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GENESIS: How UCSD Came to Be

By Jack C. Fisher

EA Historian and Edward A. Dickson Professor Emeritus

Part II. SIO: The University of California Discovers La Jolla

At the turn of the 20th century, the University of California set up a field station in La Jolla that would soon become the Scripps Institution of Oceanography and decades later the cornerstone of our campus.

It all began when **William Ritter**, chairman of the Zoology Department at the University of California -- then still on its sole campus in Berkeley -- recognized that it would be a good idea to collect marine life specimens in the ocean waters off San Diego. Virtually landlocked San Francisco Bay was fed by rivers, while dredging had destroyed the collecting grounds of San Pedro's harbor. So, with timely assistance from two San Diego physicians, **Fred Baker** and his wife **Charlotte**, he set up a small laboratory in 1903 at the boathouse of the Hotel del Coronado.

Ritter got a great deal more help unexpectedly when Baker introduced him to a poker partner who happened to be the millionaire press baron **Edward W. Scripps**, familiarly known as "E.W." Baker cautioned that E.W. "takes no interest in biology" while noting encouragingly that he was supportive of good causes., "I am more interested in this damned human animal than any marine or-



*William E. Ritter
First Director of SIO
Collecting samples
La Jolla Shores*

ganism," Scripps told Ritter, but he took a personal liking to the scientist and soon forwarded a check for \$500 (worth about \$14,000 today). More importantly, he referred Ritter to his sister **Ellen**, suggesting she might give him another check. Indeed, she did, and many more after that.

Ellen Browning Scripps, senior to E.W. by eighteen years, was a powerful influence on his early life and subsequent career. Unusual for a woman of her time, she had earned, not inherited, a sizable fortune herself, having worked hard and invested systematically in the family newspaper chain. After deciding to move to La Jolla in 1892 at



Dr. and Mrs. Ritter at home on the top floor of the George H. Scripps Building which, as the first building at the station, doubled as laboratory and residence.

the age of 58 with a net worth estimated at \$202,000 (about \$5.2 million today), she commissioned a home designed for her needs on a bluff overlooking the ocean. While in residence here, her fortune continued to grow as the newspaper empire became ever more valuable.

Already fascinated with sea life,



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she had visited aquariums in London and in Berlin. She came to be especially fascinated by underwater bioluminescence, the blue-green emission generated by phytoplankton, a phenomenon she called "soft liquid fire." So it didn't take much for Professor Ritter to capture the interest of "Miss Ellen." She admired his conviction that a study of marine fauna was "a view into the origins of life itself" and decided to visit his Berkeley lab to see for herself how he did his studies. The result was that first check, for \$1,500.

With the prospect of continued Scripps family support, Ritter, the Bakers, and several friends established the Marine Biological Association in La Jolla. Operations were transferred to a cottage, dubbed "the little green laboratory at the cove," on a site near today's La Jolla Cove Bridge Club. Ritter's studies depended on "water unsullied by urban contamination," as he put it to Ellen Scripps. So the city's casual approach to sewage disposal forced yet another move, this time to beachfront property far enough away from the cove's congestion.

For this purpose, Ellen and E.W. decided to honor their late brother **George** by pledging an endowment of \$50,000. UC President **Burton Wheeler**, already impressed by Ritter's fundraising prowess, attended the announcement at Ellen's villa, along with Regent **James McKinley**. We can



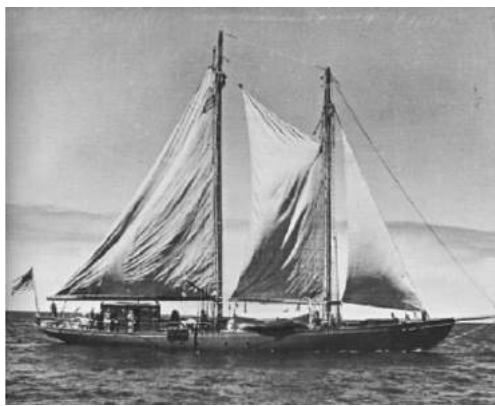
Edward Wyllis (E.W.) Scripps
Photograph courtesy of Mrs. Harry L. Smithton

only imagine how gratified a class of 1859 alumna of Knox College in Galesburg, Illinois must have been to be paid court by California's leading educators.

