

Chronicles

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Research Universities and the Nation's Economy

—by Richard C. Atkinson Former Chancellor of UCSD and President Emeritus of the University of California



In 1958 the citizens of San Diego voted to give public land to the Regents of the University of California for a new research university in La Jolla. The ballot statement promised that the campus would bring great economic benefit to the community. The direct result was the creation of UCSD. The indirect result has been exactly what was promised—and a dramatic example of what research universities mean to the nation's economy.

UCSD is one of 62 research universities in the Association of American Universities; not a large number in comparison to the total of over 3,500 colleges and universities in the U.S. But these 62 have an impact on the nation's prospects far out of proportion to their numbers. Nine are located in California, including six campuses of the University of California. No other state comes close to that number.

The United States is unusual, if not unique, in the degree to which it relies on universities to perform research. The roots of this phenomenon reach back to the recruitment of scientists and engineers in World War II. Near the end of the war, President **Roosevelt** turned to **Vannevar Bush**, head of the White House's Office of Scientific Research and Development, for advice on how to mobilize science for the post-war period. Bush's 1945 Report, *Science—the Endless Frontier*, set the agenda for the modern era of science and technology in the U.S.

Bush argued that the applied research and development should be funded by the private sector-by industry. But he also argued that the private sector did not have the necessarv incentives to invest in basic research, since an investment in basic research could generate results that were just as valuable to a competitor as to the company making the investment. The funding of basic research was therefore the proper role of government. Based on the war experience, Bush concluded that the universities should perform this research, and that the money should be allocated in the form of project grants allocated on the basis of peer review.

This model created a sea change for America's universities. Before

World War II, universities were peripheral to the country's R&D enterprise. Today they are the principal drivers of basic research, and both R&D itself and the U.S. economy have prospered.

From the beginning, UCSD was focused on becoming a first-rank research university. Several years ago, the National Research Council of the National Academy of Sciences conducted a reputational survey of faculty quality in American doctoral programs. By that standard, the top four public universities were, in rank order, UC Berkeley, UCSD, UCLA, and the University of Michigan. Including private universities, UCSD ranked tenth -"extraordinarily well," Change magazine noted, for a university that admitted its first students only in 1964. The magazine also noted that two UCSD programs, in neurosciences and oceanography, rated first, and that overall fourteen of its twenty-nine doctoral programs were rated in their disciplines' top ten.

Because peer review is a key factor in federal funding for basic research, it is not surprising, in view of the quality of the faculty, that in any given year UCSD is fifth, sixth, or seventh among all universities in terms of federal research funding. The annual expenditure for research at UCSD is \$600 million, about twice the amount of support UCSD receives from the state for its educational programs. No other university in the country has this kind of balance between federal research funds and state educational funds.

When I became chancellor of UCSD in 1980, the foundation for a world-class faculty was already in place, and I was committed to building on that base. But I also wanted UCSD to play a very aggressive role in the development of high-tech industry in the San Diego region. The model that I had in mind was rooted in my experiences as a professor at Stanford from 1956 to 1975 and as director of the National Science Foundation in the late 1970's. One of my goals was to ensure that UCSD played a role here comparable to Stanford's role in the creation of Silicon Valley.

The initial step (taken over some opposition both from outside and inside the campus) was to create a Division of Engineering with its own dean and to begin recruiting faculty. A few years later the division was renamed the School of Engineering. We also became active in the San Diego Economic Development Council to encourage corporate executives to locate here, emphasizing the value of proximity to a world-class university. We established continuing education programs for people in industry, and interdisciplinary research centers in such areas as magnetic recording, molecular genetics, wireless telecommunication, supercomputing, and structural engineering. An organization called CONNECT was created with the goal of transferring technology from the research lab to high-tech companies and helping start-ups and entrepreneurs attract capital, form alliances, and gain managerial and legal expertise.

As a result, San Diego has emerged as one of the high-tech centers in the world, with special emphasis on biotechnology, computing, and telecommunications. Some of the UCSD faculty became pioneering entrepreneurs in their own right. Irwin Jacobs, a professor of electrical engineering, left UCSD to start a company called Linkabit which pioneered wireless digital telecommunications, and then went on to found Qualcomm. Ivor Royston, a professor of medicine, founded Hybritech, San Diego's first biotechnology firm. Spinoffs from these companies populate the region as well as branches of international giants like Eli Lilly, Merck, Pfizer, Johnson & Johnson, Novartis, Nokia, Ericsson, and SONY. San Diego has about 150 wireless firms and the highest concentration of wireless workers in the world. Biotech companies and the local businesses that support them are responsible for 55,600 jobs and \$5.8 billion in annual income. Today San Diego ranks first in the nation for the number of wireless telecommunications companies and the number of biotech companies located in the area.

