5. What Podolsky, Einstein and Others Have Taught Me about Greatness

Curtis R. Blakely
Associate Professor-Justice Systems
Truman State University Kirksville, Missouri
United States of America
E-Mail: cblakely@truman.edu
ORCID iD: http://orcid.org/0000-0002-0964-8327

Abstract:

Continuing scientific progress often results in a focus on technological advancements while ignoring those scientists who have brought them to fruition. By ignoring the life stories and struggles of these scientists, generations of students are being deprived of insight that may serve to encourage them to enter the scientific fields. Furthermore, they may develop a perspective that suggests that these advancements occur with little personal or professional struggle. It is becoming increasingly common to compare scientists based upon their achievements. These comparisons could discourage students from entering the scientific disciplines by suggesting that contributions not equal to or surpassing those of the most celebrated scientists are essentially worthless. This results in a winner-take all attitude. This article details the experiences of one social scientist in his quest to develop a greater understanding of science, scientists and those characteristics that ultimately determine greatness.

Keywords:

Podolsky, Einstein, Princeton University, Institute for Advanced Study, Los Alamos, Niels Bohr Library and Archive, Xavier University

What Podolsky, Einstein and Others Have Taught Me about Greatness

I have known several acclaimed scientists in my lifetime; each of them was deeply devoted to innovative thought, exploration and discovery. But what ultimately determines whether a scientist or scholar has achieved greatness? And is greatness relative? Before addressing these questions, permit me to tell you about myself and a recent experience that has helped shape my opinion regarding these inquiries.

I am the middle son among three. My childhood was uneventful and was similar to those of my classmates. If anything, my parents were a bit more reserved than those of my peers. And yet, they had little choice since they represented our village's school, my father being its superintendent. I performed poorly throughout my primary education and was a reoccurring concern to my teachers. I am sure now, if not aware of it then, that I was a bit of a challenge to even the most patient of my instructors and was an occasional embarrassment to my folks. Nevertheless, time and energy were invested. Basic subjects proved especially difficult since I was slow to develop a proficiency at reading. It is upon this skill that the mastery of all academic pursuits depends. Many of my earliest memories pertain to developing this talent. And while I was to become a voracious reader later in life, I graduated at the bottom of my class, failing to take my schooling seriously. This experience had a tremendous impact on my sense of worth, convincing me that the only way to regain some semblance of self-esteem was to embrace that which I had, until then, resisted. I perceived education to be constraining but perhaps, if taken seriously, it might free me from my growing sense of insecurity. So I eventually departed for college, eager but poorly prepared.

Once there, few academic fields proved as interesting as did the social sciences. I was naturally drawn to the subjects of crime and deviancy. Though romanticized, tales of modern-day pirates and of desperados provided an excitement that was missing from my life. Were I to gain a greater understanding of them, I believed that I would gain a greater understanding of myself. This interest is what led me to study human behavior under the tutelage of some of our nation's most noted scholars. Their support and encouragement proved important, leading me to seek a career in academia. I quickly came to understand that great men keep company with other great men and if one wishes for himself greatness, he too must keep company with those of accomplishment and import.

Professors, as I have come to understand, are largely an introspective and shy group. They are rarely encountered outside their classrooms, preferring instead the solitude of their offices. It was within my own office from whence this story begins. And like others of my ilk, I hope my experience will help you develop a better understanding of your place and purpose within creation.

The story that I now share is not one of daring adventure. Instead, it involves the legacy of a quiet but brilliant man who dedicated his life to science. Few know the name of Boris Podolsky yet his keen mind and intellect were praised by many, including Albert Einstein. And though Einstein is considered the quintessential representative of science, he plays little more than a supporting role here. After all, there have been many books written about his personal and professional lives, about his relationships, and even about his death. His example serves to remind us that regardless of one's accomplishments, ultimately all men, both great and small, are doomed to a similar fate.

As destiny would have it, I developed a long-distance relationship with Podolsky's son based upon a shared interest in physics. I found him to be a renaissance man and an accomplished scientist in his own right. Great men often cast long shadows over their progeny. This either encourages rebelliousness or a desire to protect a father's reputation. Boris' heir wished the latter whereas Einstein's to some extent chose the former. In any event, it is my good fortune to consider this man a friend. Fate is unpredictable and soon after we met, my friend was called upon to make an unexpected and extended journey. This endeavor required the divestment of his father's few remaining possessions. I am a quiet man who does not easily insert himself into the lives of others. And so, when he asked me to sort, catalogue and preserve these items, I hesitated. Such a task is sacred and I did not consider it lightly. Yet, I knew that if I were to refuse his request, insights into his father's life might forever be lost. This is how I came to possess the personal and professional letters, manuscripts, lecture notes and books of one of the world's greatest physicists.

