By Richard C. Atkinson
Former Chancellor, UCSD and President Emeritus, the University of California

The seed that grew into UCSD was planted early in the twentieth century when William Ritter, a zoologist at Berkeley, honeymooned in San Diego and decided this would be a great place for a marine biology field station. He approached E.W. Scripps, the owner of the Scripps newspaper empire, and his half-sister, Ellen Browning Scripps, and they committed to providing support.

As a result, in 1903, the “Marine Biological Association of San Diego” was officially established in the Hotel Del Coronado boathouse, where today its beginnings are on exhibit. A few years later the Association moved to its current site on what is now our lower campus. E.W. Scripps and Ellen Browning Scripps arranged for the transfer of the La Jolla land. Miss Scripps provided a substantial gift to fund the first building, and she asked the architect Irving Gill to design the building. It is still there today.

By 1912 the Association had become a complex of significant size. There was the Gill Building, a public aquarium, a pier, and about two dozen wooden cottages where staff and faculty lived and worked. At that point the project was transferred to the University of California. The Regents accepted responsibility for it and changed its name to the “Scripps Institution for Biological Research.”

In 1931 Roger Revelle arrived at SIO as a graduate student. A few years later he married a student he had met in college. That student was Ellen Virginia Clark, the granddaughter of James Scripps, E.W.’s brother. James Scripps was quite wealthy in his own right – not as wealthy as E.W., but he did own the Detroit evening newspaper. In 1936 Roger received his Ph.D. from SIO and chose at that time to join the Naval Reserve, reasoning that the future of oceanography would be tied to that of the Navy. Another important event occurred in 1936. A new director for SIO was appointed, Harald Sverdrup, a Norwegian citizen, a distinguished scientist, and a highly regarded Arctic explorer. A few years later, his book The Oceans laid the foundation for the modern field of oceanography. Sverdrup transformed the shoreline field station into a world-class sea-going oceanographic center.

The last years of that decade, 1937 to 1940, were wonderful ones for SIO. Numerous expeditions were launched, important discoveries were made, and it came to be recognized as of great value to the Navy. About a year before Pearl Harbor, two critical events occurred. One was that Revelle was called to active duty and assigned to the Navy’s research program. Also, about the same time, the President of the University, Gordon Sproul, announced that the cyclotron at Berkeley and a number of University laboratories, including SIO, were being placed at the disposal of the federal government, to “ensure the defense of the United States.”

When war broke out, American science was mobilized and the scientific community – heavily populated by faculty from universities – made remarkable contributions to the war effort: the atomic

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A major contribution was made by our colleague Walter Munk. The scientific community's contributions were widely recognized – particularly the role of universities in the war effort. The Los Alamos Laboratory evolved out of the University, and is still UC-managed; Lincoln Labs, important in the development of high-frequency radar, was managed by MIT; University of Chicago was the site of the first nuclear chain reaction.

What is not well known is that there was a major research effort here in San Diego, named by President Sproul the “University of California Division of War Research.” The division involved a number of labs on Point Loma working in collaboration with SIO. During the peak of the war years some 600-700 people were employed there. And during those years, Revelle, as a serving officer, played an important role in managing and organizing the Navy's oceanographic research.

At the end of the war, while still on active duty, Roger was involved in establishing the Office of Naval Research. ONR was established because the experience of the war years showed that the federal government could draw great benefit from funding basic research at the nation's universities. Subsequently, the National Science Foundation was established, and the National Institutes of Health reorganized, both modeled on the ONR. Roger returned to SIO in 1948, after serving as a naval officer for eight years. Director Sverdrup decided at that time to retire and recommended to President Sproul that Roger should be his successor. After some controversy and delay, Roger was appointed director. Sproull was proud of his efforts to mobilize the resources of the University for the war effort and viewed Roger as part of that effort.

