Chronicles

Newsletter of the UCSD Emeriti Association

Volume IV, No. 2 January/February 2005

An Interview with Chancellor Marye Ann Fox

—by Mary Corrigan

Question: How would you compare your new job with your former posts at North Carolina State and the University of Texas?

Answer: When I was Vice President of the U of T at Austin, the principal duty I had was putting together novel interdisciplinary initiatives. I did a lot of lobbying for the system. I traveled to Washington a great deal. Also, I was responsible for protecting intellectual property and allocating direct costs back to the various Colleges and Divisions. So that was a quite different experience than being a chancellor. A chancellor's job is different from day to day. It ranges all the way from real estate ventures to academic investments. I was chancellor for six years at NC State. I would say that the biggest differences are that NC State had a Division I athletics program and no hospital, which is the reverse of what we have here. And we had no unions in North Carolina or at Texas either, so unions are a new experience for me. I've learned that when staff members are represented by a union, you can't discuss employment matters that are negotiated by the UC Office of the President. As a result, discussions are not as free ranging.

Q: In an interview in the Union-Tribune *you said you want to help UCSD improve its standing as a premier national university. What areas do you think may need a little tightening up?*

A: It's not so much tightening current programs. It's a question of being able to respond to emerging needs and opportunities. I believe that the universities that are most responsive to emerging opportunities will be the ones left standing as leading institutions. We have a serious challenge as well, in that the numbers of student applicants will be increasing over the next ten years. We are going to be tight for space for awhile. We have an enrollment management plan to address growth, but it is a real challenge to expand when finances are tight and to maintain and improve quality.

Because state universities are receiving less financial support from state legislatures, faculties are going to have to be creative in pursuing alternative sources of support. Private sector investments most often are related to socially important problems and typically are interdisciplinary. That's why I am so committed to ensuring that we have a structure that will draw on the strengths of our departments as we foster interdisciplinary activities.

One example is the Kavli Institute for Brain and Mind, which has had a $7.5 million contribution from **Fred Kavli**. It is going to work on very complicated problems relevant to the structure of the mind, and will therefore be linked to Neurological Science and Cognitive Science.

We just received a major gift from the Skaggs Foundation to continue construction of the new School of Pharmacy. That's a $30 million gift. It matches the naming gift for the new Rady School of Management.

Q: Will we have a lot of competition from L.A. and San Francisco on the new state stem cell initiative?

A: Yes, but competition is a vital ingredient in achieving overall excellence. **Ed Holmes** is the UCSD representative on the Independent Citizen's Oversight Committee for the Stem Cell Initiative. The Committee has been meeting to discuss the process for making decisions about funding allocations that will total almost $300 million a year, or $3 billion over ten years. The Committee has not yet determined how broad stem cell exploration will be. The implication is that there will be focus on human embryonic stem cells. We are eager to see whether the initiative will support basic research on marine organisms that would attract SIO researchers. When we talk about the key scientific issues, the mechanism of cell differentiation that could be studied in models will be one of the first questions that will need to be addressed. This is the first time so large an investment has been made by a state. So, while there may be a competition internally within the state, we hope there will be resources available for many projects. This will foster collaboration in a good way.

Q: Have you heard the complaint that people unfamiliar with the UCSD campus often get lost trying to find a particular building, especially given all the new construction?

A: Signage will be one of the things we will look at. I have found that just when you think you are following the correct path, you find that you have taken a wrong turn. Better disabled access is also part of our plans. In addition, we want to make it a friendlier campus, one that will allow people to feel comfortable just asking directions as to how to get around.

Q: What are you doing to improve recruitment of minorities?

A: **Jorge Huerta** (Professor of Theatre) has been appointed as Associate Chancellor and Chief Diversity Officer. African American students are underrepresented on our campus. So, we have to work at that, and that's one of the reasons for Jorge's appointment. Too few African American males are pursuing higher education. It's a very serious problem. It's largely female African American students who are continuing and doing well. We have had a series of dialogues with various communities as we seek to enhance the diversity of our campus.

