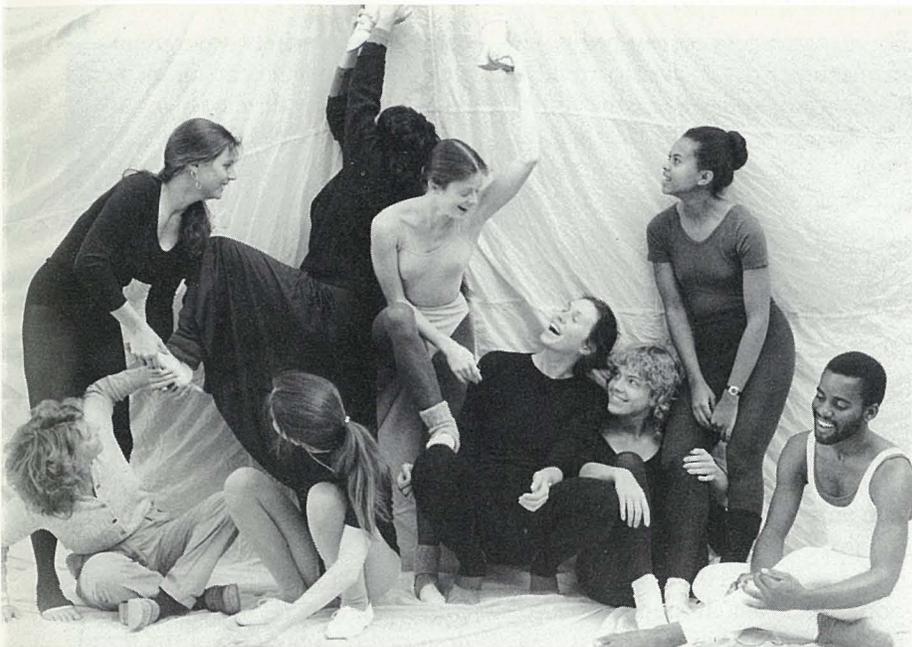
A Pitzer
Photo Essay



Clockwise from left: David Good photographs Tony Weitzel in action during their cross-country project of filming Americana; Karin Russo '80 displays one of her assemblages; Carrie Johnston prepares a slide lecture based on her solar energy research; Pamela Savic tests her solar energy book for children on Katie Stromberg Volti.

Photos: George Adams.

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Clockwise from top left: Julie Mazer (third from left) rehearsing her senior dance thesis, "Windsong." Photo: Irene Ferguson. Diane Beltoya (left) prepares a Chinese meal with the assistance of Helen Maesaki (center) and Barbie Link (right). Photo: George Adams. Charles Pickel and Robert Taylor at work on their original film projects. Photo: Pete Loy. Photograph by Reid Dworkin for his independent study project.

Cultivating Giftedness Into Eminence

by Kristin L. Olsen '71

Kristin L. Olsen '71 is Director of Alumni and Communications at Pitzer. She holds the B.A. in communication and the B.A. in anthropology from Pitzer and the M.S. in journalism from Northwestern University. She has been staff photographer for Citizens for Percy; a researcher in the World Issues Office of the United Church of Christ Board of World Ministries; and has researched and freelanced in the Middle East, worked as a radio correspondent in Washington, D.C., and has been production assistant at WBBM-TV, CBS Chicago.

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Dr. Robert Albert, Professor of Psychology at Pitzer College, holds a Ph.D. from Boston University and was a Research Associate, Harvard Medical School and Massachusetts Mental Health Center. Widely published on creative behavior and eminence in such publications as *American Psychologist* and *The Gifted Child Quarterly*, and author of the chapter "Genius" in the recently published *The Encyclopedia of Clinical Assessment*, he is currently making a long-term study of a group of "generally bright" (150+ IQ but without other notable gifts) and "focused bright" (very high math scorers) boys under grants from The Robert Sterling Clark Foundation and Pitzer College.

The research process can begin with an unsatisfactory answer to mundane observations and become the cutting edge of a new area of investigation. Robert Albert was struck by the differences in his two sons, just one year apart, under the influence of the very similar environment of the family. Heredity vs. environment.

"One was very verbal, the other more active and well-coordinated. If the environment of the home is not too different between a three and a four year old, I wondered: how much do parents have to do with it?"

