

**Ask A Genius 104 – Jonah and the Octopi - ‘There’s Just Something About Octopi’<sup>1</sup>**  
**Scott Douglas Jacobsen & Rick Rosner**  
**March 1, 2017**

[Beginning of recorded material]

Rick Rosner: The big brain has to some extent trust the arm brains to run their arms. So an octopus’s consciousness is going to be different a little bit from ours. In that, the octopus’s brain is, to some extent, along for the ride of what the arms are doing. We’re usually not aware of the mechanics of walking and they talk about baseball pitchers and other athletes getting really screwed up if they become overly aware of the mechanics of the actions they made hardwired into themselves. If you practice your sport for 12 years, and you’re highly skilled, and if these highly synchronized motions involved with pitching the ball are second nature to you, then you start thinking about them, it can ruin the hardwired elegance and effectiveness of your motions. There moments of greatest focus and athletic excellence that their consciousness—they become mindless, which might mean so much of their mental and cognitive resources are being devoted to super-precise actions in the moment that a lot of the normal chatter goes away.

That’s just for us with our skeletal-based bodies, with limited possibilities for motion. Imagine being an octopus that is trying to run itself while it’s eight arm are doing eight super-crazy, sophisticated things. Octopi can take forms. There was one on the sea floor. They watched it mimic the shape of 8 different sea creatures by reconfiguring itself into what it thought would be best in terms of camouflage. It is sophisticated stuff that the main brain may not always be aware of. It is similar to what you were saying in a 100-bit cognitive system (off tape). Some of those bits may be subconscious and performing sophisticated, semi-sophisticated, functions in some central arena that is watching what is going on. An Octopus is kinda somewhere between human consciousness and, say, ant consciousness. Where an individual ant has ‘meh’ consciousness, it’s going to be in the vague fog of perception that comes from having limited perceptual and cognitive apparatus.

Then you can imagine that ants working together form some kind of greater consciousness, which is really not the way it is. But you can imagine some creature with some kind of swarm consciousness, where the creature is all functioning together—but no one creature is in charge,

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<sup>1</sup> Four format points for the session article:

1. Bold text following and including “Scott Jacobsen:” or “S:” is Scott & non-bold text following and including “Rick Rosner:” or “R:” is Rick.
2. Session article conducted, transcribed, edited, formatted, and published by Scott.
3. Footnotes & in-text citations in the interview & references after the interview.
4. This session article has been edited for clarity and readability.

For further information on the formatting guidelines incorporated into this document, please see the following documents:

1. American Psychological Association. (2010). Citation Guide: APA. Retrieved from <http://www.lib.sfu.ca/system/files/28281/APA6CitationGuideSFUv3.pdf>.
2. Humble, A. (n.d.). Guide to Transcribing. Retrieved from <http://www.msvu.ca/site/media/msvu/Transcription%20Guide.pdf>.

like bees. Although, bees don't work like that either. Basically, you've got a creature with a thousand separate bodies communicating with each other.

Say a flock of starlings, but starlings don't work that way either, you can imagine some alien creature, where it's got a bunch of mini-brains in its thousand bodies and the bodies are connected by some biological wireless server, so the thousand mini-brains in concert form an aggregate consciousness, and the octopus would be somewhere between us with our largely centralized consciousness and—my syntax fell apart. Anyway, we've got central consciousness, where we like to think everything we know we know consciously, which is not entirely true—but is more true for us than for octopi. They do a bunch of stuff, but the central brain is not fully conscious of it.

**Scott Jacobsen: Marvin Minsky has an idea. He wrote a book. The book was called *Society of Mind*. I have talked to Sven about this at length. He mentioned that book a lot. [Laughing]**

R: Yes.

**S: Marvin Minsky's book remains, in basic principles, akin to the idea of a 100-bit—not as in information bits, but as nodes—described before with a certain amount of administrative work, relays, and actual consciousness arena of manipulation of information in addition to the description you've provided of octopi.**

R: Yes, I agree with the society of mind thing. I think there's a mathematics of geometry that can picture the various mind-spaces, or cognitive spaces. Ones that are centralized. Ones that are less centralized. If you cut off an octopus's arm, that octopus can still do a lot of stuff. You can imagine that you can sedate an octopus's main brain, or damage it, and the octopus can still function just by—via—the limited awareness and abilities of the arm cognition.

We've been talking about how a cognitive space or a conscious space—a representation of that information—might look like a universe. In a highly centralized conscious information space, you'd have a highly populated central part of the universe with lots of galaxies going on. You can imagine an octopus's information space that has a less populated active center and a bunch of more self-contained black hole-ish galaxies that only share a limited amount of information that is being shared with the central information space.

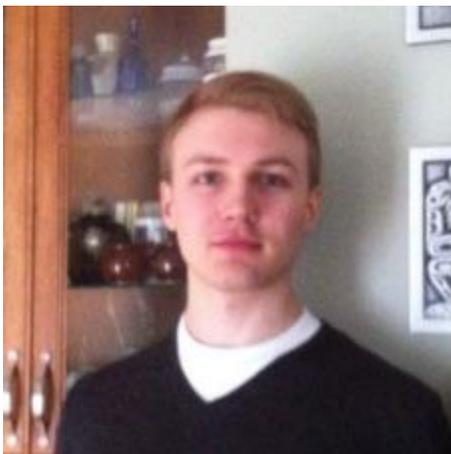
A lot of the information never making it out of the arm processing, the fine information being confined to a closed off, semi-closed off, information structure like a black hole galaxy that only gives you a trickle, or only least a trickle, of information that is being processed within the arm. Anyway, to sum up, there's a math for that, for octopi consciousness, for human consciousness, and some kind of crazy swarm consciousness.

[End of recorded material]

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