

FEATURED INSTITUTION—

THE ALLAN HANCOCK FOUNDATION OF THE UNIVERSITY OF SOUTHERN CALIFORNIA

I. HISTORY AND DEVELOPMENT OF THE FOUNDATION

No view of the Allan Hancock Foundation can be considered legitimate or consummate without a brief sketch of its benefactor and the circumstances that led to its inchoation. Hence, I begin with a succinct historical conspectus before proceeding to the more mundane aspects of the Foundation.

Sixty-eight years ago, construction began on an ornate, quasioriental beachfront edifice that was to serve as a public aquarium, as well as provide facilities for teaching and the scientific study of marine life in the southern California region. This eclectic facility was formally christened the "Venice Marine Biological School," but soon became simply the "Venice Aquarium" (Fig. 1). This unusual institution was the forerunner of what was to become the marine sciences program of the University of Southern California. The facility was originally under the directorship of Professor A. S. Ulrey, and had space for 8 investigators and 40 students. The property was a gift from Abbot Kinney, prominent California developer and conservationist (terms that today, unfortunately, seem contradictory, if not oppositional). Kinney also helped to establish

the ephemeral School of Forestry at USC in the late 1880's. Shortly after this, he developed what he called his "Venice by the Sea"; that portion of the City of Los Angeles now simply referred to as Venice, whose improbable yet venerable canals appear destined to become the focal point of a controversial residential development project in the near future. The Venice Aquarium burned in 1920 and was not rebuilt. Shortly before the fire, however, USC acquired its first research vessel, the *Anton Dohrn*, constructed under the supervision of Dr. Ulrey (Fig. 2).

During these same years, an adventurous gentleman by the name of Henry Hancock was roaming the California coast. While educated in the tradition of the "eastern establishments", Henry found need to give expression to the family's pioneer spirit and left home to sail around Cape Horn to west America in 1849. Although he held a degree in law from Harvard, he found this vocation less profitable in early California than the surveying profession, and in 1852 he was hired by the City of Los Angeles (then little more than a growing pueblo) to help straighten out hopelessly



Front Entrance to Station



Station Building and Venice Auditorium

Fig. 1. Venice Marine Biological School. circa 1911.

muddled realty titles and boundary lines. For compensation, Henry would receive \$300 cash payment, plus one 35-acre lot in every block of 8 lots he surveyed. By the time the survey was completed, Henry Hancock had amassed many tracts of land across the city, the beginning of a real estate empire that eventually made the family one of the most influential in the state. In 1851, he found use for his legal training and made a successful bid for a seat in the state assembly. It was there that he met Ida Haraszthy, daughter of Count Agoston Haraszthy, a transplanted Hungarian nobleman and political expatriate--and noted California agriculturist. Count Haraszthy is perhaps most remembered for his pioneering work in growing wine grapes. He was founder of the Buena Vista Vineyards and Wineries (a noble achievement in itself), and was solely responsible for the introduction of 300 varieties of European wine grapes to California, which he hand-selected on a visit commissioned by the governor of California in 1861. The marriage of Ida to Henry in 1863 served to link two powerful families in the state.

Henry had just purchased the Rancho La Brea, a 4,438 acre historical Mexican land grant at the east end of the Santa Monica Mountains, at \$2.50 an acre - a ridiculously high price at the time (although the land sold for \$2,500 a front-foot just 50 years later). Most of this land is now Hollywood and the Wilshire District of Los Angeles. Twelve years after their marriage, the Hancocks gave birth to George Allan, their only surviving son.

George Allan, who preferred to go by G. Allan (1), mined tar from the tar pits on Rancho La Brea. He delivered wagonloads of the tarry asphalt to the city and harbor where it was sold to waterproof ships' hulls and shipped to San Francisco where it paved the streets of the neoteric Barbary Coast. By the early 1900's, the La Brea site had already become established as the largest and most important deposit of ice-age fossils in the world. However, the tar pits were also proof that there was oil beneath the Rancho, and by 1907 the enterprising young Allan had designed, engineered and successfully drilled the family's first gusher. Within a year and a half, the Hancock Oil Company had 5 wells and Allan had pioneered the use of steam to increase the rate of heavy oil flow from the wells (2). In 1909 (at age 33) he advanced the capital to incorporate the Hiberian Savings Bank which later developed into the California Bank, and more recently the United California Bank.