A summer spent reviewing the literature on child development led Albert to studies on eminent individuals "which looped back to my early interest in giftedness," an interest discouraged by his college teachers because they said "we know what all that is." Albert now saw that understanding factors contributing to or impeding the development of genius and eminence was anything but a closed subject.

"Past research on the eminent told us what influenced a gifted person's life but may not have been either

complete or entirely accurate in recalling people, events or elements enhancing their development as outstanding people. And what about the failures? What might have hindered or arrested others' potential for genius?"

Albert published his first paper on genius in 1969, posing the problems with current research on giftedness and creativity, and began pursuing an understanding of what the family can do, what inherent talent does, and what the culture — especially education — will permit in nurturing an individual's genius into eminence.

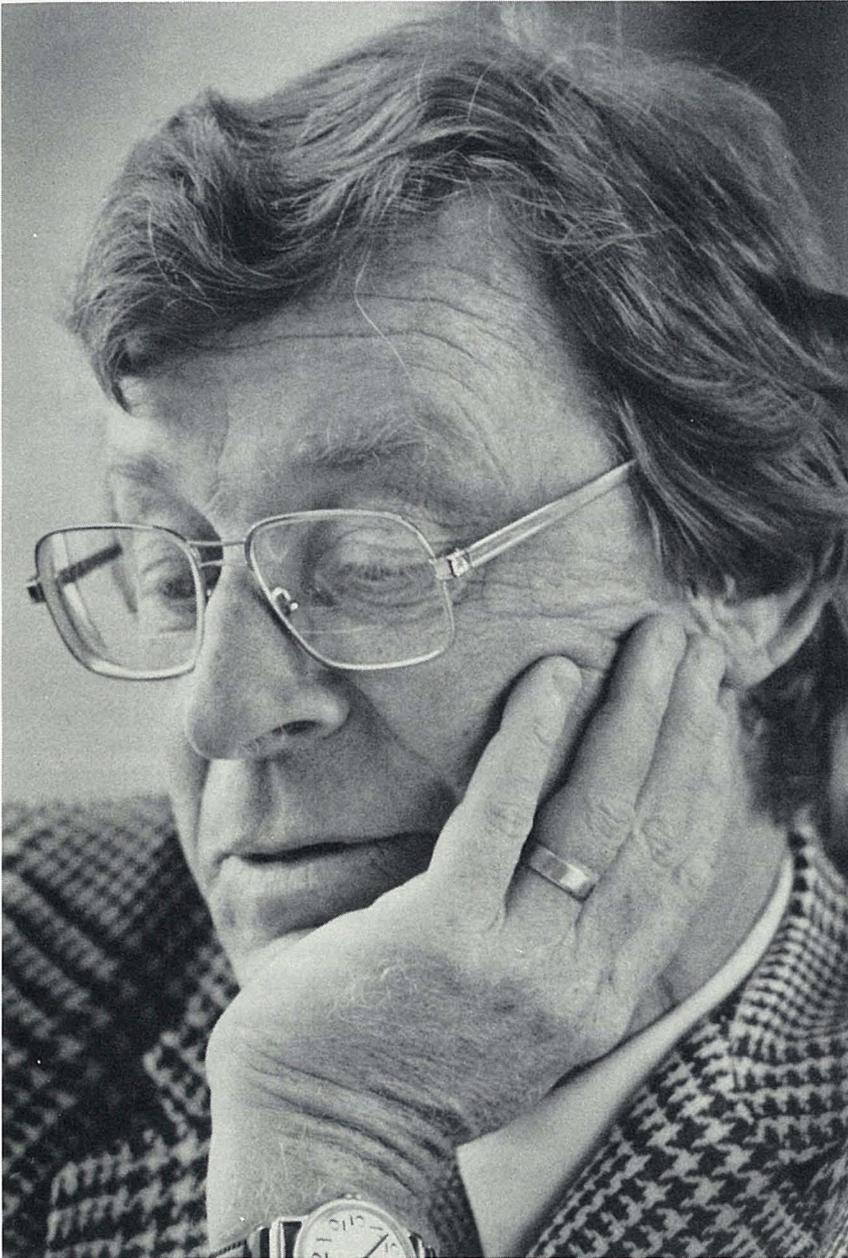
By 1977, Albert had launched his *Longitudinal Study of Exceptionally Gifted Boys and Their Families*, designed to follow 55 youths for 10 years, from a period heavily influenced by family, especially parents, through a period dominated by educational opportunities.

