



William T. Scott, 1916-1999

ABSTRACT Key Words: William T. Scott, Michael Polanyi, Polanyi biography

These remarks are an obituary for William T. Scott who worked for many years on a biography of Michael Polanyi. In addition to providing an overview of Scott's own life and work, his connection with Polanyi is reviewed.

William Taussig Scott, a physicist and a friend and an important interpreter of the life and thought of Michael Polanyi, died February 22, 1999, after a long and fruitful life. Bill died peacefully at Friends House, Santa Rosa, California, twenty-three years to the day after the death of Michael Polanyi whose biography he worked on diligently for most of his last twenty years. In 1977, when Bill visited Magda Polanyi, Michael's widow, he was surprised when Mrs. Polanyi asked him to write a biography of her husband.¹ When asked why he was the person for this undertaking, Mrs. Polanyi stressed the importance of finding a biographer with background in both science and philosophy. As remarks below suggest, certainly Bill Scott was well suited in terms of his background.

William Taussig Scott was the first child of Carl Forse Scott and Dorothea Taussig Scott, born in 1916 in Yonkers, New York. His father was an engineer with a classicist's heart. His paternal grandfather was a distinguished and impractical etymologist for the *Century Dictionary*, and was likely Bill's inspiration for an academic career. His maternal great grandfather, from whom the name "Taussig" came, was a Czech pharmacist, doctor and judge. Family lore suggests that Bill was a curious child who enjoyed working on mathematical puzzles; he remembered working on such puzzles at night in bed!

Scott received a superb education at Scarborough School, Swarthmore College (B. A. 1937) and the University of Michigan (Ph. D. 1941). Bill became a Quaker at Swarthmore and was passionately committed to peace all of his life. He was a conscientious objector in World War II. Later he served as a counselor in the Vietnam War and helped found the Northern Nevada Peace Center and Sierra Interfaith Action for Peace. While living in Nevada, the governor twice awarded Bill the Thornton Peace Prize. As a bright young physicist, his professional life was influenced by his decision not to work on weapons research. His life as a scientist was frequently that of a social activist: Bill was a co-founder in 1949 and president of the Society for Social Responsibility in Science, an early international organization whose members included Einstein.

Scott worked as a teacher of physics at Amherst College and Deep Springs Junior College for a few years before becoming a professor at Smith College from 1945-61. He then moved to the University of Nevada, Reno and the Desert Research Institute where he taught and did research as an atmospheric physicist on how cloud droplets coalesce. One of Bill's more fascinating articles, "The Gentle Rain—A Search for Understanding" is included in *Intellect and Hope: Essays in the Thought of Michael Polanyi*.² This essay was Scott's attempt to illumine aspects of the cloud physics program he worked in, using Polanyi's theory of knowledge.³ During his career, Bill published many articles in theoretical physics, atmospheric physics and on the teaching of physics; he wrote a textbook *The Physics of Electricity and Magnetism* in the late fifties that took a somewhat unusual historical approach.⁴ In 1967, he published *Erwin Schrödinger: An Introduction to His Writings*, which is a brief study of Schrödinger's life and work in philosophy and theoretical physics.⁵

Bill Scott always had broadly interdisciplinary interests and projects. While pursuing his Ph. D. at Michigan, he considered changing his field to philosophy of religion. Although he did not make the change, Bill's interest in philosophy and religion bore interesting fruit. For a decade, Scott was Director of the Committee on Philosophy of Inquiry at the University of Nevada, Reno, a program that sponsored twenty interdisciplinary courses with support from the National Endowment for the Humanities. In 1959-60, Scott took a sabbatical at Yale University. He had a National Science Faculty Fellowship to work with Henry Margenau on quantum measurement theory, but he also undertook studies in theology with Robert Calhoun and other Yale Divinity School faculty. It was at Yale on the 24th and 25th of November, 1959 that Scott first encountered Michael Polanyi.

