

NOTES

All personal interviews were conducted by the author. Tape-recorded interviews are so noted, as is the location of an interview, when held face-to-face rather than by telephone. For virtually every interview the author has extensive notes, whether they were transcribed from tapes, taken during the interview, or written up shortly afterward. After a first full citation, interviews are cited by the subject's last name and the date of the interview only; in a few instances a first name or initial is needed to distinguish people with the same last name. When information was available from a documentary source, such as a book, magazine, journal, or an official document, that source is often the one cited, even if the same information was obtained through interviews. This was done to direct the interested reader or researcher to the most readily accessible source. Written records, when available, and occasionally audio or visual records, provided valuable corroboration for information obtained from interviews, and often included additional details—and vice versa, making memory a two-way street. But interviews formed the bedrock of this story, whether specifically cited or not. In this regard, the author was fortunate to have been able to attend four reunions of Sealab personnel and others close to the program as part of the research for this book. Two of those reunions were held in San Diego, Calif., March 14–17, 2002, and May 9–11, 2004. Another two were held in Panama City, Fla., March 6–9, 2003, and March 10–12, 2005. Several dozen people typically attended each gathering, thereby making many interviews possible, both on the spot and, in many cases, later, in more formal, one-on-one interviews. Equally important was the opportunity to listen to old friends and shipmates talk and reminisce.

CHAPTER 1: A DEEP ESCAPE

Page

- 1 *submarine Archerfish prepared to release*: Cmdr. George F. Bond as told to Max Gunther, "We Conquered the Deep 300," *True The Man's Magazine*, November 1960, p. 48; Cyril Tuckfield, telephone interview, Aug. 21, 2002, and in Preston, Conn., Sept. 11, 2002.

- 1 *George Bond was forty-three*: Based on numerous interviews with family, including Bond's older son, George Bond Jr., close friends, and associates; Bond's edited journals, published as *Papa Topside: The Sealab Chronicles of Capt. George F. Bond, USN*, Helen A. Siiteri, ed. (Annapolis, Md.: Naval Institute Press, 1993); unpublished letters and journals; U.S. Navy personnel files, photographs, audio and video recordings. These sources and others are cited below as they pertain to specific information in the text.
- 1 *resonant baritone*: Cmdr. George F. Bond of the Naval Medical Research Laboratory, New London, Conn., tape recording, keynote speech at the Alpha Omega Alpha initiation ceremonies, Huyck Auditorium, Albany Medical College, Albany, N.Y., April 23, 1959 (in author's possession).
- 2 *primitive at best*: Carl LaVO, *Back from the Deep: The Strange Story of the Sister Subs Squalus and Sculpin* (Annapolis, Md.: Naval Institute Press, 1994), p. 31.
- 2 *three submarines sank*: A. J. Hill, *Under Pressure: The Final Voyage of the Submarine S-Five* (New York: Free Press, 2002), pp. 61, 206.
- 2 *escape trunks*: Sir Robert H. Davis, *Deep Diving and Submarine Operations: A Manual for Deep Sea Divers and Compressed Air Workers*, 9th ed. (Cwmbran, Gwent: Siebe, Gorman, 1995), pp. 257, 650; Tuckfield, interviews, Aug. 21, 2002, and Sept. 11, 2002; *Submarine Escape*, Navy-produced training film (video copy in author's possession).
- 2 *McCann Rescue Chamber*: Davis, *Deep Diving and Submarine Operations*, pp. 655, 670; Peter Maas, *The Terrible Hours: The Man Behind the Greatest Submarine Rescue in History* (New York: HarperCollins, 1999), p. 63.
- 2 *Several methods evolved to enable*: George F. Bond, Robert D. Workman, and Walter F. Mazzone, "Deep Submarine Escape," U.S. Naval Medical Research Laboratory Report, no. 346, Dec. 30, 1960, p. 1.
- 2 *Boyle's law*: *U.S. Navy Diving Manual*, Part I, Department of the Navy, July 1963, p. 18.
- 2 *The gravest danger*: *U.S. Navy Diving Manual*, Part III, p. 11; Bond, recorded keynote speech at Albany Medical College.
- 3 *escape training tank*: Cultural Resource Group, Louis Berger & Associates, "Historic Structure Documentation for Submarine Escape Training Tank, Naval Submarine Base, New London, Groton, Connecticut," prepared for Northern Division Naval Facilities Engineering Command, Philadelphia, Pa., March 1988 (held in the collection of the U.S. Navy Submarine Force Library and Museum, Groton, Conn.); *Submarine Escape*.
- 3 *Esther Williams*: Tuckfield, interviews.
- 3 *rite of passage*: Cultural Resource Group, "Historic Structure Documentation for Submarine Escape Training Tank," p. 1.
- 3 *resembled a silo*: Archival photographs at U.S. Navy Submarine Force Library and Museum, Groton, Conn., viewed by author Sept. 12, 2002.
- 3 *yes, in theory*: Bond et al., "Deep Submarine Escape," p. 1.

