Groups as Organisms: Psychology of the Noosphere — Part One

David Sloan Wilson: Okay, well, I'm so excited about this conversation that's just about to take place with Garriy Shteynberg and Jim Coan. Welcome gentlemen.

Garriy Shteynberg: Thank you.

Jim Coan: Thank you.

DSW: I want to give a couple of minutes of introduction. This conversation is part of a series called The Science Of The Noosphere. That term was coined by Teilhard de Chardin among others to refer to a mental dimension to human society. And Teilhard observed that while in some respects we are just another ape species, in other respects we're a new evolutionary process, cultural evolution.

And that made the origin of our species as important in its own way as the origin of life. And he asked us to imagine what he called tiny grains of thought, which then expanded and expanded until ultimately they were going to envelop the entire earth or a global consciousness that he called the omega point.

And when we talk about that kind of thing, it sounds like science fiction. We hear words like the global brain and the group mind and collective intelligence. And what's amazing I think as we're about to learn is how much that concept of a global mind, a group mind, extends back to the very beginning. That when we go back to those tiny grains of thought, we will find not individual thinkers, but it's like groups all the way down.

And the reason that's new is because of a tradition called individualism. For the last 70 years, we've just been steeped in the belief that the individual person is the fundamental unit. When in fact we got that wrong, there's a sense in which the group and the small group is a fundamental unit of human psychology, of human mentality, and that's what Garriy and Jim are experts on.

So, so amazing. Jim, I've worked with you, we've written a paper titled Groups As Organisms: Implications For Therapy And Training. And Garriy, the title of some of your articles are Shared Worlds And Shared Minds: A Theory of Collective Learning and the Psychology of Common Knowledge. And a new article Agency And Identity In The Collective Self: What Is It Like To Be a Group? And so let's begin by just having you tell us who you are as human beings and how you came into this line of work. Garriy, why don't you begin and then Jim.

2:45

GS: Sure. Great. Thanks for having me, David. This is really a dream come true. It really is. Okay. Well so yeah, my name is Garriy Shteynberg. I am an associate professor of psychology here at University Of Tennessee. My academic journey has been a circuitous one. I first wanted to be an organizational psychologist where I wanted to study organizations and businesses.

I guess I should say that my family immigrated here from Soviet Union when I was 11. So being the son of immigrants I was expected to do something extremely practical. So some business is what I was thinking I was going to do and quickly found out that wasn't for me while I was pursuing it. And I got really interested in cultural psychology in particular, cross-cultural psychology how people vary across the world.

Things like individualism, collectivism and power distance. In the end I found myself wanting more. And during my PhD, I took a leave of absence and went to Oxford to study social and cultural anthropology for a year. And that really opened up the flood gates to all sorts of ideas that I really needed to keep going forward and really keep going intellectually forward and staying interested and I came back to finish my PhD, which at that point I decided it's going to be basic social psychology.

And that's how I think of what I do is it's quite basic social psychology. And yeah, so I got my PhD in that. Let's see, you asked me about as a person I gave you the academic credentials. I'm a dad. I have six year old. I'm married. I speak Russian, English, and Spanish, trying to learn guitar, that's about it, I guess.

DSW: Okay, great. Jim, how about you?

4:56

JC: I really started thinking about social relationships, right from the get-go as an undergraduate, when I started working with John Gottman at the University Of Washington helping him bring in couples, urging them to fight, not a hard thing to do. And then observing how they fight and how they negotiate conflict and observing how that would go on to determine in part the future of their relationships and their health and their wellbeing and so forth.

At that point, neural measures applied to social interactions were either at their very beginning or had not been done ever. And I wanted to do it. So I, lacking the kind of measures that I wanted at the University Of Washington, I departed for a graduate school at the University of Arizona where I took a deep dive into basic neuroscience and clinical psychology simultaneously.

And just for kicks, measurement theory. So I got really into the design and measurement of things in my minor and my PhD. So I did a lot of years of just basic prefrontal cortex electrophysiology, and then started regaining my interests largely through my clinical work and returning to the domain of social relationships. And I've told this story a fair amount, but I'm going to tell it again real quick, as fast as I can.

