A TRIBUTE

Bruce C. Paton, MD: August 28, 1925 to November 4, 2019

The following article was originally published in *Wilderness Medicine: Newsletter of the Wilderness Medical Society* in January 1991, based on an interview with Bruce Paton. At the time, he was 65 years old.

Member's Profile: Bruce C. Paton, MD

Dr Bruce Paton is a modern renaissance man who applies his boundless curiosity, enthusiasm, and keen intellect to a broad spectrum of scientific and artistic pursuits. His philosophy indicates his level of involvement and energy in everything he does: "I seldom say no to requests because each job I am asked to do introduces me to interesting people and topics. And, if I say no, people will quit asking me."

Dr Paton was born in Scotland and spent his first six years in India, where his father was director general of the Indian medical service. At the age of six, he was sent home to be educated in a boarding school, which allowed him little time with his father. However, Bruce did acquire his father's love of walking in the hills; this occupied most summers and sparked his passion for the outdoors. At the age of eight or nine, one of his prep schoolteachers introduced him to birding, which became a lifelong interest.

His initial career interests were in architecture and journalism, but his father convinced him to try medicine for a year to see if he would like it. Bruce was accepted to medical school in 1943 (in Europe the study of medicine begins in the first year at university) but declined admission to join the military. He joined the Royal Marines, trained for mountain warfare, and saw combat in Europe. After the Japanese surrender, Bruce spent one year in Hong Kong, chasing Chinese bandits across the hills. In 1946, he returned to Scotland and began his medical studies at the University of Edinburgh. During this time, he finally had the opportunity to become closer to his father, who returned from India to serve as the administrator of a hospital in Inverness, Scotland.

After medical school there was no requirement for internship, so Dr Paton went to work in Kenya, where a classmate's father ran a hospital in the bush near Mount Kenya. Here, he had his first experiences in wilderness medicine. Trekking up Mount Kenya was his first time at high altitude, and Bruce still remembers his companion's Cheyne-Stokes respirations at night. He was later asked to be the doctor for the first Outward Bound course in Africa that was going to climb Mount Kilimanjaro. They did

Figure 1. Bruce Paton (center) with other past presidents of the WMS in 2008, at the WMS 25th anniversary meeting: (from left) Paul Auerbach, Luanne Freer, Mel Otten, and Howard Backer. Courtesy of Howard Backer.

summit but were forced to climb much more rapidly than planned because hyenas ate the food that had been stashed. Fortunately, there were no serious problems; at that time, Bruce knew little about high altitude illness—in fact, few people did. A few years later, in 1954, a classmate who remained in Kenya wrote to ask Dr Paton's opinion about a soldier who had developed a case of typical pulmonary edema and died while climbing Mount Kenya. The question was forwarded to a medical journal and answered by Dr Pugh, who believed that pulmonary edema was not associated with altitude.¹ Dr Charlie Houston (another early supporter of the Wilderness Medical Society [WMS]) published the first report of high altitude pulmonary edema in 1960.

After one year in Kenya, Dr Paton returned to Edinburgh and served briefly as a house surgeon before training in internal medicine and cardiology. In 1953, he was awarded a Fulbright Scholarship and spent the next two years training at New York University. He returned to Scotland with an American wife (Patricia Ryan) and continued to study cardiology.² However, he was so impressed with the new field of open heart surgery that he decided to get surgical training as well. There were no formal training programs in cardiothoracic surgery at that time, so after a year of training in Scotland, he moved to Denver to study surgery and do research with Dr Henry Swan at the University of Colorado.³

In 1960, Dr Paton became an instructor in surgery at the University of Colorado and director of the Halsted Laboratory for Experimental Surgery. When Dr Swan retired in 1962, Dr Paton became chief of the Cardiac Surgical Service at the University of Colorado and a professor of surgery. He finally left the university for private practice in 1979 but remained a clinical professor of surgery. Aside from numerous committees and administrative responsibilities at the university, Dr Paton has been involved in several medical societies, serving on the executive committee of the Surgical Council of the American Heart Association, as well as other local and state societies. He is a prolific researcher and writer; overall (to date), he has published almost 170 scientific papers and 18 book chapters.