Q: Is it difficult to juggle jobs and family? How old are your children now?

A: I didn't take on the role as chancellor until my children were grown. I was Vice President for Research at the U of T while I still had children at home. But, as Vice President, you still have more control over your calendar. My younger son went off to college when I went to Raleigh. Now, they are all married and I have a couple of grandchildren.

Q: I notice you have done a lot of mentoring. I believe you have mentored over a hundred postgraduates.

A: I won a National Award from Sigma Xi on mentoring, which I consider one of my proudest moments. It shows that the people I've worked with have done as well in their careers as I have in mine. It's similar to the pride you have as a parent. My own Ph.D. Advisor was very helpful. And I even have a.0 ..... mentor here. **Marjorie Caserio** is my UCSD mentor. She was assigned as my mentor because she's a chemist and all the chemistry faculty members are assigned a formal mentor. Isn't that fun? Gives me an excuse to take her to lunch once in awhile. She is a fount of wisdom.

Emeritus Mentoring Program (EMP)

Now that you've "retired," you're probably busier than ever. But have you been wondering how you can be of even greater service to UCSD while having fun at the same time? Here is an opportunity not to be missed: the Emeritus Mentoring Program (EMP). Created by **Mel Green**, Prof. Emeritus, Biology in collaboration with **David Artis**, Director of the Academic Enrichment Programs, it will enable Emeriti to serve as mentors to some of our most outstanding lower division students. Students will select their mentors on the basis of mutual interests. Mentors will decide the nature and frequency of interactions with their mentees, with a commitment for the remainder of this academic year. A reception will be held to discuss the details and invite participation on Tuesday, February 8, from 2:30 to 4:00 PM in the Santa Barbara/Los Angeles Room of the Price Center.

Privatization—Or Social Insecurity

—by Sandy Lakoff

Many Americans mistakenly suppose that our Social Security system is similar to a lifetime annuity. Actually, Old Age and Survivors Insurance (OASI) resembles an annuity in its effects but differs significantly in the way it works. And if the Bush administration gets its way, it will become even more different.

OASI subjects workers and employers to a compulsory, dedicated payroll tax, promising future benefits but using the revenue to pay current beneficiaries. Both the tax and benefit rates are subject to legislative change. That's one big way Social Security differs from an annuity. Twenty years ago, at the urging of **Alan Greenspan**, the Federal Insurance Contributions Act (FICA) tax was raised to 12.4 percent of wages, half contributed by wage earners, the other half by their employers. In 2004, the maximum taxable amount was $87,900; this year it rises to $90,000. So far, benefits have been provided to retirees, disabled contributors, or survivors, at an initial scale tied to the level of their tax payments and to *increases in average wages over their working years*—a way of calculating which has given most retirees far more than they contributed. But the Bush administration is apparently going to propose that initial benefits be tied to *price increases over working years*, which would sharply lower future benefits.

Unlike an annuity, moreover, the so-called "Social Security Trust Fund" is an accounting fiction or bookkeeping construct. The funds it supposedly owns are commingled with the other revenues collected by the federal government. To preserve the fiction, the Fund invests its surplus in interest-bearing T-Bills. The Fund is considered solvent so long as it takes in enough from the payroll tax and bond interest to pay current and projected obligations. At the same time, however, the Social Security "surplus" is counted as government revenue for the purpose of calculating the national debt.

And what will happen to that surplus, of course, is where the current controversy starts. Because the ratio of workers to beneficiaries is declining, the system will start paying out more than it takes in beginning by about 2018 when the first of 77 million Baby Boomers become Senior Citizens. There are now 3.2 Americans of working age for every retiree. As early as 2011 that ratio could be to 3 to 2. According to the Congressional Budget Office, the Fund will technically use up its surplus by about 2052—though it will still be able to pay most of the obligations from ongoing tax revenue.

