Committee for Nuclear Responsibility, Inc.

P.O. Box 332, Yachats, Oregon 97498
Correspondence address: P.O.B. 11207, San Francisco, CA 94101

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Robert Conard, M.D.
Brookhaven National Laboratory
Upton, New York

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BOX No. NA
FOLDER "Conard, R.A."

Dear Bob:

I was most pleased to receive (and so very promptly) your "Twenty-Year Review" on the Marshallese. I found it very intriguing reading, and very, very well done.

I am quite interested in those two boys who developed such frank hypothyroidism. From Glenn Sheline's work on I^{131} in hyperthyroidism, he had 4 children out of 6 developed adenomas (one also had a carcinoma) of the thyroid within a 13 year follow-up period. As best I can reconstruct the dose from the no. of millicuries I^{131} for these 4 children, it ranged between 2000 and 14000 rems. Therefore, I reason that in this range of dose in children at least, the cell killing did not prevent tumor development. I realize the uncertainties of the dose estimates, but it is not likely that those two Marshallese boys got more than 2000-3000 rems. Therefore, I think they may still be candidates for tumors.

Many, many thanks and warmest regards.

Sincerely,

John Gofman

R. A. Conard was born in Jacksonville, Florida, educated at The University of South Carolina, received his BS in 1936 and M.D. in 1940. He interned at the U.S. Naval Medical Center, Bethesda, Md. in 1941-42. Although I was on duty there at that time, our paths did not cross. During 1942-44 he served on the U.S.S. Montpelier, one of the busiest of our cruisers in many battles against the Japanese. 1944-46 he served in internal medicine at U.S. Navy Hospitals and was then assigned as U.S. Navy Radiological Defense Officer for Operations Crossroads--Bikini, where our paths did cross for the first time. I was hematologist to the operation and he visited our laboratory-ship, the U.S.S. Bufleson APA 67 with its crew of 200 swine, 200 goats, 500 guinea pigs, 2000 rats, mice and an international assortment of scientists and representative from government and academe--an odd crew indeed for a proud naval vessel. I believe it was at this time that Dr. Conard first became interested in the possibilities of a research career, for he then went on to the University of California, Donner Laboratory for training in Medical Physics where he met Drs. Bond and Robertson. The next year he was posted as administrative officer at

the U.S. Naval Radiological Defense Laboratory. 1949-50 he spent a year at Argonne National Laboratory, working in the laboratory of Harvey Patt. During this year Dr. Conard made significant and lasting contributions on the effect of radiation upon the motility of the gut. We take it for granted today that radiation effects are primarily mediated through cell death, interference with cell proliferation and mutagenesis but in the 40's and 50's there was a lot of mysticism about radiation effects being mediated by various toxins. From 1951-55 Dr. Conard served with me in the Hematology Division of Naval Medical Research Institute. During this interval he made further valuable contributions to the physiology of the gut and effects of radiation thereon. Drs. Bond, Conard and I participated in several atomic bomb field tests at the Pacific and Nevada Test Sites. A surprising amount of basic and applied research resulted from these studies that, though relevant to military operations, contributed arichly to our understanding of effects of radiation and RBE of fission neutrons.

After detonation of an approximate 15 megaton nuclear device on March 1, 1954, a fallout accident occurred--perhaps it should be

called the fallout accident. Marshallese and Americans were exposed. A day or so after the detonation it became apparent that a large number of human beings were exposed to a dose of radiation that might threaten life. The military in the Pacific had no medical capability. The AEC had the national Laboratories but was not geared to assembling a team on a moment's notice and departing to parts unknown for undisclosed reasons. Through chain of command--AEC, DOD, Dept. Navy, Surgeon General of the U.S. Navy, CO-NRRI to me, the command came to organize a team and depart. Drs. Bond and Conard were key members of the team. Dr. Conard assumed the responsibility of documenting and describing the visible skin lesions. This became a classical radiation dermatological study. Clinical studies emphasized the blood and symptomatology. It soon became evident that the AEC had a responsibility for a life time study of the Marshallese. How could this be accomplished? The original participants had left the U.S. Navy and the AEC had the responsibility. Dr. Conard resigned from the Navy in 1955 and came to BNL. His naval career did not end. He was promoted to Rear Admiral, U.S. Naval Reserve in 1968. In 1955 Dr. Farr accepted on behalf of

the Medical Department, BNL, the responsibility for the continuing followup of the Marshallese. In 1958 the official responsibility was assigned to Dr. Conard. It is fortunate indeed the for AEC, the U.S. that Dr. Conard assumed the leadership of this program, vital to the Marshallese and essential to mankind. His leadership and devotion to the problem has made possible the accurate documentation of hitherto unknown effects of radiation on man. Dr. Conard is recognized today as an international authority on the effects of radiation on man and he is regularly requested to participate in national and international conferences on effects of radiation on man. In a letter from the late Charles Dunham, Director, DBER,AEC to Leland Haworth, Director, BNL, I quote: "inasmuch as Dr. Conard has demonstrated ability to plan, organize, and accomplish a difficult overseas operation as evidenced by his performance last year and his present planning, I can think of no one better calculated to keep the endeavor on a sound scientific basis as well as one who has a fine sense of the fitness of things, particularly in dealing with the Marshall Island people and with the officials of the Trust Territory". This was written in 1957 when Dr. Conard was

given continuing responsibility for the Marshall Island surveys. Dr. Dunham could not have been more prophetic since events of the last few years have clearly demonstrated Dr. Conard's capabilities to plan and execute these studies under exceptionally difficult circumstances requiring tact, knowledge of a different culture, understanding and sensitivity to a small deserving population group establishing their identity and needs in these 1970's.

I should stop now but a perverse nature required me to look back into my personal archives for a nostalgic vision of the past. The long hard work of the Nevada Test Site frozen mud and alkali dust required proper rest and recreation at Furnace Creek, Death Valley.

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And to paraphrase my namesake Walter--"and that's the way it was!"

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