Fig. 2. The Anton Dohrn, U.S.C.'s first research vessel. circa 1920.

He also helped form the Automobile Club of Southern California, and from 1907 to 1909 served as the club's president, mapping routes and publishing its first 386-page tour book. He masterminded the subdivision and development of the rancho and carried his foresight nearly to the point of eccentricity by insisting on concrete streets (the first in Los Angeles), unique positioning of utilities and railway tracks, and other improvements that were largely responsible for the development of the Wilshire district into the financial and marketing center it is today.

Allan Hancock was, like his father, a man of strong spirit, great ideas, and unflagging energy. He was a pioneer in industrial, civic and cultural activities that played a major role in the development of Los Angeles. He was at once engineer, scientist, explorer, musician, civic leader and philanthropist. In the 1920's, he made a decision to turn his energies to the fledgling aviation industry. He approached this task as he did all others, by first becoming an accomplished pilot himself, and then setting about opening a flying school. On October 21, 1928, the Hancock Foundation College of Aeronautics was opened in honor of his son Bertram, who had died 3 years earlier in the partial collapse of the old Arlington Hotel during the Santa Barbara Earthquake. The Hancock College Of Aeronautics trained over 8,000 pilots during the war years (WWII). Following the war, the school's facilities were rented to USC for one dollar a year, and a 4 year degree-course

was offered through the University. He was also the major benefactor in the establishment of Allan Hancock College, in Santa Maria, California (which is still growing, both in size and scope). During his period of interest in agriculture, he founded the enormous Rosemary Farm at Santa Maria, and here he acquired (in 1925) a railroad for use in transporting his produce and chickens to market throughout California (3). As might be expected, he quickly became proficient as a licensed locomotive engineer, and greatly enjoyed dispatching his own produce through the lush valleys and coastal ranges of California.

Although he held no formal degrees, Allan Hancock was interested in scientific research and exploration as far back as 1890, when he first began pulling Pleistocene remains from the La Brea tar pits. In 1913, the site was given to the Los Angeles County Museum of Natural History (LACM), which still maintains the excavation work and operates the new Page Museum on the La Brea site. After his son's death, he began to devote more and more of his energy to ships and exploration of the sea. Naturally, he earned a Master's License that qualified him for any class or size vessel afloat, in any sea. The first 4 ships he owned, and piloted, were the Cricket, Velero I and II, and the Oaxaca (4). These plied the waters of west America from Alaska to Chile, with each voyage becoming increasingly scientific in nature. Hancock began making major contributions of zoological specimens to such institutions as the University

of California, Scripps Institution of Oceanography, California Academy of Sciences, San Diego Zoological Society, Steinhardt Aquarium, and the Smithsonian Institution. Among the many guests the Captain entertained aboard his ships were Dr. and Mrs. Albert Einstein, who sailed with Hancock aboard the Velero II just after Albert had received the Nobel prize in Physics. It was from the first voyage of the Velero II that Hugh Banning's book, "In Mexican Waters" was produced. Aboard the Velero III, he entertained Andrew Chaffey (of Chaffey College), Sir Charles Kingsford Smith (the transPacific aviator) and Lady Mary, Albert Spaulding (the violinist), and Dr. E. O. Palmer (who was interviewing Hancock for information to include in his definitive history of Los Angeles).

Through the years, Captain Hancock proved to be an invaluable expedition leader and source of South American fauna for the San Diego Zoo. The animals he transported were always his personal charge and John Garth recalls often seeing him comforting baby seals and sea lions deprived of their mothers. Another excellent example of Hancock's unshakable self-confidence was the "Velero I incident". Just two years after she was launched, he decided the ship would be more functional and seaworthy if she were to be cut in two, and have a 21-foot section added amidship. Ship designers he consulted took a dim view of his plan, to say the least. Nevertheless, he pursued his audacious task and the Velero I materialized exactly as he had calculated - a seaworthy sensation. The Velero III was the first ship

at USC.