6:45

I was doing a clinical case with a World War II veteran who had late onset PTSD. And he was unable to engage with the therapy because the therapy is exposure based. And that requires him to talk about the most difficult memories that he has. And he just couldn't do it. And at some point discussing our impasse, he asked if he could bring his wife in with him.

And I said, "Yeah, sure, bring your wife." And he did. And what happened was really extraordinary. It doesn't sound as extraordinary when you describe it. When you were there seeing it, it was like an electric switch. He would sit there, we would start talking about the memory. He would begin to cry and shake and tremble. She would reach over and clasp his hand. He would take a deep breath and then begin sobbing thunderously and telling the story his body wracked with tears. One of the things I learned immediately was that that handholding was regulating him somehow. It was changing how his brain was able to deal with the situation. And it wasn't merely regulating his emotion. It was doing something else. Because he got more emotional by all accounts, he got more sad, by everything I could see, when the hand was being held. But of course that's exactly what we needed to make the therapy work.

So I designed a study to try and simulate that, that's the bottom line, with fMRI, as anybody would, and put couples into the scanner, put one under threat of shock while they were either alone or holding hands and observed regions of the brain that are responsible for everything from threat vigilance to the regulation of effort become less active during handholding, even under threat, in the context of fMRI.

At first hand-holding for me was just a kluge, a way for me to study social regulation in the scanner. But I've come to realize that handholding is an incredibly important action that humans take and I've expanded my work. I use handholding in almost all my studies now, you find something that replicates keep doing that.

And I've really come to realize that the study…I am in part studying hand-holding, which is to say I'm studying the whole evolution and neuroscience of social relationships, it's the same thing for me. Hand

holding is like a thread you can pull that takes us through all of Tinbergen's four questions and teaches us a lot about how humans are fundamentally social.

10:06

DSW: So we can't really talk about this without social history. And I want to proceed by quoting two passages, which are actually from my paper with Jim, just to show you the sea change that took place in thinking.

The first passage is from Daniel Wegner, who was a Harvard psychologist, and he writes: "Social commentators once found it very useful to analyze the behavior of groups by the same expedient used in analyzing the behavior of individuals. The group, like the person, was assumed to be sentient, to have a form of mental activity that guides action. Rousseau and Hegel were the early architects of this form of analysis. And it became so widely used in the 19th and early 20th century that almost every early social theorist we now recognize as a contributor to modern social psychology held a similar view."

And now here's a passage from Don Campbell written in 1994: "Methodological individualism dominates our neighboring field of economics, much of sociology, and all of psychology's excursions into organizational theory. This is the dogma that all human social group processes are to be explained by laws of individual behavior that groups and social organizations have no ontological reality, that where used, references to organizations, et cetera, are but convenient summaries of individual behavior."

And so this concept of the group as the organism with its own mind is both old and new. As an old tradition it is a very distinguished tradition indeed, and occupies the early days of social psychology. But for the last 70 years, really, it has been thoroughly replaced by this tradition of individualism, which has become so pervasive that it's the proverbial water that the fish can't see.

And so that's why the work of you two, I think, is so new, at least against the background of the last 70 years of intellectual thought. And so maybe you could reflect upon that and then say a little bit about those early days. What the first social psychologists were like, what they got right? And of course we're going to go beyond them with our modern studies, but how would you comment or elaborate on this history that I've very briefly told? First Garriy, and then Jim.

12:46

GS: Yeah. I discovered social psychology via Durkheim, I had to go to Britain and take a course in social and cultural anthropology. So I could read widely enough to resurrect the sense that how social the individual is. Because certainly in social psychology proper, we're interested in cognitive conflict and individual values and priming and things like that.

But this idea of the inherent sociality of individual minds is well, serious psychologists don't study that. That's the stereotype. And lo and behold, so when I went to Britain, when I went to Oxford, I discovered how socially oriented the rest of social science is, and how deeply, socially oriented it is. And the paradox, I think, is it looked at psychology, at least at that time, it was just 2005, at least anthropology did, modern anthropology looks at psychology as a meaningful source of explanations because psychology is the science of the mind.