Looking at the environment as facilitator or impediment to a level of early precociousness "that has to be hereditary to show up so early and so strong," Albert is exploring parents' values and motivations, their attitudes towards their child's giftedness, and their approach to the problems dealing with an outstanding child.

"It is important to emphasize here that these are basically healthy individuals, no pathology, they are all making it as people. It's a question of the role of family support, motivation, and educational

opportunity in helping the gifted child make appropriate choices; directing them towards career endeavors that stand out in some way versus say, someone with average college intelligence finding his place in society.

“While the 130 IQ child has a better chance of satisfaction with his place in life because he has more choices, more ways to fit into a culture that often discourages people from



Robert Albert, Professor of Psychology

“It is not ‘genius will out’ but ambitious learning that is the key.”

standing out, and the 160 IQ child often has a harder time fitting because some families and schools don't know what to do with such an advanced kid, that exceptionally bright child is a finer-tuned individual with clearer, perhaps even narrower, choices of where to fit. He does not need as much reinforcement of his abilities because he gets more intrinsic satisfaction in the expression of his talents.

“It is not ‘genius will out’ but ambitious learning that is the key,” says Albert. “The family and educational institutions, especially individual teachers, play important roles in providing opportunities for and communicating values that motivate the gifted to explore his abilities. To paraphrase Freud, the gifted child is riding on the back of a runaway horse — the power and potential of his own intelligence. My research should support my contention that it is the family, especially in the early years, and the educational opportunities — in that order but not separately — that teach the child the skills and give him the values and understanding to guide that horse.”

Pitzer's Psychobiology Concentration

Faculty members working with the psychobiology program are James F. Baker, assistant professor of psychology, Pitzer, who has his B.S. from Florida State University and his Ph.D. from Brown University, and has been a Weizman Postdoctoral Fellow, California Institute of Technology Division of Biology; Beatrice Cooley-Matthews, assistant professor of biology, Joint Science Center, who has her B.A. from the University of Texas, El Paso, her Ph.D. from the University of Southern California, and was a Postdoctoral Fellow at the University of California, Los Angeles. Margaret J. Mathies, professor of biology and chairman, Joint Science Center, has her B.A. from Colorado College and her Ph.D. from Case Western Reserve University. Before coming to Pitzer in 1965, she had taught at Haverford and Pomona Colleges and was Visiting Research Associate, University College, London. David Sadava, associate professor of biology, Joint Science Center, has his B.S. from Carleton University and his Ph.D. from the University of California, San Diego. He has been Research Assistant, Canada Department of Agriculture and has held a Woodrow Wilson Fellowship. Patsy Sampson, Dean of Faculty and professor of Psychology, Pitzer, taught at the State University of New York, Binghamton; Wellesley College, and California State College, Bakersfield, before coming to Pitzer in 1977. She has her B.A. from the University of Oklahoma and her Ph.D. from Cornell University.

The interface between two sciences is often an area where exciting discoveries occur. Such an interface between biology and psychology has led in recent years to the emergence of a new discipline, psychobiology. Pitzer's concentration in this area, an outgrowth of the freedom that Pitzer students have to design their own majors, is one of the college's most demanding and rigorous courses of study. "Three or four years ago," David Sadava, associate professor of biology, recalled, "we discovered that a number of students were coming to us with an interest in psychobiology. Out of the students' petitions for individual concentrations came the need for a structured psychobiology major."

Structured it is, requiring sixteen courses, more than most other concentrations at Pitzer. "The stress

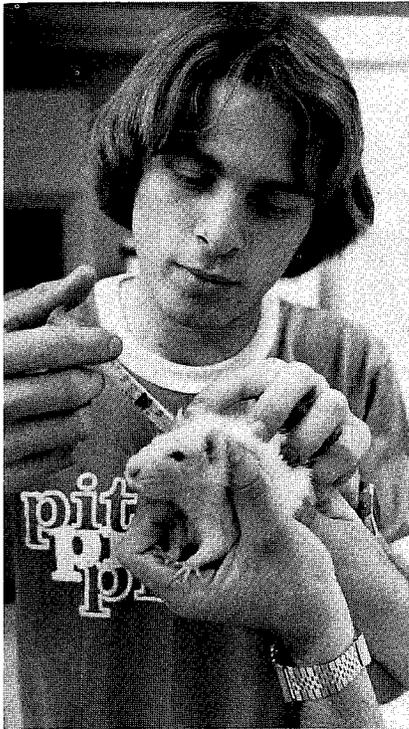
"The stress in this interdisciplinary program is on *discipline*."

in this interdisciplinary program is on *discipline*," commented Margaret Mathies, professor of biology. They take some of the most demanding courses from psychology, biology, and chemistry, such as genetics, statistics, organic chemistry, and physiological psychology. The interesting thing is that much of the rigor in the program came from the students themselves, as they considered their professional goals.