When the system was set up in 1935 and amended in 1939, it was intended to provide an inflation-proof safety net for all those who paid the tax during working years. It was also hoped that by providing an income floor, the compulsory system of savings would encourage other, voluntary forms of saving, including employer-sponsored pension systems, insurance policies, and more recently, tax-deferred contributory systems like IRAs and 403Ks and 403Bs. For many working families, that fuller hope has not materialized, because Americans generally have one of the lowest rates of saving among high-income countries, but Social Security (with the help of Medicare) has certainly provided a safety net: 40% of all recipients depend on Social Security for their entire income, averaging $10,000 a family. And it helps the rest as well: 47 million of us now enjoy OASI benefits.

At the time it was adopted, the Social Security Act was harshly criticized by Conservatives as a scheme for confiscating private property, "robbing Peter to pay Paul," and discouraging thrift and personal responsibility. It would facilitate "the ultimate socialistic control of life and industry," warned the National Association of Manufacturers. **Ronald Reagan** thought it was a Ponzi scheme and wanted to make it voluntary—a proposal that made his campaign advisers shudder.

Contemporary Conservatives are cannier. They no longer propose to abolish Social Security but to "reform" it, by allowing partial or complete privatization. They argue that workers would be better off if a compulsory retirement plan enabled them to invest at least some of their contributions in a diversified set of private investments that would pay better than government bonds. Workers would own these private accounts and could pass any unused remainder on to their heirs. Besides, they contend, something has to give. Either taxes must be increased or benefits cut. Why not avoid either harsh alternative by enabling retirees to earn higher returns on some of the funds?

Accordingly, the Bush administration is reportedly considering a plan whereby younger workers and their employers would be allowed to divert about a third of their Social Security tax payments, up to a maximum of $1,000 a year—to private investments. These would be put in highly diversified stock and bond funds with management fees limited to a minimal 0.3 percent. The transition cost of this partial privatization would be a staggering two trillion dollars over the next decade. The cost would be met by borrowing and/or by cutting benefits to future retirees—a step that

would be offset (say the proponents) by the higher returns of the private investments. The result would be to promote the "Ownership Society" that President **Bush** envisions.

Critics point to a number of flaws in the proposal. Borrowing would significantly increase the national debt at a time when it is already so large that interest rates are rising and foreign creditors are becoming leery of buying US securities. The national debt now stands at $4.3 trillion, or 4% of GDP. Fed chairman Greenspan and the bi-partisan Concord Coalition have warned that further increases could pose serious dangers. As to the advertised benefits, according to a Goldman Sachs study cited by the financial writer **Jeff Madrick** in *The New York Times*, the historical average suggests that private investments in a blended portfolio of stocks and bonds would yield a net average return of 4.6 percent a year—less than what retirees could expect from Social Security as it presently operates! Some retirees would earn less than the average, and those unfortunate to have to retire at a trough in the business cycle would do even worse. And because the benefits are politically determined, if the plan doesn't succeed, political pressures will build to compensate beneficiaries—defeating the purpose of the reform.

Instead, there are ways of tweaking the present arrangements that would assure the solvency of Social Security for the indefinite future without running such risks. The Liberal economist **Paul Krugman** contends that the current system could be extended into the next century with no cut in benefits at a modest cost of .54 percent of GDP. The extra funds could come from increasing the payroll tax rate slightly and removing the $90,000 cap on the payroll tax. Another way to remove the insolvency would be to repeal the income tax cuts for upper-income earners, as Senator **Kerry** proposed. Or benefits could be cut for those who need them least. The age of retirement might be further postponed, as it already has been, to take account of increased longevity. Another possibility is that labor productivity will continue to increase, thereby adding additional revenues. And if illegal immigration continues to add to the work force, the day of reckoning could be postponed indefinitely, provided the enough of the "undocumented" pay into the Social Security system.