Meanwhile, E.W. arranged for the city of San Diego to auction 170 acres of Pueblo Lot #1298 on August 10, 1907. By prior arrangement, the Marine Biological Association submitted the only bid -- for \$1,000. Located at the north end of "Long Beach," later renamed La Jolla Shores Beach, the site was considered "remote and uninhabitable for residential development" because fewer than ten of its acres were on level ground. The city agreed to provide a water line, and E.W. commissioned a graded road from the cove to the laboratory – now known as La Jolla Shores Drive. Ellen wrote yet another check, for \$10,000, to extend that road up the grade beyond the biological station (thus called biological grade), then eastward to "Miramar," the Scripps family's 600-acre estate overlooking Mira Mesa. (Because automobile engines in the 1920s delivered only 20-30 horsepower and a carburetor received fuel by gravity feed, drivers were often forced to ascend the grade in reverse.)

Temporary structures served as the association's laboratories while plans were drawn up for a permanent facility. A number of cottages were built to house scientists and in later decades, graduate students.

The first permanent building, de-



The E. W. Scripps made the first of the Institution's long expeditions



Ellen Browning Scripps

All told, Ellen's gifts totaled \$421,500 – about \$11 million in today's dollars.

signed by the noted San Diego architect **Irving Gill**, was named in honor of **George Scripps**. Now referred to as the "Old Scripps Building," its offices and updated laboratories remain in full use.

Ellen encouraged Ritter to move to La Jolla, offering to add \$100,000 to the endowment plus another \$150,000 on condition that Ritter agree to continue serving as scientific director. In addition, she offered land, structures, a library, and a public aquarium with combined value of \$300,000 to the university. On July 12, 1912, President Wheeler returned to accept these donations on behalf of the Regents and to designate the facility as the Scripps Institution for Biological Research, later renamed the Scripps Institution of Oceanography.

In 1915, Ellen donated another \$100,000 for construction of a pier and an expanded aquarium. The pier, supported by reinforced wood columns, provided for monitoring apparatus, mooring of small boats (e.g., diving support vessels) and a constant supply of sea water for laboratories and aquariums. Today's Ellen Browning Scripps Memorial Pier (1987-88) is a reinforced concrete replacement of the first pier, which was built in 1916 and upgraded in 1924. (All told, Ellen's gifts totaled \$421,500 – about \$11 million

in today's dollars.)

From then on, a series of notable developments shaped the rise of SIO and the future of higher education in San Diego – none more important than the advent of **Roger Revelle**. In 1929, as, a newly

secured a commission as Lieutenant J.G. in the Naval Reserve. During World War II he was assigned to the Navy's Bureau of Ships in Washington, D.C., where he served as head of the Geophysics Branch of the Office of Naval Research



Roger Revelle, pictured here, second from the left, on the E.W. Scripps

minted Pomona College geologist, Revelle redirected the focus of his studies from mountains to oceans because of his acrophobia. In 1930, he fell for and married **Ellen Scripps Clark** who happened to be Ellen's grandniece. In 1931 Revelle completed a UC fellowship and came to La Jolla for graduate study in oceanography. In 1937 he was invited to join the SIO faculty after successfully defending his doctoral thesis, a chemical study of sea floor samples leading to exploration of ocean bottoms for natural resources.

While serving as a visiting scientist on a submarine tender exploring waters off Alaska, Revelle realized that the U.S. Navy would have a keen interest in the science of oceanography in the event of war. When the military draft was established, Revelle enlisted and

(ONR), one of the first government agencies willing to fund basic science. Revelle's contribution to the organization of ONR would have a lasting financial impact on SIO operations and on the entire pattern of federal research grants to universities.

