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CHRISTINA BAKER

Sean Sterrett and Rachel Katz at the site of their wedding in 2015.

COLUMN

Two bodies, one solution

Taking a scientific approach to decision-making can help academic couples to make tough career choices, explain **Rachel Katz** and **Sean Sterrett**.

When ecologist Rachel Katz was offered a government job in a region with few academic options for her partner, herpetologist Sean Sterrett, a decision-analysis tool helped to solve their 'two-body problem'. Here, they describe their approach.

RACHEL: We met in 2007, as master's students at the University of Georgia in Athens. After finishing our PhDs in 2014, I undertook a postdoc with the US Geological Survey at the University of Massachusetts Amherst, where Sean did his, too. When we first got together, I was unaware of the 'two-body problem' — the challenge academic couples face finding suitable and fulfilling jobs in the same locality. I assumed we would just figure out this whole career thing together.

Towards the end of my PhD, I started learning about the field of decision analysis (a values-driven structured process for making transparent, complex decisions) to address conservation problems. As I began applying it to wildlife-management problems, I realized the process was useful for solving personal problems, too. I met many other conservation professionals who used it to make decisions about buying a house or where to go on holiday.

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When our postdocs finished, Sean was keen to stay in academia, but I wanted more of an applied 'on the ground' job helping to make conservation decisions (working for the government or a non-profit organization, for example). Sean was invited for academic interviews at several universities where there were few conservation-related government opportunities for me. We began feeling paralysed ▶

about the seemingly inevitable choice we would have to make: my career or his.

In 2016, I was offered a job as a biometrician at the US Fish and Wildlife Service in Massachusetts.

We used a structured decision-making (SDM) process called PrOACT (short for: frame the problem, identify objectives, explore alternatives, predict consequences, evaluate trade-offs) to help us decide whether this was an opportunity we couldn't pass up.

We spent many 'beers and tears' sessions clarifying our decision problem (both short- and long-term) and our core values to make the 'right' decision that would meet our career, family and lifestyle objectives. This was the most challenging part of the process. What do we care about in our careers? What makes us happy? What is the chance Sean could find a job here, too? What if one of us faced an unreasonably long commute? What if we were far from family and friends?

Staying together in the same location quickly rose to the top of our list as highly important, and we both found that we were willing to compromise on many other objectives.

SEAN: For a time, Rachel was very enthusiastic about SDM, throwing around lots of new terms. We joked about it, constantly asking "What is your objective?" At first, I didn't see the 'real world' value of SDM. I thought it was a heartless process that didn't take account of your gut feeling (which you can actually add into the decision framework), but now I totally get it, and it was the smaller decisions, like where to go for dinner on a Friday night, that converted me. If you want to buy a car, say, how do you decide what's best for you? This is a harder decision. Some people like yellow cars. How important is the colour to you? Is colour more important than fuel efficiency? It's these hidden emotional things that people really care about that should be made explicit when you're making an important decision.

Alongside PrOACT, we thought about two other strategies related to dealing with the two-body problem, called 'alternator' and 'complements' strategies, which are outlined in a February 2018 *Harvard Business Review* article (see go.nature.com/334jcse). The alternator strategy suggests that each partner could alternate with potential opportunities that arise. The complements strategy suggests that a couple could take complementary career paths that might contribute to success in the long term. In our case, I was interested in academia and Rachel was interested in a more applied role in wildlife ecology (with the state or federal government, for example), which we felt might help us to find two jobs in the same location.

We used these models when Rachel's postdoc opportunity at Massachusetts came up in late 2013, five months before she finished her dissertation. It was a no-brainer. But we didn't have an explicit 'this is your opportunity, next time it will be me' discussion.

DREW NEIGHBORS

Rachel Katz and Sean Sterrett in Denali National Park, Alaska, in 2015.

At the time, I had a postdoc lined up in Chicago, Illinois, a 14-hour drive away. But then at the eleventh hour, as I was driving to Chicago after dropping her off in Amherst, I found out about a postdoc position at the University of Massachusetts. We ended up literally two desks away from each other. It meant we were both making a reasonable salary and could stay together. These were important criteria for us.

I'm currently an assistant professor at Monmouth University, New Jersey. It's an amazing position, but as with most academic positions, I didn't have a choice of my ideal location when the job was offered. Because Rachel was able to transition to working from home, this meant that we had to trade off our ideal location to benefit both our career paths.

RACHEL: I see our current jobs as stepping stones on a long career journey. As Sean succeeds in his current position, we will re-evaluate our core values and assess whether we are reaching our long-term goals (for the next 20 years) to ensure that we can take advantage of opportunities that might come down the line and not be constrained too much. When I got my first postdoc in Massachusetts, I originally felt that Sean might be sacrificing an opportunity to pursue a really amazing opportunity in Chicago for us to stay together, and I wanted to repay the favour. I am so fortunate that it worked out. We got lucky that my employer was flexible and is accommodating to our situation (which was no guarantee). There were no rights and wrongs in any of these decisions, but the important thing we learnt was that, by using decision analysis, we were able to gain a greater understanding of the problem and our shared and unique core values and objectives. Sean and I have learnt to talk about the 'hard stuff' in a structured way, and to use our emotions in combination with data to make hard two-body-problem choices.

My advice to other scientist couples is to start thinking early about your core values and objectives, and less about specific alternatives (such as certain jobs or locations). What do you want out of life? Be creative, and try not to focus on the options in front of you, but on the options ahead of you. Ask yourself: 'What else can I do to achieve my goals?' Too often, we think we are only qualified to do *x* and *y*, and haven't thought about *a* and *b*. Try to get this grunt work done before important decisions have to be made.

SEAN: My advice to anyone in a dual-career situation who is looking for an academic role and wanting to use decision analysis is to consider the 'what ifs' early on. In academic-job pursuits, you apply for a job and, if you're lucky, you make it to a final shortlist of around ten people and are interviewed on the phone. Then you might get invited to campus. You don't have to make a decision at this stage, but if you get through all these hoops, you often have a very short time to decide, with limited information. In my current role, I had two to three weeks. So you need to think in advance about all the things that would eventually influence your decision if you were offered the job.

Through our own journey, we both realized that graduate school doesn't prepare you for the diverse range of meaningful science, research or conservation jobs available. Many programmes pigeonhole you as an academic, and train you at the highest academic level to be the best and the brightest in your field. When you're looking for mentors in graduate school, think about your career goals, intern or shadow as many different jobs as possible, and consider having a contract with your adviser that says: 'I'm not going to be you. I'm going to be me.' ■

Rachel Katz *now works as a biometrician for the US Fish and Wildlife Service.*
Sean Sterrett *is an assistant professor of wildlife ecology at Monmouth University in New Jersey.*