Universities are priceless sources for ideas that create jobs, give birth to new industries, and stimulate economic growth. We are living in one of the most productive eras of scientific discovery in history. From agriculture to medicine, from aerospace to nanotechnology, science is experiencing a series of revolutions that are remaking our ideas of what is possible. We have only just begun to tap this knowledge explosion, with its many implications for the nation's economic future. Research universities are key to that future.

This article was condensed from a speech given to the Downtown San Diego Rotary Club on November 18, 2004. The full text of the speech is available at:

http://rca.ucsd.edu/speeches/ ResearchUniversitiesandtheNationsEconomy.pdf

Mark Your Calendar!

UCSD Emeriti Association

Thursday, June 9, 2005 Green Faculty Club

11:30 ам Lunch

12:15 рм Annual Business Meeting

Report by the President Election of 2005-2006 Officers

Guest Speaker Chancellor Marye Anne Fox

Invitations for the luncheon have been sent out. The lunch will cost \$15 for members, \$20 for nonmembers. Reservations and checks are to be sent to Ashley Stevens, our UCSD Academic Senate Assistant. Address any questions to astevens@ucsd.edu Phone: 858/534-3640



On the "Politicization of Science"

-by Sandy Lakoff

Many scientists — including 28 Nobel laureates — believe that the **Bush** administration is politicizing science to an unprecedented degree. Rather than just complain, however, they and others who share their concern should rally behind initiatives focused on critical social priorities, and in the process promote a better appreciation of the need to take science and scientists seriously.

Thanks largely to the cold war, the United States became the world leader in science and technology. Today national priorities are different and require new initiatives: to improve homeland security, increase productivity, find better treatments for diseases like cancer and AIDS, protect the environment, and develop alternative sources of energy, to name only some of the most important.

Meeting those challenges will require the talents and advice of scientists and engineers. But instead of courting their cooperation, the current administration has gone out of its way to alienate them.

President George W. Bush is sticking to his policy of denying federal support for research on all but a small number of existing embryonic-stemcell lines of dubious usefulness, against the opposition of thousands of cell biologists and even of prominent Republicans, who are convinced that such research holds great promise. Both the Environmental Protection Agency's inspector general and the Government Accountability Office have charged that the EPA ignored scientific evidence in developing its new rule for mercury emissions. Physicists and weapons experts have convincingly shown that a costly ground-based antiballistic-missile system now being built can easily be defeated. By claiming that "the jury is still out" on evolution, the president encourages fundamentalists to censor textbooks and force changes in school curricula. And most egregiously of all, the president refuses to acknowledge the mounting evidence of the reality of global warming and the dangers it poses.

Jaded observers can be forgiven for saying that they are "shocked, shocked" by those developments. For the inescapable fact is that science has been politicized for years. In fact, governments have been enlisting the aid of scientists for military purposes on a regular basis since World War I, which was called "the chemists' war" because it relied heavily on advances in explosives and introduced the use of chemical warfare.

American scientists lost what was left of their innocence with the Manhattan Project. After Hiroshima and Nagasaki, **J. Robert Oppenheimer** famously said that "the physicists have known sin; and this is a knowledge which they cannot lose." During the cold war, scientists and engineers became embroiled in debates over strategy and arms control. Oppenheimer himself paid dearly for giving advice that mixed political with technical judgment.

At the same time, more and more research became Big Science — the term coined by the physicist **Alvin Weinberg** to describe work requiring expensive equipment, teams of researchers, and long-term financial support, in spite of uncertain payoffs. Governments, foundations, or corporations provide the money and often set the priorities, while scientists either accept dependency or pursue work that doesn't require much more than a chalkboard. Not that science has completely surrendered its autonomy. Philanthropists usually provide funds with only minimal guidance, and for the most part Congress does not dictate what projects win financial support from the National Science Foundation and the National Institutes of Health. Indeed, a high-energy physicist once remarked that the peer-reviewed project system was "the only pork barrel for which the pigs determine who gets the pork."