Meanwhile, SIO came under the new leadership of Ritter's successor, Norwegian meteorologist and oceanographer **Harald Sverdrup**, who had initiated his ocean studies on **Roald Amundsen**'s seven-year North Polar Expedition (1918-25). Norway was one of the few nations that recognized oceanography as a science. At SIO, Sverdrup transformed the curriculum and stressed collaboration among the disciplines, linking marine biology to physics, chemistry, and geology. He was also re-

sponsible for "taking SIO to sea," emphasizing the importance of direct study of the oceans rather than keeping it a shore station.

A book completed by Sverdrup after joining SIO and described by a colleague as "four pounds and all muscle," confirmed his international authority in the emerging field of marine sciences. Released in 1942, *The Oceans: Their Physics, Chemistry, and General Biology* was distributed to a limited American and Canadian audience because of the strategic information it contained. Only after the war was his book made available to a worldwide audience.

As war loomed, "objects of inquiry suddenly shifted from U.S. Coastal marine biology a la Ritter to matters of underwater sound and target detection," as **Robert Knox**, former SIO Director of Fleet Operations, has noted. Because the ocean is opaque to light and transparent to sound, SIO scientists focused on military applications of high frequency sound waves, leading to the development of **SOund Navigation And Ranging (SONAR)**. For acoustics experts assembled from other universities – and also from Hollywood sound studios -- at the Navy Radio and Sound Laboratory in Point Loma,



*Harald U. Sverdrup
SIO Director, 1936-1948*

the oceans gradually revealed the true nature of their false bottoms, "snapping shrimp" beds, and other sound phenomena that submarines could hide behind. SONAR became the accepted technology for enemy target identification and destruction. Other contributions included better smoke screens for shielding fleets from aerial attack, improved search and rescue protocols based on studies of life rafts adrift in shifting winds and currents, and navigational charts imprinted on water-resistant handkerchiefs. These lifesaving efforts were representative products of the University's Division of War Research (UCDWR), continuing post-war as the jointly operated Marine Physical Laboratory.

Also important to the military were conditions on beaches selected for amphibious operations, a challenge that drew the interest of a research duo sidetracked by a sudden unexplained loss of security clearance. One of them was Director Sverdrup and the other was **Walter Munk**, his Austria-born graduate student. A recently graduated Cal Tech geophysicist study-

ing at SIO, Munk learned that the Army was less troubled by the Navy's security concerns over foreigners and invited him to share his ocean knowledge with its Air Corps Weather Directorate in Washington, D.C. Informed of plans for an invasion of North Africa, he observed practice landings on a North Carolina beach, where he realized that amphibious operations badly needed help from forecasts of likely shore conditions.

Sverdrup, in the meantime, had been summoned to Washington to assist Norway's diplomats-in-exile. Munk and Sverdrup worked together, first in the capital and later in La Jolla, to make wave calculations that allowed for better understanding of surf conditions. Consecutive teams of Army and Navy meteorologists traveled to SIO for six-week periods to learn the principles of "sea, swell, and surf" forecasting. Their subsequent contributions were unprecedented and critical to operations in both the Atlantic and the Pacific. The now historic twenty-four-hour delay of D-Day was based on

a surf forecast from one of the SIO-trained teams, sparing the lives of thousands who might otherwise have drowned in the heavy seas off the Normandy coast. In this way, as SIO geologist **Douglas Inman**, a Marine veteran himself, has pointed out, "SIO helped win World War II."

War's end brought with it a sudden deceleration of San Diego's industrial momentum to 10% of peak wartime production, prompting someone to brand the city a "broken down boomtown." Workers at Solar Aircraft, today's Solar Turbines, were making stainless steel caskets instead of airplane components. Corporate visionaries, fearing a contraction of the region's manufacturing capacity or even worse, a recession of the severity that gripped the nation after the First World War, envisioned a commitment to nuclear innovation as an economic booster for San Diego.

