When asked to summarize his talk for the March 22 luncheon, Professor Bruce Bolt wrote “all true sciences, such as Newtonian mechanics, have a predictive capability. Yet seismological efforts to forecast earthquakes within narrow limits of size, place, and time have failed. In contrast, less discussed predictive power, i.e. the estimation of likely seismic strong ground motion for hazard mitigation purposes, is proving itself in recent earthquakes. Illustrations come from personal work for the Bay Bridge and BART, and from validation of twenty-year estimates for design of the trans-Alaska pipeline checked by measurements in the great November 3, 2002, Denali earthquake.”

Bruce Bolt attended the New England University [College] in Armidale, New South Wales, and went to the University of Sydney for an honors degree in Applied Mathematics (1952). An appointment as lecturer in the Mathematics Department there opened the door to marrying a fellow mathematician (Beverley), to a Ph.D. in elastic wave theory, to a Fulbright Fellowship at Columbia University in 1960, and to Cambridge University in 1961. A chance meeting with the late Perry Byerly, Professor of Seismology, led to an invitation to Berkeley. At UC Berkeley, he was Director of the UC Seismographic Station, Chairman of the Academic Senate (1992-3), and recipient of the University Citation (1992). He was also chairman of the California Seismic Safety Commission and president of the following: the California Academy of Sciences (Medalist 1989); the Seismological Society of America; and the International Association of Seismology and Physics of the Earth’s Interior. Professor Bolt now spends his time with engineering consulting, writing, sailing, and enjoying the trails near the family cabin at Bear Valley, California.
Data Retrieval from Renaissance Florence

At the UCBEA luncheon on Saturday, January 25, 2003, Gene Brucker, the Shepard Professor of History Emeritus, treated us to a survey of his more than 50 years’ research of Florentine history. His talk, “Researching Renaissance Florence”, began by describing his excitement and pleasure as a graduate student in the Florentine State Archives. These are the richest of city archives, which include the public documents of the bureaucratic city-state, ecclesiastical records and a gigantic collection of private records. Among the latter are about 100,000 mercantile letters and 200 private diaries. (For comparison, Professor Brucker noted that in England only four private diaries exist in archives.)

When you face your IRS form 1040 this spring, you may temper your admiration of the great art and culture of the Florentines knowing that in 1427 they invented a tax form requiring heads of households to report their income, dependents, property and debts. Familiar? The purpose of this innovation was to provide a fair method of tax assessment, but it has also left historians a wealth of information on the lives of the people. Over 1000 volumes of these tax records, perhaps 1 million pages, are in the Florentine archives. Professor Brucker read a few citizen appeals to the tax authorities. We heard touching and even humorous complaints of poverty, illness, spousal deaths, delinquent sons, imprisonment for debt, and of a dowry unpaid to a groom in his 80s. The readings show that ordinary life was hard in that golden age – few defenses against ordinary illness, and the death of one quarter to a third of the population from plagues.

Florence’s unique place as a creator of the Renaissance, “Florentine exceptionalism”, although not universally accepted, has aesthetic, economic, political and cultural dimensions, on which Professor Brucker elaborated. The beautiful city was an important center of international trade and banking and had a cloth industry, crafts and flourishing agriculture.

Florentines proclaimed “Libertad”, but their republican politics excluded laborers, women, the poor, political enemies and subject cities. Factions arose and eventually caused the republic’s demise, although it did last over 200 years.

Florence played a leading role in the revival of classical arts and learning from the 13th to the 16th century. This revival began elsewhere, but Florence adopted it, and the children of the wealthy were exposed to a classical education which included Latin and Greek. By the 15th century, Florence had become the classical learning center. There was an explosion of talent in literature, painting, architecture and sculpture that cannot be fully explained, although great artists set bench marks of performance and attracted outside talent to the city.

The great period wound down rather slowly with political instability and internal convulsions causing such artists as Leonardo da Vinci to flee to France and Michaelangelo to Rome. The end finally came in 1630 when plague destroyed the domestic economy, and after that time few achievements rose to the level of the great past.

Professor Brucker’s display of documents was impressive. Some were Xerox copies, but many were originals written 500 to 600 years ago which were amazing for their freshness, clarity and beauty. Written on rag paper...
Most people experience some decline in memory as they age, from subtle changes in attention before age forty to occasional memory lapses later on. While bothersome, such forgetfulness is usually a sign of normal aging, not dementia. Recent innovations in brain imaging have allowed researchers to indentify areas in the frontal lobes (the front part of the brain) that are active in memory formation and undergo change with age.

