



Helga Van Miegroet
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North Logan, Utah
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Highlighting Women in Soil Science Featuring Dr. Helga Van Miegroet

Interview conducted by Astrid Jacobson, Caitlin Price Youngquist, and Heidi Waldrip

The month the Women in Science Committee is continuing to featuring the career and perspectives of an inspiring soil scientist and woman in the workplace - Helga Van Miegroet. Helga is a leader in forest soils and nutrient cycling and a Fellow of the Soil Science Society of America. She recently retired from Utah State University where she was a professor of wildland soils in the department of Wildland Resources in the College of Natural Resources, and an Ecology Center Affiliate. Before retiring, she obtained a second M.S. in sociology. Her M.S. research focused on gender inequalities in academia with special emphasis on barriers for career advancement in the STEM disciplines. Dr. Van Miegroet will deliver the Wilde Lecture at the Soil Science Society of America meeting in San Diego, in January 2019.

Where did you grow up?

I grew up in Belgium, in Western Europe.

How did you come to study soils?

That is an interesting story because when I [was] finishing my undergraduate I told myself there were two things I would never do again, one was soil science and the other chemistry, which just tells you never say never. I came to study soils because I was very much engaged in environmental action when I was in school and I was very much interested in the work of [the professor] who ended up being my major professor. Some of his work was on the application of wastewater and biosolids on the soil. It was in line with what I wanted to do – environmental work. I ended up working with someone who was doing work I was interested in and he just happened to be a soil scientist. However, the soil science was never emphasized in my curriculum. We had a couple of classes, but it wasn't something that got a lot of attention. It wasn't until I got to grad school here [US] at the University of Washington in Seattle that I really became fascinated by all the things that were going on in soil, and that really soil was another ecosystem that needed to be unraveled. So I came at it not on purpose. I just ended up there and I loved it once I was in there.

What was your career path?

I did my undergraduate degree in agricultural engineering, in Belgium, which is a 5-year degree program with a specialty in forest and water resources. I was a silviculturist by training. I was looking at above ground plants – not the soil. Then I came to the United States to do both my MS and PhD at the University of Washington in forest soils. That's where I went from looking at plants - just above ground

- to looking at what was happening below ground. After finishing my PhD, I did a less-than-one-year postdoc at the University of Washington. Then I went to Oak Ridge National Laboratory where I was a research scientist for 6 years. Then in the early 90s I made the move to Utah State because I really always wanted to be in academia. I knew that Oak Ridge was going to be an intermediary. That's not where I wanted to end up. I was at Utah State for 25 years. When I started my job at USU I spent 6 months at the Forest Research Institute in Norway (early 90s). In 2000 I spent a year at CSIRO in Canberra, Australia, and in 2008-9 I did a sabbatical in Vienna at the Federal Forest Research Institute and at BOKU (University of Natural Resource and Life Sciences). I also spent part of that time at the University of Freiburg in Germany. Now I am retired!

What were the challenges and benefits of attending graduate school in a different country? Is it something you would recommend?

I think I went the right direction. That is, doing the undergraduate in Europe where I got a very strong foundation in the sciences and then doing graduate work in the United States where I was freely able to develop ideas. I think going abroad is always a good thing because it challenges the things you take for granted, ideas, or even ways of doing things. For example, the transition I had to make was to come from an educational system where you never expressed your opinions, you never spoke until spoken to, and you never disagreed with a professor - the professor was always right even if he was wrong - to a system where if you have a good idea you can legitimately express it and discuss it. I found graduate school in the US immensely liberating because it allowed me to develop my own ideas outside the schools of thought that are so prevalent in Europe. But, in Europe I got a good foundation; so, I came well equipped to do independent thinking.

An anecdote from my grad school days was that one of my fellow students complained to the professor that I had an unfair advantage because I could access books in the library that they couldn't read. They were complaining that I could actually read German and French books, and they could not, which gave me an unfair advantage. The professor laughed and reminded them that I was studying in a language that was not my mother tongue, "had they ever thought about that?" What that means to me is that I brought a tool set that I could apply in an American setting and in a way I was advantaged because I had language skills.