In some ways, it is more like taking *two* majors. Psychology and biology have two very different approaches to the study of human beings, two sets of research methods, and students must learn to "live with and draw upon both aspects of their academic experience," James Baker, assistant professor of psychology, observed.

What kinds of students elect this major? They tend to be individuals with a broad range of interests and active participants in campus life. The range of the research projects the students are engaged in gives an idea both of the range of the field and the requirements of the senior thesis, for most a two-semester

"Most undergraduate students and sometimes even graduate students do not have this sort of research or publication experience."



Left: Student Mike Filigenzi injects a reluctant rat; Right: Student Becky Bailey (center) adds a reagent in an assay to determine concentration of hormones, as student Fenton Harvey and Professor Margaret Mathies observe. Photos: George Adams.

undertaking. "Most undergraduate students and sometimes even graduate students do not have this sort of research or publication experience," commented Beatrice Cooley-Matthews, assistant professor of biology.

Becky Bailey is concerned with *anorexia nervosa*, in which the individual almost ceases to take in food. This disorder is most prevalent among teenage girls. Working with the education of a former anorexic, "my most challenging experience this year," gave Becky insight into the treatment of the psychological

aspects of the disease. Her research thesis is related to the attempt to discover a physiological basis for the disorder, designed to investigate whether there is a male/female difference in perception of satiety with food. Such a difference, she hypothesizes, might be related to levels of estrogen, the female sex hormone. Becky became interested in food intake disorders when she worked last summer at the Obesity Research Center in New York with a group of scientists who are attempting to distinguish whether the brain is actively involved in the

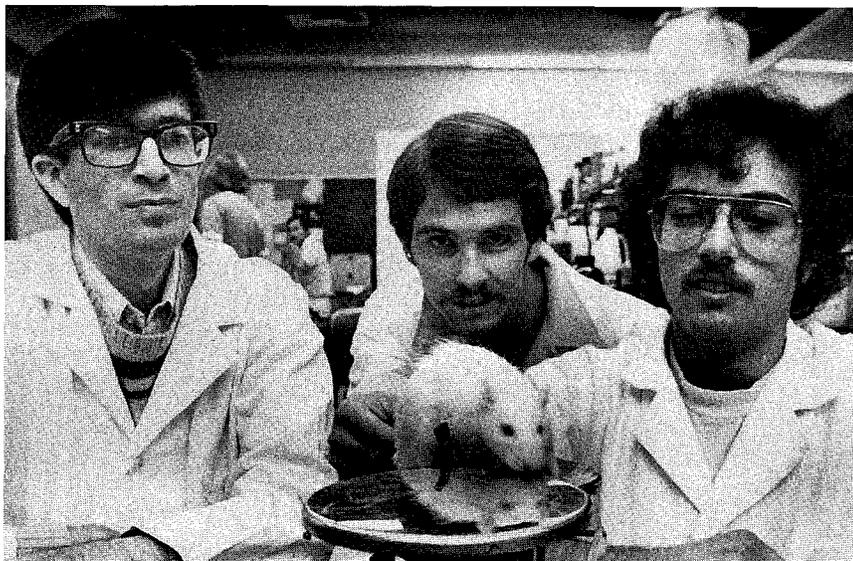
blood sugar levels in patients with hypoglycemia. When their research is published, Becky's name will be included as one of the authors.

Mike Filigenzi's thesis involves work with ketamine, an anaesthetic used since the early 1970's for children. Chemically related to PCP (a street drug called "angel dust"), it has a strong psychological effect on adults. The liver metabolizes ketamine; Mike is studying the rate at which rats metabolize the drug in order to try to isolate factors accounting for the drug's variable effectiveness. Pitzer's psychobiology

concentration, he says, has enabled him to study all aspects of the physical and social impact of drugs from sociology and anthropology through biochemistry and the synthesis of drugs.

