

UCSD From Field Station to Research University: A Personal History

By Richard Atkinson

Foundations: The Scripps Institution of Oceanography

The seed that grew into the University of California, San Diego, (UCSD) was planted early in the twentieth century when William E. Ritter (1856-1944), a zoologist at Berkeley, honeymooned in San Diego and decided that this would be a great place for a marine biology field station. He and Dr. Fred Baker, a well-known local surgeon and conchologist, approached newspaper magnate E.W. Scripps and his half-sister, Ellen Browning Scripps, both of whom committed to providing financial support.¹



Edward Wyllis Scripps, ca. 1890. Courtesy of Mahn Center for Archives and Special Collections, Ohio University Libraries.

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. Two years later, Ritter and his team moved into “the little green laboratory” at La Jolla Cove. In 1907, they purchased the institution’s current site on what is now the 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 architect Irving Gill to design a reinforced concrete structure.



Ellen Browning Scripps, ca. 1891. Courtesy of Ella Strong Denison Library, Scripps College.

Richard C. Atkinson is president emeritus of the University of California and chancellor emeritus of University of California, San Diego. He is a former director of the National Science Foundation, and was a long-term member of the faculty at Stanford University.



By the 1920s, SIO had a laboratory, a public aquarium, a pier, a library and museum building, and nearly two dozen cottages where faculty and staff lived and worked. ©SDHC #2442.

That building, the George H. Scripps Laboratory (1910), is still there today.

By 1912 the Association had become a complex of significant size. There was a laboratory, a public aquarium, a pier, and a 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 the mid-1920s the charter was modified, expanding its scope from marine biology to include marine geology, meteorology, biochemistry and physics—laying the groundwork for the field of oceanography. At that time it was renamed the Scripps Institution of Oceanography (SIO).

Roger R. Revelle (1909-91), the founder of UCSD, arrived at SIO as a graduate student in 1931. A few years later he married Ellen Virginia Clark whom he had met while a student at Pomona College. She was the granddaughter of newspaper publisher James E. Scripps, the brother of E.W. and Ellen B. Scripps. In 1935, Roger joined the U.S. Naval Reserve, reasoning that the future of oceanography would be tied to that of the U.S. Navy. He received his Ph.D. from SIO in 1936.

The years 1936 to 1940 were wonderful ones for SIO. A new director for SIO was appointed in 1936, Harald U. Sverdrup (1888-1957), a Norwegian citizen, a distinguished scientist, and a highly regarded Arctic explorer. His book, *The Oceans*, laid the foundation for the modern field of oceanography.² Sverdrup transformed the shoreline field station into a world-class, sea-going oceanographic center.

A number of expeditions were launched, important discoveries made, and the institution came to be recognized as of great value to the U.S. Navy.

Shortly before Pearl Harbor, two critical events occurred. First, Revelle was called to active duty and assigned to the U.S. Navy Radio and Sound Laboratory in San Diego.³ About the same time, Robert Gordon Sproul (1891-1975), President of the University of California, announced that the cyclotron at Berkeley and other university laboratories, including



Dr. Roger Revelle, 1957. ©SDHC #UT 85-744.

SIO, were being placed at the disposal of the federal government to ensure the defense of the United States.

American science was mobilized during World War II. The scientific community—heavily populated by faculty from universities—made remarkable contributions to the war effort: the atomic bomb, sonar, high-frequency radar, penicillin, proximity fuses, cryptography, etc. The research of SIO oceanographer Walter Munk (1917-) made it possible to predict surf conditions during amphibious warfare. The scientific community's contributions were widely recognized—particularly the role of universities in the war effort. Los Alamos National Laboratory evolved out of the University of California and is still UC-managed. The Massachusetts Institute of Technology (MIT) founded Lincoln Laboratory, important in the development of high-frequency radar, while the University of Chicago was the site of the first artificial, self-sustained nuclear reaction.

What is not well known is that there was a major research effort here in San Diego—the University of California Division of War Research (UCDWR). The division involved a number of laboratories on Point Loma working in collaboration with SIO. The UCSWR is credited with the development of sonar devices, echo sounders, and bottom scanners. During the peak war years, some 600-700 people were employed there. Revelle served as project officer of the UCSWR until October 1942 when he was reassigned to the Navy Hydrographic Office in Washington D.C. where he played an important role in managing and organizing the navy's oceanographic research.