Nonetheless, Bruce has always maintained his love of the outdoors. He remains an avid bird watcher and was president of the Denver Audubon Society. He travels often, preferring camping and hiking in wild places. In the past 10 years he has been to Alaska 8 times, trekked in Nepal, and rafted on the Bio-Bio river in Chile, in addition to regular local outings. He recently returned from the Brooks Range in Alaska where he spent one week photographing the migrating caribou.

Dr Paton has found many opportunities to combine his outdoor and environmental interests with medicine.⁴ Hypothermia and cold injury were among his early research interests. He did considerable work on the physiology of

Figure 2. Bruce Paton watercolor on the brochure from the 1993 WMS meeting. Courtesy of Janice Mancuso.

hypothermia and its use in surgery with extracorporeal circulation.^{5,6} Because of this, he was consulted for cases of accidental hypothermia and was one of the first to use bypass rewarming for accidental hypothermia. He also became interested in cold injury and performed some early experiments using a model of controlled frostbite.^{7,8} To investigate the pathophysiology and treatment, his research group cross-transplanted normal and frostbitten skin onto the opposite tissue bed. Some of these studies are still frequently referenced.⁹⁻¹² Dr Paton continues to treat cases of hypothermia and cold injury and writes regularly in this area.^{13,14} An interest in snake envenomation dates to an experience in Kenya: When examining the hand of a patient bitten by a snake three days earlier, the hand sloughed off with the dressing. After this, he became knowledgeable in envenomation and is consulted several times a year for cases in his region.¹⁵

For the past 15 years, Bruce has been on the board of directors of Colorado Outward Bound. This has been one

of his favorite associations, providing contact with interesting people and an avenue for outdoor experiences such as river running. He recently summarized the associations' safety record.¹⁶ He has also worked with the Keystone Clinic and High Altitude Research Center and the Mountain Medicine Institute in Oakland, California. Recently, he was asked to be a regional advisor for the Environmental Defense Fund, which is concerned mainly with atmospheric issues. He is intrigued with this larger perspective on environmental science and expects to become more actively involved in the future.

Bruce and his wife Patricia have three grown sons, each of whom chose a profession that combines science and some aspect of the outdoors (the eldest is an ornithologist). At 65 years of age, he is now trying to cut back on his practice of cardiac surgery and devote more time to his personal interests. This includes travel and his favorite wilderness activity, hiking. However, he prefers to add an intellectual component to his outdoor experiences: For the past 15 years he has photographed wild places and recently has developed multiprojector slideshows illustrating the natural history of different areas. After a career of formal scientific writing, he is beginning to write for some birding magazines and would like to do more creative writing. He keeps a diary during his travels and illustrates it with watercolor paintings.

A few years ago, Dr Paton saw a brochure for the WMS and thought that this was an appropriate organization for his interests. Of course, it was not long before he was asked to work for the organization, and true to his philosophy, he agreed. He currently is finding financial support for our annual meeting, a task that he performed for 20 years to support a large meeting of the American College of Cardiology. It is hoped that the WMS will be the natural outlet for many of Dr Paton's future activities. He exemplifies the society's goal of promoting the science of medicine in the outdoors and the challenge of all WMS members who search for ways to combine wilderness with medical careers.

Dr Paton once was painting in a schoolyard in Nepal when one of the local children looking over his shoulder asked if he knew Leonardo da Vinci. He does not, but given the opportunity, they probably would have liked each other.