Just 20 years after the Venice Aquarium burned to the ground, Professor Irene McCulloch of USC was desperately trying to find ways to get her students actively involved in research. But space, as always, seemed unavailable. She discovered some unused attic space and with the aid of her students set about establishing a clandestine marine lab there. The fire escape provided nocturnal access. But quarters were cramped and facilities few. It was during this period that she approached a young music major who was specializing in piano and organ, and who also had a penchant for butterfly collecting and natural history. She had a unique and rather outlandish proposal for the young John Garth, and asked if he might be interested in joining Captain Hancock on the maiden expedition of his new research vessel, the Velero III. The proposed expedition was to be to the Galapagos Islands. The date was then Dec. 1st; the Velero III was scheduled to depart on Dec. 10th! Hancock was a purposeful man, and while his expeditions had grown increasingly scientific in design and objectives, he consistently strived to include a small complement of musicians among the ship's guests, in order to entertain his preference for chamber music each evening. Captain Hancock's usual pianist, William Strobebridge, was prone to seasickness and flatly refused to join in such an extended venture. Thus, Dr. McCulloch saw the young musician-lepidopterist as a perfect candidate as a guest on what was to become an eventful expedition to those remote Ecuadorian islands. Another budding student of natural history wished very much to join this cruise also. But young Fred Ziesenne was bound by too many university obligations to leave campus for any length of time, as he was the captain of USC's winning hockey team (5).

Hancock played cello, Garth played piano. Irene McCulloch, however, had more than chamber music in mind when she spoke with John Garth concerning the Velero III's forthcoming voyage. She was well aware of Hancock's burgeoning interests in natural history and his predilection towards USC, and saw this as an opportunity to further cultivate these inclinations. Dr. McCulloch was not only perceptive, but had excellent timing, and largely through her efforts, those of former USC President Dr. Rufus B. von KleinSmid, and John Garth, the first Galapagos Expedition grew to become first a series of continuing scientific expeditions (the Allan Hancock Pacific Expeditions), and then the Allan Hancock Foundation (AHF) it-

self (6).

By 1938, the Hancock Foundation had been established, in 1939 Captain Hancock gave USC the Velero III (7), and in 1941 the building that was designed to be its center of operations was completed. The building was planned and constructed to house the rapidly growing collections of the "Pacific Expeditions" which had, by that time, already produced 10 years worth of valuable material from the entire length of the western Americas. The building was also designed to provide space and facilities for the study of these collections. Unfortunately, on December 5, 1941 (just 2 days before the attack on Pearl Harbor) the Velero III was requisitioned by the navy, renamed Chalcedony, and converted into a coastal patrol yacht. After the war, she was purchased by His Highness, the Sovereign Sheik of Kuwait.

The overall design of the Hancock Building consists of 6 central levels of earthquake/fireproof storage area, each 30 x 70 feet, surrounded by adjacent research space and laboratories. Each of these 6 stack areas was designed so as to be divided into a wet and dry storage area, each with its separate ventilating system, with a special temperature control system for wet storage. Total stack area is 125,740 square feet. Radiating out from this central core are 4 wings (giving the building an overall H-shape), constructed to house the administrative offices of the Foundation, as well as the former Schools of Music and Radio Broadcasting (Fig. 4).

At the time the building was designed, Los Angeles was experiencing the pains of rapid growth - a problem the city's fathers have consistently dealt with in a single-minded manner, by building more freeways. Rezoning of residential areas to commercial zones necessitated the razing of the Hancock home, the house in which G. Allan grew up, on the corner of Vermont and Wilshire Boulevard. Culturally and historically, this house stood for a great deal in the development of Los Angeles. After much consultation plans were made to preserve and move 9 of the rooms of the Hancock home to the USC campus, and incorporate them in toto into the AHF Building. These rooms were planned originally to serve as headquarters for the Captain's growing interests in the field of cultural enjoyment of good music and the use of visual aids in education. The rooms, now officially known as the Hancock Memorial Museum (or simply the "Hancock Mansion") have been designated California State Historical-Cultural Monument No. 128. The museum was presented to USC as a memorial to Allan Hancock's



MOTOR CRUISER VELERO III

Fig. 3. The research vessel Velero III. circa 1933.