Then certainly psychologists have something really important to say about how the mind interacts socially and represents the social sphere. And then I went back to social psychology and I did not find that. It was empty. There was an empty space there.

Of course, I'm exaggerating a little bit. I mean, there's social identity there are the ideas of behavioral contagion and so on. And I would love to talk about those ideas and I just don't think they don't nearly go far enough in understanding how individuals represent themselves as social beings. But yeah, it was

really a wake-up call to the idea that social psychology as I knew it that I had read for the last 5, 10 years at that point, was highly individualistic.

And of course I already knew that to some extent, because I was studying cross-cultural psychology, but it took me reading outside of social psychology to really understand how individualistic we are in what we're interested in, and what we believe is worthy of serious study. And I think we're still there.

DSW: Exactly. This is still very much a minority position. So Jim, your turn.

15:35

JC: Yeah, well it's interesting to hear more about social psychology. I'm not a social psychologist, I'm a clinical psychologist. And my impression is that if anything clinical psychology is in a worse situation than social psychology is, or has been. I think historically though, my training is also in research methodology. And so a big part of what I think happened historically comes from some of the early introspection-based psychologies and responses to that.

So if you look in the early days of psychology as a science, you very quickly run up against issues that we still struggle with today of measurement. How do we measure things like, I mean, let's take an extreme example just to make it really clear. How do you measure the sublime? You can't, it's very hard to think of how to measure something like that.

But people were taking it seriously and they said, "Well, what we need to do is develop a really rigorous introspection." There's a gaping methodological problem with that, which is that it's not universally observable when it's your subjective experience. And part of what happened was the response to that, which was Watsonian early methodological behaviorism. We are not going to study anything that we can't observe directly. And the behavioral paradigm, which I'm super sympathetic to. I consider myself a radical behaviorist in many ways. A Skinnerian if you will, but that paradigm... Right. Scary monsters, zombies. But that paradigm really got stuck in individualism. And this is because it failed, as brilliant as Skinner was, because I think Skinner really took it to where it needed to go. Except poor Skinner was a product of his time as well.

And this is still the era when we're counseling people not to coddle their babies because it will spoil them, based on behaviorist advice. And so Skinner's still thinking well social contact isn't even a primary reinforcer. It's still jelly beans or that's still a little glib, it's air and food and temperature, these kinds of things.

But when you marry the reality of humans as animals to some of these behavioral principles, and you realize that the human animal requires a social network to do everything, to do all the things that Skinner worried about eat, sleep, get air, but also to think, to remember, to learn, to develop then things really changed.

So, in clinical psychology right now the problem is we're still left with a legacy of the canonical therapeutic intervention, which is expert therapist sits down with person who's got a mental problem and sets about working on that mental problem. This is ridiculous. I'm amazed that it works as well as it does, and it works pretty well. But the reason that it's ridiculous is that…

19:36

DSW: Jim, let me break in. One of the reasons that it works is that the therapist is providing just a warm human relationship with the client. And it has nothing to do with specifics. It's just, there's at least one warm human bond now between the client and the therapist.

JC: Well, and I think a lot of the fuel there is that the client and the therapist join together with a shared goal and they start having what's called a three-way interaction where they're both looking at the same goal instead of just each other. That's a type of social interaction that is absolutely vital. We think of

social interaction is you and me conversing like we are in this situation, but a more common social interaction is you and me walking through the world, looking at the same stuff, orienting our minds towards the same goals and joining together as a larger organism with the same hands and feet.

20:41

DSW: Yeah, that's well put that's very nicely put. Yeah. And there's a whole story to be told why individualism, and it's a complex story. It's not just a bad ideology that came and now needs to go. No, it has to do with reductionism and so much more. And we'll tell that story later, but let's fast forward to the present to your own current work.

And describe for us, how can we think about small scale social interaction as a miniature, or you might say a micro-noosphere, this mental dimension of human society that Teilhard talked about and that we think about at a large scale, shrink that down and think about it at a small scale for every human cognitive process, memory, perception, decision-making all of that as fundamentally a group process. I think, that's what your work represents. And Jim, why don't you begin this time? I think I'm describing what you call social baseline theory. Why don't you introduce that—which I think is a continuation of what you were getting to.