Although politicization is inevitable today, it can actually be beneficial to both society and society. President Dwight D. Eisenhower appointed a scientific advisory committee that gave him disinterested advice, freeing him from reliance on government agencies anxious to promote their own programs. The Congressional Office of Technology Assessment played a similar role in enhancing the ability of federal lawmakers to make informed decisions about matters involving unfamiliar technical projects like the Strategic Defense Initiative, better known as Star Wars. The abolition of Eisenhower's committee by another Republican president, Richard M. Nixon, and of the OTA by a Republican-dominated Congress were self-inflicted wounds from which the government still suffers.

Other avenues of communication are still available. Many government agencies solicit the advice of outside scientists — some of whom, however, are apt to be biased by their links to industry. The national academies are asked to report on important issues. Congressional hearings allow the voters and their representatives to hear differing opinions on scientific and technical issues. But on the whole a serious disconnect exists between scientists and the American public on many topics critical to our nation and the world.

Ultimately the problem is not so much with our institutions as it is with electoral politics and public attitudes. Science policy is more susceptible to popular influence now than it was during the heyday of the cold war, when the cloak of national security enabled political and scientific elites to settle issues of strategy and arms control without much public scrutiny. Rising concerns about health and the environment - like the safety of food additives and drugs, and air and water pollution - changed the political landscape, mobilizing new constituencies that demanded greater political accountability and regulation, and made use of legislatures and courts in addition to executive agencies. Those concerns remain important to Americans, though lately they have been overshadowed by preoccupation with homeland security and our military involvement in Iraq and Afghanistan.

But greater public involvement has not always produced greater sophistication, as the public-opinion analyst Daniel Yankelovich has pointed out. For example, as he observed, "To the public, calling something a 'theory' means that it is not supported by tested, proven evidence. Whereas a scientist understands a theory to be a wellgrounded explanation for a given phenomenon, the general public understands it as 'just a theory,' no more valid than any other opinion on the matter. (Evolutionary 'theory' and creationist 'theory' are, in this sense, both seen as untested and unproven 'theories' and therefore enjoy equivalent truth value.)"

And conservative ideologues, anxious to downplay environmental threats, take advantage of the uncertainty that all good science entails. They cite a handful of dissenters to justify inaction on the greenhouse effect, despite the overwhelming consensus among climate scientists that it is a real and serious problem.

That is the crux of the issue. Because the politicization of science is inescap-

able, scientists have to educate the public to understand technical issues. and the public has to exercise good sense in judging scientists' credentials and coming to grips with their discoveries and inventions. Even geniuses like Albert Einstein and Bertrand **Russell** can make fools of themselves when they pontificate on world affairs. Einstein and Russell deserve to be remembered with honor for their 1955 manifesto calling for the renunciation of nuclear weapons, but Einstein was an unqualified pacifist from 1928 to 1933, when the rise of Nazism changed his mind, and Russell, who preceded Ronald Reagan in thinking of the Soviet Union as an evil empire, in the years between 1945 and 1953 urged its destruction by preventive nuclear war. When scientists discuss topics arising from their work, however, they should be taken seriously.

Much more needs to be done, by scientists and those who appreciate their contributions, to overcome public indifference or outright hostility to science. Programs of public education not just those of schools, universities, and museums, but also others like the Intel Science Talent Search, which promotes science projects for highschool seniors and rewards the winners with scholarships, and media productions like the Nova series for television - are essential, as is the work of scientific spokesmen and science reporters. If ordinary voters are to make well-informed decisions about such complex matters as therapeutic cloning, hydrogen-based fuel cells, and genetically modified crops, they need more help than they can get from tabloid journalism and talk shows that deal more in sensationalism than reason.

The Union of Concerned Scientists has recently launched a "campaign to restore scientific integrity into federal policy making." The plan is to increase public awareness, educate core members of Congress, and mobilize scientific professionals to curtail abuses. Those could be steps in the right direction.

There are signs that Americans will be receptive to new initiatives. At the urging of life scientists, California voters have agreed to devote \$3-billion of state money over the next decade to stem-cell research. By getting around the limits on federal support for such research and inspiring other states to protect their biotechnology industries, the California move could create a de facto national program of embryonicstem-cell research, even without federal support.

Our growing dependence on imported oil, and its rising price, should be a wake-up call that leads to the adoption of the sort of imaginative ideas recently put forward by the bipartisan National Commission on Energy Policy. By calling for new supplies of energy, carbon sequestration, and market-based "cap and trade" solutions for emissions, the commission's report provides a face-saving way for the Bush administration to join the rest of the developed world in cutting emissions and to resume the effort to raise gas mileage of automobiles. And alarm over growing economic competition from China and other Asian countries should make Americans receptive to new initiatives in technical education - much as the Sputnik panic once prompted across-the-board support for science and technology.