Hancock had designed specifically for oceanographic research (Fig. 3). Launched in 1931, she was 195 feet in length, with a 30-foot beam. It was the Velero III that played the decisive role in the establishment of the Allan Hancock Foundation



Fig. 4. The Allan Hancock Foundation. circa 1943.

mother, the "Contessa" Ida Haraszthy. The mansion was designed in the classical Palladian style, after the famous Villa de Medici in Florence, Italy. The objects d'art, antique furniture and architectural structures transported piece by piece to the new building are now valuable beyond calculation. A life-sized statue of Napoleon (by Sir Moses Esekial) stands guard at the entrance to the museum, where white Carrara marble stairways, classical balustrades and stately pilasters are reminders of an age long past. The enormous Library fireplace is a replica of one found in the great banquet hall of Warwick Castle in England. Most impressive perhaps is the music salon, a room of grand proportions, in antique gold of the French tradition of Louis XV. The furniture of the room once graced the palace of Emperor Maximilian in Mexico City. A small group of select musicians still use the grand piano in the music room to practice, and on a lucky day one can sit beneath the giant stained glass south window, which depicts "Aurora Dispersing the Night" (created by Leon Zettler in Munich), and listen to the graceful "Barcarolle" of Offenbach, whose melody rolls effortlessly off the fingers of John Garth to float up the spiral marble staircase that leads to the Foundation offices two stories above the Music Room. The museum is open to the public weekdays from 10 AM to 4 PM, by appointment only. Hancock's collection of antique and rare music pieces are now in USC's School of Music.

The Hancock Foundation Building (originally named "Hancock Hall") is testimony to the Captain's life-

style. No expense was spared with its design and construction (in which Drs. McCulloch and Garth played an integral role). The building is reinforced concrete faced with Roman brick, cast cement and cast stone. It provides 107,000 square feet of floor space and includes 1,100,000 cubic feet. The structure was engineered to allow for additional stories to be added to the 6-storied vault core housing the stacks. Like its benefactor, the Hancock building was a contemporary and successful syncretism, standing out uniquely among the Mediterranean Romanesque style that predominated USC's campus at that time. The purpose of the building was (and is) clearly indicated by the numerous sculptures, friezes and panels of zoological and botanical specimens that surround it. They begin at the west portal (now the main entrance) with a series of panels, which from right to left, phylogenetically illustrate 13 general zoological types from the "lowest to the highest forms." The upper friezes of the west and south - cades use as subjects biological specimens that the scientists of the *Velero III* cruises found particularly captivating, including the Galapagos Tortoise, Marine Iguana and Pacific Brown Pelican. The enormous sculptures, 1.25 lifesize, cast into the 20 x 40 foot panel on the north walls are largely taken from the Pleistocene mammals discovered in the La Brea tar pits, much of whose early excavation was also financed by Captain Hancock. These beautiful sculptures were carefully prepared through the joint efforts of scientists and the award winning (8) sculptor Merrill Gage, and represent an outstanding blend of

art, science and concrete engineering.

The interior trim and furnishings of the building are bleached Philippine mahogany (a wood so rare its importation to this country has since ceased), brass fixtures, and a variety of old world marbles and stone. Unlike most modern construction, the Foundation was not built with an eye towards replacing it with a new building in 10 or 20 years, and it has weathered more than one severe earthquake undaunted. The northeast and southeast wings contained the radio station (KUSC-FM, still the best classical station in the Los Angeles basin) and its attendant broadcasting studios and facilities, a 450 seat auditorium (with observation and control rooms for live broadcasting) (9), the Hancock mansion, and the Director's suites. It was from these headquarters that the Captain organized and presented regularly scheduled concerts by the Hancock Ensemble (of which Hancock and Garth were, of course, members, as well as violinist Loren Powell and pianists, Mildred Seymour and William Strobbridge) (10). The ensemble not only performed live throughout California, but broadcast a regular Sunday evening concert over nationwide radio and produced at least 3 L.P. albums. When on an expedition, the ensemble, such as the Captain could put together for such ventures, would practice regularly for 1 hour each morning and each afternoon, even when underway, in order to be in the best condition for the formal evening concert (11). Captain Hancock played in a number of symphony orchestras during his music career, including the Philharmonic and Hollywood Bowl Symphony Orchestras and the Los Angeles Symphony, of which he was also president.