22:07

JC: At rock bottom, at its baseline, you might say, social baseline theory is the proposition that every human perception is in reference to social resources. That's a big claim. I grant, that's a big claim, but we have an increasing international database in support of that claim. Not just our lab.

We have done some of our own work and my colleagues here at the University Of Virginia have done some of our own work showing at the very least that people literally see shock threats, that we present in the scanner, differently when they're having their hand held. It's a pretty abstract example. My colleague Denny Proffitt has shown that when you are perceiving the slant of hills, that hills are steeper when you are alone and hills appear to be less steep when you're standing next to a friend.

Now, this kind of thing—and by the way, you mentioned Dan Wegner earlier David, one of Dan's major contributions to my work and to, I think, social psych theory in general is the idea of transactive minds in particular what you call transactive memory, which is that small groups remember together. This is exactly like the kind of thing that Garriy has been writing about. That we learn together and that we do so efficiently, which is just the way a single brain is organized. Single brains are organized efficiently. Small groups are organized efficiently. What does that mean? That means that we distribute our minds non-redundantly. You do some of this, I do some of that, together we're much more powerful than either of us would be alone. We have been looking at also how the self is represented in the brain as a function of togetherness versus being alone.

24:27

And one of the things that we find is that we find, I think, compelling evidence that the self is a process, a verb, not a noun that draws on materials to build itself. And one of the core materials that the self draws on is the social milieu in which you operate so that you construct yourself based on your social relationships.

And this sounds perhaps metaphorical, but it's not. It's material right down to the way that your neurons fire. So one of the things that we found is that when we, for example, place your good friend under threat of electric shock, your brain looks almost identical to the way it looks when we place you under threat of shock. If they are really frightened of the threat so are you. If you assume that they find the threat not threatening, then you don't find it threatening to yourself either.

This did not obtain when looking at strangers at all. So you look really different. You seem to know that strangers maybe ought not be shocked, but you're not assuming that they're going to respond the way that you do. You're not representing them as you. And we think that this overlap in the self and the other is the mechanism for how being around others alters our perception. Our brain comes to encode their resources and the demands they face as our resources and the demands we face.

And so when we move through the world in reference to our social resources as well as our own, our brain budgets our own resources differently depending on access to them. This is why when they're near us, the hills look less steep because we assume that we have their resources as well as our own. And that change in perception alters our motivation for walking up the hill. Now, it's safer to walk up a hill.

27:07

DSW: Jim, I wanted to get this in somewhere in our conversation it might as well be now. Is it the actual physical act of touching? I think, it can't be that specific, but there must be some sense in which the social resources are communicated and perceived by the brain, just on the basis of social support without there having to be a physical contact, would you just comment a little bit on touching per se, as opposed to your social resources more general.

JC: Like everything in nature, like everything that our body and brains do, our behavioral options are organized hierarchically in terms of their signal value and their cost. Particularly, their cost. One of the most important things that we do is know our proximity to our social resources. There's a lot of ways we could know that we could know that by having a phone conversation. We could know that by standing next to our friend, or we could know that by pressing our bodies in some ways up against our friend.

The answer to your question, broadly, is that no, handholding isn't necessary. But hand-holding is the easiest way for our brains to know that we're in the presence of another person, it's the least ambiguous. And so it requires the least specific kind of processing of perceptual information. There's a privileged nature to touch in terms of communicating the presence of another, but it's not necessary. We have other tools eyes, ears, smells, and this amazing ability to talk to each other and all of this stuff contributes.

29:05

DSW: That's a great answer Jim, a really great answer, and it makes you realize how much such things as no touch rules can inadvertently create problems. And I also wanted just to mention on distributed memory, how much scenarios of human cultural evolution and human evolution places an emphasis on just that. And that the need for an increase in the scale of society, basically the tribal scale of society, just to hold the information that's required for the culture.

And we have examples such as Tasmania and other examples in which when the size of a human population was shrunk, they lost their cultural toolkit. There just weren't enough heads in order to contain that information. So that's very deep in our current understanding of the evolution of our species from the beginning.