Doug Garant's major interest is neuroscience, in particular the study of the relationship between the structure and function of the brain. Considerable brain research is done by staining nerve cell bodies to see the relationship between brain nerve centers and different areas of the body. An enzyme from "horseradish, of all things," will travel from nerve cell processes to their central cell bodies. If a dye such as fluorochrome is added, the path of this enzyme can be traced. Attempts to attach fluorochrome to other molecules and then monitor their travels have met with limited success, but Doug is working on a new technique. It has the potential, he says, to be a very important tool in neuroscience research.

Mark Goldberg left Pitzer at the end of his freshman year to work for a biochemical research plant in Illinois and to decide where and in what field he wanted to return to school. The new psychobiology concentration persuaded him to return to Pitzer. He, too, is interested in the effects of drugs upon humans, and his research deals



with methadone addiction. Methadone, a heroin substitute, crosses the placenta and passes into offspring, which have withdrawal-like symptoms at birth. Mark is using rats to study the behavior of offspring of methadone-addicted mothers. Since it is well established that drugs and alcohol affect the human fetus, additional work with animal parents and offspring may provide valuable information in dealing with addicted mothers and their children.

Fenton Harvey discovered psychobiology during his freshman year. "Professor Barbara Beechler, my freshman counselor, suggested that I look into it, and it turned out

From left to right: Professor David Sadava and students Joel Sadoff and Brian Simon weigh a reluctant rat. Photo: George Adams.

to be right for me." His research is with echolalic speech in schizophrenic or autistic children, who "echo" back words, sounds, even whole sentences, rather than giving a response of their own. Interested in autism since he did volunteer work his sophomore year at a school in San Pedro, he has done the research for his thesis at the Claremont Men's College Autistic Clinic, special education classes in local public schools, and at a state

mental hospital.

Joel Sadoff began college as a creative writing major, but he was also attracted to medicine and psychology. Psychobiology seemed a choice that encompassed all his interests. Courses in dance kindled his interest in the interaction of mind and body. Working at the Kaiser Hospital in Los Angeles, administering electrocardiograms in the clinic, he has designed a research project in which he attempts to trace a correlation between behavior and attitudes and electrocardiogram (EKG) wave patterns. Finding the interview technique unsatisfactory for patients who couldn't tolerate

stress of any kind, he devised a system of body-language criteria, more precise than one might think, because in the process of fitting the electrodes on for the EKG he is able to assess the tension in a variety of muscles, as well as ways of movement, tension, and body discolorations. He hopes to establish some verifiable data on the relationship of lifestyle, response to stress, and heart disease.

Brian Simon is working with adrenocorticotrophic hormone (ACTH). ACTH causes the release of other hormones from the adrenal glands, and, if administered to a rat three days before it learns a task, makes it learn significantly more quickly. By administering the hormone in infancy or youth, he hopes to see effects on adult learning behavior. In some tests on humans, ACTH has been shown to improve memorization of long lists of words, but much more remains to be done. "We're a long way from using it on humans with results comparable to those in science fiction."

James Spencer worked last summer at a VA hospital in St. Louis with a surgeon studying macrophages, cells which are involved in the acceptance or rejection of kidney transplants. When the results of this study are published, Jim's contribution will be acknowledged. This research experience stimulated his interest in the relationship of stress and the immune system. This is a phenomenon which has been frequently observed, but never adequately explained. Jim's study involves stressing mice by immobilization and then measuring changes in the number, viability, and

activity of white blood cells.

What do they do when they graduate? Most will enter graduate or professional schools in a variety of fields, such as pharmacology, medicine (psychobiology is an excellent pre-med major), neuroscience, anatomy, physiology, and nutrition. Psychobiology is now a special concentration requiring each student to petition for faculty approval. Dean Sampson hopes that in the not too distant future it will be a defined major, and that Pitzer will be able to acquire a physiological psychologist on the full-time faculty with laboratory space on the Pitzer campus. When there were just a few students, the present arrangement of using laboratory space at the Joint Science Center and at Claremont Men's College was workable. Now there is a good-sized group from Pitzer, and Scripps and Claremont Men's College, following Pitzer's lead, have also established a major in the field.

Dean Sampson, "really pleased that so many students have elected this field," hopes that we will never have to turn away eligible students for lack of space. For the student with the requisite interests and abilities, psychobiology is a field that is both intellectually challenging and offers a wide range of career opportunities.

The Joint Science Center serves Pitzer, Claremont Men's, and Scripps Colleges.