You worked in both a research lab (Oak Ridge National Laboratory) and as a professor in a land grant university. What were the pros and cons of each place?

I always wanted to be in academia because I think research without teaching or the involvement of the new generation is a bit of a moot exercise. I think you need the two. You need the students to provide some checks and balances. I like when you have people who question you. I think teaching and research go hand in hand. You have to be a knowledge producer, but also a disseminator of that information to a broader public. That being said, academia requires a lot from someone just starting.

When I was at Oakridge, the focus was on research; teaching was not part of my role statement at all. I wanted to teach and had to prove to my bosses that teaching would not curtail my research productivity. The advantage of being in a research laboratory was that it was a good place to get started and learn the trade. I learned a lot about how to conduct business, how to go after opportunities for funding, and the fact that I was in a national laboratory provided a certain level of credibility when we were going after grants. So when I went after a grant I had a name behind me that resonated somewhere for whatever reason. I learned the trade there. I also had a mentor there who taught me to be productive. One of the

things he told me that I have also said to my students is that you have to write the equivalent of 8 hours every week. You have to make that happen. So I learned how research is done, and that where you start in your graduate degree is just the beginning of your career as a scientist. I learned that I could pursue areas where I had never been before. I was challenged because I was told it behooved me to work in areas that I had no experience in and I could not say no. As a result, I expanded my own way of thinking and what I researched. Also, I got to know more people. So when I came to the university I already had an established network of international contacts, and that worked to my advantage. When I came to the University, I had a research program in place and a reputation that I could bank on. I could go forward with that, but didn't have to establish it, so I could focus on teaching and establishing my graduate program. It's a challenge to young professors to have to develop all of that simultaneously. I had the advantage of having 6 years just to develop my research program.

So you had more expectations placed on you [at Oakridge] than a post-doc typically does?

Yes! The expectations were very clear. Thou shalt bring in money. Thou shalt produce publications. There were also restrictions – you will not pursue anything less than \$50,000 because we costed out so much. They've changed things since then, but at the time the lab took all the man power and overhead, divided it by the number of employees, and said every person costs x thousands of dollars. Whether I put myself or a technician on a grant it was the same amount of money. When I started, I had to generate my salary plus benefits and overhead. Right there it was \$135,000 - just to pick up a pencil. If I wanted to pay for my technician, I had to bring in \$270,000. This is how you are schooled. So, when I got to the university and they said you need to bring in a major grant, and I asked what that was and they said 'well, about \$100,000, I thought, shoot, I can do that! I came in with confidence because I had done it before. I knew how do it! National Labs are really good places to get your schooling. They're not for everyone. I was not cut out for it because the stress of coming up with grants was getting to me. My starting point every year was \$200,000. If I didn't generate that amount every year I wasn't even out of the starting block. Also the amount kept getting bigger and bigger because every year the overhead would go up, the costs would go up, etc. We were also competing with universities who could say 'give us \$100,000 and we can do something with that.' So, I thought I need graduate students! I need to be able to generate research for less than \$100,000. When I was offered a \$50,000 grant at the university I thought 'My Goodness! I can actually hire a graduate student a whole year and have many left over to do the research!' I was used to looking at very different numbers when I was working at Oakridge. I also learned a lot about how science and politics go together because national labs have a pipeline to Washington D.C. and you learn that you have to work in that political climate. I grew up in the acid rain era, which was a very contentious area. So, I learned how people haggle over words. When we wrote the State of the Science documents, we sat in a room with a person who was questioning individual words and questioning us on them. We had to be in the room because our boss told us we had to be there because the person had political influence. It didn't matter what we thought scientifically, it was "What is going to the White House? What language is going in the executive summary?" I learned the power of words and that it is not just knowledge production, but also how you make that knowledge resonate where you want it to resonate that is important. In order to do that, you have to use the right words. Doing good science is just the beginning. It doesn't end there.