Postscript

Because this article is part of the WMS historical archive, I did not update it with his activities and accomplishments in later life. Much of this is captured in the following commentaries. Dr Paton retired from private practice in cardiovascular surgery in 1995, which left more time for his outdoor and artistic pursuits. Fortunately, he continued his involvement with the WMS, serving as the seventh

Figure 3. Bruce Paton watercolor. Courtesy of Howard Backer.

president (1996–1998) (Figure 1). Bruce continued watercolor painting (Figures 2 and 3) and writing, which combined his interests in wilderness medicine and history.¹⁷⁻²³

Bruce's life spanned continents, cultures, and interests. He was an artist, scholar, and gentleman who showed no trace of arrogance. One was immediately struck with his intellect and broad knowledge supported by his diverse experience. We were fortunate to have engaged him in the WMS and to have had him as a mentor.

Howard Backer, MD, MPH

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Personal Reflections

Bruce Paton was an icon. His accomplishments as an academic surgeon were remarkable, but he will be remembered more for his wit and wisdom. He was both companion and mentor to me, one of many inspirational figures a generation ahead who first tolerated and then enthusiastically joined as we came together to create the modern specialty of wilderness medicine and the WMS. His reserved demeanor underscored his ability to combine sound judgment

(spelled here in the British manner, lest Bruce send me a reprimand from heaven) with a sly sense of humor, which he deployed relentlessly to keep us humble and on track. He was an artist in every sense of the word—as a physician, teacher, and painter. Above all, what distinguished him was his ability to invoke curiosity and insight to bring out the best in those around him, to encourage everyone to work and play to their potential. When I gaze at his watercolor earth tone portrait of a mountain, tree, and pond that graces my office, I see my friend Bruce. He was a generous leader, and I am grateful for having had the opportunity to follow him.

Paul Auerbach, MD, MS

Bruce Patton, the seventh president of the WMS, was a mentor of mine during my and his tenure of leadership in the society. As such, I took direction from him with regard to such projects as producing the public editions of the WMS practice guidelines and the first attempt at standardizing wilderness first aid as a society project. Beyond a professional relationship, a wonderful personal friendship develops when you are working with a person like Bruce. He had many great adventures around the world, being the great outdoor enthusiast that he was.

I remember a particularly wonderful story, told in his fireside chat manner, of the time some friends and he were traveling to Turkistan. While in London, they went to the Thomas Cook Agency (now defunct) to change their currency. The response was provided with a haughty British sneer: “Sir, we never provide money exchange for any country ending in ‘stan.’” It was one of his favorite stories and has always remained one of mine. Bruce had a hundred of these tales. His life (from childhood in British India, to his stint as a Royal Marine in World War II, to his remarkable career as a cardiovascular surgeon in the United States), his many wilderness adventures, and his great enthusiasm for the society and its members are all testimonials to the greatness of this man.

One of the most delightful benefits of being a member of the society is meeting people like Bruce. It was an honor to have known him.

William W. Forgey, MD, FAWM

Bruce was a great friend and mentor who always provided deep insights into many topics with his great dry, British sense of humor. I met Bruce at my first invited presentation in the early 1990s in the Yukon, Canada. I remember that I was most thrilled that I got to share the speaking responsibilities with the one and only Bruce Paton, who was legendary even back then.

Later, when I knew him better, we attended a research meeting in northern Sweden where, among other things,

we were truly beaten up by a large Swedish woman who “massaged” us to a pulp. Later (I am sure it was at a bar somewhere) we were theorizing about what would happen to the temperature of cold shower water on its way to the floor. Bruce posited that the temperature would decrease due to evaporation, whereas I thought it would increase due to conductive/convective warming from the warmer room air. We could not agree, so I went to my room, took the thermometer out of the room thermostat, and measured the temperature of cool water filling a bucket, first at the shower head and then on the floor. The water in the floor bucket was warmer than that in the shower bucket. When I shared the results of my highly scientific study with Bruce, he paused and then said “damned scientists.” Of course, he did this with that wry smile of his, and we all laughed.

Over the years I enjoyed continued contact through his annual hand-painted Christmas cards and the occasional telephone call. Each time we talked, I was reminded of what a great guy he was, and I wished that we could interact more. He will be sorely missed indeed.

