

...ascertaining predictive models from high-fidelity behavioral and social science data and discovering pathways for optimizing human biological, cognitive, and social capabilities...

My name is Adam Russell. I'm a Program Manager in DSO, and I'm a sociocultural anthropologist.

Now I admit that this may sound a bit like the beginning of a joke: "So an anthropologist walks into a Defense Advanced Research Projects Agency..." But I'm excited to have the chance be a social scientist at DARPA, and I'll tell you why.

I should start by clarifying what being a sociocultural anthropologist entails: This means I am interested in humans. Specifically, what makes humans "humans" and not some other animal, vegetable, or mineral.

And because I study humans, it also entails having to deal with subject material that often frustrates straightforward, linear approaches to analysis and understanding, which is why social science has been called by some, the "hardest science." Imagine how much harder physics would be if the behavior of electrons were to depend on how they "think" and how they "feel" at a given time or place.

So anthropologists—along with other social scientists—are interested in understanding our species' dispositions, our patterns and behaviors, which are shaped by the multiple social and material worlds that we create and that create us: worlds through which we move and interact; worlds that are, in turn, also altered by our very behaviors and patterns, and; worlds that today include new media for communication and levels of connectivity that are wholly unprecedented and whose implications are still poorly understood.

Now consider that humans and our natural and social worlds are also constantly changing, often at different speeds, to different degrees, in different ways—so that even when you think you had a good snapshot of the state of play in one small slice of the world at a given time, it probably doesn't generalize to the rest of the world...and, should you bother to look again at your original observation, it may not even be true any longer. Because those whom you studied might have read what you wrote about them and actually changed their behavior because of it. How do you study, much less understand, a species like that?

Well, one could point to how we've been historically trying to study ourselves, but even a cursory look clearly reveals there remain a number of deep technical and conceptual challenges. Fortunately, there are reasons to believe we can tackle at least some of these challenges in new ways, and the opportunities that these ways present are what drive me as a Program Manager at DSO.

From this perspective, here are just a few examples of questions about social systems that I would welcome your help in considering:

- How do you rigorously leverage the explosive growth of social and behavioral data to better understand, and perhaps improve, our different organizations and systems, our human-to-human as well as human-to-machine interactions, and unlock and enable human productivity more generally?
- What tools do we have, and what tools do we still need, to collect, analyze, and validate data that we can use to build robust, accurate, and interpretable models of dynamic, complex human social systems?

- How does the biological become the social, and how does the social become the biological? How might deeper understanding of the dynamic interplay among, and variability in, levels and systems reveal surprising new opportunities for quantifying, leveraging, and optimizing human biological, cognitive, and social capabilities?

If you have any experience with human beings, and I'm wagering you do, then these challenges may appear as technically intractable as they may be intriguing and important. But, to me, this means that these challenges are exactly the sorts of questions that could benefit from DARPA's mission to run towards, rather than away from, such high-risk, high-payoff areas.

So I invite you to engage with me, DSO and DARPA as we continue to try and accelerate discovery, and to be unafraid to bump up against fundamental limitations in the effort to learn how to grapple more effectively with the complex and surprising behaviors of ourselves, our species, and our social systems.

I look forward to hearing from you. Thank you.