How has soil science changed during your career?

That's a question I'm struggling with. In a way it's changed and a way it hasn't. Particularly within in the SSSA I've been situated in the wildland soils community. Wildland soils is at the crossroads between fundamental and applied science. We have people working as field practitioners and people

doing fundamental research. There are things we're doing that I question why we're still doing. We're doing it because that's where the money is, rather than going after research because those are what the questions we should be pursuing are. I find that in some ways soil science has been stagnant and in other ways there have been major changes that have happened.

On a personal level, the fundamentals of the science haven't changed, but the context has. What I mean by that is that I started my career in soil science within the context of the effects of atmospheric deposition on terrestrial and aquatic systems. What is the role of the soils? What happens in the soils? Then, when we produced the State of the Science Documents, in 1990 from one day to the next this country stopped funding acid rain research. That meant that questions that had been answered, and had to led to new questions, we couldn't pursue anymore; they were no longer being funded. I learned to be adaptive. Sometimes you can't do the things we should be doing. I learned to be flexible and say it's the pursuit of knowledge that is important. You have to learn to put your science in new contexts as they emerge. Now it's global change, before that elevated CO₂. There are different ways to frame your research and that's what changes. A lot of people get in a particular pattern and don't want to change.

How did your research questions shift or change over your career?

The changes in my research, or shifts, happened because the political context changed – the framing changed. When I started we were in the acid rain era and I investigated the nitrogen cycle. At first I thought 'We've already studied N for so long, what is there left to study?', but then I found an angle that fit within the context of what was going on in at that time, which was to look at the N-cycle on the pH of soils, that is the N-cycle as a source and a sink of protons.

For my MS degree, the focus was determined by my advisor and the team he was working with, but throughout my degree he would question me and ask, 'How would you investigate such and such? How would you do that experimentally?' That then became my dissertation work. Then later on when we stopped looking at acid deposition as a phenomenon in the US, I continued to do the work in Europe. That's why I went to Norway, because they were continuing that line of investigation and were actually doing a watershed level manipulation of N deposition. At that time Europe was continuing to do what needed to be done to inform transboundary protocols. The research led to the European transboundary protocols standards for pollution both for N and S. It came from Europe and the concept for N saturation came out of that, and one that was pursued by the Europeans before the Americans picked it up again. So then I came back to N because all of a sudden we could start talking about N saturation as a concept. We couldn't use the words 'atmospheric deposition' but we could talk about 'overload of the system.' It's semantics, but important. Then came the era of climate change and the questions were 'What does that do in the C-cycle?' Initially, it was 'What does that do in the C-cycle in terms of plants?' That's where the focus was. Then people started doing experiments with enhanced CO₂, which is where some of the ideas came that maybe you N because you need both N and C to grow trees, you need nutrients! So again soil science came in, but in a different context: What are the nutrients that cause the relationships between the plants and soil to capture carbon. From that came the idea, 'Can we capture CO₂ below ground?' When I went on my first sabbatical to Australia, they were working on putting land-use practices into some kind of an exchange to trade C. They were doing all the foundation work for that: Do we know how much? Do we know what happens with the different plantations? Do know what the differences are? That's when I shifted from N to C. I can actually show that every time I went on sabbatical I had a shift in my research. So I switched entirely from N to C. After seeing what was going on in Australia I shifted to C and started focusing on C work. Then when I did my sabbatical in

Vienna, Austria and in Germany, the Europeans had made commitments to storing C and were going to get penalized for not storing C. So they were looking for places to store C, and that's when I shifted my focus from pure C storage to stabilization of C. So I followed where the road lead me because of the political context in which these questions were being framed.

What are the biggest challenges currently facing soil scientists?