Politically, the Democrats and interest groups like the AARP are set to fight privatization, and even some Republican legislators are nervous about it, because they are loath to touch what has been called the "third rail" of American politics. Since the proposed adjustments would reduce payments for Boomers by some 45% and provide a windfall for Wall Street, not for working people, it will be hard sell for a President with the lowest approval rating for a reelected chief executive in fifty years. In his history of the New Deal, **Arthur Schlesinger, Jr.** remarked that with the passage of the Social Security Act, "the constitutional dedication of federal power to the general welfare began a new phase of national history." Thanks to the 2004 election—in which ironically Bush enjoyed a 19-point advantage in national security issues and an 18-point deficit in economic policy—this legacy of the New Deal is now in question.

ANECDOTAGE

[An occasional column to which readers are encouraged to contribute —SL]

In retirement communities, people swapping health reports call them "organ recitals." Visiting one such community in University City, where the average age is 83, I ran into an acquaintance named Mike whom I hadn't seen in a while. "How are you?" I asked in all innocence. "Here you don't ask that question," Mike replied amiably.

*

A certain ophthalmologist who shall be referred to only as "Dr. W" lectures his medical students on the need to take a personal interest in their patients. Once, when one of his own patients, my late elderly aunt, timidly produced a sheet of paper with a few questions she had prepared for him, Dr. W. expostulated: "Questions, questions! Always questions!" (Otherwise, however, he gave her excellent care.)

*

Vanity plates are sometimes apt, and it's a good thing they are because on our crowded freeways they often become must reading. Thus,

UCSD

tells you you're driving behind our first Chancellor, **Herb York**. And the late **Francis Crick** had one reading

ATGC

for adenine, thymine, guanine and cytosine, the chemicals that make up the nucleotide bases of DNA, of which he was co-discoverer.

*

Bumper stickers can also offer clever slogans, especially political ones like these—two oldies, one recent:

A Horse's Tail is Silky,
Lift It Up and You'll Find Willkie

GOLDWATER in '64
BREAD AND WATER IN '68

LISTEN TO **NADER,** DREAM OF **KUCINICH**
VOTE FOR **KERRY**

Going the Other Way

—by Russell F. Doolittle
Research Professor of Biology and Chemistry and Biochemistry

I was a great bulletin board reader. I used to stare at a bulletin board for several minutes to find out what was going on at the university. Once I read about an essay competition for graduate students, entries for which were to be submitted anonymously. I decided to enter, mainly for the $500 prize. I wrote about how the vertebrate blood-clotting pathway must have evolved by natural selection. I used the pseudonym of **Charles Darwin**. I won. As I look back, I think in some ways it was the pinnacle of my scientific career. Many of the predictions I made were right on the mark. I was a graduate student in the late 1950s in a lab famous for fractionating blood proteins. Those were still the pre-Sputnik days of science before there was universal support for graduate students. To make money, I got a summer job at Woods Hole. The project I was given was to look at the constituents of eye fluids from fish and compare them with those from the blood.

Woods Hole had two great virtues from my point of view. It had a wonderful library that was open 24 hours a day, and the location was great. I had a wife and a small child, but I could work long hours and not feel guilty because they were in a nice place.

In the lab I initially had some technical problems because the blood kept clotting. It was obvious that fish had blood-clotting proteins. This got me thinking about where blood-clotting proteins came from. My graduate advisor at Harvard was given to benevolent neglect and let me work on what I wanted. I set out to develop my own project to look at what kinds of organisms have clotting proteins. This was what set me up for the essay competition. In 1955 **Sanger** had published the first sequence of a protein, bovine insulin. Within a year his group reported sequences from sheep and pig as well. Several amino acid replacements had occurred even among these closely related animals. It was immediately obvious that it was going to be possible to understand protein evolution by using sequence data. Another major turning point occurred when hemoglobin was sequenced: the two main chains were more than 40% identical. Clearly, they had arisen through gene duplication. It seemed clear to me that the blood-clotting pathway, which was known to center around a set of proteases with similar properties, must have arisen through a series of gene duplications and subsequent amino acid changes. The duplications fed on each other in a way that the system evolved into what I called a biochemical amplifier. The advent of DNA sequencing in the late 1970s and the later efforts to sequence the human genome ushered in a new era. The deluge of data made all previous work seem. trivial. Darwinian evolution was on firm ground before sequencing, of course, but sequencing was the glue that put everything together. It has been a real privilege to see it happen.

