Science Societies

A long and winding road

By Andrew Sharpley

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At the University of Arkansas, Andrew Sharpley researches real-world, on-farm conservation an

At the University of Arkansas, Andrew Sharpley researches real-world, on-farm conservation and its effectiveness to mitigate water quality impairment. University of Arkansas System Division of Agriculture photo by Ryan McGeeney.

The column is brought to you by the Early Career Members Committee (ECMC), which serves members beginning their careers—new professionals and graduate students in agronomy, crop, soil, and environmental sciences. The ECMC consists of members from each of the three Societies who serve three-year terms. Learn more at www.soils.org/membership/early-career. This month, the Ea

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If you have not really decided on a career path beyond the sciences, it's not the end of the world. It took me a while to figure out the details from the generalities. Here is my

story and some of the lessons I learned along the way, which I believe can help early career scientists.

I grew up in the suburbs of a large city, Manchester, in northwest England, where my experience with farming and agriculture were visits to dairy farms on both sides of the family. I look back on those visits in the late 1950s and early 1960s with fond memories. I also remember not being put off by the usual barnyard smells of manure and silage. In fact, I still find that smell endearing, which some might find strange and dismiss because I was an "Englishman!" I then worked as a volunteer in the Peak District National Park during summer school holidays. Being outdoors and protecting a treasured natural resource seemed like the perfect job to me.

I then went to Bangor University, North Wales in 1970 to study marine biology and quickly realized the there were not going to be jobs for all in my class of more than 200 come graduation time! At about that time, I went on a geomorphology field trip as part of a "makeup" class. This was when I fell in love with the science of soils, due mainly to the enthusiasm and approachability of the course professor. As a result, I changed to a soil science major in my second year at the university.

What is important to understand is that opportunities are often not planned, but when your heart and head start to tell you something, listen.

The Road to New Zealand

My major professor at Bangor received a letter from Professor Keith Syers looking for potential graduate students to join his agricultural water quality group that he was developing at Massey University, New Zealand. That letter was passed down to me, and in some way, the rest is history. I left home for New Zealand not really knowing what to expect or with no grand plans for the future but was extremely fortunate to work under

the mentorship of Keith Syers and fellow graduates in my time there, John Ryden and Mike Hedley among others. I learned so many qualities from them that served me well throughout my career. The importance of thoroughness, diligence, planning, overcoming failure, and probably the most important, the immense professional and personnel value of teamwork. I still remember to this day Keith Syers telling me that I needed to go to the U.S. and experience research there.

Observing and listening to your fellow graduates or postgraduates can really help you better hone your own skills.

Winding Eastward to the U.S.

This led to the critical juncture of my career when I went to the USDA-ARS laboratory in Durant, OK in 1979 as a postdoc through Lester Reed at Oklahoma State University. Not planned and sight unseen, Durant, a small (12,000 population) rural community may not have been everyone's cup of tea, especially coming from scenic New Zealand via cosmopolitan northern California. However, here I had the distinct privilege to work with Sam Smith, Laj Ahuja, and Ron Menzel, along with many talented and dedicated technicians. Although a small community (the lab and town), it was a warm, accepting one.

I vividly remember going into Sam Smith's office, which was right next to mine, with youthful excitement and a "really interesting" research idea. I remember the excitement waning as he asked "why" I wanted to do it; stating that "interesting" was not enough of a reason by itself. The initial resentment of hearing this gave way to more thoughtful approaches that still resonate today. These were some of the most professionally rewarding times: great teams, good research, and lasting colleagues and friendships.

From my colleagues there, I learned how to overcome challenges, listen, explore, and succeed in soil sciences. Successes are not given to you on a silver platter; opportunities are realized by the effort and commitment you put into them.

Steering a Course with Teamwork

In 1996, I transferred within ARS from Durant to University Park on the campus of Penn State University and remember thinking that I had really landed in “Happy Valley”: conducting research with ARS on a university campus gave one the sense of the best of both worlds. There was a strong team ethic here also, and I benefited hugely from working with Bil Gburek, a hydrologist, who constantly challenged me to think outside the box, and Bill Stout, an agronomist, who was the epitome of the phrase “there’s no such thing as a bad day in the field,” and who kept me grounded in reality. Here I was able to mentor postdocs myself, Pete Kleinman and Rich McDowell among others, who all helped me one way or another to be a better scientist.