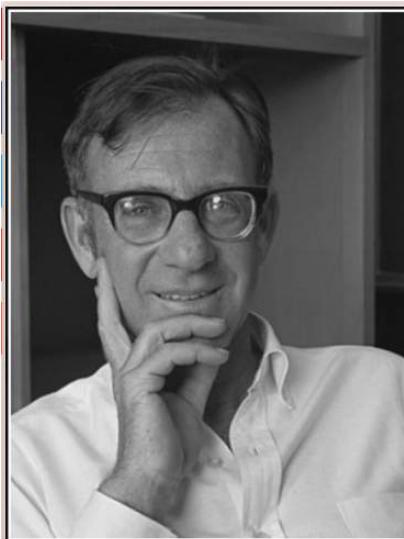
In step with this strategy was **John Jay Hopkins**, wartime CEO of the Electric Boat Company, who was assembling component divisions for General Dynamics, an emerging Cold War conglomerate. One of them was San Diego's Convair; another was General Atomics, a brand new \$10-million applied research facility arising on city land just east of former Camp Callan. What Hopkins wanted next for San Diego was a University of California campus placed as close as possible to General Atomics.

That's where Revelle again had a major impact. Returning to La Jolla in 1948 from his naval duties in Washington, Revelle brought with him an expanded vision for SIO, an institution he left behind with one research vessel, three permanent buildings, and a staff of twenty-six, but on return found with four ships, 250 faculty and staff, and an operating budget in excess of \$1 million. The next decade was characterized by landmark expeditions, entirely fitting for Revelle -- who had long venerated Por-



Walter Munk (left) with Harald Sverdrup in the George H. Scripps Memorial Marine Biological Laboratory building at Scripps Institution of Oceanography. Circa 1940.

Happy 100th Birthday, Walter!



People should treat the oceans like we do anything else that we care about - with consideration, with care, and affection. That's it. For that we must educate.

- Walter Munk -

tuguese Prince **Henry the Navigator** and taken note of the southeastern continental placements of Lisbon and San Diego. The institute's fleet was replaced, not with aging fishing trawlers but with naval vessels destined for mothballing refitted for ocean research. The 1950 Mid-Pac Expedition made national news when its scientists announced that the Pacific Ocean floor was mountainous and not flat like a desert, young in planetary time instead of old, and expanding rather than contracting -- all findings consistent with the new science of plate tectonics. Revelle became SIO's Acting Director in 1950 and Director in 1951, but his dreams extended beyond

ocean discovery; they included a graduate school for scientists and engineers, in sync with San Diego's burgeoning nuclear industry.

On a more pragmatic level, San Diego's mayor and City Council had ideas of their own and knew the city held a key asset: an abundance of land. The 1848 Treaty of Guadalupe Hildalgo that transformed Mexico's Alta California into a territory and later a state had left San Diego in possession of historic "pueblo lands." This inheritance gave the city uncommon control of its destiny, permitting disposition of real estate for railroads and highways, for the navy, for schools and universities, and for promising commercial ventures.

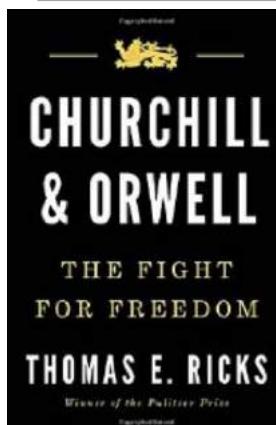
The time proved right for establishing a major research university in San Diego – though the process was to prove more complicated than anyone could have imagined at first.

This is the second installment of an edited, much-abbreviated history based on extensive research in primary sources. The full version (including a wealth of footnotes) is available online at <http://library.ucsd.edu/dc/object/bb4371434f>. NEXT: Assembling the Land.

Our sincere thanks to Dr. Robert Knox, for his assistance in searching for photographs to accompany this article.



Emeriti Association Book Club



Monday, Nov. 27, 2017 ☞ 11:30 AM—1:00 PM

at the Ida & Cecil Green Faculty Club Small Conference Room

Please register at <https://hrweb.ucsd.edu/ea/>
or call (858) 534-4724, if you have no online access.