Captain Hancock wanted the Hancock Library of Biology and Oceanography to be one the finest in the natural sciences in the world and its nucleus was obtained (with the assistance of Dr. McCulloch) by purchasing the entire library of the Boston Society of Natural History (in 1944), the second oldest natural history library in America. This library had benefited by a large exchange program with the major European and Oriental institutions publishing in the natural sciences. Hancock had to bid for the Boston Library against the U. S. Government, which had plans to turn it over to the Philippine government to replace losses experienced during the war. Hancock wanted the library badly, and simply outbid the federal buyers, reputedly obtaining the library for one-quarter million dollars. At that time it consisted of about 80,000 volumes and about

100,000 reprints. Because of its age and exchange program, this core collection of publications contained completed volumes from most learned societies of America, Europe and the Orient, dating back as far as 1665. The present Hancock library is on 5 levels, one of which contains the "Expedition Room" (12), another the "Rare Book Room." A few of the Rare Book Room favorites are: an original 4 volume set of the first edition of Audubon's *Birds of America*, a double elephant Folio 4' x 2 1/4' in size, dated 1827-38; an original *Systema Naturae* (10th edition, 1758); Gesner's *Historiae Animalium*, first edition, 1551-87; most of the works of Gould including a complete set of the *Birds of Australia*; numerous Pre-Linnean texts dating back to the 1500's; Savigny's *Faune de l'Egypte*; and several of Charles Darwin's original publications, including his monographs on the Cirripedia.

The long series of lighted display cases that line the halls around the Hancock Auditorium provide glimpses of both past expeditions and present research in progress by Hancock scientists. Two very large murals run the length of the auditorium walls, depicting scenes of *Velero* scientists in the Galapagos and the Gulf of California (2 of the Captain's favorite localities).

From the outset, it was the expressed intent of the foundation to provide the community of marine scientists with unsurpassed facilities for conducting research in the free spirit of the real University (Pirsig, 1975), and to provide students with the opportunity to become totally involved with the finest learning experience possible, from field studies and laboratory work to library investigation. Some of the generation of scientists that served as full time researchers during the first years of the Foundation's establishment and growth include, in addition to those mentioned above: R. C. Osburn, E. Yale Dawson, K. O. Emery, Olga Hartman, Floyd Durham, Walter E. Martin, William Randolph Taylor, T. T. Chen, A. D. Howard, Orville Bandy, N. T. Mattox, N. Loomis and John Mohr (13). A few of the students who worked at the Foundation while earning their graduate degrees at USC include Kristian Fauchald, Donald Bright, Jens Knudsen, J. Laurens Barnard, William K. Emerson, Don Reish, Keith Woodwick, Robert Woolacott, and the late Rita Schafer and Robert J. Menzies.

II. THE HANCOCK FOUNDATION TODAY

Although the original building and associated systematic collections are today still on the main

USC campus, the Foundation has grown considerably since the 1940's and changed somewhat in direction. It now has a sister institution within USC, the Institute for Marine and Coastal Studies (IMCS). The "Institute" has official administrative charge of the Santa Catalina Marine Science Center (SCMSC) on Catalina Island (14), the ship facility in Los Angeles Harbor, applied research programs, and the USC Sea Grant offices. AHF proper administers the systematic collections, basic research programs, the Hancock Library and the Hancock publications. Dr. Donald J. Walsh is present Director of the IMCS; Dr. Bernard C. Abbott, Director of AHF; and Dr. Jay Savage, Associate Director of AHF. Dorothy Soule is Director of the Harbor Research Laboratory, within IMCS. Neither AHF nor the IMCS grants degrees or offers formal courses, but graduate students in the Departments of Biology, Geology, Paleontology and Environmental Engineering work closely with their research staffs and facilities while conducting their research, and many are supported by grants and contracts through AHF and IMCS (15).

The Foundation presently has 6 Ph.D level, paid curators: David Young (Algae), Jon Kastendiek (echinoderms), Richard Brusca (Crustacea), Kristian Fauchald (polychaetes); Dr. Fauchald recently vacated his position at AHF to accept a post at the National Museum; this position is temporarily held by Dr. Jerry Kudenov while we search for a permanent replacement; and John Garth and Irene McCulloch (Curators Emeritus, Crustacea and Foraminifera). Each of these curators holds a concurrent position on the faculty of the Department of Biological Sciences. In addition, several faculty curate important collections "on their own time," including G. J. Bakus (sponges), John and Dorothy Soule (Bryozoa), J. Savage (herpetiles), B. Nafpaktitis (fishes), W. Martin (trematodes), and E. Perkins (arachnids). Foundation curatorial associates and assistants include: Janet Haig (Crustacea), Robert Setzer (Algae), Melinda Thun (Crustacea, sponges and worms), and W. Antonio Fiore (Hancock Memorial Mansion). A brief overview of the more significant collections follows.