Polanyi was invited to give the Eddington Lecture at Cambridge University on the 16th of February of 1960 and the contract required that a printed copy of the lecture be on sale in Cambridge the day after delivery. This requirement meant that Polanyi needed to finish preparing his lecture "Beyond Nihilism" for the printer before departing for the United States in mid November. While in the United States, Polanyi took the opportunity to try out his already completed lecture at Princeton (November 18), Harvard (November 23) and Yale (November 24). Here is what Bill said in an early draft from his biography about his first meeting with Polanyi:

Although I had purchased his *Personal Knowledge* and his shorter book *The Study of Man* on the recommendation of a friend, the books were still unopened on my shelf when I was invited to a forthcoming faculty dinner for Polanyi and asked to serve as his host at breakfast the following morning. Over the weekend I was driven to a hasty reading of *The Study of Man*. Although I was intrigued by Polanyi's topic, "Beyond Nihilism," and attended his evening lecture with interest, I failed to comprehend his account of life transcending physics and chemistry; it did not fit my lifelong grounding in physics.

At breakfast the next morning I protested to Polanyi of what I thought was an error. Although Polanyi very politely set me right, he was a man of exquisite courtesy; I nevertheless realized that I still misunderstood him.

After his initial encounter with Polanyi, Scott took seriously the project of trying to understand Polanyi's perspective. He appreciated Polanyi's grounding in science and came to find convincing both Polanyi's philosophical and cultural analysis.

Later, when I delved into Polanyi's major work *Personal Knowledge*, I was excited to discover a scholar who profoundly addressed contemporary issues of belief and value, speaking from a formidable background in physical science and providing a new understanding of the knowing process throughout the wide range of human experience. Polanyi presented an analysis of our situation as persons who have lost the ability to justify our beliefs, beliefs which we do indeed hold but hesitate to admit into our rational discourse. Dealing with an extraordinary variety of subject matter, he gave an insightful view of the causes of our loss and showed the way to the rational holding of our fundamental beliefs. I realized that I had found the bridge between authentic science and authentic faith that I had long been seeking.

Scott often emphasized two components of Polanyi's analysis.⁶ As a physicist, Scott particularly appreciated Polanyi's discussions of the hierarchical structure of reality:

For this physicist for whom the world was once really and merely a collection of atoms, Polanyi revealed a world filled with a rich variety and complexity of realities, of which the physical is merely the substratum. The Polanyian concept of the hierarchical structure of the universe shows the dependence of each organized entity on successive sets of boundary conditions. By demonstrating how each set of boundary conditions is necessary but not determining for the understanding of the level above (e.g., the gears of a watch are necessary but not sufficient for the explanation of the watch), he frees us from the concepts of reductionism and determinism that have straightjacketed scientific and philosophical thinking. By coupling the ideas of boundary conditions and hierarchical levels of reality, Polanyi creates a new and fruitful way to relate the intricacies of science to the life of the human spirit.

Scott also held that Polanyi's concept of tacit knowing recovered for the scientific and philosophical tradition the fundamentally human nature of inquiry:

Thus tacit knowledge gives a respectable status to intuitive processes, which are commonly treated as being secondary or inferior, and provides a basis for trust in our own perceptions and in the perceptions of others. By demonstrating the ubiquitous personal element in the entire knowing process, Polanyi puts the person back into the scientific world view from which he has been removed from the time of Descartes.

After he had thoroughly read and digested *Personal Knowledge*, Scott wrote a review.⁷ He sent a draft of the manuscript to Polanyi and the ensuing correspondence opened the door to a friendship that lasted the rest of Polanyi's life. In addition to letters and occasional visits, Scott spent a sabbatical in 1969-70 in Oxford on a National Science Foundation grant studying and writing in the history and philosophy of science, working with Polanyi and Rom Harre.

After Scott decided to take on the challenging assignment as a biographer, as requested by Magda Polanyi, he initiated a program of study and writing marked by extraordinary care and thoroughness. It was a program generously supported by the University of Nevada Physics Department, by grants from the American Philosophical Society, the Max Planck Gesellschaft and the National Endowment for the Humanities. Bill traveled and interviewed Polanyi family members and a great many friends and associates of Polanyi. He made thousands of note cards and many recordings. He read and re-read all of Polanyi's published work—including all the approximately 200 scientific papers—and many relevant unpublished documents. Early in his work, Bill had the good fortune to interest Monika Tobin, a woman of Austrian descent with good training as a historian, in his biography project. Tobin proved invaluable in organizing the mass of data that Bill collected; later, she helped with writing and checking details. Tobin stuck with Bill's project throughout his life and continues to provide advice to the Polanyi Society members who have been working to bring the work Bill started to publication. At the November, 1991, Kansas City Polanyi Society meeting, Bill's wife Ann asked Phil Mullins, Walt Gulick, Richard Gelwick, and Charles McCoy to form an advisory committee. The group provided guidance, support and helpful criticism of Bill's work.