I think we're our own worst enemies. Ecologists! And I mean that seriously. We are suffering from soil being considered an afterthought rather than an integral part of the issue. There are disciplines outside ours that think that just about anybody can do what we do, but we can't do what they can do. I think that's a misnomer. The idea of soils science being central to ecosystems for example, exists within an agricultural setting. There, there is a logical connection and agronomy and soils are often considered in the same breath. But in natural resources, the connection isn't naturally there. To give you an example, in my whole career I was the only soil scientist in my department and in the entire college of natural resource. My whole career has consisted of proving to people who were investigating range land, plant stuff, and wild land, etc. that soil science matters. I was not successful. I'm retired from that college and there is no longer a soil scientist there. The field was not given credibility. What I have found is that people who are focused on ecosystems say "We can do the soils work. It doesn't take that much." As soil scientists, we have enabled that behavior. We haven't fought enough to promote soil science as its own stand-alone discipline. That's our greatest challenge. It puts our position in jeopardy. When other disciplines come in and say, "We can do this, we don't need in-depth knowledge," then stupid mistakes get made. They don't know that soil taxonomy, for example, has a logical basis. That soils evolve in a particular pattern, that some soil taxa with different names aren't necessarily that different from one another, but within a taxa there can be vastly different types of soil. If you don't understand that, than you cannot utilize that information correctly. I have seen that when I was working in Oakridge, how empirical modeling was using soil orders without regard to what the soil orders represented in term of chemical properties. That happens when people don't understand the subject matter. Another example is ecosystem ecologists who send a soil sample to the analytical lab let them decide what to analyze. They didn't know the difference between total element concentration and exchangeable cations. There is a fundamental difference between total N and available N. If you're talking about toxicity, total soil Al is nonsensical as a measure, you need to speciate in order to say, this is harmful to the ecosystem or this is not. These are the kinds of errors that get made over and over by individuals that have not studied soil science as their main discipline. That's our main challenge: that outsiders look down on soil science as something that is taken for granted, doesn't deserve investigation in its own right, and something that can be done by just about anybody rather than specialized people. They have snuck into our territory and we don't defend our territory. It's also a problem that studies are being done that anyone with a little bit of knowledge of the history of soil science could say "We did that already in the 50's and 60s!" That is where Web of Science does us a disadvantage because it starts at a certain date, and everything before doesn't exist. One of the main privileges I had when I 'grew up' as a scientist was to walk around with senior people and when I spouted off my naïve ideas have them say, "Yeah, we did that in the 1930s, so why do we need to do that again?" I think we're still repeating topics after topics rather than asking the questions we should be asking.

What career accomplishments are you most proud of?

I most proud of the stuff where I was challenged, where I wasn't sure I could handle it, or do it. For example, the work I did in the Smokies. I started as a silviculturist – a tree person. My next challenge was to go below ground and look at the connections between plant and soil. Then I was challenged to

look at how that impacted freshwater systems. Those were challenges that were put out by other people, people who said, “You can do this! You can give us the answers.” So I set up a research project with a colleague with watershed experience who was doing what I wanted to do. I’m pretty proud of that research because it has yielded some long-term data records and led to some long-term installations. Even though my name will never be associated with that, I know I was instrumental in getting that started.

It is the same with the work we are doing at the T.W. Daniel Experimental Forest at USU (TWDEF). That was something I started with Drs. Janis Boettinger and Michelle Baker. Now it is populated with instrumentation and all sorts of investigations. Again, I’m in the background, but we built it and others came and made it big. That is what I am most proud of, not that I was able to reap all the benefits from it, but that I was a facilitator for getting other people involved and take it forward. I had never seen myself in that role of a facilitator that made things possible for others, so I’m pretty proud of that! Build it and they will come. We built it and they came! And we built it with very limited funds!

Is there anything you would have done differently if you were to start over?