Until just a few short months ago, Kristian Fauchald boasted that the Hancock polychaete collection was the largest in North America--for some reason, he now says that about the National Museum Collection! Dr. Hartman's legacy is truly phenomenal, not only by virtue of "the worms she left behind," but her outstanding reprint library includes virtually every significant

paper on world polychaetes published prior to her death in 1974. The "Worm Firm" at AHF emphasizes east and west Pacific, west Atlantic, Australasian, west Indian and Antarctic regions. There are over 1275 lots of type specimens, the most numerous being those of Hartman, Kudenov, Fauchald, Gallardo, Blake and Woodwick.

The Crustacea collections (including pycnogonids), assembled largely through the efforts of Garth, Haig, Barnard and Menzies, have grown enormously in the past few decades and now contain well over 75,000 lots. The isopod section alone has more than doubled in the past 4 years. The magnificent brachyuran collections remain the strongest, however, representing nearly 40 years of concerted effort by John Garth. The crustacean collections are best represented by material from the east and central Pacific, west Atlantic and Indian Oceans. Extensive holdings of both pelagic and offshore benthic decapods and peracarids complement the large shallow water collections. Most numerous types are those of Garth, Haig, Hilton, Menzies, Barnard, Glassell, Mattox, Holthuis, Brusca, Schultz, Danforth, Hurley, McLaughlin and Schmitt.

The extensive echinoderm holdings reflect the collecting proclivities of F. Ziesenhenné over a 40-year period, rank second only to the USNM in sheer numbers, and are best represented by material from the east and central Pacific and west Indian Oceans. Most of the early holothurian material was monographed by E. Deichmann. Most numerous types are those of Deichmann, H. L. Clark and F. Ziesenhenné. The mollusc collections have suffered from not having a permanent curator although many groups have been worked up and published by outside investigators (e.g., G. Grau, A. M. Strong, L. G. Hertlein, R. Young, G. Voss, T. Soot-Ryen, H. Rost, F. R. Bernard, and G. J. Bakus). The gastropods and amphineura (55,000 lots) are on indefinite loan to the LACM, and are being intensively studied by Dr. James McLean. The pelecypods are presently being studied by Dr. F. R. Bernard. The extensive Bryozoan collections contain approximately 200 holotypes, and include virtually all the eastern Pacific type material. The tunicates are represented by large collections taken by the early *Velero* and *Te Vega* expeditions, and provide the best coverage of the east Pacific fauna available. Unfortunately, as elsewhere, that collection remains largely unworked.

The core of the Hancock Herbarium (AHFH) (16) is represented by the extensive collections of marine plants made by W. R. Taylor in the

Galapagos and the 1939 Caribbean expeditions; and the massive collections of E. Yale Dawson from California, Mexico, and Central and South America. The majority of the specimens collected by Dawson and Taylor have been cited in publications, primarily those of the Foundation. Over 500 primary type specimens of marine algae are included. While initially housing specimens representing all groups of plants, the emphasis of the AHFH has been exclusively marine since the mid-1960's, culminating in the 1976 transfer of all non-marine plants to the L.A. County Museum of Natural History Herbarium (LAM) (16). In exchange, AHFH accessioned the marine plant collections from LAM. Similarly, the land plants of the USC herbarium were transferred to LAM (16). The private herbarium of Nina Loomis (see *Phycologia* 5:277, 1966) was accessioned in 1978. Her herbarium is represented by algae of the Hawaiian Islands and southern California. The older collections from USC and Loomis (both from the 1920's-1930's), together with the voucher specimens prepared by Dawson for the California State Water Quality Control Board Survey of the late 1950's, form an important baseline against which current southern California studies may be compared. More recent surveys have substantiated a significant depletion of richness of the local flora due to increasing environmental stress. Additionally, the herbarium has a very good world-wide representation of marine algae obtained through the distribution by Dawson of his Pacific Mexico algae as exchange. Particularly important in this regard is material from Kylin, Levring, Feldmann, Borgeson, Baardseth, Lindauer, De Toni, Tokida, Yamada, UC, L, and PC (16). Current research continues the study of the distribution and systematics of the marine algae of the eastern North Pacific, particularly southern California. Specific current research projects include the study of functional cytology in marine algae and the systematics of selected Ceramiaceae (David N. Young, curator) and gametogenesis in the Fucales (Robert B. Setzer, assistant curator).