What we now know that we did not know in the eighties—when people began to ask Bill if he was about to finish his biography—is that Bill suffered from and eventually succumbed to Parkinson's Disease. Although it was not diagnosed until the mid nineties, it seems likely that Bill's work for some years was hampered by Parkinson's manifestations. Bill was able to pull together a very succinct view of Polanyi's life, presented in April, 1991, at the Kent State Conference (see the following article), but he was unable to finish the biography as he had intended. Ann Scott set aside her own work as a writer and devoted herself to helping Bill finish the Polanyi manuscript. Anne Scott and Monika Tobin completed the last draft of the manuscript in 1994 and sent it out to readers and publishers for comment. In 1997, Ann Scott and the advisory committee agreed that Marty Moleski, acting as a co-author, would produce an abridged and revised version of the biography.

The first draft was 293,000 words and consisted of twenty-five chapters. Bill chose to take a thematic approach to Polanyi's career, treating adsorption, x-ray crystallography, reaction kinetics, transition state theory, and economics in separate chapters; the manuscript also contains extensive summaries of the stages by which Polanyi developed *Personal Knowledge*. The 1994 edition was quite uneven in its format. Part of the work Moleski has done is to impose a uniform style on Scott's manuscript so that it may be preserved for future reference in Scott's archives at the University of Nevada in Reno, and in the Polanyi archives at the

University of Chicago. Moleski then cut the length to 168,000 words and rearranged the material in chronological rather than thematic order. This version of the biography has been in the hands of the readers since early in 1999. Monika Tobin is finishing the work on footnotes and bibliography. A final draft of the manuscript should be ready for circulation to publishers at the end of 1999.

Those who met and knew Bill Scott in Polanyi Society gatherings will miss his calm, gentle and often persuasive comments, injected in the rowdy fray of discussions of papers delivered at Society meetings over the last twenty-five years. Bill is survived by his spouse Ann Herbert Scott and five of his six children, Jennifer, Stephanie, Melanie, Peter and Kate and six grandchildren.

Phil Mullins and Marty Moleski, S. J.

Notes

¹ Scott briefly described his discussion with Mrs. Polanyi in a draft of the Preface for his unfinished Polanyi biography. Many who knew Bill and his spouse Ann Scott, of course, also heard verbal accounts from them of how Bill came to be the Polanyi biographer. Some additional details that follow are drawn from draft materials in the unfinished Scott manuscript. The authors wish also to thank Ann Scott for a 1997 interview and for providing other materials on Bill's life and work.

² William T. Scott, "The Gentle Rain: A Search for Understanding." *Intellect and Hope, Essays in the Thought of Michael Polanyi*. Eds. W. H. Poterat and Thomas Langford. Durham, N. C.: Duke University Press, 1968: 242-274.

³ See also William T. Scott, "The Personal Character of the Discovery Mechanisms in Cloud Physics." *Scientific Discovery: Case Studies*. Ed. Thomas Nickles. Dordrecht, Holland: D. Reider, 1980: 273-291.

⁴ William T. Scott, *The Physics of Electricity and Magnetism*. New York: John Wiles, 1959 : 635 pp.; revised editions , 1966 and 1977.

⁵ William T. Schott, *Erwin Schrödinger: An Introduction to His Writings*. Amherst: University of Mass. Press, 1967: 175 pp.

⁶ The following quotation discussing these two components comes from a 1994 draft Preface for the biography manuscript. But see also Scott, "The Gentle Rain," 243 for a similar emphasis.

⁷ This was subsequently published as William T. Scott, "Polanyi's Theory of Personal Knowledge: A Gestalt Philosophy," *Massachusetts Review*, 3, No. 2 (1962): 349-68.