In the 1950s, SIO weathered the McCarthy era and prospered, ironically, because of Cold War concerns. During the loyalty oath controversy, Revelle strongly championed those who protested this special requirement for faculty. This was also the period of Sputnik, which aroused uncertainty about whether American science could compete with the Soviet effort. And, of course, it was the period when, as Winston Churchill said, an Iron Curtain had descended between the East and West. With Revelle’s leadership, the institution prospered, as federal funds flowed in to support research. That growth gave Roger an inspiration. By the middle of the decade, he presented President Sproul with a plan for the future of SIO.

His original idea was to build something like a Caltech in San Diego. That's not the right term, but it's one that was often used to describe Roger's early plan. There were to be three divisions to the new institution, one of which would be SIO. They would span virtually all fields of science and engineering. The idea was that this would be like Caltech in that it would principally focus on research and the training of Ph.Ds in science and engineering. There would be the possibility of a few undergraduates, but only a few.

President Sproul was enthusiastic about Roger's plan and asked for a formal proposal. The formal proposal was submitted to a committee made up of faculty Sproul selected – people who were friendly to Roger and very supportive of the President. Glenn Seaborg, a Nobel Laureate in chemistry from Berkeley, was the chairman of the committee. The committee recommended that the plan be implemented. But faculty and administrators at the Berkeley and Los Angeles campuses soon learned about the details of the plan and were not happy. One reason was that Roger proposed that for every faculty member there would be 3.2 graduate students. That's a pretty rich ratio. The rest of the university was running at about 1 to 15. There was a feeling among many UC faculty and administrators that there was no need to expand at San Diego. “Let's expand our science and engineering programs in the rest of the system,” they said, “There is no need for this kind of expansion at Scripps.”

Roger continued to push forward. An interesting article in the San Diego Union reported on a meeting in which Roger assured the audience that “this new institution will never grow to more than 1,000 students, that there will only be a handful of undergraduates, if any at all; certainly there will be no football team.” He concluded that “the institution would be no threat to the local colleges.” The proposed name was the “School of Science and Engineering,” although, throughout this period, there was a mix of names. Sometimes it was called the “Institute for Science and Technology,” but officially the “School of Science and Engineering.”

At this point, considerable confusion arose, when another University-wide committee recommended that in view of the future needs of California, three new campuses of the University should be established and should be full-fledged campuses – with undergraduate and graduate facilities – on the model of UCLA and Berkeley. The committee further recommended that the University move forward quickly. There should be a campus in San Diego, a campus in Orange County, and a campus in Santa Cruz County, with first priority to Orange County.

This was a moment of some puzzle-ment for the University authorities. On the one hand, Roger was proposing a School of Science and Engineering, and on the other there was a statewide committee proposing three new full-scale campuses of the University of California. About this time Sputnik was launched and there was much concern throughout the nation about whether American science would be able to compete successfully with its Soviet rival. Based on these events President Sproul decided – independent of any decisions about three new campuses – that the University should move quickly to establish the School of Science and Engineering in La Jolla. He placed that proposal before the Regents at a meeting in 1957 and it was approved. Revelle was named dean and given authority to begin recruiting faculty. At the last moment of the Regents' meeting, President Sproul announced that he did not believe the name “School of Science and Engineering” was appro-
The dramatic Regents’ meeting of the period occurred in October of 1959. Walter Munk was there and his recollection of what transpired accords with my understanding of what happened. Revelle, by this time, had at least preliminary commitments from the city of San Diego and from the Navy for the properties adjacent to SIO. And he had made a careful investigation of the Miramar noise issue. He learned by chance that Pauley had taken a group of Regents to his private island in Hawaii, where during the cocktail hour he arranged for Navy jets unexpectedly to swoop down on the party, producing a shattering experience. Roger briefly President Kerr very carefully on the Miramar noise issue, explaining that many other universities were even closer to major airports. In addition, he provided Kerr with a consultant’s report about noise issues for the proposed Scripps Memorial Hospital, which was to be on a site next to the University, but even closer to the air station.

