Ask A Genius
Set VIII

SCOTT DOUGLAS JACOBSEN

In-Sight Publishing

ASK A GENIUS: SET VIII

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Acknowledgements

To three generations of women who support and tolerate me - my mom, Ruth, my wife, Carole,

my daughter, Isabella.

Rick

To the love in my life, forever lost and kept.

Scott

ASK A GENIUS

Introductory Note

Also, as a general note, the title of the series references Rick, not me, based on mainstream standardized test scores for standard psychometrician and psychology definitions of genius based on rarity of cognitive abilities out of the general population in addition to the scores on alternative high range tests and the scores there, even with the caution and care in consideration of the greater margin of error with alternative tests and the higher implied sigmas from the aforementioned high range tests. Whether mainstream or not, the title maintains some justification. Nonetheless, more or less, this amounts to two friends having fun and playing around once in a while. Thanks for tuning into us.

Scott Douglas Jacobsen

Ask A Genius 377 - Ground Control to Quora Tom

Scott Douglas Jacobsen & Rick Rosner

September 9, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What are some of your comments on the Quora commentary on IC? We just saw it.

Rick Rosner: It is June 11, 2018 today. And you just pointed out to me this Quora thing. Question: "Why do you think Rick Rosner's theory of the universe is valid or not valid?" It went up in April, 2017 - 14 months ago.

About 500 people have looked at the question, as far as I can tell, and, maybe, 5 people responded to it. The responses were pretty legit in my mind. The first response was, maybe, the most extensive. It, in a nutshell, says, 'If this is going to be a real theory, it should be presented as a real theory. You should not have to wade through a 218-page interview to get a sense of what it is about. It should be in a legitimate forum with math and the proper framing, and all of that stuff.'

Thing one, you do not need to read 218 pages to get a sense of the theory. You and I did an extensive interview, but only 20 or 30 pages talk about the theory. Those are legitimate criticisms. If the theory, if at all possible, wants to receive the proper consideration, it should make predictions and conform to existing experimental data and observational data.

It should make predictions that can either come true or not. If they didn't, it would tend to prove the theory false. That's, according to a standard picture of how science works, how science works. Scientific theories make specific predictions and once those predictions are measured experimentally or evaluated experimentally then that helps determine the fate of the theory.

There are some objections. I have some quibbles. According to roughly the same theory of science, old theories putter along accumulating glitches - that is, experimental results that do not entirely conform to the experimental predictions and then being modified to see if they can fit those experimental results and, eventually, getting rickety like an old jalopy - until a better theory comes along and can fit more experimental results and offers a better point of view.

A little bit or a lot bit how Einstein's General Relativity supplanted and expanded Newton's Theory of Universal Gravitation.

[End of recorded material]

Ask A Genius 378 - Supplanting and Expanding

Scott Douglas Jacobsen & Rick Rosner

September 10, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: How does the supplanting and expansion of Universal Gravitation by General Relativity lead to some thoughts about IC?

Rick Rosner: When Newton set up his theory of Universal Gravitation, that all the matter in the universe attracts all the other matter according to the formula m/r^2 or m/d^2 where "d" is the distance between the two masses who's gravitational force is being measured.

There is some little bit of evidence that he considered trying to account for the dimensionality of space but then threw up his hands and said, "We are going to assume that it is a background that exists.' I do not know. I am not a historian of Newton.

In any case, Newton assumes a fixed space of three Euclidean spatial dimensions. I do not know if he talks about a time dimension, but he talks about a straightforward Euclidean flat space in which all the gravitation happens.

Einstein comes along and presents gravitation as a bending or deformation of 3-dimensional space, where under Universal Gravitation objects follow paths that curve because of gravity.

But under General Relativity objects, including light, follow geodesics, which are the general relativistic equivalent of straight lines and it is space itself that is bent by the presence of mass.

It accounts for more stuff. The math is harder. But it lets you do more stuff, including having a picture - namely, the Big Bang - of the dynamics of the universe. But it still assumes space exists.

There are people like Wheeler who try to come up with programs like "It from Bit," which is looking at the universe as a giant processor or a big computer. Somewhere included under that effort is the idea that the information of the universe should also determine the structure of the universe.

That the relationships among the particles in the universe should determine how space is shaped. That there is no pre-existing space where things play out. That space should follow from the theory - why space is three dimensional but bent by gravity.

It should all come out of some overarching theory of how information works. Einstein was a step forward. But there is room for further steps forward. My theory in the Quora responses has been legitimately criticized for being hand-wavey and not sufficiently turned into equations.

Those criticisms are legit. At the same time, there have been hand-wavey theorizers in the past. They, often, didn't make the 100% persuasive case for their theory. They simply got some retroactive credit, like Immanuel Kant postulated "Island Universes."