My friend and I made arrangements for all items to be shipped by regular post. Upon their arrival, I unpacked each box carefully. Regardless of one's age, discovery proves exhilarating. I spent hours reading and rereading Podolsky's personal correspondence to and from such legendary men as Einstein and von Neumann. No better way exists to learn about a man's hopes and dreams and fears and challenges than to read about them firsthand. I learned of Podolsky's love for his wife and son, I learned of the transient life that he endured searching for a university home, and I learned about the obsession that drove him to unravel nature's secrets. Nature does not reveal her secrets easily, and when she does, she demands payment. These glimpses into Podolsky's life suggest that even acclaimed scientists working during the golden-age of physics experienced the same joys and pains that we experience today. Greatness is not a shield from the trivialities or struggles of career or life.

I read and reread Podolsky's writings and the writings of other early twentieth-century physicists. I learned a great deal about the atom, about how particles behave, about thermodynamics, gravity, and about energy, mass and motion. I was becoming well-acquainted with a world that few social scientists ever experience. And while the science developed by these men proved fascinating, I found the men behind these breakthroughs to be even more fascinating.

As spring approached and the academic year was coming to its end, my wife and I decided to visit a number of places key to my quest to understand Podolsky and his colleagues. First on our list was Princeton, New Jersey which is also the site of the world-famous university that goes by its city's namesake. What many scholars fail to realize is that Princeton is also the location of the Institute for Advanced Study (IAS). It was here than Albert Einstein became faculty in 1933 as he sought to escape the growing warmongering that was occurring in Germany.

Already world-famous, and being of a gentle heart, Einstein sought to help promising scientists acquire employment during the war. To this end, he wrote a letter to the Director of the IAS describing Podolsky as, "one of the most brilliant of the younger men who has worked and published with Paul Dirac". Podolsky was promptly given a temporary position at the IAS which he occupied from September 1, 1934 until June 30, 1935. It was in that year that Podolsky co-authored a groundbreaking paper with Einstein and Rosen entitled, *Can Quantum-Mechanical Description of Physical Reality be Considered Complete*. It quickly became and still remains one of the most controversial and celebrated scientific papers of all time.

When we arrived unannounced at the IAS, we were invited in and we able to see where Einstein, Podolsky, Dirac, von Neumann and others worked. The atmosphere was palpable. Here, many noted scientists have worked and continue to work including Nobel Laureates and winners of the Fields Medal. After having developed a better understanding of the purpose and history of the Institute, we decided to visit Einstein's home and get a feel for how he lived, where he entertained the poor and rich alike, and the neighborhood that welcomed him so warmly. When we arrived, there were others there at his home. Many of them were international scholars that had come to pay homage to Einstein. The Einstein house remains a private residence and has been occupied by a number of academic luminaries since his passing. Each scientist that has resided there since Einstein's death has also been awarded a Nobel Prize.

Next, we walked the same routes that Einstein had walked. We saw the same views that he had seen, and we must have felt many of the same feelings that he had felt. Princeton is a peaceful town that allows its residents to live a quiet, unassuming life. It was here that Einstein made his home, and it was here that we acquired insight into this man's life. He is still very much a part of Princeton University, the IAS, and this quaint little east-coast parish.

We decided to learn more about how scientists have helped shape the world. To do this, we studied scientific theories in depth, conducted a great deal of research on the Manhattan Project and became intrigued with J. Robert Oppenheimer, a theoretical physicist who directed the efforts of the Allies as they built the world's first atomic bomb. Oppenheimer eventually became the third director of the IAS (1947-1966), making it the world's epicentre for theoretical and high-energy physics. The connection between Princeton and the Manhattan Project proved too interesting to ignore, so we decided that the next leg of our expedition would be to sojourn to Los Alamos, New Mexico.

We arrived in Los Alamos during the latter half of spring. Still cold from the desert winter, we found it to be a friendly and inviting town. Its citizens, many of which are scientists, have learned to capitalize on the history of this small mountaintop village. It has certainly earned its reputation for being the most scientifically-minded city in the world. It is also home to the National Laboratory. On any given day, you can overhear scientists discussing futuristic developments that have yet to be fully achieved. Such visionary thinkers emit an energy that is easily felt. The excitement in Los Alamos is of an enduring kind and served to reinvigorate both of us. The overriding purpose of the laboratory, like that of its World War II counterpart, is to safeguard national security through the development and application of technological and scientifically advanced weaponry.

After securing lodging, we headed directly to the Bradbury Science Museum where we were quickly introduced to the history of the Manhattan Project as well as the current advances in science being developed by the lab. We also decided to visit Bathtub Row, one of the few sites still comprised of the original buildings of the Manhattan Project. It was so named since the villas that make up this street were the only ones at the site that had bathtubs during the Second World War. Those scientists that were not the project's top administrators often lived in quickly built bachelor quarters or in family huts absent modern amenities. The most famous resident of Bathtub Row was Oppenheimer (Oppie). Adjacent to Bathtub Row sits a museum that has made its mission the collection and preservation of the items and lore associated with these scientists.