I have seen the process of how one does science change considerably, too. Having enough data is no longer a limiting factor. The sequence data have become so voluminous that the challenge is no longer obtaining them, but rather putting them into perspective. Computers have become the heart of the enterprise; we were fortunate to get into that area early. There is a cartoon strip in which Charlie Brown is looking for his baseball glove. In the second panel he sees that Lucy has his glove, and she is an absolute wizard with it. She can catch any ball. When she sees Charlie Brown, she asks, “Is this yours, Charlie Brown?” But, humbled by her obvious talent, he doesn’t feel like using it anymore. At this point, that’s how I feel. All of our early clumsy efforts have been wholly eclipsed. So many people are working in this field and doing it better, let them use the glove. That is partly why I switched to crystallography in my later years.

I didn’t always know I wanted to be a scientist. As an undergraduate student I thought I wanted to be a writer. I had a wonderful English professor who hated science and scientists. His office was as far away from the science buildings as possible. I ended up majoring in science by default because I could more easily satisfy the required number of credits in that area. By chance, many years later I met my old English professor, and he asked me what I was doing. Remembering his feelings about scientists, I told him “I’m sorry, sir, but I went the other way.” “Good heavens, man,” he responded, “Not the clergy?” I felt relieved.

I have enjoyed being a scientist, but I am also a closet writer. The *New Yorker* has turned me down a number of times, but I keep trying. My lab is winding down. It will give me a chance to do all the writing I have in the works, including a long memoir. When I retire I will go out with a vengeance.

*In slightly different form, this article (as told to **Laura Bonetta**, a science writer based in Bethesda, MD) was published in* BioTechniques *169, Vol. 37, No.2, 2004.*

Nuclear Proliferation: A Q & A with Herb York

—by Sandy Lakoff

Herbert F. York was presented with the Enrico Fermi Award in a White House ceremony in 2000 for contributing to and implementing arms control policy under four Presidents. He has served as UCSD's first Chancellor, Director of the Lawrence Livermore Laboratory, Director of Defense Research and Engineering, Ambassador to the Comprehensive Test Ban talks, and first Director of the UC Institute on Global Conflict and Cooperation.

Q. Both candidates in the recent presidential election agreed that nuclear proliferation is now the highest priority international problem. Do you agree with this assessment—or do you think that deterrence will work against new nuclear states just as it has restrained existing members of the "nuclear club?"

A. This concern is very important, but less immediate than the question of what to do in the Middle and Near East. That time difference makes it impossible to prioritize them. Iran and North Korea can be deterred up to a point, but the North Korean leadership seems to be capable of irrational behavior to much greater degree than most other states, including both Iran and ourselves.

Q. Given the seriousness of the proliferation of these weapons to so-called "rogue states," was the Israeli attack on the Iraqi nuclear reactor in 1981 justified and effective?

A. No! It was very counterproductive. The attack destroyed research facilities which were part of a general program that could have led eventually to a bomb in some far off time, but after the bombing the Iraqis greatly accelerated their program —more than twofold— and within five years they were already closer to a bomb than they would have been if the Osirak bombing had never occurred. Moreover, from Osirak onwards, they built everything in duplicate, dispersed them throughout the whole country, and put all utilities underground.