Over the years the brain uses these areas less. Some neurologists believe that reflects irreversible brain shrinkage and other cellular changes. But this theory doesn’t square with all the data. For example, a study in the February 2002 *Neuron* concludes that we can compensate for some age-related changes that make us more forgetful.

Scientists at Washington University in St. Louis gave tests of word memory to sixty-two subjects, all free of dementia or brain injuries, comparing memory performance and brain activation in younger subjects (average age twenty-one) and older subjects (average age seventy-five). Older subjects were underutilizing a brain region associated with semantic elaboration, a condition variously called under-recruitment or production deficiency. The good news is that under-recruitment is, to some degree, reversible by strategies which encourage semantic elaboration.

Simple exercises encouraging thoughtful elaboration and multiple associations are the best way to improve memory:

**Make Associations.** When you learn something new, try relating it to something you already know. If you meet someone named Rachel, for instance, think of others you know by that name, and try to associate her with them. Make associations to remember access codes and PINs. For example, if you need to remember the number 221035, the 22 might remind you of *Catch-22*, the 10 of your daughter’s age when she was a catcher at camp, and the 35 of your daughter’s current age.

**Chunk** Information. To remember a long series of numbers or items, group them into combinations. If your checking account number is 379852654, try grouping the numbers into three-digit bundles: 379, 852, 654. List grocery items by category, such as dairy, produce, frozen foods, and so on. Try memorizing the list and testing yourself once you get to the store.

No matter what your age, neurologists endorse the “use-it-or-lose-it” philosophy for memory and other cognitive functions. Challenging yourself physically...
Improving Your Chances in Intensive Care

If major surgery or a bad accident lands you in the intensive-care unit, your life could depend on whether you are under the care of an emerging kind of specialist trained to spot signs of pneumonia, infections, or other life-threatening complications—an “intensivist”. Studies show your chances of dying may be reduced by as much as 30% if you have one.

The problem is that there is a huge shortage of trained intensivists, and there are no prospects for sharply increasing their numbers anytime soon. As few as 10% of hospitals employ full-time intensivists. (In checking with John Muir and Alta Bates, we discovered that neither has an intensivist.) Though some new training programs are under way at teaching hospitals, others have been cut for budgetary reasons, and not all hospital administrators agree that full-time specialists are necessary. Also, some doctors are reluctant to turn their patients over to an intensive-care specialist.

Yet, a growing number of studies show these specialists help save lives and get patients released from the hospital faster and in better condition. A recent report in the Journal of the American Medical Association (JAMA) concluded greater use of intensivists could sharply reduce the 500,000 annual deaths in U.S. intensive-care units and help cut the $1.8 billion cost of intensive care.

“Patients are dying, and that has to be one of the key levers in getting hospitals to do this,” says Peter Pronovost, an intensivist at Johns Hopkins University who led the JAMA study. Researchers estimate it would take 35,000 intensivists to cover all intensive-care units (ICUs), but that could save 53,000 to 175,000 lives per year.

Dr. Pronovost recommends that patients and families insist on knowing whether an intensivist will be caring for them in the ICU or if one can consult on the case. If not, he recommends asking to be moved to a hospital that has full-time intensivists on staff. Even though intensive-care admissions are often initially unplanned, most patients can be transferred by ambulance.

Unlike renal, pulmonary or cardiology experts, who are trained to focus on one system in the body, intensivists are trained to look at a more comprehensive picture and notice subtle changes on a patient’s monitoring devices. If a patient with heart disease gets an infection and goes into septic shock, an intensivist might be best qualified to balance the body’s needs for fluids with therapy to protect the heart and the vascular system.

Much of the pressure to improve intensive care is coming from The Leapfrog Group, an employer health-care coalition, which selected ICU staffing as one of three key measures by which it rates hospitals. Leapfrog says 21% of hospitals responding to a recent survey have intensivists overseeing intensive care at least eight hours a day. About 16% more plan to enlist intensivists by 2004.

“If your hospital doesn’t have an ICU intensivist on staff, you should be calling or writing to the hospital president to ask why,” says Dr. Pronovost.

Recognizing that few hospitals will be able to meet its standards for intensivists on staff quickly, Leapfrog is working with the Joint Commission on Accreditation of Healthcare Organizations to come up with a list of additional measures to rate the quality of intensive care.

The measures include how well ICUs do preventing pneumonia for patients on ventilators, what steps they take to prevent dangerous developments such as peptic ulcer disease and deep vein thrombosis and how well they manage pain. Consumers can use the guidelines to ask questions, such as how patients are weaned from sedation. A full list of the eleven proposed measures can be found on the accreditation group’s web site, www.jcaho.org.