Gordon Giesbrecht, PhD

Bruce Paton was born in India in 1925. His father was a physician with the British Indian Medical Service. Bruce was educated at several boarding schools in Scotland. At age 18, he joined the Royal Marines and served in Europe and, for one year after the war, in Hong Kong. Bruce received his MD from the Royal Infirmary Edinburgh. He achieved his Boards: Fellowship of the Royal College of Surgeons and the Royal College of Physicians.

Bruce met Pat Ryan on the Queen Mary travelling to the United States. They married a few years later in Scotland. Dr Henry Swan offered Bruce a position in cardiovascular surgery at the University of Colorado, and he was soon chief of that department.

It was his interest and expertise in other fields that enhanced his personality and career. Throughout his life Bruce was an accomplished artist (watercolors and drawing); a birder in Scotland and around the world; and a photographer, which enhanced the lectures he gave worldwide.

Bruce was a prodigious author: over 150 medical papers published, as well as 18 book chapters. His book *Lewis and Clark: Doctors in the Wilderness* was a bestseller, and for years he lectured around the country on that subject. His 2 books on the history of the Department of Surgery at the University of Colorado were precious reminiscences of a dynamic past.

Bruce served as president of the WMS and board president of the Colorado Outward Bound School.

We skied, we hiked, and we climbed together over many decades. Hiking trips to remote areas around the world with

Ben Eiseman and Bob McNamara always provided interesting tales.

Bruce was a true Renaissance man and a gentleman, and that is the legacy he left his family and all of us, his friends.

Jack Gallagher, MD

I first met Dr Paton in 1989 at a WMS meeting. I happened to mention to Warren Bowman that I saw a particularly beautiful bird that I could not recognize, and Bruce, who was at the table with Warren, immediately identified it and asked if I wanted to go birding with him that afternoon. Bird watching is a great hobby, and you spend more time talking with your cowatcher than you do actually seeing birds. This was a great opportunity to get to know Bruce, and we became great friends over the years. I followed Bruce as president of the WMS and learned something about how to be politically correct (a trait I have since lost) in dealing with physicians. Bruce had spent time in the military at a young age, and we had a common ground for conversation that we did not have with many others. I learned to be a caring clinician, to enjoy and respect nature, and how and when to speak my mind from Bruce. I will miss his dry humor and keen eye for birds. I will also miss his Christmas cards that he would illustrate himself. I have saved every one that he sent over the past 30 years.

Mel Otten, MD

As I was becoming interested in mountain medicine during my internal medicine and pulmonary training, I became familiar with Bruce Paton's name as he was often mentioned in the same breath as other luminaries in the field. It was not until I became involved in the WMS, however, that I actually met Bruce. My very first impression was that he was *not* intimidating. Right from the beginning, he was a gentleman—smart, gracious, and supportive of all junior and senior colleagues. Although he had his opinions, I never heard him say anything bad about anyone—and believe me, there were a few people who merited some negative comments.

Bruce was president for a while as I became more involved with the WMS, so I had the opportunity to admire his style. I was never quite good enough to imitate it during my time on the WMS board and three year presidency, but I tried, because I so respected and admired him.

The most notable times I had with Bruce were when I was the research director of the Colorado Altitude Research Institute in Keystone for a sabbatical year from the University of Washington in 1990 to 1991. Bruce was on that board with me and others. It was he and Jack Reeves who shepherded me through that year,

giving me support and advice, helping me navigate some administrative difficulties that occurred while sharing the fun and joy of the location and the work. Bruce made several trips to Keystone, where we spent many hours sharing life and experiences. I also was fortunate to be hosted at his home several times. I felt honored and

lucky to have that much time with him; he was always a model of dignity, grace, intelligence, and joy in what he did in life and work. He made an indelible impression for which I feel fortunate.

Robert B. Schoene, MD (Brownie)