By which he meant, there were other galaxies in the universe. I forget what his logic was or if he assumed that there just can't be one galaxy. 200 or 300 years later, he was proved right and is mentioned when stuff is written up.

But he could not prove his supposition 200 years before there were not sufficiently powered telescopes to prove the existence of other galaxies. Wegner was the continental drift guy. There was one guy 300 years before him who said, "It looks like the continents might have initially fit together."

No mechanisms were proposed. That is the guy from 1500 or 1600 gets some retroactive credit. Gamow himself, one of the originators of Big Bang theory was notoriously bad at math.

So, he had to work with other people to help him mathematicize it. His theory did, indeed, contain a lot of math about nucleosynthesis, what elements would be formed in the Big Bang and what elements would be formed later in stars as stars cooked later.

Even though, he was bad at math. He did get some math in. His theory gets credit.

[End of recorded material]

Ask A Genius 379 - Mathertime

Scott Douglas Jacobsen & Rick Rosner

September 11, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: You have an announcement. What's up?

Rick Rosner: I am happy to announce. At the prodding of a mutual friend, who took Lance, J.D., and me out to dinner, Lance said, "Why don't you put your science money where your science mouth is, Rick, and actually start working with some scientists to see if your work goes anywhere?"

I started some baby work with a professional physicist named Dylan. He said we can get a paper published in a journal, which can discuss one falsifiable aspect of our theory. That is, if the universe is older than it appears to be, then there should be stuff in the universe that appears to be older than the age of the universe.

For years, you and I have been sending article links back-and-forth to each other about the universe is as old as this and the universe is as old as that. Often, the plus or minus on this old thing, whether a white dwarf, an early galaxy.

They find a galaxy 12.8 billion years old plus or minus 2 billion years with the plus end, making it 14 billion years, is old than the Big Bang age of the universe. There is a lot of stuff out there.

As a first project, I want to put together a compendium of all the candidates for all the stuff that, potentially, the general class of objects or classes of objects and the individual objects in the universe that have the potential to be older than the cosmos.

I will get feedback from you, Scott, and also credit you in the paper. But things are starting to turn. What we have been doing has been doing, that is, to the extent that we have been doing this stuff, I believe somebody could build a relatively complete understanding of what we're trying to do, and what this project's pluses and minuses are.

Where it might agree or false short with experimental evidence, but, I agree. It is time to put a few science clothes on, to see what on it can be done via standard science channels. Do you agree with that?

Jacobsen: It seems like a good idea to me. I note two points of contact within the conversation. One in the academic world. One outside it. Both seem partial and legitimate but not complete.

On the inside, academia seems to work as a means for quality control, to keep cranks out of the mainstream conversation. It provides basic training for people who will work with those leading in the field.

So, it provides the proper skills, the proper knowledge, and keeps cranks out. On the outside, it can prevent people who legitimately may have revolutionary ideas out of the conversation.

Rosner: I agree with both of those things. However, the math and demographics of it. There are many more cranks than people who have revolutionary ideas that turn out to be good. So, though, it is a baby with the bathwater situation.

You have to limit cranks. Otherwise, nobody ever gets anything done because you're dealing with people wearing tinfoil hats. 99.9% of the theories on the outside will be not great. On the other hand, you may be missing a potential revolution. But the math is daunting.

Project one may lead to a paper. Under that project, any good theory of the universe should be able to go from the laws of information to the structure and dimensionality of the universe.

With that in mind, a baby step in that direction would be a paper that discusses whether there is more space if you could observe space from inside a black hole or an apparent black hole than the amount of space as observed from the outside (the black hole).

Even that sentence, it has a lot wrong with it. A black hole probably contains a singularity. So, there is nothing inside of it. So, that needs to be modified. But the general idea, there is a concentration of matter you'd find in a planet or a sun, or a neutron star, or something that approaches a black hole.

It might define space to such an extent that the scale of space is shrunk down, which effectively makes more space within that object, more volume within that objects. To the extent, that I think there is no such thing as a black hole.

Because the processes that make for a black hole shrink space down in the black hole. You get a black hole when gravitational forces are so strong that they overcome all possible forces in the universe and then it squishes down to zero radius down to a point - a fuzzy quantum-mechanical point but still a point.

Under a theory where the interactions among matter define space, you never get to the maximally squashy point because matter creates its own extra space by defining space more and more precisely as it shrinks down, as the ball of matter shrinks down into itself.

Until, at some point, you reach a limit of compactness. That is where things get hung up - and that stops short of being a black hole. Project two would be examining the math of that. If there is more space in an object with a gravitational field than you would think than observing that object from outside and using normal geometry, I did a rough calculation.

It would be on the scale for something on the Earth - mass and radius of the Earth. The extra space would be, if you could do it, the diameter of the Earth observed from inside of the Earth if you could somehow do it.