A few years after the event I put these views to **Shalhevet Freier**, one of the founders of Mossad, and one of the authors of the Osirak raid. His only response was: "We had to teach the French a lesson." Like the Russians, the French had been helping the Iraqis build a research (and training) reactor at Osirak. The reason the nuclear program came to naught was solely because **Saddam** became impatient and attacked Kuwait before the program could bear fruit. And in that regard, I differ with many colleagues in that I believe the program would not have produced anything important for at least two more years. Corruption and very spotty distribution of competence slowed the program, and the defeat in Kuwait killed it. Not the Osirak raid!! In order for the raid to have been effective, Israel would have had to occupy Iraq afterwards. The same is true of the Iran situation today.

Q. What should now be done about nuclear proliferation in North Korea and Iran?

A. Given the present situation, diplomacy and pressure and some carrots involving the neighbors (North Korea) or Europe (Iran). Treat the North Korean leader as a nut case where great care, good sense, and true realism are all needed. Get [Under Secretary of State **John**] **Bolton** out of the loop. In the case of Iran, try to get as close to normal relations as quickly as possible. Internal American petulance is probably as great a barrier as Iranian religiosity.

In the long run, I believe the international system should formally outlaw further proliferation of WMD and vile behavior towards the populace, and should be prepared to take collective measures where necessary and appropriate against such outlawed actions. But the creation of the law must come first (neither NK or Iran is currently violating any generally agreed law, except in trivial ways) and the action must be collective in a realistic sense and must include a substantial fraction of the outlaw's neighbors, i.e., states with a real stake and a real understanding of the local situation. Otherwise the action is just a reversion to old fashioned imperialism or "vigilante action" which, even if it sometimes produces a short term good, is (almost) always counterproductive in the long run.

Q. But a binding system of international law depends on there being a world government capable of enforcing it. That's a long way off. What should be done under present conditions?

A. Gulf War 1 was a positive example of what I mean: Naked aggression against a neighboring state was clearly illegal and the coalition included Syria and Egypt. Gulf War 2 does not fit these conditions. And an attack by US—or Israeli—forces on the Iranian nuclear program would be an even bigger and less justifiable violation of current—admittedly primitive and inadequate—international norms. So for now, work within the system as it is, while striving to make it much more effective in these matters.

Q. Suppose, however, that carrots and sticks (in the form of economic inducements and sanctions) don't work with Iran and North Korea. Should they simply be accepted as nuclear powers, as have the current members of the "nuclear club"?

A. The current non-proliferation regime, which dates back to the late sixties, is obsolete, being based on assumptions that no longer apply. One of these is that there are only five nuclear powers (US, UK, Russia, France and China). Somehow the system has to get real about the existence of at least four others and about the really big changes in the international system since the end of the Cold War. I am pessimistic about accomplishing very much right now, but we must try. And of course such attempts must be genuinely international. The creation of the existing non-proliferation regime was one of the more successful results of true multilateralism in the last third of the 20th century and we should try hard to revive it in a suitably modern and realistic form.

Q. But according to our State Department, the NPT didn't stop Iran from cheating or the Russians from helping them. Why do you suppose a new multilateral approach might be more successful?

A. To restate the matter, the problem in Iran is not "cheating," it is that the conditions have totally changed since Iran signed the treaty. The problem that most people are concerned about is not the games they play with inspection, but the fact that they are producing Highly Enriched Uranium. But that brings up the "dual use" problem. Producing HEU is not illegal; using it to build bombs is (but only for countries which adhere to the NPT). But Iran denies that it is making bombs, and I believe that there is no evidence to the contrary. The argument that they have plenty of oil and therefore don't need nuclear energy is specious. Many of the countries that have lots of hydrocarbons, including us and the Russians, have said that they must develop nuclear energy also. And I think so too.

Q. And speaking of the Russians, how worried should we be about that country's scattered stockpiles of nuclear materials? What should be done about them?

A. This has long been widely recognized as a very important issue, and the Americans have been working closely with the Russians on this matter ever since the end of the Cold War. This involves direct lab-to-lab relations, the Nunn-Lugar legislation, occasional American purchases of excess Russian and other former Soviet states' fissile materials, the repatriation of nuclear weapons from these states, and a host of other approaches. Lots of American dollars have gone into these actions and the net result is a very big improvement over "what might have been" without such cooperation—and pressure. Expanding the existing programs would make things still better.