At the end of the war, while still on active duty, Revelle was involved in



Roger Revelle (right) engaged in research aboard the R/V Horizon on its 1950 Mid-Pacific expedition. Photo courtesy of SIO.

establishing the Office of Naval Research (ONR) that today coordinates, executes, and promotes the science and technology programs of the U.S. Navy and Marine Corps. 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 (1950) was established and the National Institutes of Health reorganized, both modeled on the ONR.

Revelle, or Roger, returned to SIO in 1948 after serving as a naval officer for eight years. Director Sverdrup, having decided to retire, recommended to President Sproul that Roger should be his successor. He was proud of his efforts to mobilize the resources of the University for the war effort and viewed the thirty-nine-year-old Revelle as part of that effort. Two years later, after some controversy and delay, the latter became director of SIO.

In the 1950s, SIO weathered the McCarthy era and prospered, ironically, because of Cold War concerns. During the loyalty oath controversy, Roger 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. It also was the period when, in the

words of Winston Churchill, an Iron Curtain descended between the East and West. Under 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.

The Origin of UCSD

Revelle's original idea was to build something like the California Institute of Technology, or Caltech, in San Diego.⁴ He imagined three divisions in the new institution that would span virtually all fields of science and engineering, one of which would be SIO. Like Caltech, it would principally focus on the research and training of Ph.D.s 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 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 T. Seaborg, a Nobel Laureate in chemistry from Berkeley, chaired the committee that recommended implementation of the plan. However, faculty and administrators at the Berkeley and Los Angeles campuses were not happy about details, in particular, the proposal that for every faculty member there would be 3.2 graduate students. The rest of the University of California system had a ratio of about 1 to 15. As a result, they argued 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, to paraphrase, "There is no need for this kind of expansion at Scripps."

Roger continued to push forward. At first, he imagined that the new institution would never grow to more than 1,000 students with only a handful of undergraduates and no football team. He proposed that it be called, "The School of Science and Engineering."

At this point, considerable confusion arose when another university statewide 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 given to Orange County.

This was a moment of some puzzlement for the University authorities. On the one hand, Revelle 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 told reporters, “Our industrial civilization and our very survival as a country depend critically on increasing the number of able young scientists.”⁵

In 1957, Sproul placed the proposal before the Regents of the University of California at a meeting and it was approved. Revelle was named dean and given authority to begin recruiting faculty (I might add that he was recruiting faculty long before he had the authority and often would pay them using federal research funds, promising that when the school was officially established, they would receive their appropriate academic appointments). At the last moment of the Regents’ meeting, Sproul announced that he did not believe the name “School of Science and Engineering” was appropriate and recommended that it be called the “University of California at La Jolla.” The Regents agreed.



Clark Kerr's inauguration as president of the University of California, October 6, 1958. Roger Revelle is third from left. Photo courtesy of SIO.



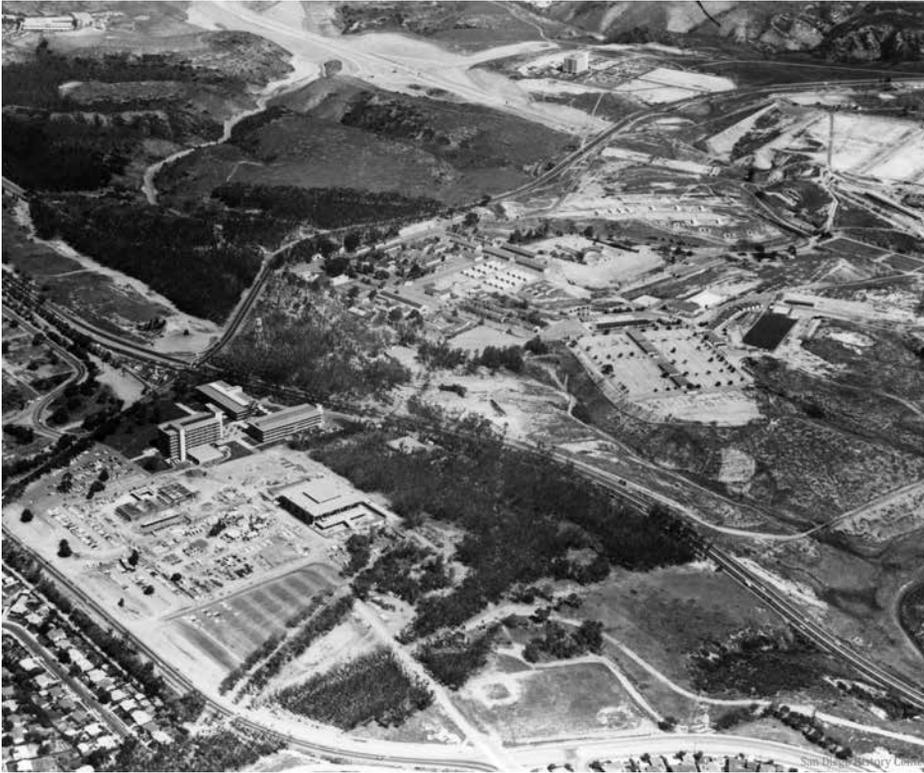
Roger Revelle testifying in favor of establishing the University of California at San Diego in 1960. Photo courtesy of Glasheen Collection, UCSD Mandeville Department of Special Collections.