From this, my advice is to stay grounded in reality and that your peers and mentors have much invaluable information to impart if you let them. The Societies offer several mentoring programs that you should look at participating in at some point.

Research, Teaching, Extension, or Industry

I took a research rather than teaching path, mainly because that was where the opportunity presented itself to me with ARS. Looking back, however, it would be difficult to have known the best path until having experienced others. As I mentioned, paths seem to have a way of finding themselves or appearing and working out based on the effort you put in. Still, my personal feeling is that it is easier to go from a research to academic teaching career than the other way round in rapidly developing research areas.

My last career move was to academia at the Division of Agriculture, University of Arkansas, to research real-world, on-farm conservation and its effectiveness to mitigate water quality impairment. Now more than ever, this again highlights the most important lesson I learned: that teamwork is critical. In my case, it was with faculty, extension, conservation district, and state and federal personnel. In other words, the whole is always greater than the sum of its parts.

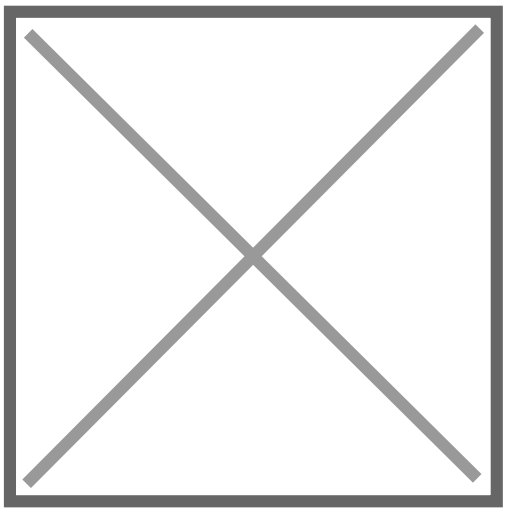
Another consideration in deciding a career path is if you find manuscript and proposal writing onerous, then research may not be the long-term choice of career fulfillment for you.

Building Bridges and Giving Back

Continuous throughout my career has been my membership in SSSA and ASA. This afforded me the opportunity to interact with my peers at meetings and through journals where I could publish my research. I remember my first four meetings vividly where I met "larger than life" researchers who I only knew of from their papers I had studied. Initially, I felt intimidated by them but then realized we were all the same underneath that aura I created in my mind. Through my Society involvement, I was able to build a network of colleagues with whom I could create and conduct research outside of my small sphere. Then came my involvement in Society affairs through manuscript reviewing and serving as an associate editor, technical editor, and finally, SSSA editor-in-chief.

We all recognize that the publication of your research depends on good reviewers and editors, and it is a circular effort in terms of what you put into this, you receive back severalfold. I learned how to write a manuscript, but probably most importantly, how *not* to write one. So, I benefited greatly from reviewing the work of others and then as an editor. I would highly recommend this to everyone to consider as not only giving

back but as an important learning process. To me, this was part of the mentoring process.



2017 SSSA President Andrew Sharpley speaks at the Annual Meeting that year.

Reflecting on this Winding Road in the Rear-View Mirror

You will have probably already gathered the importance I ascribe to being open-minded and collaborative where the burden and rewards are shared, having a plan, but also appreciating opportunities when they arise.

Would I change any of this if I had to do it all again?

No, except that I do know it was difficult for my parents in England to be so far way from me, despite air travel being a little simpler then, albeit costlier. However, as my career progressed, they began to understand my decision. The level of funding, variety of opportunities available, and powerhouse institutions in the U.S. tend to be limited only by one's ambitions. I can sincerely say that I have gained so much more working with others along my winding journey than they have gained from me.

Dig deeper

Peter J. A. Kleinman, Don Flaten, Deanna Osmond, Helen Jarvie, Richard McDowell, Zachary Simpson, Joshua Mott, Through the lens of phosphorus: The legacy of Andrew Sharpley, Journal of Environmental Quality, 10.1002/jeq2.70032, **54**, 4, (763-769), (2025).

D. N. Flaten, P. J. A. Kleinman, D. L. Osmond, Balancing agriculture and environment: Andrew Sharpley's nutrient, soil, and water management legacy, Journal of Environmental Quality, 10.1002/jeq2.20547, **54**, 4, (770-776), (2024).

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