It would be 8 millimeters wider than if you viewed it from 100,000 miles away. A tiny little effect, 8 millimeters different in a measurement of an 8,000-mile diameter. Dylan, the physicist, was excited about the first idea.

We have not gotten into the second idea in depth. Since he is a traditionally rooted physicist, We will see if he is as persuadable. He is an enthusiastic guy. It is good he is willing to dive into it. But I feel I will need to do more fast-talking to talk him into idea number two. That is all I got for this.

[End of recorded material]

Ask A Genius 380 - System of a Diagnostic

Scott Douglas Jacobsen & Rick Rosner

September 12, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What else on Quora commenters?

Rick Rosner: One of the claims of the theory is the universe possibly has consciousness because we tend to think that any sufficiently large and broadband sharing of information in a self-consistent system will likely have the kind of awareness that we consider consciousness.

That it is one more kind of system diagnostic. One more reflection of the world that the system can comment on. That an information processing system is analyzing some chunk of the world.

In humans' or other animals' case, it is the world that has immediate significance to that individual. Among the things significant to the individual are the individuals' thoughts to themselves. They are one more thing for the system to comment on, analyze, and share with itself.

That sharing with itself. The self-commentary is not a lone consciousness. That is a mistake everyone makes. The sense of hyper-reality from super-powerful analysis of the information under consideration and the feel of what comes from that is what consciousness is.

It seems reasonable that the powerful information sharing within the universe itself is strong evidence that the universe probably has consciousness. The universe has consciousness.

One of the commenters on Quora said, "I see no room in the universe for consciousness or a soul." I know he didn't see room for a nodule for a soul. That is the immediate image I got from that comment.

To be clear, there is no special nugget in our heads, I feel, or in the noggins of any conscious being, or in some realm beyond; no nugget inside or beyond our brains. Unless, you consider the entire mind its own magic nugget.

But rather, consciousness is a global characteristic found in the process of all the information being shared globally. That there is no one place that consciousness resides. That it is the feeling of fleshed-outness that you get when you get a hunk of pertinent information to the thing that is powerfully analyzing that information.

That information is being continually shared among specialist subsystems. That is a global thing. Everything becomes fully painted, fully fleshed out to the degree that your awareness can do it.

Awareness when sober is different than awareness when shitfaced. Your painting is way crappier if you're drunk or if you're a grasshopper or a dog. It doesn't have all the dimensions and all the depth.

Regardless, it is still a global phenomenon of information sharing among all the parts of your brain that are part of that information sharing system, which doesn't include the stuff that you're unconscious of.

Consciousness is the conscious arena; the place where information goes when it meets the entrance requirements to receive that global, multidimensional consideration because it is not straightforward like walking or breathing.

The end.

[End of recorded material]

Ask A Genius 381 - Outliers, Hang-Abouts, and Deviants

Scott Douglas Jacobsen & Rick Rosner

September 13, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What are some of the things to focus on for the outliers in astronomical objects?

Rick Rosner: A list of stuff older than the universe would be a good start, and what would happen if gravitation is attenuated in black hole type situations. In IC, it postulates a universe much older than its apparent age and dark matter may be super-collapsed matter functioning as galactic haloes.

That points at certain suspects in stuff that could be much older than the universe and most, if not all, of the stuff, is hard to detect. It is right on the edge of being detectable. Stuff one might be brown dwarfs, stars below a certain size burn all their matter and end up being a ball of, I think, oxygen nuclei and possibly iron but fairly heavy nuclei.

They are not heavy enough, though, to collapse the star further and do further fusion. Because it is only through fusing, and fusing, and fusing, and fusing, until you get down to iron, that you can't do any more fusion.

If it is a big enough star, the density of all the iron collapses the star into a neutron star. This is ignoring the various red giant phases and supernova explosions. One of the last stages of a star that is big enough.

Three end stages of stars: brown dwarfs for little teeny stars, neutron stars for medium size, and black holes for bigger ones. Plus, there are probably some other things that I do not know. But once something hits a brown dwarf, it is a big ball of heavy nuclei plus the electrons, just out there in space and barely radiating because it is a thing that is not fusing anymore.

It is still hot because it was fusing; but now, it is not actively generating energy anymore. If it is, it is simply from further gravitational collapse, but it is hard for it to lose radiation because it is in a vacuum.

Like a thermos, it can't conduct heat through direct contact through stuff. And it is small and it is super dark. A brown dwarf would be hard to detect and could hang out for a long time cooling and cooling.

But they have detected some brown dwarves that are cooler than they ought to be, given the age of the universe and the age of our galaxy. If they found a bunch of these that are way cooler than they should be, a level of coolness that could be attained after only 30 billion years, it would be noteworthy as being a problem with Big Bang theory.

Then you can look at the other end of the universe – far, far away from our galaxy. You can look far back in time from our galaxy, where stars and galaxies have formed way too soon after the big bang.