One gets the distinct impression that Oppie was jealous of Einstein's many contributions to science and was a tad envious of the deference given to the older man. Nevertheless, following Oppie's tenure with the Manhattan Project and his appointment as Director of the IAS, each man was respectful of the other. Einstein never worked on the Manhattan Project because it was believed that he was a security risk, with the government being unsure of his political leanings. On the other hand, Oppenheimer had a history of openly supporting socialist and communist causes, yet with the backing of a few powerful politicians, his political beliefs were ignored until the bomb was developed. It was then that these issues were used to strip him of his security clearance, forever

forcing him back into the academic realm. Many years later, the United States government apologized for the way it had treated Oppenheimer by presenting him with the Fermi award.

Having visited both sites, and after having talked to many people affiliated with each of these scientists, as well as with their science, I developed a better understanding of their lives and their contributions. I also became acutely aware that their efforts have improved the daily lives of millions of people while helping safeguard our peace. I was now reinvigorated and found a renewed purpose in the tediousness of my task. And so, we returned home and I once again began my efforts to catalogue Podolsky's materials.

I eventually catalogued nearly fifty books. Many of them were breakthroughs in scientific thought when authored by such luminaries as Pauling, Veblen, Mach, and Dirac. Most were annotated by Podolsky and bore his distinctive signature. I also sifted through Podolsky's working papers where corrections and updates were either made by hand or were affixed with tape forming hinged-flaps that occasionally covered entire paragraphs. The primitive nature of these changes revealed the labor-intensive nature of his work. As cataloguing continued, I hoped a similar fate might await those items that have proven crucial to my own work. Whether a man is great or not, surely his life's labor is deserving of dignified treatment and respect.

Ultimately, I had to determine the fate of Podolsky's possessions. After talking at length with my wife, herself a noted scholar, we agreed that they should be donated to a college or university. But what institution would be appropriate and which ones would have been agreeable to Podolsky? Asking ourselves and others these questions, two possibilities emerged. First, I contacted the Niels Bohr Library and Archive to determine its level of interest. This institution collects and preserves historically important scientific texts. Its namesake honors a noted physicist. I also contacted Xavier University's Department of Physics, Podolsky's final academic home. To this day, they proudly display a letter of reference written for Podolsky by Einstein. It praises Podolsky's scientific insights and recommends him for employment. Einstein's endorsement was taken seriously by officials at Xavier with Podolsky being promptly appointed. While there, Podolsky continued his work and brought many celebrated scientists to campus. Noticeably absent was Einstein who began to feel as if Podolsky sought publicity at his expense and ended their long-term friendship. In spite of this unfortunate feud, representatives of both institutions expressed interest in those items being offered, pledged resources toward their preservation and promised to make them available to students. Podolsky would have been proud. And while great men tend to keep company with other great men, greatness often contributes to the development of sizeable yet fragile egos.

All items were divided more or less equally between these institutions. The books with their signatures and annotations were sent to the Niels Bohr Archive and have since assumed their rightful

place among a vast collection of works that reflect breakthroughs in scientific reasoning. They are now being used by students and faculty, alike. Similarly, Podolsky's notes, papers and manuscripts were sent to Xavier where they are being carefully studied and will eventually be made available for reference.

I have learned a great deal about science and scientists from this experience. For example, scientific advancement will always be a labor intensive process with savvy scientists learning as much from their failures as they do from their successes. Furthermore, a review of Podolsky's manuscripts suggests that he believed, as do I, that discoveries generally result from equal measures of commitment, intuition and luck. And finally, while relativity may apply to the physical realm it is not applicable to the social realm. After all, greatness is not a quality that can be precisely measured nor can scientists be ranked according to their comparative value. Whether one commands the world's attention, as did Einstein, or whether one works primarily in the shadows, as did Podolsky, greatness is never relative. A man is either great or he is not – yet any man who devotes his life to innovative thought, exploration and discovery is, in my opinion, already great.

Cite this article:

What Podolsky, Einstein and Others Have Taught Me about Greatness

Citation Format: APA

Curtis, B. (2016). What Podolsky, Einstein and Others Have Taught Me about Greatness. S O C R A T E S, 3(4), 69-75. Retrieved from http://socratesjournal.com/index.php/socrates/article/view/183

For more citation formats, visit:

http://socratesjournal.com/index.php/socrates/rt/captureCite/183/0

Indexing metadata is available online on:

http://socratesjournal.com/index.php/socrates/rt/metadata/183/0