T. K. TREADWELL
AN UNAUTHORIZED AUTOBIOGRAPHY

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COMING OF AGE IN OKLAHOMA
(YOU MUST'VE BEEN A BEAUTIFUL BABY--)
Born Roff, Oklahoma, 6/16/1920; Married 1942 Nell McNeely (deceased, 2/17/1992)
Sons: Terry (computer systems designer); Phil (marine engineer)

EDUCATION

East Central State Teachers College, Ada, Okla., 1937-40, B. S., Education
University of Oklahoma, Norman, Okla., 1939-41, B. S., M. S., Geology
Scripps Institution of Oceanography, La Jolla, Calif., 1949-52, M. S., Oceanography
McGill University, Montreal, Canada, 1957-58, M. S., Polar Ecology
Licensed non-commercial multi-engine pilot; Navy fixed-wing and helicopter pilot

PROFESSIONAL ACTIVITIES

Oil exploration geologist, Sinclair Oil Co., 1942
U. S. Navy submarine officer, WW-II (combat and marine acoustics research)
U. S. Navy map-maker and oceanographer (retired as Captain) 1945-68; field work in U. S.,
Canada, Greenland, Mexico, Caribbean, South America, Middle East, etc.
Commander, U. S. Naval Oceanographic Office, 1966-69
Chief, U. S. Navy Mission to Haiti, 1959-61
Liaison with Soviet and U. N. Oceanographic Commissions, 1963-68
Senior Staff Scientist, Executive Office of the President, 1968-69
Lecturer, Department of Oceanography, Texas A&M University 1969-79
Associate Professor and Head, Department of Oceanography, Texas A&M University 1980
Retired as Professor Emeritus, 1989
Director, Explorers Club; contributing editor, Explorers Journal
President, American Society for Oceanography, editor, Oceanography Newsletter
Director, Marine Technology Society; associate editor, Marine Technology magazine
President and Chairman of Board of Directors, National Stereoscopic Association
Chairman and Director, University-National Oceanographic Laboratory System
Vice President and Director, Marine Geodesy Society; editor, Marine Geodesy magazine
Advisor or consultant, National Academy of Science, National Academy of Engineering,
Soviet Academy of Science, DOD, NASA, NSF, NOAA, DOE, EPA, BLM, NPS,
USGS, Lockheed, Exxon, Brazilian and Canadian Hydrographic Offices, etc.
"I know exactly what you're talking about. We have a lot of trouble getting anybody in the Navy to listen to us too."

-- Walter Munk, conversation with T. K. Treadwell, 1944.

The Naval Station then, as now, was a huge, sprawling complex which was best approached with either a map or a guide and I had neither. I checked in at the quarterdeck and asked for directions to the Navy Liaison Officer to the University of California Division of War Research. Blank stares; no one had even heard of such a person. My earlier phone call there from New London had simply verified that he did exist; I'd neglected to get any details. After considerable head-scratching and page-thumbing they finally found he was listed under miscellaneous in their directory but no location or phone number was given.

Further consultation developed two possibilities. There was a Navy research laboratory of some sort on Point Loma; no one seemed to know what they did except that it was secret and you couldn't get in there. Another was Scripps Institution of Oceanography; this was way out in La Jolla, ten miles up the coast. They did ocean research and might know something about the group I sought.

Since Scripps was in the city phone book we tried them first and hit the jackpot. I finally got in touch with a fellow who admitted he was my man, and said that some of the part of the Division of War Research which I was seeking was in fact located at Scripps. He told me to catch a bus to La Jolla and he'd meet me there, so I left my luggage with the Master At Arms and headed north on the bus. It was a fascinating ride; we ran first along a flat sand beach past a settlement called Mission Beach, but north of that we went along some high sandstone sea-cliffs with the surf beating on them. To the east rose the ever-higher hills and mountains which we'd skimmed over last night on our approach to the airport.

La Jolla was a little dusty cluster of stores, palm trees, and fancy homes; the residents looked affluent, and also looked like they didn't know there was a war going on. When I got off the bus I glanced around for another Navy officer but none was in sight. A fairly young man with a day's growth of beard, clad in shorts and T-shirt approached, inquired if I was Lieutenant Treadwell, and identified himself as Lieutenant Dick Walters, the liaison officer. I'm sure my stare exuded skepticism because he volunteered the information that he only put his uniform on for the rare occasions when he had to go to the Navy facilities at San Diego.