If you find clumps of matter that formed way faster then you expect them too, given the young age of the universe, because the farther you look than the further back in time that you look, then that points to some things that might be older than the apparent age of the universe.

And we can look and see what other stuff that we could see that might be older than the apparent age of the universe, possible candidates and actual candidates, which have been found and need an explanation as to why they're younger, even though they show evidence of being older than 13.7 billion years.

[End of recorded material]

Ask A Genius 382 - Almost, But Not Quite, So Never

Scott Douglas Jacobsen & Rick Rosner

September 14, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: You once asked me, "What would the physics be like if the force of gravitation is attenuated as you're collapsing an object - a potential black hole for instance - reaches an escape velocity of close to the speed of light?" Let's explore this.

Rick Rosner: I believe gravitational force is not just a function of the matter in an object being attracted to all the other matter in an object. But it actually has something to do in interaction with the rest of the universe.

The way Mach's principle postulates that inertia is the interaction between a stationary or a moving body against the background or versus the background of all the other matter in the universe.

If gravitation has a Mach's principle type thing going on, it doesn't even have to be a strong Mach's principle - and in fact, it is probably a weak Mach's principle based on what I have been thinking about the last couple of days.

If the matter is defined in space, if the fuzziness is reduced by all the interactions it has with all the other matter in space, I used this analogy a zillion times. The universe is a giant gunfight. It detects every participant in the gunfight by bouncing every particle off every other particle.

Everybody is shooting at everybody else. The universe roughly knows where everything is with all the shooting and bouncing going on. The universe detects itself. In a collapsing body, you have an extra gang fight going on, with more bullets being shot.

Because as you have a sphere of matter that becomes more and more dense, the closer all those particles get together and to each other, then the more particles they can exchange. That probably includes virtual and real particles - black holes are hot.

The things collapsing in black holes are hot. There is a lot of radiation floating around. I would guess that this extra level of interaction - the extra bullets hitting all this collapsing matter - serve to define matter in this collapsing object more precisely in space, which has the equal effect or equivalent effect of making space more capacious.

Because particles are more precisely defined with extra interactions that reduce their de Broglie wavelength. That has the equivalent effect of increasing the apparent size or scale - actually shrinking space - of space.

So, smaller particles are the same thing as bigger space. If you are looking at a picture of particles, enlarging the space looks the same as shrinking the particles, I am guessing that within a near black hole; there is more space inside of it than outside of it.

Because space inside a black hole is more capacious and the closer it gets to a black hole then the more energy the particles accumulate or, rather, the more and more tightly defined that they become.

They become, apparently, smaller and space becomes apparently tighters. That is, there appears to be more space within a near black hole. So, you never get to the ultimate collapse because the more these particles interact with each other.

The more these particles interact with each other. The more they shrink space; the more they are precisely defined. And they never get to the point of smashing into each other with such compressive force that they go to a singularity, or even to an escape velocity greater than the speed of light.

I think we could do some math on it. It could be a publishable thing.

[End of recorded material]

Ask A Genius 383 – Cudgels of Stupidity

Scott Douglas Jacobsen & Rick Rosner

September 15, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What happens when power enters the wrong hands?

Rick Rosner: Cudgels of stupidity that end up in the wrong hands, end up in the hands of people with no morality.

Jacobsen: If we look at the lies of Trump, they continually catch up with him, in some manner. It doesn't amount to any strict action. However, it does catch up. People lose respect for him, see through him.

Rosner: If you look at his popularity ratings, they started at 50% because people were willing to give him a chance, but then they slowly sagged into the mid-30s and often for the high 30s. Now, they crept into the 40s.

Because people have had a year and a half to consider Trump. They figure: if they like his agenda, then they can deal with the terrible crap that he does. The conservatives are much louder in shouting their conspiracy theories and in what they think is good about Trump.

People who think Trump is terrible to outnumber those who think he is okay. But there is not a concerted effort on the non-conservative media to contextualize Trump to make people understand in a yelly way - the way the conservatives do - to make people who hate Trump to structure it.

It is structuring it so we understand why he's terrible. But we have a harder time than the conservatives in making the leap from him being terrible on a personal level to why it is terrible for the country.

Conservatives can tell you Obama was terrible for the country. They can tell you Trump is great for the country. I don't think non-conservatives have that much-structured argument. We know things suck.

But we do not have as much clarity as the conservatives, which is a bad thing.

Jacobsen: It comes out in who farther right conservative Republicans direct their vitriol at or heaviest critique. The heaviest critique does not lie with the Democratic Party.

It lies with Islamic terrorists. That form and minority of Islam is Islamist, and so a political form of it. If I reflect on what they point to, they could point the finger back. In their own party, they have Dominionists and Reconstructionists.