Hospital groups say that while intensivists are a great idea the shortage makes hiring tough for hospitals. “Our biggest concern is the implication that you won’t get good care in an ICU if there isn’t a full-time intensivist,” says Susan Van Gelder, senior vice president of the Federation of American Hospitals. “There are a lot of ways to measure quality care, and that shouldn’t be the only one.” Nurse-to-patient ratios, for example, are widely considered an important barometer of care.

One high-tech solution that holds promise was developed by Visicu, a company formed by two Johns Hopkins physicians in Baltimore. Its “eICU” system lets intensivists operating from a remote location electronically monitor several hospital ICUs at the same time, much like air-traffic controllers watching flight patterns. They can call ICU staff instantly if a patient needs attention.

Several hospitals, including New York Presbyterian Healthcare, are installing the eICU, and Tripler Army
Outsourcing of UC Retirement Portfolio Done Quietly

There has been a major change in the management of UC investments. The internal management of equities in the retirement and endowments portfolio has been abolished, and the staff of nine people has been fired. Retirement and endowment funds amounting to $13.8 billion are now in the Russell 3000 Tobacco-free Indexed Fund pending consignment to a number of external managers to be chosen by UC Treasurer David Russ.

The new policy was quietly announced November 26, 2002, during Thanksgiving week following the Regents’ meeting of November 13, and has received little attention in the public media. A major policy change has been made with scant possibility of public discussion.

The Council of UC Emeriti Associations (CUCEA) has an interest in both the possible impact of the action on the pension fund and the cloud of secrecy in which the new policy was adopted. The certain fees of external managers presumably will be offset by uncertain increases in yield of equities under their management. It is reasonable to ask if the new policy is really in the interest of present and future annuitants. An excerpt from a news item in the Sacramento Bee dated November 26, 2002, takes note of the windfall to the investment community:

Winning the California contracts would be a boost for fund management companies after almost three years of stock market declines. The Putnam Lovell Securities U.S. Asset Manager Index, which tracks the share prices of money management firms, has declined 24 percent so far this year.

“This is pretty attractive business at this juncture,” said Philip Schneider, managing director at Watson Wyatt Investment Consulting. “It certainly is coming at a low point for the industry.”

I have been informed that management fees range from 0.5% to 1.5%, depending on the particular equity. Considering that 1% of $13.8 billion is $138 million, the annual boost to external fund managers will certainly help them maintain their high incomes.

In implementation of a resolution passed at last April’s meeting, CUCEA now has in place a committee to examine the financial management of the retirement portfolio.

The Coalition of University Employees (CUE) and Professor Emeritus Charles Schwartz have had legal counsel ask the University to produce records, minutes and tapes of Regents’ meetings under the California Public Records Act, Government Code section 6250 et seq. These materials are believed to relate to the University’s investment policies discussed in closed sessions.

Details of the new policy are on the UC Treasurer’s website, http://www.ucop.edu/treasurer/, and extensive critical analysis can be found at Professor Schwartz’s website, http://socrates.berkeley.edu/~schwartz/.

Larry Waldron, Chair CUCEA

Townsend Center Seeks Emeriti

The Townsend Center Working Groups Program brings together, from various fields and departments, faculty and graduate students with shared research interests. There are currently almost 50 groups—you may join one or start...
Chabot Space and Science Center - Reception and Tour  
Friday, April 11, 2003, at 5:00pm

Join us in accepting Professor Ed Penhoet’s invitation to a reception and tour of the Chabot Space and Science Center. (See description on front cover.)

**Directions: From downtown Oakland, or San Francisco:** Take 580 east to Highway 24 (toward Walnut Creek). From 24, go south on Highway 13.*

**From Berkeley, Orinda, etc.:** Go south on Highway 13.*

**From Hayward, Castro Valley and points east:** Go west on 580 and take the Highway 13 turnoff.*

*After heading south on 13 take the Joaquin Miller/ Lincoln Avenue exit. Turn left and proceed up the hill on Joaquin Miller to the crest; then turn left at the signal onto the two -lane portion of Skyline Blvd. The center is 1.3 miles up Skyline on the right.

**Parking:** Convenient visitor-paid parking ($4 per vehicle) is available in the adjacent 3-level parking structure or in the Knoll Lot off Skyline Blvd. Science Center members receive free parking.

**Disabled parking:** Located near the main entrance to the facility (outside the parking structure).