Alert Bay:

The Interaction of Two Cultures

by Susan Coes

Susan Coes is a second semester New Resources student considering a concentration in English. After graduation from Chaffey High School in 1966, she did some free lance writing for several newspapers. Susan is married and the mother of two children.



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Susan Seymour, Associate Professor of Anthropology, holds a B.A. from Stanford University, and a Ph.D. from Harvard University. Previously she was an Instructor and Assistant Professor at Whittier College and an Assistant Professor at the University of Southern California. Her research is devoted to the study of culture and personality with emphasis on the effects of changing social structures on child-rearing practices. Two major research projects, one in India focusing on pre-school age children, followed by a more recent project in British Columbia concentrating on school-age children have provided her with a base for further study in this area.

Having chosen to be an anthropologist, chiefly through the influence of Harry Close, her "boating uncle," Susan Seymour returned last fall to the area shown to her by Mr. Close when she was fourteen years old. Alert Bay, located on Cormorant Island just off the coast of northern Vancouver Island in British Columbia, has been the home of several bands of the Kwakiutl Indian tribe for the last one hundred years.

A century ago, an Anglican missionary persuaded many members of the Kwakiutl tribe to settle permanently on Cormorant Island, which had previously been only a summer camp. As an incentive for re-settlement, the white men built a cannery in Alert Bay. Today the island is a blend of Kwakiutl custom and white society. Ms. Seymour is investigating the process of this final coming together and its effects on the Indians.

In the early years of the Indians' lives on Cormorant Island, "white men" required all Indian children to attend a boarding school run by the Canadian Department of Indian Affairs. Indian children, taught to forget their Indian culture and heritage, turned away from their elders, who had formerly been the primary teachers for these youngsters.

In its attempt to acculturate the Indians, the Canadian government passed laws forbidding the Indians to engage in traditional Kwakiutl



ceremonies, most particularly the Potlatch. "Potlatch" loosely refers to a series of reciprocal ceremonies held during the winter months.

According to Professor Seymour these ceremonies can be described as "competitive feasting." The basic premise is that each chief tries to outdo his neighbor by giving away the most goods. This unreserved generosity apparently made white men uncomfortable, for laws were passed to prevent it. Predictably, the practice went underground and the participants were hunted like criminals. Enforcement of this law resulted in the raiding of an illegal Potlatch, the confiscation of all goods and the arrest of the Indians involved. The goods, consisting of hand-carved masks and ceremonial robes, eventually found their way to museums around the world.

Understandably, the Kwakiutl people now resent being studied; and Professor Seymour was only granted access to the community because of her previous contact with them. The ultimate result of Professor Seymour's work has yet to

Top left: Susan Seymour conversing with Tony Hunt, a Kwakiutl elder.

Photo: Laurence Graham. Bottom left: Kwakiutl children learning to prepare salmon for smoking in the traditional way. Photo: Susan Seymour.

be decided. The old Indian woman from whom she rented a house was convinced that Ms. Seymour would be able to inform the world of Kwakiutl desires at the end of her three-month stay, with a book that would immortalize Alert Bay and the Kwakiutl who live there!

In the last ten years, primarily through education provided by Caucasians, the Kwakiutl have come to realize the injustices that have been committed against them and to recognize the importance of preserving their own identity as a people. A decade ago, the requirement that Indian children attend the boarding school was lifted and all children are now educated together at the Provincial (i.e. public) school. The Provincial school has developed a special Indian curriculum, including language, in which all children, Indian and white, are required to participate. The program is implemented by three Indian women who are using older members of the Indian community to teach the children culture that is no longer taught at home. "It is the best linguistic and cultural program I have seen," Professor Seymour said. She hopes that a general and

wide-spread respect for Indian culture will result.

In the meantime, wishing to prove that they can manage their own affairs, the Indians have gained possession of the building which housed the old boarding school. They have opened their own school which is at this time functioning though somewhat disorganized. Unfortunately, the white teachers, hired by the Indians, have no real knowledge of Indian culture and custom. Ultimately the Kwakiutl hope to staff the school with Indians who, inspired to gain further education, will leave the island for college and return to Alert Bay as teachers. There are currently fourteen Kwakiutl working toward this goal.

Parallel to the desire to be self-sufficient once more is the Indian insistence on the "correct" spelling of Kwakiutl. The common spelling (Kwakiutl) is one which was assigned by anthropologists when they first began studying this group of people. Today, largely through the formal education they have received, the Indians claim the right to devise a spelling of their own. Their campaign to have this spelling (Kwawkewith) replace the traditional one has so far only been accepted by a few museums, but it is an outward sign of acceptance by representative Canadians of the current revitalization of Indian culture.