- 4 *Tuck never swore*: Tuckfield, interview, Sept. 11, 2002.
- 4 *prior calculations*: Bond et al., "Deep Submarine Escape," pp. 5, 13.
- 4 *maximum of three minutes*: Bond and Gunther, "We Conquered the Deep 300," p. 105.
- 5 *breathing nitrogen under pressure*: *U.S. Navy Diving Manual*, Part I, p. 70; Bond, recorded keynote speech at Albany Medical College.
- 5 *instructors would routinely jab*: Bob Barth, interviews, Sept. 24 and 26, 2002; Tuckfield, interviews, Aug. 21, 2002, and Sept. 11, 2002; interviews with other former training tank instructors; *Submarine Escape*.
- 6 *Charlie Aquadro took his turn*: Dr. Charles Aquadro, interview, Beaufort, N.C., May 16–18, 2003.
- 6 *Bond sweated it out*: Memorandum from Arline Hibbard, secretary of the American Medical Association Council on Rural Health, "Sweetness and Light as a Navy Doctor Sees It," Nov. 10, 1954 (copy in author's possession); Aquadro, interview, May 16–18, 2003.
- 7 *"After you, Courageous Leader"*: Bond and Gunther, "We Conquered the Deep 300," p. 107.
- 7 *the trunk fell silent*: *Ibid.*, p. 108.
- 7 *quizzed himself*: *Ibid.*
- 8 *raised his left arm*: Bond et al., "Deep Submarine Escape," p. 15.
- 8 *passed through a thermocline*: Bond and Gunther, "We Conquered the Deep 300," p. 109.
- 8 *he had nothing left to blow*: Tuckfield, interviews, Aug. 21, 2002, and Sept. 11, 2002.
- 8 *Fifty-three seconds*: Bond et al., "Deep Submarine Escape," p. 13.
- 9 *produced his pipe*: Bond and Gunther, "We Conquered the Deep 300," p. 109; official U.S. Navy photograph (in author's possession).
- 9 *feat was noted in*: "Navy Man Escapes Sea from 300 Feet Deep," *New York Times*, Oct. 4, 1959, p. 35; "Up from the Bottom," *Time*, Oct. 19, 1959, p. 59.
- 9 *Today show*: A Program Analysis card from the NBC News Archives says Bond was on the show Oct. 9, 1959 (in author's possession).
- 9 *on Conquest*: Craig Gilbert, "Escape from Danger," *Conquest* shooting script, Feb. 19, 1960 (copy in author's possession).
- 9 *tests to analyze possible causes*: George F. Bond, "Escapes from Sinking Jet Aircraft Cockpits," U.S. Naval Medical Research Laboratory, New London, Conn., Memorandum Report 59-2, May 25, 1959.
- 9 *A lengthy story*: Gene Witmer, "Cmdr. Bond Escapes from 'Aircraft' Underwater to Come Up with Answers," *New London (Conn.) Evening Day*, Aug. 28, 1959.
- 9 *born on November 14, 1915*: The date appears on Bond's gravestone at the Church of the Transfiguration, Bat Cave, North Carolina; that date, along with his birthplace, Willoughby, Ohio, is noted in numerous documents.