A direct assault on the administration's ideological fixations and on public ignorance risks provoking partisan defensiveness and populist ranting about elitism. Practical efforts to tackle critical social problems may be more effective in focusing public attention on widely shared goals and helping to increase respect for science.

This essay is about to be published in The Chronicle of Higher Education.



What the Zoo Can Do

—by Kurt Benirschke Professor Emeritus of Pathology and former President of the Zoological Society of San Diego

Zoos pride themselves on having more visitors than all ball games combined. Are they "amusement parks" then, or serious institutions designed to provide a better understanding of animals? And should they now play more of a role than in the past in conserving the animal world?

Until about two hundred years ago, people in Europe knew little or nothing about many wild species. Travelers brought back news of strange beasts along with bones, and soon beautiful museums of natural history were constructed. A few animal specimens were also imported. A rhino was taken on tour throughout Europe. In 1826, Zarafa, the first giraffe ever seen there, was caught in the Sudan, sailed to Marseilles, and walked to Paris, causing a sensation along the way, until she was installed in the Jardin des Plantes.

Real zoos came into existence after royalty created gardens for amusement and enlightenment in which exotic animals were displayed. In Vienna, the Emperor built his own private garden in 1752, next to the palace. After it was opened to the public, Paris (1793) and London (1828) followed suit. In Hamburg, a fish seller started an aquatic zoo, and was then persuaded to add a Völkerschau - exhibits of native Eskimos, Indians, Lapps, etc., along with circus acts featuring trained apes in costume, having "coffee parties," and performing animal acts. Nowadays it is hard to believe that there were such goings-on in zoos, but they were once very popular.

So were the Bull versus Bear fights in California, which our forebears attended (and bet on) on weekends before the Chargers came to town. The bears (then grizzly) were caught in the mountains and pitted against bulls whose lips were scarified to make them mad. The bull would attack from below (upward) and the bear would try to attack from above, over the bull's neck. Hence the origin of "bear" and "bull" markets.

In the United States, zoos were built almost simultaneously from 1873 to 1875 in Chicago, New York, Philadelphia, Buffalo, and Cincinnati. The San Diego Zoo was created in 1917.

Gradually, care in zoos was improved. Newer displays show the animals in ways that are more engaging to them and the public. The needs of the animals are more commonly taken into account and the suffering and discomfort of their captivity have been reduced—so much so that today longevity studies show that many large animals live longer in zoos than in the wild. In the Zurich Zoo the animals are all free-living and do "their thing." Unexpected things do happen, however, such as the stealing of bird eggs by the lemurs, and the keepers face a challenge maintaining "law and order!"

By farthe best zoo in my estimation was created in England by **John Aspinall**, a London casino owner. He put much of his earnings into two zoo parks in which he gathered a huge troop of gorillas. He and they enjoyed romping together and he successfully bred most of his species, including gorillas, reintroducing some into the wild. These parks too have had problems, including the deaths of keepers who thought of tigers and elephants as their best friends.

The human population explosion has led to the extinction of many

species, and meanwhile, too many zoos were created, especially in Europe. Each zoo wants to exhibit the "megafauna" (elephants, rhinos, etc.) but too few of these species are available and the cost of their maintenance is high. As a result, specialized zoos have developed, such as Bird Parks (Walsrode), Insect Parks (Cincinnati, Paris), and "zoos" for sea life (the various aquaria and Sea Worlds), the Alpenzoo at Innsbruck, which exhibits only Alpine species, and the Biblical Zoo in Israel, which exhibits species mentioned in scriptures.

Our San Pasqual Wild Animal Park aims to preserve both threatened plants and animals. The animals live a carefree life because they need fear no predators. But if you are a veterinarian, you have a hell of a time catching any of them when they get sick. As soon as they see the vet's truck, a rifle, or even a vet, the animals flee. So the vets disguise themselves and their trucks as well. But it doesn't take long for the animals to figure this out. That has some importance, as some animals (gazelles) breed too much and one would like to contracept them - but how to catch them?

Some of the plants in the park are harvested for food, such as bamboo for pandas and eucalyptus for koalas. We have a fantastic orchideum which includes "Darwin's orchid." When Charles Darwin returned from South America, he stopped in Madagascar and saw an orchid whose pollen is at the very bottom of a long extension tube. Darwin hypothesized that there just has to be a moth to disperse this pollen to other plants. Many years later, this moth was discovered and named "Darwin's Hawk Moth" in his honor. The biggest problem faced by the modern zoo is what to do about the extinction of species. Everyone has heard of the dodo but there are also many other species that have become extinct. The Hawaiian Po'ouli is down to one living animal. Still others are threatened. There are five species of rhino. One is the Javan, of which only 50 are known to exist. Another is the Sumatran, numbering fewer than a hundred. The most endangered is the Northern white, of which only twelve now survive.