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Emeriti Website

Members are reminded that the Association maintains a website, http://emeriti.ucsd.edu/, where you can read information about the Association, learn about past and future events, read poetry and stories written by some of our Emeriti, and see what your Executive Committee has been up to. Under the rubric NEWS, PROGRAMS & MEETINGS past issues of ***Chronicles*** are available. The website is maintained by **Marjorie Caserio** and is periodically updated. Send your comments, suggestions or contributions to *mcaserio@UCSD.edu*.

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Newsletter of the UCSD Emeriti Association

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Please report all address changes to our administrative officer in the Academic Senate: **Gaye Hill**
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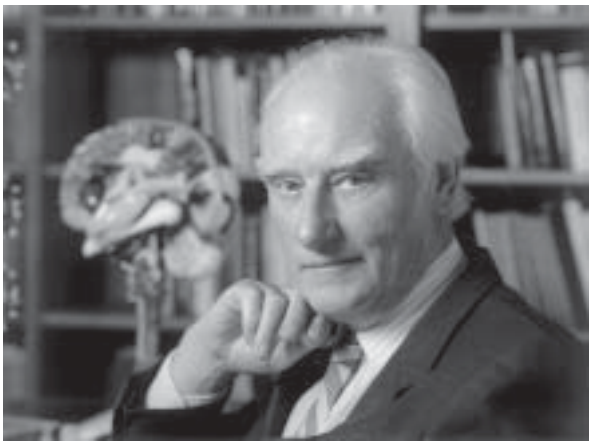
RETROSPECTIVE: Francis Crick (1916-2004)



In the latter half of the 1950s, I had the good fortune to be accepted by **Francis Crick** and his co-workers as an observer of, and occasional verbal contributor to, their efforts to understand DNA replication, protein synthesis, and other aspects of classical molecular biology. Francis and I became good friends, so I have had the opportunity to observe his mind at work in Cambridge, England, and later at the Salk Institute, where he served in an advisory capacity until 1977, and then as a faculty member until his death.

I will not attempt to summarize Francis' scientific achievements in detail; that is a task for historians of science. My list of favorite papers that he authored or coauthored would include those on diffraction by a helix, coiled-coils, the adaptor hypothesis, wobble pairing, the three-letter code, the structure of collagen, the prediction of an "RNA world" and, of course, the two short papers on the structure of DNA that launched many thousands of manuscripts. I would include selfish DNA but, since I was a coauthor, I realize that I may be prejudiced. Success in science may depend on many factors: imagination, intellectual power, experimental skill, persistence and, of course, luck. The series of important contributions that Francis made to structural and molecular biology rules out luck as a major factor in his case.

If luck didn't come into it, what explains Francis' extraordinary achievements? His intellectual power and remarkable intuition in all matters structural and biological are by now legendary. Watching him in action, I was always amazed at his ability to get his mind around a set of disparate and sometimes contradictory facts and in very little time force them to order. He seemed to know instinctively which facts he should take seriously and which he could ignore. He often advised that one should not abandon a good theory because of a few contradictory facts—not good advice for most of us, but it seemed to work for Francis.

I never saw Francis Crick in a pompous mood. He was always confident in public debate and, at the beginning of his career, he was sometimes assertive, but he never resorted to reputation or seniority to further his point of view. He had no interest in becoming part of the power structure of science, but was generous with his time when he thought his advice might be useful. The Salk Institute benefited greatly from his numerous suggestions.

Francis did not suffer fools gladly. In his younger days he may have dismissed them a little harshly, but he became gentler as he grew older. He liked new ideas, and he didn't care where they came from. Surprisingly, he was always prepared to give careful consideration to ideas that seemed lunatic fringe to most of us, if he thought that they might possibly contain even a grain of truth. If he decided that they didn't, he would patiently explain to the authors what was wrong—but rarely more than once. He had a nose for any results that "smelled fishy" and would make an appropriate facial gesture when describing them.