Most of the vertebrates have been turned over to LACM on indefinite loan (as have most molluscs and insects). A formal agreement between the two museums, which are separated only by Exposition Blvd., has largely eliminated the inefficiency of duplicate collections between the two. Reference and research collections of central and south American herptiles are maintained by J. Savage, and John Garth's Lepidoptera collection,

one of the finest for the American southwest, also remains at Hancock. Additional notable type material includes that of J. and D. Soule (Bryozoa), A. J. Cushman and I. McCulloch (Foraminifera), C. McLean Fraser (hydroids), J. W. Druham (corals), W. Coe (nemertines), W. E. Martin and H. Winter (trematodes), G. J. Bakus (Porifera), and L. Hyman (polychaete flatworms).

The Foundation's early preoccupation was with the identification of marine plants and animals from the variety of expeditions that were depositing their material here. In more recent years, however, research activities have expanded considerably. Newer approaches to systematic studies are becoming common, including techniques of karyology, cytology, ethology, electrophoresis and computer classification. Hancock staff are now conducting extensive benthic studies throughout the southern California region, approaching a great variety of problems in the ecology of this overcrowded coastline, including environmental impact analyses. Fortunately, the tradition of the Foundation imparts a high respect for accurate taxonomy in these studies, unlike more casual environmental studies being undertaken in many other localities. Recent research activities of AHF personnel have included many years of participation with the United States Antarctic Research Program (USARP), during which time faculty and graduate students served on the *USNS Eltanin* on a rotating basis in Antarctica. AHF also conducted research for a number of years in the Arctic, on a series of floating ice islands and out of Point Barrow. AHF personnel were largely responsible for the studies on the 1969 Santa Barbara oil spill, and are now continuing to study oil spills at a number of localities throughout the world. One of the most exciting projects presently underway is attempting to define biotic factors that are regulating the latitudinal distribution of crustaceans in the east Pacific.

The early 1950's saw the start of a series of intensive studies in the southern California Bight, under contracts from the U.S. Navy, and the State of California, and later from the Bureau of Land Management (BLM), various utilities and port authorities, and numerous state agencies. These studies have played a leading role in recommending and guiding coastal "development", especially with regards to placement of sewage and generating plant outfalls, recognition of "Areas of Special Biological Significance" (ASBS), and regulations of tidelands pollution. Several Hancock scientists are now examining

closely the fine structure of selected biological communities in this region, by a variety of experimental methodologies. These community studies include various offshore analyses concerned with the San Onofre Nuclear Power Generating Station, as well as studies on a variety of benthic substrates, including demersal zooplankton, the kelp community, and "island" reef colonization experiments. Evolutionary studies maintain a strong thrust at USC-AHF and a fairly large number are presently underway, including systematic and zoogeographic analyses of various crustaceans, fishes, herptiles and algal taxa, as well as investigations of latitudinal gradients in toxicity of marine organisms. Behavioral studies on marine decapods and sea birds are also being conducted by USC-AHF personnel and graduate students.

The AHF publications consist of 7 series, of which 3 are now complete: (1) the AHF Pacific Expeditions, 27 volumes; (2) the AHF Atlantic Expedition of 1939, 10 reports; (3) the AHF Occasional Papers, 29 numbers; (4) the AHF Occasional Papers, new series (begun in 1977); (5) the AHF Monographs in Marine Biology (9 numbers to date); (6) the AHF Monographs in Marine Science, a new series begun in 1978; (7) and the Technical Reports of the AHF (2 new series begun in 1978). The Technical Reports will publish contract reports, type catalogs, station data reports, etc. In addition, the collected reprints of staff members from other journals, numbering approximately 400 titles, are distributed as "Contributions". The Hancock publications are presently exchanged with over 700 libraries in 85 countries.

In closing, it is worth mentioning several important projects are presently being investigated from a feasibility standpoint, for the Hancock Foundation. One of these concerns the instigation of computerized EDP cataloging--at present, all records are typewritten or hand written, each curator utilizing his own system of information retrieval. Another study concerns the possible renovation of the stacks by installation of electric compactors. And, finally, an important study is now underway to generate an overall review of the AHF with concern for the next 30 years. This evaluation will hopefully result in an increased commitment on the University's part, with regards to budgeting for collections maintenance and curatorial staff, as well as recommendations to further encourage the kinds of broad-scale systematics and ecological studies that have already begun at the Foundation. One step in

this direction has recently been taken, with the establishment of a formal program between USC and the Universidad de Concepcion in Chile. This program provides the means whereby both faculty and graduate students from one University may spend periods of a few weeks to several months in residence at the other University. This program will greatly strengthen our existing ties with Latin America (through O.T.S. and other programs), and further enhance the Foundation's ability to pursue its scientific endeavours in the east Pacific.