The Regents’ meeting unfolded. Chairman Pauley finally said, “This plan is not sensible; we should not go forward with a campus on this site. I have with me today, Charles Luckman, – a highly regarded architect for the UCLA campus – and I have a report from him. Mr. Luckman is here to answer questions and I want his report entered into the record.” Basically the report said, “You should not build the campus in La Jolla. The noise problems will be too severe. The idea of building in a way that will reduce the acoustical impact is not feasible or cost effective. This is not the right place for a UC campus.” At that point, the President said, “Well, I have another report here [laughter] by the acoustical consultant who advised on the Scripps Memorial Hospital,” and he entered that report into the record. Chairman Pauley replied, “But obviously that consultant has no understanding of the issues and is not qualified to offer an opinion.” And then, he said, “Who is the person who provided that report?” Kerr replied, “Well, it was Mr. Luckman.” The chairman looked over at Luckman and said, “Did you provide that report?” He meekly said, “Yes.” The game was over. The Regents were still unhappy, but they did vote for the campus, with Pauley resoundingly voting “no.” In the months that followed, there
was continuing controversy over the La Jolla campus and Revelle was very much at the center of the controversy, but eventually Pauley yielded and withdrew his objection. Kerr and Revelle had won, but there were consequences for both of them. Kerr was eventually fired by the Regents and he often said that his problems with them began with the controversy over the La Jolla campus.

At a Regents meeting in November of 1960, President Kerr recommended that the name of the campus be changed from the “University of California at La Jolla” to the “University of California at San Diego,” and the name change was approved. The date of the Regents’ action was November 18, 1960. In the early 1980s the decision was made to designate that date as the official “Founders Day” for UCSD. We had a wonderful 25th Anniversary Celebration on that date in 1985, and last fall the campus celebrated its 50th Anniversary year.

In February 1961, there was a dedication ceremony for the first building built with state funds initially appropriated for the School of Science and Engineering. Revelle planned the dedication ceremony. A large number of legislators and others from around the state and leaders of the San Diego community were present. A group of Regents led by Chairman Pauley attended, as did President Kerr. Roger was informed just before the celebration that the guest of honor would be the individual to be appointed as the first chancellor, and that was Herb York. This came as a complete surprise to Roger. Roger and Herb had a good relationship – they liked and respected each other – but Roger had expected, and most of his friends had too, that he would be appointed as founding chancellor. He was not; and the question is, “Why?” There were interesting reasons why he was not appointed – including unrelenting opposition from Regent Pauley. But that’s another story for another time.

Adapted from a talk in 2009 to the La Jolla Historical Society in a project on the history of scientific institutions initiated by Constance Branscomb.

Walter Munk Wins Yet Another Major Award

SIO oceanographer Walter Munk, who won the National Medal of Science in 1983, the Kyoto Prize for Basic Science in 1999, and the Prince Albert I Medal (awarded by Monaco) in 2001, has garnered yet another high honor. He is the designated recipient of the Crafoord Prize, awarded by the Royal Swedish Academy of Sciences to researchers who have made major advancements in their branches of science. The academy recognized Munk “for his pioneering and fundamental contributions to our understanding of ocean circulation, tides and waves, and their role in the Earth’s dynamics.”

In its citation, the academy noted Munk’s contributions to several areas of oceanography, but especially to the understanding of circulation and tides: “This year’s Crafoord Prize Laureate, Walter Munk, is a person who, in his work of explaining ocean circulation, tides and waves, and their role in our planet’s dynamics, moved in the absolute forefront of science throughout this period. In particular, Munk’s grasp of the tide’s significance on various scales is crucial to his scientific oeuvre. … In 1960, thanks to his geophysical approach, Munk was able to describe irregularities in the Earth’s rotation in a way that was, at the time, entirely new,” the academy said. “He discussed polar movement and variations in the Earth’s rotation speed on various timescales and was able to show that, over a century or more, the friction of the tide is what most affects the Earth’s rotation, by causing its gradual deceleration. Nowadays, the consequent gradual lengthening of the Earth’s day is taken into account in the calculation of Coordinated Universal Time (UTC), with the addition of an extra ‘leap second’ in certain years.”