While Roger moved forward with the school as originally planned, there was much debate around the state about whether three new campuses should be created. At this point, in 1958, President Sproul ended his twenty-eight year tenure. Having taken the university through the Great Depression and World War II, he was regarded as one of the nation's leaders of higher education. The man who replaced him was Clark Kerr (1911-2003), first chancellor of UC Berkeley, who proved to be a great leader during a very difficult and critical period.

Shortly after becoming President, Kerr went to the Regents and made a proposal. "Yes," he said, to paraphrase, "we need three new campuses of the University of California. I don't think there's much doubt about that. Nevertheless, we should continue to move forward with the plans for a School of Science and Engineering at San Diego, now also known as the University of California at La Jolla. But moving forward should be conditional on a commitment by the city and federal government of additional land in the vicinity of SIO in case the University should decide to establish a full-fledged campus there."

In the Regents item, Kerr listed the properties that he had in mind or, more likely, that Revelle had in mind: the Pueblo lands owned by the city of San Diego, Camp Matthews (a Marine base) and several other adjacent sites. Revelle was pleased with Kerr's recommendation and proceeded to arrange for the acquisition of the necessary lands. He was successful in his negotiations with the city and the federal government, and everything was beginning to fall into place.

Unexpectedly, there was strong opposition from the chairman of the Board



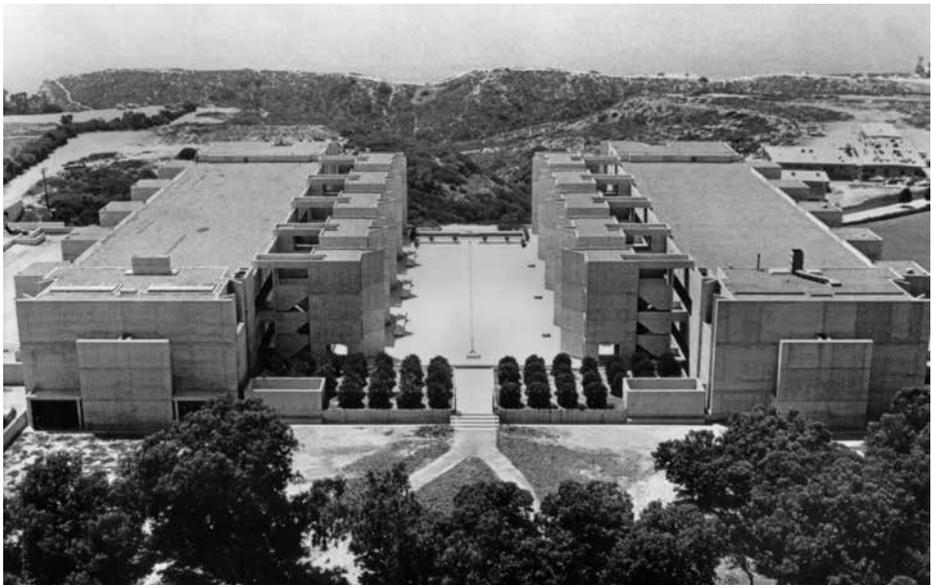
In 1960, the University of California approved the construction of the new campus. The first undergraduates arrived in 1964. ©SDHC #88:16842.

of Regents, Edwin W. Pauley (1903-81), a long-term member of the Regents and a very powerful man in the state, indeed, the country. Every president of the United States would take his phone calls and come to California at his invitation. Pauley received his undergraduate and master degrees from Berkeley, lived and worked in Los Angeles, and was deeply committed to UCLA. There's not much question that the faculty and leadership at UCLA were concerned about the establishment of a major campus in San Diego. Pauley was not quite prepared to take on Sproul as president, but ready and willing to take on a new president if things weren't to his liking.