A further sign of awareness among the Kwakiutl of their heritage is their desire to build and operate a museum in Alert Bay. During her stay there, Professor Seymour had the pleasure of seeing this building rise in much the same way as the self-esteem of these people has risen over the years. It stands as a symbol to all who live there of the fusion of two cultures, and the individual preservation of each one separately. Negotiation with the Canadian government has resulted in a promise by those in power to return to the Kwakiutl the goods taken from them in the earlier raids on potlatching and the passage of laws permitting the reinstatement of potlatch practices.

Professor Seymour's comparison of the effects of urbanization on child-rearing practices in India, the site of her last research, with similar

The museum stands as a symbol of the fusion of two cultures, and the individual preservation of each one.

societal changes in British Columbia provides fresh material and continuity of theme for her students. The relative closeness of British Columbia as opposed to India, allows for more frequent contact with her "families and informants" and a constant update of information, including a subscription to the local newspaper. Professor Seymour left Alert Bay with a "positive feeling" about the progress of the Kwakiutl in their quest for preservation of their heritage and culture, intending to return to continue the study that really began when she was fourteen and her uncle took her on a boating trip to the islands of British Columbia.

Participating

Research in ideas: how does one enable individuals engaged in taking four years of discrete college courses to integrate their experiences, to find a frame of reference, a set of values and goals? Anthony Fucaloro, associate professor of chemistry at Pitzer, Scripps, and Claremont Men's Colleges; Liliane Fucaloro, lecturer in French at Pomona College; Albert Wachtel, professor of English at Pitzer, and Sydelle Wachtel, have this year begun what will be a six-year quest to find some answers to that question. They have received Danforth Associateships, awarded to faculty members, often to couples as well as individuals, who are concerned with values and with devising more effective ways of reaching students. For the first time since receiving the six-year appointments, the Wachtels and Fucaloros got together to exchange some preliminary ideas. Some excerpts from the dialogue that ensued:

A. Fucaloro: The introduction of historical and philosophical concepts into the education of science has become my goal; I find the two current strategies inadequate. The use of anecdotal footnotes in courses of science does not give the student a coherent picture. The requirement that students take courses in the history and philosophy of science often leads to confusion: the relationship between what's taught in the courses in science and the courses in history and philosophy is often unclear to the student. I propose a third scheme: I am writing a companion text to a traditional course in physical chemistry, organized so that there is, more or less, a one-to-one correspondence with the topics in the traditional text.

L. Fucaloro: What you envision sounds more like the old universities, with their intellectual synthesis. Our colleges and universities have from this standpoint become very limited in perspective. I try, since I work in a particular period, to give the students a view that transcends a particular time.

A. Wachtel: My own ideas are

related to the moral and ethical component of the educational experience. Because I teach literature, I'm more interested in the nature and the conduct of human kind, the commitments of humanity to civilized being. Ultimately what one needs to do is to make the students see that what they are studying and what they call "real" life are correlates.

S. Wachtel: You're talking about a theory of order, but what about the practice of order. That is, how can we apply ideas to the practical business of actually improving moral behavior. I think ethics as a guide to behavior can and should be taught. I don't think people just evolve into moral beings; I'm not that optimistic.

L. Fucaloro: Schools in the past, for example the schools in seventeenth-century France, or, for

that matter, the convent schools in France when I was growing up, had a moral outlook built into the curriculum.

A. Wachtel: I think morality can be induced through a special version of reading itself. If we apprehend another's experience empathetically, understanding the passions and motives behind it, we gain a perspective that can be applied in life. In literature such an approach seems to me absolutely necessary, but I'd like to test it more widely. Is it possible for us to teach literature and science as related metaphors for reality through which we transform ourselves or work upon the world itself in our search for a better life?

A. Fucaloro: To initiate an awareness of the major considerations of a human being in the twentieth century. It's a possibility. Let's get together again.



From left to right: Sydelle Wachtel, Albert Wachtel, Liliane Fucaloro, and Anthony Fucaloro exchange ideas in the Bert Meyers Poetry Room, Grove House. Photo: George Adams.

Letters:

Your comments on articles published in *Participant* are invited. Letters should be sent to Editor, *Participant*, Pitzer College, Claremont, California 91711. Letters are subject to editing.

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