At the Salk Institute, Francis switched from molecular biology to the neurosciences. I heard him say on a number of occasions that he did not expect to make a major contribution himself, but that he hoped to point younger scientists in the right direction. He was convinced that understanding consciousness, or at least its neural correlate, was the most important goal in neuroscience and that the time was ripe for an experimental approach. I am not competent to judge the importance of the contributions that he and his longtime collaborator, **Christof Koch**, have made; I suspect that the jury is still out. However, there is no doubt about his success in attracting other scientists to the field. When Francis began writing about consciousness, mention of the subject would probably have doomed a grant application. Nowadays, conferences on consciousness attract thousands.

The last few months of Francis' life were among the most striking. He was suffering serious discomfort from the side effects of chemotherapy and was sometimes slowed down mentally by the effects of painkillers. Knowing that time was short, he

concentrated almost entirely on his work. He became interested in the role that a relatively little understood part of the brain, the claustrum, might play in consciousness. Within a few months he had mastered the literature to the point that he was writing a paper that included a lengthy review section. The last time we talked about science, two weeks before his death, he was as excited as a schoolboy about two new ideas that had occurred to him in the past day or two. On the last day of his life he was correcting the manuscript on the claustrum. Francis died as he had lived, striving to understand how the biological world works.

—by Leslie E. Orgel

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[From *Science*, Vol. 305, Issue 5687, 1118 , August 20, 2004]

Exhibition

Manuel Rotenberg is showing selections from his collection of photographs of dancers taken around San Diego over the past three years. They include dances from choreographers **John Malaschock**, **Jean Isaacs**, **Grace Jun** &**Yolande Snaith**, and shots taken of amateur dancers at street fairs. They may be viewed at the UCSD Faculty Club on any weekday from 8:00 AM to 5:00 PM. The show is open until March 15.

Photograph by Manuel Rotenberg

Lecture Announcement

Admiral **Walter F. Doran**, Commander, U.S. Pacific Fleet, will discuss lawlessness on the high seas particularly in the Pacific and Indian Oceans on Thursday, February 3, at the UCSD Institute for Continued Learning (ICL). The presentation will begin at 10:00 AM in the UCSD Extension Rubinger Center, Room 122, at 9600 North Torrey Pines Road and Muir College Drive.

Incidents of piracy, hijacking, trafficking in illegal drugs, weapons, and people have increased sharply in recent years. Many countries recognize their inability to stop contraband activity and have turned to the U.S. Navy for assistance. Admiral Doran became Commander of the U.S. Pacific Fleet in May, 2002. He is responsible for the world's largest combined fleet command encompassing 102 million square miles and more than 190 ships and submarines, 1400 aircraft, 191,000 sailors and marines.

Celebrating its 30th anniversary in 2004-2005, the Institute for Continued Learning (ICL) is a self-directed, self-supported adult education program presenting a broad range of learning opportunities for retired and semi-retired San Diegans. On average, ICL boasts 400 community members and hosts over 100 courses and events a year. ICL operates as an integral part of UCSD, and under the direct oversight of UCSD Extension. Anyone age 50 and older can sign up to receive additional information about the ICL program by calling (858) 534-3409 or e-mailing a request to rwilke@ucsd.edu.

Mark Your Calendar!

UCSD Emeriti Association
Meeting
Wednesday, February 16
4:00-5:00 PM

Price Center
Santa Barbara/Los Angeles Room
Carol Plantamura
"Performing Mozart Opera Today"

UCSD Emeriti Association
214 University Center, UCSD
La Jolla, California 92093-0002

Perhaps It Will Be
A Happy New Year!

RETURN SERVICE REQUESTED

January/February
2005

UCSD Emeriti Association

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