I would have curtailed my ambition. I think I sacrificed a lot of my personal life and aspirations because I put my career forward. That’s why I am where I am now, and pursued my MS. At some point in time, forces were at work that were out of my control and stagnated my career. If I had taken it a little more easy, I would have ended up in the same place I am now, except that I would have been a little more relaxed about it. If I were to do it again, I would have put more deliberate thought in creating more balance between work and my personal life. I didn’t do that and in my naiveté believed that if I worked hard everything would come my way. It didn’t happen that way and a lot of energy went into that. I spun my wheels for awhile.

What changes have you observed or experienced in the roles of women in the field of soil science since you began your career?

My perspective is from the forest, range and wildland,soils division, which is where I grew up as a soil scientist. When I entered that division as a graduate student there were no women older than we were students. There were no role models. Maybe there were one or two women here and there in soil science, as I saw it. Now there are many many many women. Our demographics have changed; we have a much broader age range distribution. We have women in late, mid and early career, graduate and undergraduate students. We have a much more continuous representation of women at all stages and ranks. That’s healthy! Now we can do real work. I know all the women in my cohort – all the women who were graduate students when I was a graduate student. We all did our share in terms of divisional work, governance, etc. I can name them by name because there weren’t that many.

This anecdote is important, because is created awareness for me. In the mid-80s at the North American Forest Soils Conference, which is called North American because it’s conducted in North America, but is actually an international forest soils conference held every four years that brings together forest soil scientist from Europe, Canada, the US, Australia, New Zealand and to some extent from Africa, mine was the 1st abstract that was accepted from a woman (and graduate student) to give an oral presentation at the meeting. Before that, it had all been dominated by men. I gave my talk and at the end of talk a person from the Forest Service came to me and said he wanted to give me some feedback on my talk. This was someone I knew and respected. He wasn’t spiteful; he was a sincere individual. I thought he was going to give me pointers on my slides. Instead, he said “Helga, you have to take voice lessons.”

When I asked him why, he said, “Because your pitch is too high. To have one woman speaking in the midst of all the men is very disturbing.” It floored me. I think he meant well, but didn’t realize how gender insensitive he was. He was basically saying that if you’re not more like a man, people will not listen to you. Rationally, this was a person of power so I should have been careful about what I said, but I was so angered by that comment that I retorted ‘you better get used to it because there’s more of us coming.’ That is what the view was of women in soil science 30 years ago. They can do the research, but can’t speak unless they sound like a man. That’s not ancient history. I think we’ve come a long way, but we’re not done.

In your MS degree research in sociology, you studied barriers to women’s career advancement. What did you find were the main barriers?

People have been looking at women in the sciences, and this is supported by data, and find that women are not represented at all ranks. In academia, they’re particularly not well represented at the highest ranks. The initial thought, and this is where the pipeline metaphor started, was that women are underrepresented in some of the echelons in science because they’re not feeding into the disciplines. They don’t choose to study those the disciplines. We know now that that is not the case. In other words, there is an availability women PhDs, even for women in the senior ranks, if we go back and look at the cohort that should have fed into the pool – the women were there. They were getting the PhDs. Right now across all STEM disciplines about 40% of all PhDs are going to women. So why aren’t women better represented in the higher ranks? At some levels there may be 25%, women at even higher ranks 10%. Why aren’t more there?

The first idea was that women had to learn to survive in a man’s world. In other words, they weren’t doing it right. They weren’t committing themselves. For heaven’s sake, they were having babies and getting distracted by that. So the early focus put the blame for the underrepresentation of women in the science disciplines squarely in the lap of women. They weren’t committed; they weren’t productive; they just weren’t doing it right. If you look at the early NSF initiatives to increase the number of women in the sciences, the focus was on the individual. What can we do for you so that life is better for you? The purpose can be restated as, ‘The deficiency lies with the women. In order to fix the problem, you have to fix the women.’ Those were the only ideas.