- 9 *when his father died*: Robert Malby Bond died Sept. 15, 1925, according to Treasury Department, Office of Commissioner of Internal Revenue, Miscellaneous Tax Unit to Louise F. Bond, Administratrix, Estate of R. M. Bond, DeLand, Florida, Oct. 10, 1928.
- 9 *worked on the school's monthly*: *The Karux*, Mercersburg Academy yearbook (1933?), G. F. Bond pictured and listed as one of six associate editors of *The Lit* magazine.
- 9 *known as the class poet*: *The Karux*, 1933, p. 57.
- 10 *lifelong fondness for bourbon*: Interviews; "fondness" may be an understatement, at least once Bond was older, according to many who knew him. Bourbon, while his favorite, was not the only liquor he drank. Bond's habitual drinking tended to take place after hours and in social settings and did not generally interfere with his work. He frequently acknowledged his vice, usually in a lighthearted way, as in his paper presented to the Association of American Medical Colleges, cited later, in which he mentions writing an important proposal "after a nice round of three or four potions of bourbon and water and a good meal." Another typical example is found in Bond's "Sealab I Chronicle," also cited later, in which he describes mixing "a very dry martini of about six ounces" upon arriving home from a difficult day at work. He then adds, "Three hours and several martinis later, the course was crystal clear" (p. 5).
- 10 *"Rebel"*: *The Karux*, 1933, p. 57.
- 10 *course list revealed*: Office of the Registrar, scholastic record of George Foote Bond, University of Florida, Gainesville, Fla. (in author's possession).
- 10 *for his thesis*: George Foote Bond, "A Study of an Appalachian Dialect," a thesis presented to the Graduate Council of the University of Florida in partial fulfillment of the requirements for the degree of master of arts, August 1939.
- 10 *In those formative years*: George Foote Bond Jr., interviews, Hendersonville, N.C., Oct. 10–13, 2003; Ellen Moorehead (née Barrino), younger sister of Marjorie Bond (née Barrino), and Lynn Moorehead, Ellen's daughter, interviews, Bat Cave, N.C., Oct. 10, 2003; William A. Burch, longtime Bond friend, interview, Bat Cave, N.C., Oct. 11, 2003.
- 10 *Fate himself served*: Bond, "A Study of an Appalachian Dialect," p. 88.
- 10 *"take no back-sass"*: *Ibid.*, p. 104.
- 10 *once lived with Ben and Dooge*: *Ibid.*, p. 85.
- 10 *"George, why don't you go"*: George Bond, "Doctor on the Mountain," unpublished manuscript (1975), pp. 13, 30. Edited excerpts from this typed manuscript, including a variation on this quotation, can be found in Chapter 1 of *Papa Topside*. Bond was seeking a publisher for this memoir about his rural practice, as noted in a personal letter to Bond from Judith Joye, a New York literary agent, June 2, 1975, and in a feature article by Lewis W. Green, "Mountains Keep Calling Him Back," *Asheville* (N.C.) *Citizen*, Feb. 1, 1970.

- 11 *married Marjorie Barrino*: Ellen and Lynn Moorehead, interview, Oct. 10, 2003; Bond Jr., interviews, Oct. 10–13, 2003.
- 11 *had seen two people die*: Ben M. Patrick and Emma Carr Bivins, "Pioneer for Rural Health," *Country Gentleman*, February 1949, p. 31.
- 11 *enrolled at the University of North Carolina*: UNC Chapel Hill transcript, 1940–41.
- 11 *started medical school at McGill*: Letter of certification from Donald Fleming, M.D., Secretary, Faculty of Medicine, McGill University, Oct. 14, 1953 (in author's possession).
- 11 *applied for a reserve commission*: Bond, *Papa Topside*, p. 11; transcript of Naval Service, Capt. George Foote Bond, Medical Corps, U.S. Navy, Pers-E24-JFR, 582417/2100, Jan. 10, 1966 (in author's possession).
- 11 *made average grades*: Fleming letter of certification.
- 11 *"from grammar school up"*: Bond to Louise F. Bond, Feb. 14, 1945, from Homeopathic Hospital of Montreal.
- 11 *lavishly appointed houseboat*: "The 61-Footer Cyrene, Latest in House Boats," *Yachting*, January 1921.
- 11 *a log cabin*: Bond Jr., interviews, Oct. 10–13, 2003.
- 11 *"family practice in the home"*: Bond, "Doctor on the Mountain," p. 104.
- 12 *Granny Hill*: Ibid., p. 196; Patrick and Bivins, "Pioneer for Rural Health," p. 111.
- 12 *learned to perform delicate procedures*: Bond, "Doctor on the Mountain," pp. 105, 110, 182, 187.
- 12 *power of prayer*: Ibid., p. 111; Bond, *Papa Topside*, p. 15.
- 12 *religion had not been central*: Bond Jr., interviews, Oct. 10–13, 2003.
- 12 *served as a lay preacher*: Bond, *Papa Topside*, p. 21; Bond Jr., interviews, Oct. 10–13, 2003.
- 12 *outbreak of influenza*: Bond, "Doctor on the Mountain," p. 112.
- 12 *Valley Clinic and Hospital*: Ibid., p. 115.
- 12 *model for improving medical care*: George F. Bond, M.D., "Plan for Rural Medical Services," *Journal of the American Medical Association* 147 (Dec. 15, 1951): 1543.
- 12 *written up*: Joseph Phillips, "The Revolution in Hickory Nut Gorge," *Reader's Digest*, November 1952, p. 117.
- 12 *knew him as "Doctor George"*: Bond, *Papa Topside*, p. 28.
- 13 *eligible for recall to the Army*: Ibid., p. 22.
- 13 *chose the submarine service*: Ibid.
- 13 *began his professional conversion*: Ibid., pp. 24, 29.
- 13 *young family to Pearl Harbor*: Ibid., p. 23.
- 13 *to revive Charlie Aquadro*: Memorandum from C. C. Cole, Commander Submarine Squadron ONE to Commander Submarine Force, U.S. Pacific Fleet, Subject: Letter of Commendation; recommendation for, Jan. 16, 1956 (copy in author's possession).