Rosner: Every time, or often, I go to work with Lance. When I walk in, he's got a podcast going. Some conservative guy is yelling at him, just yelling and making some complicated for why everything is a Deep State conspiracy against brave conservative figureheads like Trump.

Then it is making those arguments at the top of their lungs. Liberals do not have people yelling like that. We have people being reasonable. I am not sure the reasonable people helping people coming to their own conclusions is as effective as the yelly conservative guys on the other side.

Jacobsen: That leads to a question, "Do most Americans seem equipped to think critically and rationally about issues facing them in the modern world, at least in their own country?"

Rosner: Yes, most do. But there is a segment of people - a big thick segment - who don't have the time, interest, or, in some cases, the wherewithal to think critically. Not everyone wants to watch three hours of political news a day.

They want stuff digested for them. For those people, there are conservative media providing powerful, simple arguments for them. I do not see powerful arguments being presented as much on the liberal side.

The liberal side is more do-it-yourself. Here is the news. Here is what's going on. You guys build a worldview based on the news we're bringing to you. But I would think a segment of the population would be okay being yelled at from a non-conservative point of view, and being persuaded by the yelling and the simple, powerful arguments.

I think people susceptible to simple, powerful arguments are not just Trump people, except Trump and conservatives are the ones making the loud, powerful, simple arguments.

[End of recorded material]

Ask A Genius 384 – Baited to eBay

Scott Douglas Jacobsen & Rick Rosner

September 16, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen:

Rick Rosner: Close to 30 years ago, when my wife and I first moved to LA, she worked at a small company. It had become fancy and medium-sized, and had become wildly popular in a 1980s dynasty nighttime soap opera way. It was a fragrance company.

It was the Reagan Era with big hair and shoulder pads, and a certain amount of excess. My wife was working for a company caught in this tide of elegant and slightly excessive living. We don't live excessively. She'd go to work and come home, and say, "Wow!"

She was intimidated because coworkers would be wearing Chanel suits and big cocktail rings. This was when people wore a lot more jewelry than they do now. I was mostly unemployed. She would come home. I might still be in my underwear because I'd be working on this novel all day, which is really not working.

My work: I would model for art classes and bounce bars. So, I was mostly unemployed. I couldn't help her buy Chanel suits or cocktail rings. But I wanted to do something for her. So, I looked into making jewelry.

Happily, I was surprised to find jewelry has a huge markup. The difference between the retail cost of jewelry and the cost of the materials can be 10-fold. I began making jewelry for her. I could make crazy stuff because I could make it cheap.

I made her a brooch/a pin for her lapel, which had 70 karats of amethysts and blue topaz. It cost less than $100. I found a place that sold chipped gemstones for 1 buck a karat. I used silver findings. The prongs that hold the stones.

The thing looked pretty and should have cost $800 if you bought it retail – if you could get anything that crazy in retail. So, I did that for a year or two. I got hip to the way jewelry works. I started becoming gainfully employed writing for TV.

I gave up on the jewelry stuff. Every once in a while, I would poke around in stuff. I have not poked around in the world of jewelry in a number of years. I went on eBay. I ended up getting some pop-up ad.

It is this little ring of gold plated silver with three one-karat pink sapphires, with each pink-shaped sapphire being the shape of a little birdy. It is three birds on a telephone wire with the telephone wire being the ring – and with little teeny, probably, white sapphires standing in for diamonds along the wires the birds were on.

So, you have this ring. It has three karats of pink sapphire. It is gold over silver. This thing, shipping included, was $2.19 from China, which is just freaking crazy. So, I looked into a bunch of others. I got it for my wife. She wore it once.

[Carole Rosner chimes in.]

Carole Rosner: *Hey!*

Rick Rosner: [Laughing] it's not your deal! If you wore it twice, the per wearing average cost will drop to a dollar, so you have to wear it, at least, one other time [Laughing].

But this ring made of silver and gold, and little baby fake diamonds, and three real pink sapphires is two bucks shipping included. I looked around. I saw these other rings, which are beautiful art décor rings with real baby sapphires – baby sapphire baguettes set in azizis standing in for diamonds and filigree and so on.

Stuff that is labor intensive. But you can buy these rings. That look like something that would have sold for $250 for the décor era. Now, it would sell as a piece of estate jewelry for two grand. But you can buy a ring that looks like a reasonable knock-off of this for two bucks shipping included. Because China!

This is not the only kind of goods that you can get. There is a thing called micro-needling. You got a dermatologist. They aerate your face. You've done some lawn work. You know how some people run rollers over a lawn and punch a bunch of holes in the lawn. Micro-needling does that to your face.

You roll a wheel with a tiny one- to two-millimeter needles in them. You roll this over your face. You bleed a bit. It wakes up your face. It makes your body send all these healing agents to the poked areas. You end up getting younger looking, healthier looking skin once everything heals up. I bought one of these wheels for my scalp.