Winners of the Crafoord Prize receive $500,000. The prize fund was established in 1980 by a donation to the Royal Swedish Academy of Sciences from Anna-Greta and Holger Crafoord. The Crafoord Prize was awarded for the first time in 1982 and recognizes achievement in astronomy, mathematics, and biosciences in addition to geosciences. Each discipline is recognized annually in rotating fashion.

The award ceremony will take place in Stockholm on May 11.

Munk received a Ph.D. in oceanography in 1947 from SIO, where he has since spent his entire professional career. In 1947 he became an assistant professor. In 1954 he became a professor of geophysics and also was named a member of the UC Institute of Geophysics. In 1960 he established a branch of the institute at SIO, serving as its director until 1982. The institution has since been renamed the Institute of Geophysics and Planetary Physics (IGPP) and Munk continues to work in it.
Both American democracy and modern science are products of the Enlightenment – with its emphasis on reason, empiricism, and openness to new ideas and discoveries. American democracy benefits from a pragmatic willingness to learn from experience, very much as science relies on experiment. Transparency, accountability, and trust are basic principles of both. Especially in modern times, the two are interdependent: democracy benefits when research yields new understanding of nature; research depends upon public support and respect for the freedom and integrity of inquiry.

In recent years, however, that interdependence has suffered, as politicians have sought to curb scientific inquiry and deny findings that cut against ideological assumptions. During the 2008 political campaign, presidential-candidate Obama promised to reverse that trend. He and observers such as our own Daniel Yankelovich spoke often of the need for a “new pragmatism” as a guide to governance. As President, Obama got off to a very good start by appointing exceptionally well-qualified scientists to top posts in his administration – among them John Holdren of Harvard as Science Advisor and Stephen Chu of UCB as Secretary of Energy. He promised to make decisions based on the best expert assessment of relevant facts. His policies were to be rational, pragmatic, and transparent.

Unfortunately, he has not found this promise easy to fulfill, and one of the main reasons is the resistance he has met from public opinion. If the voters are ignorant of the relevant technical issues, how can they evaluate the performance of government officials? And if they cannot judge the politicians’ performance intelligently, why should they accept their recommendations? If public attitudes are not founded on sound knowledge but are only guided by values, belief systems, world views, and emotions, politicians will be afraid to listen to scientists who tell them differently. Lobbyists and their sponsors will find it easier to leverage public attitudes by distorting the facts. Their interests, as we see too often, will carry the day.

Just how well informed is the democratic public? The Public Agenda, a non-profit research organization founded in 1975 by Yankelovich and Cyrus Vance, has been studying that question. Most recently, its study of energy policy concluded that “there’s significant common ground in public thinking on what the nation should do about energy. The public also thinks our energy challenge is here to stay. Three-quarters of the public believes we should move toward increased use of alternative energy, even if fuel prices go down.” But the report also noted that people’s support collapses when asked if they would accept increased prices for gasoline to achieve these goals.

What is particularly interesting is the contrast between the large majorities in favor of policies that the technical community would also support and the frailty of the public’s scientific understanding on which these convictions rest. When asked to name a renewable energy source, such as solar cells or wind power, only 51 percent could do so. Only 39 percent could even name a fossil fuel.

Could it be, then, that lack of understanding of the most basic relevant technical facts is at least in part responsible for public unwillingness to accept any policy that increases the cost of driving, even though nearly seven in ten say they want the nation to “take steps to gain energy independence even if it raises costs”?

Yankelovich concludes that the state of public education is such that scientists cannot rely on telling the public what they think they need to know. Given the state of public education in science and mathematics, we cannot depend on well-intentioned programs of “public science literacy” or “public understanding of science.” The technical community must become more skilled at explaining those elements of scientific knowledge that are relevant to addressing the public issues they care about. To do this, scientists must understand the complex public policy issues, just as the public needs to understand the key technical facts that inform those policies.