Join other Emeriti book enthusiasts as they explore the lives of two extraordinary men. Thomas Ricks's novel portrays a dual biography of Winston Churchill and George Orwell, who preserved democracy from the threats of authoritarianism, from the left and right alike. Taken together, in Ricks's masterful hands, their lives are a beautiful testament to the power of moral conviction, and to the courage it can take to stay true to it, through thick and thin.

For Whom Should our Next College Be Named? Here's an Idea.

By Sandy Lakoff

"What's in a name?" Shakespeare famously observed, "that which we call a rose/ By any other word would smell as sweet."

True enough, though "butterfly" and "papillon" are surely more evocative of those delicate and colorful creatures than "*schmetterling*," as they are called in German. And some personal names, as H.L. Mencken discovered, in his memorable account of American names, can be downright embarrassing to be known by, like "Positive Wasserman Jones."

In days of yore, universities and colleges were named either for noble personages or saints. Democracy changed all that. In "New-York" Kings College became Columbia (though William and Mary remained unreformed, in tradition-obsessed Virginia). Harvard and Yale were named for two testators, one a clergyman, the other a locksmith. Ever since, American academic buildings, programs, and whole schools (like Stanford, Rockefeller, and Carnegie-Mellon) have also been named for donors, while others designate people of distinction.

Lately, some names chosen in the latter category have suffered from second thoughts. Calhoun College at Yale was renamed when it was pointed out that **John C.** defended slavery. Although Washington and Lee survives so far, San Diego dropped the name of the Confederate half of that duo from an elementary school. And Amherst changed the name of its mascot from **Lord Jeff** to Mammoth after it was brought to attention that the eponymous hero for whom the town and then the school was named had deliberately given small-pox infected blan-

kets to the natives during the French and Indian Wars.

When I taught briefly at the fledgling State University of New York campus at Stony Brook on Long Island, I suggested the residential halls be named for distinguished New Yorkers. I had the pleasure of drawing up the list of names for these new colleges. It included such worthies as **Othmar Amann** (the engineer who designed the George Washington and other bridges); the anthropologist **Ruth Benedict; Frederick Douglass; Margaret Sanger; Arturo Toscanini; and Walt Whitman.** (The one named for Judge **Learned Hand** has been renamed at student insistence for **Rod Serling** whose TV series "The Twilight Zone" they grew up watching. Don't ask why; the reason they gave is not fit to print.)

This leads me to UCSD (which was to be UCLJ until the founders came to their political senses). I love the fact that the road leading to campus is named Gilman Drive, for **Daniel Coit Gilman**, the president of both Johns Hopkins and the University of California who more than any other educator created the modern American post-

graduate/research university. Our buildings and rooms honor donors as well as faculty pioneers and chancellors (**Urey, Sverdrup, Munk, Nierenberg, Eckart, Scholander, York, Galbraith, Solis, Mandler, Atkinson et al.**).

Our undergraduate colleges are all named for people who warrant admiration on one ground or another: **Roger Revelle, John Muir, Earl Warren, Thurgood Marshall, and Eleanor Roosevelt.**

So far, very good indeed. But this time, I have proposed to Chancellor **Khosla** (who presides over the naming process) that we consider a different sort of name for one of our new colleges. It would be called **Anne Frank College** to memorialize a young girl who has come to symbolize the innocence of youth cruelly crushed by forces of evil. In her case it was the blind hatred that led to the murder of well over a million children. Bigotry and sexism continue to deny equal opportunity, and too many of the world's young people also suffer from terrorism and civil war, abysmal poverty, the struggle to survive in gang-ridden slums and ghettos, as well as from child abuse and child-trafficking.

Anne's memory is still very much alive, more than seven decades since her untimely death. *The Diary of Anne Frank* has become a classic widely read by teenagers in some 60 languages. She is especially admired for her refusal to succumb to bitterness and despair: As she wrote, in an oft-quoted passage: "In spite of everything, I still believe in the essential goodness of human beings."