Since then, in the last 20 years, we’ve come to realize that there are structural or institutional barriers. That means there are no intentional barriers that discriminate, but in the ways we make day-to-day decisions, in the ways we interact, we let certain implicit gender schemas enter into our modes of action, such that we identify all the metrics of success with male traits. The ideal scientist is being cast in predominantly male characteristics as the person who is totally committed to his job, who can be there 24/7, who can leave at a moment’s notice, who is there to do whatever needs to be done just like that. This is descriptor of the legacy of science when most men had wives or partners who were taking care of the “mundane” stuff like buying the groceries, having children, or getting the children off to school. It was an idea that was supposedly gender neutral, but was actually based on a role stereotype. If you did not fulfill this ideal, by for example, asking to work part time, leaving at 5 pm, saying ‘I am not going to be here over the weekend’, saying ‘No, I cannot attend that international conference because I cannot leave my family behind,’ that was translated as lack of commitment. We frame our expectations in very gendered terms, but take for granted that our terms are neutral. Women are late comers to the game. They entered disciplines where the norms and standards had already been established by those who were dominating the disciplines, and those were primarily men. Differences were cast as not measuring up.

Women end up in a positions where they have to prove over and over that they're good enough, that they're deserving. In some cases they have to perform superiorly to get a similar rating; they get hyper-scrutinized in their evaluations. There is evidence in the literature that we actually use a double standard that is highly gendered. There is implicit gender bias. It is implicit because it is not intentional. It is because we have been socialized and hold stereotypes in our heads, and if we apply those stereotypes, make decisions based on those stereotypes, we put women at a disadvantage vis-a-vis men. That is an institutional barrier.

That means that to fix the problem, you *should not* fix the women, you should fix the institution. You should fix how we make decisions, what we base decisions on. What are our processes? Does everyone know what the processes are? What are the standards? What are the expectations? Do we include women in networks? There are indications that networks are tremendously important in the advancement of young people in their careers. There's a recent study that shows that high status men preferentially take on male post-docs over female. If that is a route to success, if those connections can help you in your career advancement, then women are disadvantaged by being routinely excluded from those networks. There are many subtle ways in which women end up at the short end of the stick not because people intentionally discriminate, but because people, meaning the dominant male people, show a preference for their own kind. It's called *homophily* or homosocial reproduction. When we hire people, we tend to hire people who look and talk like us. So if committees are composed primarily of men, they will choose a male candidate unless they have guidelines or strict criteria that are outlined. Those are some of the things that came out of my work.

How can we raise the profile of women in the tri-societies and also academia?

I'd like to connect this with the next question because I think they're related.

A Harvard Business Review article the authors concluded that "women are over-mentored and under sponsored." What's the difference and how can we increase sponsorship of women?

Right now in societies and academia we're very well intentioned. People honestly want diversity and equity. No one is intentionally discriminating. However, we're looking at a problem and still applying the idea that to fix the problem we need to fix the women. As much as I believe in the role of mentoring we're still working on the individual. In other words, we're saying 'Let us give you advice on what you need to do to succeed.' We operating on the premise that people need someone to tell them how to succeed. In some cases that's true. In some cases people need to tell you. But we need to go beyond that, and be more systematic in that.

I read the article and it really resonated with me. The difference between mentoring and sponsoring, between talking about a problem and fixing a problem, is that one is passive and one is active. Mentoring is good in that if you don't know how to do something, it's nice that you get advice on how to do it. If you've never written a proposal, you need that knowledge. A mentor can help you with that. But, it is not enough to say to a person, to advance you career, you need to give invited talks at some international meetings. That is not useful advice. Why isn't it useful? Because while it is true, your status will go up if you give invited talks at international meetings, the mere fact that it is an invited talk means that it comes from somebody else. The way we increase the status of women, or advocate for the women, is to increase their visibility. We need to advocate for women. A mentor who advocates becomes a sponsor. So what we need to do for women in the societies is not only to say you ought to be on the editorial board, and you ought to be on this or that committee, but to *also* then say, and I will talk

to so and so to make sure you get invitation. In other words, sponsorship is mobilizing. It's the mentor mobilizing their social network to give opportunities to their mentee. What mentees need are opportunities.