JC: We have pop psychological names for this. We've all maybe heard about the idea of a brain drain. That certain regions of the country or the world, becomes access to get out of an impoverished situation or a particularly dangerous situation by virtue of something that you know, you leave. And the location of origin then suffers from the loss of your brain.

DSW: Yup. It's happening in Hong Kong right now as we speak. So Garriy, please take your turn. Some wonderful examples of group mentality.

30:56

GS: Yeah, well that was wonderful hearing Jim describe his research. I think we complement each other quite well because my interest is how human minds represent their reality. So really I'm interested in representation. And I'm interested in the distinction between semantic representation—I'm going to get to the social part in a second, but this is just in lieu of background—semantic representation where facts, figures, perceptions just appear to us.

And then autobiographical or experiential representation. And this latter mode of autobiographical experiential representation is really interesting. Why is it so interesting? Because then in this latter mode, you don't only represent the object, the room, the person, whoever you're interacting with, whatever you may be seeing at the moment, but you're also representing, quite literally, a perspective, one's own perspective on the thing.

So the mind does this amazing dialogical thing, if you will, where it's representing the self in relation to the world. It's representing the agent in relation to the world, where am I looking at? What is he thinking? And so on, so it's an amazing feat. And some would say this is the seat of consciousness, or maybe a type of reflective consciousness is right there.

And this has been explored ever since William James. And of course before William James, you can find it in philosophy before psychology, this idea between the I and the me. This distinction between semantic facts or objects that we can be representing. And then the experiential self that we could be representing the I.

33:01

What I find really curious about this tradition is that we have not considered the fact that just like we can represent an individual agent in the given situation, think of ourselves as an I. We can also consider and represent the collective self as an agent in a given situation and think to ourselves hey, we are here, we are having this conversation. We are looking at X, we have the goal of Y. It is still happening within an individual mind, just like the representation of the I, but it's a different kind of representation. It's a collective unitary representation. And my work has really been about, first of all, describing this sort of phenomenon, talking about why it's relevant for human cognition and groups, and then, telling a theoretical story about its place in human cognition and groups.

And this is the way I love the contrast this sets up between social baseline theory and my work. So, Jim mentioned the idea that when we do things together, working on a goal together, that's a quintessential social act. I would argue that this conversation has a lot of similarity to pursuing a goal together, even if it doesn't appear exactly like that superficially. How so?

34:58

Well, when I'm talking to a person I'm constantly monitoring what they might be thinking. So I'm representing their cognition and their awareness of the world, if I'm to adjust myself to them. I'm also thinking about my own thought patterns and my own perceptions. So I represent myself as well. And what I might be seeing. So I represent both of those agents and their perspectives, but there's a third agent that I must also represent. So the theory goes.

And that third agent is a collective—we. That is, I'm thinking about what we know together. What our goal here is. And I would argue that that third agent, which is just as psychologically real as the other two, they're all psychological constructions, they're all psychological representations. Their reality is co-equal. That third agent really binds the actions of the other two.

It creates the common ground, right? It's all important because by knowing what we all know in the situation, I can then ask meaningful questions. I can say meaningful things that you will understand. Had

I not been prioritizing the collective agent's point of view there'd be less ability to understand one another. So, that's the maybe philosophical background to what I do.

36:41

The kind of empirical work that I do puts people into situations where they believe they're synchronously experiencing something with someone, or they're experiencing something with someone slightly asynchronously.

It could be as little as five or 10 seconds apart. So they know that the other will experience it either before or after them, but it's not quite at the same time now, why should that matter? Why should that matter? From the perspective of mentalizing or simply taking the perspective of the other, you can take the perspective of the other just as well when they're in the moment then if they're going to be attending five seconds after you attend.

So mentalization shouldn't really be impaired by this kind of manipulation. What I believe is impaired by this kind of manipulation of asynchrony versus synchrony of core attention is this representation of a collective self knowing something. The representation of the idea that *we* are attending to something in the moment, whatever that may be. And that kind of representation prioritizes whatever it is, in the eye of the beholder of that agent, whether it be a goal or an object in the environment, an emotion and emotional response and so on.