UNESCO, in cooperation with the government of the Netherlands and the Anne Frank House of Amsterdam, is currently presenting an exhibition entitled "Let



Anne Frank

Me Be Myself – The Life Story of Anne Frank" at its headquarters in Paris. The exhibition, which had its world premiere in Canberra, Australia, highlights Anne's life from her childhood, in hiding in the secret annex, until her betrayal and death at Bergen-Belsen concentration camp. As the announcement points out, "the exhibition connects her life story to modern experiences of discrimination and exclusion, based on interviews with youths with diverse backgrounds and identities.... One third of the exhibition is dedicated to contemporary stories of discrimination and exclusion, giving voice to young people from various backgrounds and with diverse identities. Through photos and interviews, the visitors learn about how these young people see themselves, how they are viewed by society and what role prejudices play in their daily lives."

By naming a college for Anne Frank, we would help keep her memory alive for generations to come. The students who enroll in it will take pride in being identified with her. She was young just as they are, unlike the others for whom our colleges have been named. Those who live in it will be encouraged to emulate her love of learning, her joy in life, and her stubborn faith in the goodness of humanity. On its walls might be inscribed the thought she wrote down one day in her attic hideout:

I see the world being slowly transformed into a wilderness, I hear the approaching thunder that, one day, will destroy us too, I feel the suffering of millions. And yet, when I look up at the sky, I somehow feel that everything will change for the better, that this cruelty too shall end, that peace and tranquility will return once more.

If you agree with this proposal, please let Pradeep know it has your support. His email address is chancellor@ucsd.edu.

Anecdote

By Sandy Lakoff

Just curious...

Now that Xi Jinping has given himself even more power and elevated his Thought to the level of Mao's, will his Chinese subjects start thinking of him as Xi Who Must Be Obeyed?

*

Q and A

(Thanks to **Manny Rotenberg**)

1. How Do You Catch a Unique Rabbit?

Unique Up On It.

2. How Do You Catch a Tame Rabbit?

Tame Way.

3. How Do Crazy People Go Through The Forest?

They Take The Psycho Path.

4. How Do You Get Holy Water?

You Boil The Hell Out Of It!

5. What Do Eskimos Get From Sitting On The Ice too Long?

Polaroids.

6. What Do You Call a Boomerang That Doesn't work?

A Stick.

7. What Do You Call Cheese That Isn't Yours?

Nacho Cheese.

8. What Do You Call Santa's Helpers?

Subordinate Clauses.

9. What Do You Call Four Bullfighters In Quicksand?

Quattro Sinko.

10. What Do You Get From a Pampered Cow?
Spoiled Milk.

11. What Do You Get When You Cross a Snowman With a Vampire?
Frostbite.

12. What Lies At The Bottom Of The Ocean And Twitches?
A Nervous Wreck.

13. What's The Difference Between Roast Beef And Pea Soup?
Anyone Can Roast Beef.

14. Where Do You Find a Dog With No Legs?
Right Where You Left Him.

15. Why Do Gorillas Have Big Nostrils?
Because They Have Big Fingers.

16. What Kind Of Coffee Was Served On The Titanic?
Sanka.

17. Why Did Pilgrims' Pants Always Fall Down?
Because They Wore Their Belt Buckle On Their Hat.





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Chronicles

Newsletter of the UCSD Emeriti Association

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Mark your Calendar!



**Emeriti & Retirement Associations Festive Holiday Party
(\$10 per member \$50 for non-members)**

**Saturday, December 9, 1 - 4 PM
Ida & Cecil Greene Faculty Club
Please send your checks in today.**



Professor Barbara F. Walter, GPS

"Why Extremists Thrive in Civil Wars: ISIS and the Rise of Salafi-Jihadism"

**Wednesday, January 10, 3:30 - 5:00 PM
Ida & Cecil Greene Faculty Club**



Dr. Anita Raj, Tata Professor of Medicine and the Director of UC San Diego's Center on Gender Equity and Health, "Gender Equity and Health"
Wednesday, February 14, 3:30 - 5:00 PM
Ida & Cecil Greene Faculty Club