Because, apparently, it can help your scalp if you want to keep your hair. After 6 months, it got clogged with hair and clogged. I found it, shipping included, from China for $1.99. I think China is going to kick our ass. Right now, we are a rich country.

China, on a per capita basis, is a poor country. But we politically hitting ourselves in the head with a couple of hammers. We are not doing what we can to keep up. China has the triple threat of a vast population of 1.6 billion people.

People who will work for super cheap. The per whole country's designed to run on cheap wages. And people who have technical expertise. People who can be trained to do great work, who do not get paid a lot relative to the first-world countries and a gazillion of them.

I guess a determination to fulfill this national destiny. For hundreds of years, China and, to some extent, Japan; one of those was called the Hermit Kingdom. They wanted nothing to do with the rest of the world. They wanted to be left to themselves. They did not trust the foreigners who came exploring.

They were very insular. Now, they are not. I think China thinks it can end up being the big dog country in the world. And if Americans keep being lazy and dumb, I don't know.

[End of recorded material]

Ask A Genius 385 – The Natural Philosophy of Information Theory

Scott Douglas Jacobsen & Rick Rosner

September 17, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What is the science of information in cosmology?

Rick Rosner: The philosophical reason for not having entirely black holes. If the universe is made entirely of information, there is no way for the finites amount of information - I don't think - to close themselves off from the universe that they formerly occupied by accumulating more and more information.

There is no way for a black hole to go all the way black, which would mean it is exchanging zero information with the rest of the universe; where in an informational universe, the black hole is getting information, still, but it becomes less and less of the information that defines it.

It is never infinitely less. Even in a traditional black hole, as my buddy, Dylan points out, you still have Hawking Radiation. It is still under debate whether Hawking Radiation functions to let information be communicated from inside to outside of the black hole.

Although, Hawking Radiation is much more weak than the kind of thing that I am talking about.

The end.

[End of recorded material]

Ask A Genius 386 - New Normals or Decay of Culture

Scott Douglas Jacobsen & Rick Rosner

September 18, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: Is Trump the new normal or not? A huge conversation between us preceded the recording today.

Rick Rosner: I will not have definitive answers to several of the questions here: is Trump an anomaly in American political history? Are politicians after Trump going to be Trumpish?

A related question: is depravity or salaciousness in popular culture part of an expanded arena of art? Or is it decadence that indicates the decay of our culture? Before you started taping, you and I were discussing the relative war criminality of Bush 43, the younger one, and Obama.

Bush 43lied us into the Iraq War, which led to the deaths of between 300,000 and even a 1,000,000 Iraqis and other people across the Middle East. You argued. I was persuaded. Obama was pretty killy to the point of committing a lot of war crimes in a destabilized Middle East with the drone policy, with screwing up in Libya with Qaddafi.

But neither of them compare in terms of horribleness potential to Trump. Trump has only been in office less than 2 years, so had less than 8 years of either Bush 43 or Trump. So, he hasn't had the opportunity to mess up the Middle East.

But he has already been pretty killy. He loosened the rules of engagement for taking on ISIS, which led to increased civilian deaths. But the two pretty previous presidents were responsible for hundreds of thousands of civilian deaths.

Our discussion with Obama giving a speech coming out against Trump and the Republicans saying that they are corrupt and interested only in maintaining power at the expense of traditional American values.

Him being that explicit is a new thing. While both his predecessor Bush 43 and Obama himself can be considered overly killy, to the point of being considered war criminals, especially from viewpoints outside the US, you are outside the US, Scott.

Obama stands up for a return to political morality. We can hope that he still has enough influence over much of America. That he will get people to turn out for the mid-term elections, which are now in 59 or 60 days from now.

We are hoping the Democrats win the house to put some breaks on the out of control White House and the thoroughly corrupt and compromised Republicans holding public office now, and high state office - governorships and controlling state houses and gerrymandering their states to give Republicans an unfair advantage in elections.

Anyway, I remember in the late 1960s and early 1970s reading a couple of science fiction novels, in particular, *Stand on Zanzibar* and *The Sheep Look Up*. Both by John Brunner. They present near futures about 20 years from then, where you had a president who is an idiot figurehead. A good-looking man who stood for nothing and did dumb stuff.

There's actually historical precedent. Warren Harding was elected because he was a good-looking guy and among our worst presidents in the 1920s. Super corrupt and super incompetent, he died 2.5 years into office, I think, limiting the damage he did, but still damage.

He was elected on the basis of being handsome. In the 1980s, we had Reagan, whether you agree with him or not, who had actual substance and a political substance. You can argue that he, personally, was not super smart.

But he tried to appoint competent people. They fit his Republican philosophy. They were competent and experienced people, even if you did not like their philosophy or actions. He listened to professionals. He got into plenty of trouble.