There are no Mountain Gorillas in captivity. The only place one can see them is in Rwanda, where **Diane Fossey** was killed by poachers. None of these animals will ever be permitted to leave there and no other gorillas, chimps, etc., will ever be imported or exported from Africa for zoos. This is how it should be, but zoos would like to exhibit them, and we would all like to behold them. What can zoos do to forestall a future in which they will not have access to such animals? The only answer is to create "self-sustaining" populations in our zoos.

Many zoos serve as living repositories for severely pressed species or those that have become extinct in the wild — including Przewalski's horse (thought to be the ancestor of the domestic horse), the Arabian oryx, and the golden lion tamarin.

The story of the rescue of the California condor at the Los Angeles and San Diego zoos is particularly interesting. Condors mate for life, but it had been impossible to determine their sex! About 40% of bird species have look-alike males and females - including condors. So how were they to be paired for breeding? Dr. Bill Lasley had earlier "invented" a method of determining the sex of birds from fecal estrogen/testosterone measurements. But the technique took a long time and was useful only for adult birds. We then invented a method to culture cells for chromosomal study and quickly determined ZZ (males) from ZW (females). That enabled us to pair, breed, and release the newborn condors. Now, thanks, to further research, we can use specific DNA markers (for the W chromosome) for even more rapid sex determination.

Because the Chacoan peccary, which has an especially interesting chromosome evolution, was "on his way out" in Paraguay, I started a breeding colony there, and after many years of frustration, we were able to release 400 of them back into the Chaco and brought some to the U.S. for safekeeping.



I have espoused a "band-aid" solution - the placing of as many genomes as possible into "captivity" in the "Frozen Zoo" at our center for Conservation and Research for Endangered Species (CRES). There cell strains of fibroblasts are cultured and frozen in liquid nitrogen. They can be "awakened" at any time and provide DNA as well as fresh cells. Anything else that can be saved (such as sperm and eggs) should also be saved. One day, cloning will become widely practical and at least some animals could thus be "recreated." Our zoo has already cloned a gaur (which died of infection after two days) and a banteng, which is now two years old. It comes from a male that died in a big fight but was known to have possessed valuable (rare) genes. Its cells were frozen and resurrected, the nuclei were put into cow ova, and voilà, a live animal resulted.

There are problems in preserving endangered species. Tasmanians have given up their hope to recreate their "tiger" by cloning, because none of its cells survive, and there is no hope for the mammoth either because no tissue survives. In some cases, we have failed in our efforts because we didn't know enough about the foods the animals need. So-called "inbreeding depression" is one of the main topics in zoo circles: how to get "new blood" to freshen up the genetic variety of the stock. Fortunately, some species thought to be the same have different chromosome numbers, so with more knowledge, the risk of inbreeding can be dealt with.

Overall, the most important thing zoos can do is to create self-sustaining populations of animals that need no input from the wild and then to worry about their well-being. And the public needs to be no less engaged in the struggle to control the growth of human population, which deprives animals of habitat, and in supporting efforts to conserve the dwindling stock of wild animals.

This discussion draws on notes prepared by Dr. Benirschke for a slide presentation in an undergraduate course at UCSD.

[Anecdotage from p. 7]

learned that in Europe, radicals were celebrating "Marx, Mao, and Marcuse." What was that third fellow doing on the state payroll, he wanted to know. But when it came to universities, where Marcuse had found shelter, he was hardly as subversive as he was with respect to the rest of society. In the mid-'70's he took part in a panel discussion at The Living Theater in Manhattan and was asked what he thought about the student rebellion at Columbia. Everyone expected that he would support the cause, just as he had championed efforts by radical students elsewhere to serve as catalysts for social revolution. But this was different because it was confined to the university. I happened to catch the broadcast, and heard him say: "I am sorry I must disappoint you. On zis question, I am a fink."

Anecdotage

-by Sandy Lakoff

The Other Class Struggle

A classmate at Brandeis named **Hubert Forbes** had a winning way with words. In the dorm one day, he was engaged in a "shafting match," in which the idea was to top one insult with another. His antagonist said to him, thinking this would be a squelcher, "Forbes, anything you say against me goes back double to you." With the finality of a Venus fly trap, Hubert answered: "Half-wit!"