- 13 *adviser for a training film*: Bond, *Papa Topside*, p. 26.
- 13 *guest of honor on This Is Your Life*: Ibid.; videocassette recording, undated, but a Program Analysis card from the NBC News Archives gives the air date as June 22, 1955 (in author's possession). Among those who appeared with Bond and corroborated highlights of his life were his wife, his mother, his sister, his four children, several former patients, Dooge Conner, and, as noted in the text, Lonnie Hill (copy in author's possession).
- 13 *planned to go into a partnership*: Bond, *Papa Topside*, p. 28.
- 14 *Lonnie had hanged himself*: Ibid., p. 24.
- 14 *volunteered to return to duty*: Ibid., p. 29.
- 14 *assistant officer-in-charge*: Bond résumé included in Navy press packet for Sealab I, 1964; Bond transcript of Naval Service, Jan. 10, 1966; "Capt. Vogel Leaving Navy; Cmdr. Bond Takes Lab Post," *New London (Conn.) Evening Day*, June 4, 1959.
- 14 *"diving game"*: Bond, recorded keynote speech at Albany Medical College; Bond, *Papa Topside*, p. 43.

CHAPTER 2: DIVING

Page

- 15 *"exploration and exploitation"*: Capt. George F. Bond, MC, USN, "Undersea Living—A New Capability," paper presented to the Congress of Petroleum and the Sea, Oceanographic Institute, Monaco, May 13, 1965 (in author's possession).
- 15 *Bond had in mind a whole range*: Bond, untitled paper presented at Pharmaceutical Wholesalers Convention, Las Vegas, Nev., March 15–18, 1961. This speech is among the earliest and most complete written records found of Bond's oft-stated belief in the need "to explore and exploit the continental shelves," as he says again here, and to use divers to do it.
- 15 *a speech to an audience*: Bond, recorded keynote speech at Albany Medical College; this represents another early example of Bond's thinking and attitude, with respect to the need to dive on the continental shelves, but with an emphasis on physiological issues and research.
- 16 *Beebe famously used*: William Beebe, *Half Mile Down* (Rahway, N.J.: Quinn & Boden, 1934), p. 176.
- 16 *man had to be able to swim freely*: Pharmaceutical Wholesalers speech, p. 6; Bond, "Prolonged Exposure to High Ambient Pressure," in *Second Symposium on Underwater Physiology*, Christian J. Lambertsen, M.D., and Leon J. Greenbaum, Jr., M.D., eds. (Washington, D.C.: National Academy of Sciences—National Research Council, Publication 1181, Feb. 25–26, 1963), p. 29.
- 16 *a specially designed sea dwelling*: Pharmaceutical Wholesalers speech, p. 8; Neil Hickey, "Your Future Home Under the Sea," *The American Weekly*, Nov. 9, 1958, p. 5.