His professionals got him into the Iran Contra scandals. But Trump is a more pure version of the science fiction vision of a vacuous idiot who is completely at the mercy of corrupt interests.

He is close to the president Camacho in *Idiocracy*. Plenty of people have, or quite a few people have, predicted vacuous national leadership. For the first time, we have a completely vacuous, amoral, corrupt, and stupid president.

So, the question is: is this just a crazy or one-time disaster? Or are we going to have idiot presidents half or two-thirds of the time until America falls apart? Science fiction writers also like to present futures in which America cannot hold itself together and then splits into several countries.

You could argue that would be the end of America. If America breaks up, that is the end of the American experiment. You could also argue changes. America turning into some crazy dictatorship where people's rights are violated but no one cares because we are immersed in entertainment.

That would also be a type of end for America. There could be a third and likely end of America. As AI and augmented post-human humanity rises, forces become more powerful relative to the forces of national unity, so that the American national government becomes increasingly irrelevant over the next century.

The new economic and political structures arise that supplant the American governance. There is still an American government, but there are other forces that become much more important relative to an increasingly irrelevant US government.

A related question already posed before. I think of a principle often overlooked and still overlooked. In early science fiction and TV fiction, and movies, people writing about the future during the 1930s through the 1960s, often, presented rational futures.

They had the idea that as technology becomes more powerful and people essentially become smarter with the help of technology that people and civilization become more rational and life becomes cleaner and nicer.

It is the world seen in *Star Trek*. Where there is not a lot of foolishness, the public spaces occasionally seen with the crew of *Enterprise* returning to Earth. You see these big open plazas filled with well-dressed citizens. Everybody is behaving.

There is not a lot of floating or no floating advertising. It is not a grubby world. It is a clean-well-ordered world. It is not until *Blade Runner* in the 1980s where you see a grubby future.

Now, the grubby future is a default science fiction future. A lot of unimaginative crap science fiction takes that model rather than the clean science fiction novel. There is this one-season, probably, show called *Altered Carbon set* centuries from now.

It has the same rainy streets as *Blade Runner* and grubby sexualization of everything but more so - to cover for crappy writing and lack of imagination through showing a lot of genitals.

A more well-thought out but not necessarily more accurate presentation is *Minority Report*. It has a semi-grubby world. A world still plenty grubby, but has some nice parts; that has some public places flooded with advertising.

It floats in the air personally directed through individuals' information-gathering equipment, e.g., contact lenses, and so on. Then if you look at actual culture, in the 1970s, things were pretty clean.

Bowdlerized, censored, one of the chief examples being *The Brady Bunch*, which was a completely sanitized version of life. They barely talked about anything. It was a completely harmless, sickeningly sweet sitcom that didn't address any prurient issues whatsoever.

Now, you have shows like *It's Always Sunny in Philadelphia*. There are a lot of filthy shows on television now. The question is whether filth or being able to talk about anything in popular culture.

I've been shocked to hear jokes about anal sex and blow jobs showing up in prime time NBC sitcoms. It seems crazy to me that we have come this far since the 70s, 80s, and 90s, when things were clean and censored.

The question is whether this serves a wider artistic service that is part of a better discussion better than the crappy, lazy, and censored 70s or whether this is a reflection of the degradation of our culture akin to the late Imperial Romans being depraved, corrupt, and this weakening their civilization to the point where the Roman Empire fell.

I do not need to go on further. Right now, what has happened in the last couple of years since the rise of Trump, there has been the corruption of American Evangelicals, where 10 years ago 70% of Evangelicals said that politicians' personal morality mattered.

Now, it is down to 20% of American Evangelicals. 80% is pretty much saying that someone as corrupt as Trump is okay as a leader because he's scoring wins for the Evangelical side.

To me, that says a pretty much complete moral surrender and corruption of the Evangelicals. An erosion of American political standards. That, I think, we're at a moment of national political peril.

Then you can circle back to the question of whether the increased decadence or increased filthiness of entertainment is related or not. The increased scope of American entertainment that has given us *Mad Men*, *Breaking Bad*, and *The Sopranos* are considered by many, including me, pretty good pieces of art, occasionally rising to the level of great art.

This is called the "Second Golden Age of TV." There is a lot of TV that is great. But is the greatness, which includes presenting really jaded views, helping undermine our culture and leading to our downfall?

Let me give one more example, Netflix show called *Ozark*. Every single character is corrupt and evil to some extent. It is a lazier, lousier, more derivative telling of *Breaking Bad* with what looks like a typical American family becoming entirely corrupt.

With money laundering and drug cartels, murders, nobody is good, even the youngest boy in the family at 14-years-old becomes a money launderer. It is not art. It is a default thing. It is one show, where everybody is terrible.

The end. That's enough.