*

In the early days of Brandeis, all the philosophy classes were taught by one instructor, the phenomenologist Aron Gurwitsch, a fine teacher though he had a heavy Central European accent and a flair for the melodramatic that often backfired. One day he opened class by writing on the blackboard the number "1493." Turning to us with a supercilious smile, he asked, "Fourteen ninetysree; vot iz ze significance of zis date?" We were dumbfounded. He feigned mock surprise. "Vot do zey teach you in zees American high schools?" Finally one brave soul raised his hand and offered the lame answer that was in all our minds: "Year after Columbus discovered America?" This was met by a rumbling, throaty laugh of derision. Finally, after pausing for effect, he revealed the "correct" answer: "Fourteen ninety-sree, ze fall of Constantinople." "But sir," we said, practically in a chorus, "that was 1453." He looked back at the blackboard, realized his mistake, turned to face us, and said with a defiant shrug, "And vot iz forty years to me?"

Two classic plagiarism stories linger from my Cambridge days.

Adam Ulam, the Sovietologist, claimed that a student had once turned in a term paper at Harvard which included the footnote, "Stalin told me this himself personally." The student had lifted the paper from Trotsky's *History of the Russian Revolution* without bothering to edit the footnotes.

The other came from **Henry Popkin**, who taught English lit at Brandeis. He had also gotten a term paper that looked awfully familiar, but couldn't identify the source, so he checked the library for master's theses, etc., but had no luck. Then, in a bookstore in Harvard Square he spotted a volume that turned out to contain the suspect material. He gave the student an "F" and wrote on the paper: "I reviewed this when it first came out and didn't care for it. I haven't changed my mind since."

The best exam story I know comes from the late Alan Dundes, the Berkeley anthropologist and student of folklore, who seemed to know every joke ever told. In a class on ornithology, the instructor would bring in cages with stuffed birds and go over the features of each specimen. For the final exam, he brought in a number of the cages, each of which was covered with a cloth exposing only the feet. The students were asked to identify each bird by its feet. One student was altogether stumped (so to speak) and got up to leave. "Just a moment, young man," the instructor demanded, "what is your name?" The student lifted a trouser leg, showed his lower limb to the instructor, and left.

At a final conference dinner meeting in the Wordsworth Room of

one of the colleges of Cambridge University, our host gave the welcoming remarks. He would be brief, he said, so as to allow time for the main speaker - unlike an earlier American visitor, a man from Yale who had been asked as a courtesy to say only a few words but abused the invitation. The American visitor said he would explain the meaning of the letters in Yale's name. "Y," he said, stood for youth - about which he went on for twenty minutes. "A" stood for ambition, he continued for another twenty minutes; "L" for learning — add twenty minutes more; and finally, "E" for enlightenment. After yet another twenty minutes, he sat down. His embarrassed but ever polite English host rose to thank him, and said, "We must be truly grateful to our American visitor for explaining to us the significance of the letters that form the name of his college. And and - we must be even more grateful that he did not come from the Massachusetts Institute of Technology." (I had the pleasure of retelling this story last year in introducing Lewis Lapham, the editor of Harper's Magazine, at the Revelle Forum, who, as it happened, had earned degrees both at Yale and Cambridge.)

In a recent Revelle Forum talk, the distinguished investigative journalist **Lowell Bergman** (now with UC Berkeley, *The New York Times*, and PBS's "Frontline") talked of studying philosophy at UCSD with **Herbert Marcuse**. Things were tense in those days, he recalled, especially when then Governor **Ronald Reagan**

[Continued on p.6]

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May 2005

RETURN SERVICE REQUESTED

From our Red-faced Compositor

I am happy and deeply apologetic to announce at least three errors in the **Necrology** section of the last issue of *Chronicles*. I am grateful to **Jacqueline Mammerickx Winterer** for pointing out that the **Jacqueline Mammerickx** whose address is labeled "EXP(ired)" in our membership list is very much alive and married to Emeritus **Edward Winterer**. And I thank **Sam Rapaport** for his information that **John Sholl** at 90 is alive in Maine. Finally, **Dick Rosenblatt** suspected and then confirmed that **Bert Kobayashi** is still very much among us. I hope that readers will be similarly sensitive to other errors foolishly made on the basis of inadequate evidence that may appear in future *Chronicles*.

Chronicles

Newsletter of the UCSD Emeriti Association



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