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FOOTNOTES

1. Mysteriously, his Certificate of Baptism reads Allen (sic) Richard George Hancock (St. Joseph's Church, San Francisco).
2. By the mid-1920's the Rancho La Brea field was largely depleted. Peak production, in 1908, was 4.5 million barrels from 185 wells, 71 of which Allan Hancock drilled himself. The company is long defunct; the Hancock Oil Co. of today's petroleum industry is entirely unrelated.
3. The "Santa Maria Valley Railroad", long since extinct, connected with the Southern Pacific at the picturesque town of Guadalupe, which lies in the heart of one of California's major produce regions.
4. The Captain considered the Oaxaca to be his Victory ship, purchased just after he had bought a ranch near Mazatlan, Sinaloa, Mexico. She was one of the famous "mystery ships" constructed by the British Admiralty during the war; a cargo carrier and camouflaged submarine fighter of unusual power and speed. Rebuilt and air conditioned by Hancock, she served to transport products from his "Hacienda Barron" to the U.S. During the

off-season she served as a research vessel. It was on this ship that Hancock logged the hours necessary to earn his unlimited shipmaster's license. According to John Garth, Allan Hancock acquired the title "Captain" well before he had earned a master's license or obtained the Cricket, and it seems the appellation actually had its origin in the days of his youth when he spent hours exploring the La Brea tar pits in a small skiff!

5. Fred Ziesennehenne eventually did get on the Velero III, of course, and worked his way up from student collector to deck hand, until the ship joined the U.S. Navy in the war effort. The next year Fred joined also, serving until 1947, when he returned to his private scientific research as master of the Theodore N. Gill, a U.S. Fish and Wildlife Service ship exploring the Philippine Islands. In 1949 he returned to the Hancock Foundation to become First Officer and Zoologist on the Velero IV, and in 1958 he took over as the ship's acting master.

6. Perhaps even more significant than the resultant Allan Hancock Foundation was the effect this expedition had on the musician John Garth, who shortly thereafter took up graduate studies in marine zoology and subsequently developed an inordinate fondness for crabs.

7. The Velero IV was presented to AHF by Allan Hancock in 1948. She is 110' long, has a cruising range of 10,000 miles, and is the present flagship of the USC fleet, which now consists of 2 oceanographic ships and 20 smaller craft.

8. An Oscar went to the film "The Faces of Lincoln", in which Gage sculpts the face from youth to death while narrating his life.

9. A room adjoining the auditorium, the "Green Room," now serves largely as a seminar facility. This room was specifically designed and constructed to house the Captain's model railroad set, and it was to here that he and President von KleinSmid would steal away to spend a few afternoon hours relaxing from the pressures of their respective positions.

10. Interestingly, Captian Hancock first played jazz trumpet, before switching to classical cello - a fact he did not advertise! Perhaps of greater interest, and even less well known, was Hancock's interests in the occult. These interests are best left undescribed, although his good fortune with the diving rod cannot be denied!

11. The evening concert was not always aboard ship. Frequently, the ensemble would play at concert halls in the cities where they might find themselves docked. One of the most memorable of these foreign

concerts, to John Garth, was performed in Quito, Ecuador, at 10,000', high in the Andes.

12. Special effort has been made to acquire the published reports of all the great marine (and many nonmarine) explorations. This outstanding collection has proven invaluable for systematic studies. The AHF library is presently under the direction of Miss Mary Ellen Pippin.

13. John Soule was the Captain's last graduate student supported by a personal fellowship.

14. The SCMSC, which sits on a 225 acre site at the NW end of the island, was constructed in 1967 by the Allan Hancock Foundation, with the assistance of 1/2 million dollars from the National Science Foundation. Classes are taught on a year-round basis, and numerous ongoing research projects, by both faculty, grad students and visiting faculty are centered at the unpolluted island site. USC was recently given controlling stock interest in the island by the Wrigley family.

15. USC is also a charter member of the Organization for Tropical Studies (OTS), and each summer sends several graduate students to Costa Rica for field training.

16. Abbreviations as per Index Herbariorum.

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