We got in his old jalopy and wound our way along the cliffs and down to the beach road and headed north. As we bounced along the narrow, pot-holed blacktop he explained that he wasn't really an officer at all; he'd never been on board a Navy ship and didn't expect or want to. He was a scientist who'd been given a token commission so he could interface between the other researchers and their Navy supporters.

As I questioned him the situation got somewhat muddled. I don't know what I expected; something along the lines of the Hydrographic Office, I suppose, or at least the Columbia University group at New London. He said that their staff at Scripps was quite small due to wartime cutbacks. The director was a Norwegian named Harald Sverdrup; he was gone somewhere during the entire period I was there. Someone later told me he'd done a good bit of Arctic research including some on a submarine, the O-12; it'd been renamed the NAUTILUS. Although I never met the man until years later I had to question his sanity; the O-boats were certainly not the sort of ship I'd undertake to go to the Arctic on. Walters also said they'd had a group of a half-dozen Air Corps personnel there getting training in meteorology and waves. He wound up by confusing me further when he said that the actual Division of War Research was located down on Point Loma.
Scripps Institution of Oceanography, La Jolla, California, 1944.

San Diego Mission, San Diego, California.
Negative taken 1944; print awarded second-place ribbon, scenics category,
I was still trying to sort these things out in my mind when we came to a complex consisting of two three-story brick buildings and a couple of smaller ones; a high rusty pier stuck some considerable distance out into the water. A couple of dozen white frame cottages were scattered through the palms, looking like a second-rate tourist court. When we arrived at the main building it was closing in on lunch-time; people were straggling out toward picnic tables under the trees. I must say I wasn't greatly impressed with them. Most were rather scruffy-looking types similar to my so-called lieutenant, clad in shorts, beach shirts, and sandals. Compared to the quite professional Columbia University scientists I'd worked with this crowd looked like bums.

"Clothes make the man."

-- The Babylonian Talmud, SHABBATH 3:42, about 350 B. C.

They all carried paper sacks of food; I had nothing, of course, so Walters offered to share his cheese sandwiches with me. He introduced me to a group eating together; one, somewhat older than me, was identified as Fran Shepard; a couple of younger fellows were introduced as Bob Dietz and Ken Emery. They were rather stand-offish until they found I was a rock-knocker in addition to being a Navy officer; things then loosened up considerably. And when I mentioned that I'd worked off and on with Revelle and Spilhaus my credentials were noticeably enhanced and they became quite affable.

At first they weren't at all sure what I was after; they'd never heard of me, nor had any advance notification that I was coming. They mentioned something called a sediments laboratory which Roger Revelle had started up before the war; as far as I could determine it just did detailed analyses of the grain sizes of sediments, and this wasn't of any particular use to my work. I inquired as to whether they had any other sea bed studies; he said there were perhaps a half-dozen who were occupied with locating ocean bottom information and passing it to the Hydrographic Office in Washington. The entire group I saw was quite small, a few dozen oceanographers; they were novel, though, since these were the first people I'd seen other than Revelle and Spilhaus who claimed to be that. It was clear that this outfit wasn't in the same class as far as size was concerned as the bunch from Columbia, and I wasn't terribly impressed with what I saw of their science either.

I filled them in on what we'd been doing in New England, and what I hoped to get from them. Fortunately they were pretty much on the right track; they were compiling data on the sea floor from every source they could locate and sending it along to Hydro in Suitland, Maryland. They were very interested in my experience with spotting small rocks as sonar targets which could be confused with a sub; not having access to any actual sonar data, they had little idea of the practical use of what they were doing.

After lunch we went into their working area which consisted of a couple of rooms filled mostly with bookshelves and drafting tables. They were going through all their very extensive library of reports and research data, extracting what there was on bottom sediments and related information, and consolidating it on a series of manuscript charts. They were simplifying things into the broad categories of mud, sand, and rocks and were encouraged when I said that in my experience that was detailed enough for sonar purposes. The main suggestion I could make was to try to identify whether the rock bottom was smooth or rough, because it was the chunks of stone which were potentially confusable with a submarine. Regrettably most of their data didn't permit this sort of refinement but they agreed to watch for it.

In late afternoon I decided I'd better get back to the Navy base and line up a place to stay; I'd been so anxious to locate my group of scientists that I hadn't even looked into the availability of quarters. Walters drove me up to La Jolla village; it was Saturday and they didn't work Sunday, although a few dedicated ones would likely show up. We agreed I'd come out Monday morning and give him a call when I got there, and I caught the next bus to San Diego. He also said I ought to visit the Navy lab in San Diego since they had physicists and acousticians working there.