This is more difficult, and requires more concerted effort than the Founders.
ever thought it might be. The authors of our Constitution could not have anticipated the impact of universal suffrage. In their day, the voters were propertied, mostly well-educated men like themselves, a small fraction of the population. Today we must carry out the basic ideals of the Enlightenment in a society that links the entire voting public with both the elite (specialists and experts) and the empowered (government officials).

Thus, sound policy and accountable democratic governance depends on a triangle comprised of political institutions, the community of experts, and the voting public. The scientists’ concern for the role of the voting public leg of that triangle is particularly weak. That role has been largely left to a fourth player, the media.

How well do the media help the public learn what they need to know from science and use that knowledge to expand the quality of political governance? As Yankelovich points out, media may do a reasonable job of “consciousness-raising” about what the public issues are. But the second stage, “working through those issues,” is where the media fall short. This is the stage where sorting out the facts and the evidence they rest on is most important. Thus there are weaknesses in all three legs of the triangle, and the media do not adequately compensate for the weakness in the relations between science and the public or between science and politics.

What is the prospect for building a stronger, more rational society, given the complexities and weaknesses in the current system of governance and the public participation that validates it? The task seems daunting but one can at least list two of the main challenges.

First, elective politics must be reformed to permit a more rational process for the public’s evaluation and approval of political positions and actions. To this end it is essential that the growing dependence of politics on moneymed interests be curtailed – a task the Supreme Court has just made more difficult. Second, scientists, engineers and other experts must be trained to communicate with the voting public, and must accept an obligation to do so.

The internet has greatly augmented the traditional channels of public information, and most important, adds diversity to views reaching both the media and the public. This provides opportunities for individual scientists to communicate through their blogs and networks and to actively engage in the work of their professional societies and other non-profit institutions that offer both technical and policy expertise. At the top of the list are colleges and universities, which too often give inadequate attention to public policy and the science required to make wise public choices. Somehow, science must not only give wise advice to government, but must also find a way to share with the public the understanding of the factual basis for policy choices.

This challenge – to scientists and other professionals – is not new to our nation’s best leaders. I spoke of President Obama’s commitment to pragmatic government whose policies rest on well-grounded facts. His predecessor 52 years ago, President Dwight Eisenhower, faced similar complexities, leading our democracy during the Cold War with the Soviet Union. He replied to a veteran who was seeking what Ike called “freedom from the mental stress and burden of democracy” with these words: “It is difficult indeed to maintain a reasoned and accurately informed understanding of our defense situation on the part of our citizens, when many prominent officials, possessing no standing or expertise as they themselves claim it, attempt to further their own ideas or interests by resorting to statements more distinguished by stridency than by accuracy.”

Adapted from a talk to the recent annual meeting in San Diego of the American Association for the Advancement of Science.
Anecdotage

By Sandy Lakoff

Science for Fun and Profit

The good news is that another career has opened up for scientists sick of long hours in the lab; the bad news is that it’s stand-up comedy. In England, regional heats for Einsteins-turned-Seinfelds are to be held in June at the Cheltenham Science Festival. The winner gets a TV slot and £10,000—not to mention enduring fame on YouTube. The New York Times reports the fad is catching on here. One practitioner is Tim Lee, a UCSD alumnus with a Ph.D. in biology from UC Davis. “I just didn’t want to write any more papers,” said Dr. Lee, adding, for good measure: “I did not want to read any more papers.” Dr. Lee has worked his way up to a small venue in New York called The Monkey. A sample of his gags: A biologist walks into a comedy club. The owner asks, “Why’d you select this club?” The biologist replies, “Well, it’s natural selection.” (That one could stand mutation, or maybe extinction.)