Pauley had his own idea of what should be done. He proposed that the University, instead of building a campus in proximity to SIO, acquire San Diego State College. That's not in the history books, but there's no question that this was Pauley's proposal. He also argued that the SIO site in La Jolla was a poor location because of the overhead noise from aircraft stationed at the Miramar Naval Air Station. Kerr and Pauley proposed to Malcolm A. Love, then president of San Diego State College, that the college become a campus of the University of

California. Love turned down the offer. At that time, several state colleges were planning to form a new system—the California State University system which is in existence today—and Love was deeply immersed in that effort. He was not willing to place his campus in the UC system when it could become a keystone of a new State University system. Pauley continued to argue against the La Jolla site and said, to paraphrase, “If not San Diego State, why not Balboa Park?” Many people felt he suggested that alternative because he knew that the citizens of San Diego would never let anything encroach on the park.

The dramatic Regents’ meeting of the period occurred in October 1959. Oceanographer 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 both the city of San Diego and the Navy for the properties adjacent to SIO. He also 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 to swoop down on the party, producing a shattering experience. Roger briefed 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 Salk Institute was founded in La Jolla during the 1960s at the same time as negotiations were underway for UCSD, c. 1965. ©SDHC #18139.

The Regents' meeting unfolded. Chairman Pauley finally said, to paraphrase, "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." The report said, to paraphrase, "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, to paraphrase, "Well, I have another report here 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. Eventually, however, 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; he later said that his problems with them began with the controversy over the La Jolla campus.



Scientist and scholar Roger Revelle fought for the establishment of a University of California campus in San Diego. ©SDHC, UT #85:a8200.



San Diego History Center

UCSD's first undergraduate college, Revelle College, was founded in 1965 and named in honor of the chief architect of the university. ©SDHC, UT #85:E8072.

At a Regents meeting in November 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,” which 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 twenty-fifth Anniversary Celebration on that date in 1985, and in 2010 the campus celebrated its fiftieth Anniversary year.⁶

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, dignitaries 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.

Just before the celebration began, Revelle was informed that the guest of honor would be the individual to be appointed as the first chancellor, Herbert F. York. This came as a complete surprise. Roger and Herb had a good relationship—they liked and respected each other—but Revelle had expected, and most of his friends had too, that he would be appointed as founding chancellor. He was not.

The question remains, “Why?” There were interesting reasons why he was not appointed—including unrelenting opposition from Regent Pauley. But that’s another story for another time.

NOTES

1. For further information on the Scripps Institution of Oceanography, see: Helen Raitt and Beatrice Moulton, *Scripps Institution of Oceanography: First Fifty Years* (Los Angeles: The Ward Ritchie Press, 1967); Elizabeth N. Shor, “How the Scripps Institution Came to San Diego,” *The Journal of San Diego History* 27, no. 3 (Summer 1981), 161-173. Elizabeth Noble Shor, *Scripps Institution of Oceanography: Probing the Oceans, 1936 to 1976* (San Diego: Tofua Press, 1978); and other publications listed at “Histories on SIO,” UC San Diego Libraries, <http://libraries.ucsd.edu/locations/sio/scripps-archives/history.html> (accessed July 17, 2012).
2. H.U. Sverdrup, Martin W. Johnson, and Richard H. Fleming, *The Oceans: Their Physics, Chemistry and General Biology* (New York: Prentice-Hall, Inc., 1942).
3. Revelle was called for training duty as a sonar officer on USS Rathburne in February 1941. He reported for active duty on July 10, 1941. Deborah Day, “Roger Randall Dougan Revelle Biography,” http://scilib.ucsd.edu/sio/biogr/Revelle_Biogr.pdf (accessed July 17, 2012).
4. “1,500 Students: Initial Need is 12 Million, Revelle Says,” *San Diego Union*, August 25, 1956, 1:8.
5. “Expanded Scripps Graduate School of Science Approved by Regents: Added Facilities for Undergraduate Study Authorized,” *San Diego Union*, August 25, 1956, 1:7.
6. See Nancy Scott Anderson, *An Improbable Venture: A History of the University of California San Diego*. San Diego: UCSD Press, 1993, and Abraham J. Shragge, “Growing Up Together: The University of California’s One Hundred-Year Partnership with the San Diego Region,” *The Journal of San Diego History*, 47, no. 4 (Fall 2001), 241-276.



The Geisel Library (1970), designed by William Pereira & Associates, remains a distinctive feature of UCSD's campus. Photo courtesy of the JSDH editors.