Memorial to George Prior Woollard
1908–1979

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Since it is not granted us to live long, let us transmit to posterity some memorial that we have at least lived.

Letters, Pliny the Younger, A.D. 62–113



Dr. George P. Woollard, known as Doc, left a lasting memorial of papers, poetry, and people. From an inauspicious beginning, he rose to great heights as a world-renowned scientist, remaining humble and able to laugh at himself to the very end. A Renaissance man is defined as a person who has wide interests in several areas—a perfect description of Doc. His globe-circling life, which started at the age of 10, brought him in contact with many people, places, and cultures. When his travels ended 60 years later he had stored in his brain an incredible amount of diverse information from anecdotes to zymology.

Doc received his B.S. degree in civil engineering in 1932 (with honors) and his M.S. in geological engineering in 1934, both from Georgia Institute of Technology. He then went to Princeton for an M.A. in economic geology in 1935 and a Ph.D. in structural geology in 1937, writing his dissertation on the relation of gravity to the geology of the Big Horn–Black Hills area. During this whole period he worked at various jobs to support himself—from teaching engineering to assaying gold, the latter job being the one that gave him his interest in geology.

The day after receiving his doctorate, George married Eleanore McClintock, a fortuitous choice as she was to become his chief assistant and travel with him as he worked all over the world. Eleanore would pack up the children, some sparse camping gear, and go wherever his work led, and do so cheerfully.

One of the first things George discovered on starting out in the field of geophysics was that he suffered severely from seasickness—so much so that he would try any remedy, including strawberry jam, which he had heard tasted the same coming up as it did going down. Working with the late Maurice Ewing in 1937 developing seismic on-bottom techniques off Bermuda, he discovered, among other things, that what he had heard about strawberry jam was correct.

In 1939 Doc established the first transcontinental gravity and magnetic traverse across the United States to determine the relationship between geophysical data and geologic features. This was the start of his 40-year life's work on the correlation of gravity with other geophysical parameters. He was busy at work on a paper concerning his favorite subject on the day he died.

Doc Woollard was a builder, teacher, skilled negotiator, and a prolific contributor to science and humanity. He had enormous energy, an infectious vitality, and an endless curiosity. His sense of humor ranged from the ridiculous to the ribald, with a touch of

wry thrown in for good measure. He had many talents: poetry (which he called doggerel), limericks, and art– definitely catholic. But he was also humble, usually turning aside the accolades he received with a gentle jest, a touch of humor. Doc was often ahead of his time, frequently a pioneer, and it was with a patient little smile that he would wait for his hypotheses to become facts.

As a builder, Doc took a leading part in the formation of two internationally recognized centers for geophysical research: the Polar Research Center at the University of Wisconsin and the Hawaii Institute of Geophysics at the University of Hawaii. He was director of the latter from its inception in 1963 until his retirement in 1976, at which time he became a Professor Emeritus. When looking for a name for a new research vessel, Doc's colleagues and friends came up with the *Kana Keoki* (Hawaiian for St. George); at the commissioning of the R/V *Kana Keoki*, Doc made joking comments about the suitability of the first part of the name. He could always laugh at himself– the mark of a truly great man.

Among the awards and honors Doc received were honorary degrees from the University of Uppsala, Sweden, and the University of Wisconsin, and the William Bowie Medal from the American Geophysical Union for his outstanding contributions to fundamental geophysics. In 1974 scientists from all over the world gathered in Honolulu to honor him at the International Woollard Symposium; an AGU monograph resulting from that meeting is a compendium of information on the Pacific Ocean basin. In true Woollard style he wrote a poem entitled "Earth Scientists Are Like Other Scientists, Only Maybe Worse" in which he pointed out how little we really know! He ended with this statement: "It's nice to know you don't have to die first to find out you have real friends, willing to read your obituary while you can still defend yourself. I thank you for the opportunity to get back at you!"

For all these honors in science, Doc remained a "people" person. He became an orphan at the age of 10, and this was to have a lasting effect on him. All through his life he gathered people to him, and many are still fondly known as Woollard's orphans—an appellation they are proud to carry. Over the years Eleanore and George became parents to nine children, five of whom were adopted, and foster parents to many more. His extended family, besides his wife, kids, and adopted kids, included co-workers, graduate students, and anyone with a sad tale or an unfilled need. Eleanore's answer to George's habit of bringing home extra guests for dinner was to add another cupful of rice to the pot. He was so full of encouragement and support that his associates just naturally wanted to emulate him, but this was hard to do. Doc's idea of a light day's work was 12 hours—7 days a week, of course– but he was never too busy to listen, lend a hand, or make a loan. Rolf Meissner of Kiel, Germany, wrote, on hearing of Doc's death, "One of the great personalities of Science . . . a warm and friendly character . . . an example of humanity . . . he had a wonderful gift to let people around him feel confidence and a special kind of happiness."

On Doc's 70th birthday in 1978, greetings came in from all over the world in many languages and frequently in the form of a poem or a limerick. True to form, Doc enjoyed them, enjoyed the cake and champagne, and then wanted to know if we were all going to work an extra hour to make up for "wasting" time on his birthday! He then lay down on what is now known as the George P. Woollard Memorial Couch and proceeded to snore happily!

In his early years Doc lost the sight in one eye in a construction accident, and this became the object of many jokes and comments of his past. We used to tell him "You're blind in one eye, but you have 360 vision in the other!" One time I took in a graph on

which I had plotted some data showing a really wide scattering of points. I could see no trend—just a mess! Doc took a ruler and after moving the graph around a little, drew a line, at which I suggested he must have closed his good eye to see anything in that scatter. This became one of our standard jokes over the years. The annoying part (to me) was that he was always right.

From the beginning of his career Doc tended to operate on a shoestring. In the early days at Wisconsin, dynamite left over from seismic experiments was stored in his office, this being cheaper than finding the proper kind of storage for explosives. Many of the instruments used in early experiments were made by his students, often of scrounged or army surplus parts; very few scientific instruments were available, and "store bought" was too expensive. Another of Doc's endearing traits was his distrust of computers. Once when we had to take a map of the world, divide it into 1° x 1° squares, and write values in each square, I suggested having it done by computer which I considered not only faster but more accurate. This great (I thought) idea was squelched with "How do I know the computer will get it right?"

Doc was a voluminous writer (some would say verbose), having 203 reports, 170 publications, and more than 600 abstracts to his credit, all written while directing the Hawaii Institute of Geophysics, trying to get money from various agencies, and assisting more than 40 students earn advanced degrees. He also served on many dissertation and thesis committees and was not above rewriting the whole thing if it didn't please him. He still had time to compose verse for all occasions, from a secretary's birthday to an international symposium. If you were in the hospital, you could expect to receive a volume of poetry (doggerel) complete with his own illustrations. He also had a penchant for sneaking in a bottle of your favorite libation—he being sure that it would do you far more good than whatever the doctor had ordered. Always, his humanity showed through—often in conflict with practicality. Doc hated to fire anyone and would scratch around seeking funds even if the person was not deserving; he was always seeking to bring out the best in people, give them another chance, go out of his way to help. Clothes and possessions were not important to George, people were. Once accepted into his circle, a person received his protection forever.

Despite long working hours and devotion to the institute, his colleagues, and students, Doc always had time for his family and friends. He never lost his interest in people. Many great scientists became so by being single-minded, by closing their minds to everything but their work. Doc may have lost a little scientific greatness by the path he followed, but he was a better human being for it. At his death, letters and cables came from all over the world. The main thread running through most of them was "He was one of the most profound influences on my life. . . ."—a fitting memorial for a scientist who put humanity first.

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