The London Times provides more helpful material: A neutron walks into a bar and asks: “How much for a drink?” The bartender replies: “For you, no charge.” And this limerick, for relativity theorists:

There was an old lady called Wright
Who could travel much faster than light.
She departed one day
In a relative way
And returned on the previous night!

Very, very bad puns; blame Edith Parti for passing them on.

King Osymandias of Assyria was running low on cash after years of war with the Hittites. His last great possession was the Star of the Euphrates, the most valuable diamond in the ancient world. Desperate, he went to Croesus, the pawnbroker, to ask for a loan. Croesus said, “I’ll give you 100,000 dinars for it.” “But I paid a million dinars for it,” the King protested.

“Don’t you know who I am? I am the king!” Croesus replied, “When you wish to pawn a Star, makes no difference who you are.”

Evidence has been found that William Tell and his family were avid bowl- ers. Unfortunately, all the Swiss league records were destroyed in a fire. . . and so we’ll never know for whom the Tells bowled.

A marine biologist developed a race of genetically-engineered dolphins that could live forever if they were fed a steady diet of seagulls. One day, his supply of the birds ran out so he had to go out and trap some more. On the way back, he spied two lions asleep on the road. Afraid to wake them, he gingerly stepped over them. Immediately, he was arrested and charged with . . . transporting gulls across sedate lions for immortal porpoises.

An Indian chief was feeling very sick, so he summoned the medicine man. After a brief examination, the medicine man took out a long, thin strip of elk rawhide and gave it to the chief, telling him to bite off, chew, and swallow one inch of the leather every day. After a month, the medicine man returned to see how the chief was feeling. The chief shrugged and said, “The thong is ended, but the malady lingers on.”

A famous Viking explorer returned home from a voyage and found his name missing from the town register. His wife insisted on complaining to the local civic official who apologized profusely, saying, “I must have taken Leif off my census.”

There were three Indian squaws. One slept on a deer skin, one slept on an elk skin, and the third slept on a hippopotamus skin. All three became pregnant. The first two each had a baby boy. The one who slept on the hippopotamus skin had twin boys. This just goes to prove that . . . the squaw of the hippopotamus is equal to the sons of the squaws of the other two hides.

A skeptical anthropologist was cataloging South American folk remedies with the assistance of a tribal Brujo who indicated that the leaves of a particular fern were a sure cure for any case of constipation. When the anthropologist expressed his doubts, the Brujo looked him in the eye and said, “Let me tell you, with fronds like these, you don’t need enemas.”

Famous Last Words

Ellie Shushan, a friend in Philadelphia, once toured old cemeteries to put together a paperback (Ballantine, 1990) entitled Grave Matters, a collection of 500 actual epitaphs. A loyal daughter of the City of Brotherly Love, she ignored the one proposed for himself by W. C. Fields:

All things considered,
I’d rather be in Philadelphia

but found others of uncommon interest, including these:

MARY MARTIN
Here lies the wife of Roger Martin
She was a good wife to Roger, that’s sartin.
Ockham, England c.1800

ANNA WALLACE
The children of Israel wanted bread,
And the Lord he sent them manna.
Old clerk Wallace wanted a wife,
And the Devil sent him Anna.
Ribbesford, England c.1770

SOLOMON PEASE
Under the sod and under the trees
Lies the body of Solomon Pease.
He is not here, there’s only the pod:
Pease shelled out and went to God.
Barre, Vermont 1880

ANN MANN
Here lies Ann Mann;
She lived an old Maid and she died an old Mann.
Bath, England c.1750

Mark Your Calendar!

Barbara Sawrey
Associate Vice Chancellor, Undergraduate Ed.
Trends in Undergraduate Education
Wednesday, April 14, 4:00-5:30 pm

Tom Levy
Professor of Anthropology
King Solomon’s Mines
Wednesday, May 12, 4:00-5:30 pm

Annual Business Luncheon
Wednesday, June 9, 11:30-2:00

Green Faculty Club

Chronicles
April 2010