I have had mentors who have paved the way by actively sponsoring me. One of my mentors, a prominent individual, would get invitations to go to workshops, do reviews, serve on a panel, etc. At times he would say, "I cannot attend this meeting, but I know a person who can do an equally good job and I can vouch for them." And that's how I got invited to workshops, and how I got invited to work on documents that I would have otherwise not known about or know what the inroads were to contributing. You cannot stand outside the door saying, "Please let me in. I want to contribute." What you need is someone who says "Look at this young person, or look at this individual. They can do the job." When we have elections we need women to be nominated, or being asked to put themselves on the ballot, or that women are asked to put themselves in leadership positions. Sometimes the routes to advancement are not logical or intuitive. You cannot just go "Look at my work!" We can be good on paper, but ultimately we need that network to promote us and our applications for fellow or awards or recognition. People need to put us forward. So, to improve the profile of women in the societies, we should be ready to always advocate for whatever position or opportunity that arises, a woman, a person of color, a minority. We need to speak up for them, make sure their work is highlighted, profile them and make their accomplishments visible.

At some point in time we stop just talking about the problem and identify workable solutions. We need to identify that there is a problem and be vigilant to systemic bias.

You have retired at a young age. Would you like to continue contributing to the field of soil science or science in general? If so, how and in what ways do you think you and other emeriti can be most effective?

First of all, my decision to retire was a conscious one based on a couple of parameters. One is that there is a time for everyone to take center stage and then time to let the next generation move fully develop. Fundamentally, and philosophically, I do not believe that we should die in office because we need to give younger people the opportunity to move up the ladder. The other reason I retired is that I recognized that to further my science I would need to acquire facilities and instrumentation that I was uncomfortable with. My strongest asset has always been my ability to think through problems, so brains have been my major research tool. I was fundamentally uncomfortable with the idea that in order to pursue what I wanted to pursue, I would have to engage in a ramp up of technology. I did not want to do that so, logically it was better to leave it to the younger generation, leave it to those that want to go that direction and get out of the way. My methods were getting a little outdated, but my brain is still good, so I will use that.

I think emeriti play multiple roles. Emeriti provide institutional memory. They carry with them a history of what has gone on before. We have a role to play in reminding people not to reinvent the wheel. We have an important role in transitioning from the past to the future by reminding people this is what we have done already. The second important role Emeriti have is to say what needs to be said. We have a duty to speak out. The Wildland Soils division used to have an SOB committee - older, well-seasoned, outspoken individuals, who sat at the back of the room. At the end of each meeting, they would produce an SOB report that was basically a reality check for the membership at large. They provided feedback on how presentations were delivered, what type of research was being done. But the power of those

individuals, and how I see my role, is that they said what need to be said. They would say, “Why are we still doing this? We have been doing this for 30 years. Can’t we focus on something that is more relevant or contemporary? Why don’t you speak more clearly and stop using jargon? Make your ideas clear!” The reports were very literal, related to the meetings, but emeriti are safe; their careers are secure. They can stand up and say “These meetings are boring,” or “You’re repeating things that have been done already,” without negative repercussions. No, young person, pre-tenure, is going to stand up at board meeting and say, “I’m bored. These meetings are not challenging. Challenge me!” Emeriti can do that. They also have a role to play in mentoring up-and-coming individuals. They can suggest quick and dirty tools. I also think that emeriti should play a bigger role in the review process, if we can muster an interest in that. Everyone is overcommitted and reviewing takes away from writing. Perhaps we can rely on more on Emeriti who have a little more disposable time and keep them active and interested in that way.

Specifically within the societies, I am not sure I will continue to contribute to new soil science, but I would like to contribute some social science to the societies to see how we can make them inclusive and diverse, and contribute to pathways of advancement that we can achieve by using a different type of science. I’d like to be a liaison or bridge between the STEM disciplines and the social sciences, be a translator for some of that knowledge, and see if we can implement some of that or at least have some exposure to it in the societies.

References:

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