[End of recorded material]

Ask A Genius 387 - Eye for Eye, Graham for Graham, Evangelical for Evangelical

Scott Douglas Jacobsen & Rick Rosner

September 19, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: So, you were talking with me, off-tape, about young people. You were talking about how, for the most part, Evangelicals in the United States - in particular, the Dominionist/Reconstructionist form of it - have destroyed faith in faith, so to speak in the United States.

Rick Rosner: It is midnight. It just turned June 20th. We are in the middle of this taking kids away from people trying to show up in the US. They are up to nearly 2,500 kids separated from the families they've shown up with.

This is Trump's deal. The whole country is in a tizzy. Because it seems to be super creepy and morally outrageous and feeling Hitlerish and fascistic. Then you have the others, the "20%." They are still strong with Trump.

They say, "If you don't want your kids taken away, don't show up at our border." Even though, it is legal to show up at the border and ask for asylum, but another thing the Trump administration is doing is understaffing the legal places you can go and ask for asylum.

People get frustrated in getting turned down 5 times in 5 days and try to go somewhere else, then they get arrested and their kids get pulled. It seems Trump is running a blackmail scheme. You go with him. You give him money for the border. You give him everything else he wants for immigration, then he will quit doing this stuff to kids.

Things are pretty horrible in the US right now. It is pertinent to what we have been talking about with what we call the hollowing out of religion, which is people turning away from organized religion but mostly people who still consider themselves part of organized religions while having a harder and harder time believing in all aspects of that religion.

What you and I both noticed based on our reading is that the younger people are demographically in the US, the higher percentage of them don't have a religion. This has been attributed to, at least in what I have read and, I think, what you have read, the intolerance and hypocrisy of some of the preachier religions in the US: the Evangelicals.

20/30 years ago was when the Evangelicals were pulled into politics, in the Reagan Era. That is 35 years ago, and more now. Republican strategists realized that Evangelicals might be able to be mobilized to be a political force for Republicans, who were the family values or called themselves the family values party.

Evangelicals got pulled into politics. Then in the past 10 years, there has been an acceleration of Evangelicals, at least, abandoning demanding the politicians they support to follow their core values as long as those politicians support the things that the Evangelicals believe in, which are a lot of traditional things.

No gay marriage, anti-abortion, pro-Second Amendment, really straightforward and stereotypical values; it has reached an apex with Trump who is a horrible guy. He seems to be getting more horrible by the week.

In 2010, 21% of Evangelicals said that someone like Trump's personal behavior didn't matter as long as he supports what the Evangelicals support. In the past 8 years, since 2010, the number who says what a politician does in his personal life doesn't matter has gone from 21% to 71%, and among white males has gone to 81%.

Apparently, younger people look at Evangelicals in this form of hypocrisy and are turned off from religion. Also, to some extent, the Golden Rule has decoupled itself from American conservative evangelism.

The historical trend in the Golden Rule is treating everybody as you would wish to be treated. The way that the footprint of the Golden Rule is spread is over the past centuries; more and more people have been included in people who follow the Golden Rule's understanding of who other people might be.

That is, at first, maybe, the Golden Rule may apply to people within your own tribe, race, state, sect, or gender. You might only grant the status to people within your group. But through the march of history, more and more people have been included by reasonable people as people who deserve equal consideration: gay people, lately trans people, people of all different races and genders and nationalities.

We understand we have brains that work more or less the same way; we all feel the same emotions, even though our behaviors, orientations, and colors might be different. We all, essentially, have the same consciousness.

We all hurt and love. This Golden Rule consideration has been extended by reasonable, kind people to all sorts of other people and beyond people - to animals, to the extent that we think they can experience happiness, sadness, and pain.

Some of the traditional religions are trailing that understanding. Some of this understanding is science-based, as we explore the brain. Some of this Evangelical religion, and other religions such as strands of Islam and most of the major religions, is/are anti-science, which is not to say everyone.

But there is a big anti-science demographic among American conservative Evangelicals; a reserving of human consideration only for people who are similar to you. Young people who are strongly a part of the world are rejecting that.

I guess in an ironic or perverse way; religion is wrecking religion. Maybe, it has always been like that to some extent. But it certainly is happening right now in America, where people who are supporting Trump and his inhumane policies are probably turning off a lot of people who may have been fence sitters about conservativism.

If conservativism is not going to denounce this fascistic cruelty, they are going to lose people. How fast? How many? We will find out in the mid-term elections, which are about, now, 139 days away.

We will not find out exactly because of gerrymandering. For Democrats to win back the house of representatives, they have to get about 7% more votes in total and in the right places than

Republicans do, because Republicans have a built-in advantage based on how they engineered the voting districts across America for Congress.

[End of recorded material]

Ask A Genius 388 - Demographics, Public Policy, and Public Rhetoric

Scott Douglas Jacobsen & Rick Rosner

September 20, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What will be the future demographics of religion, especially given the main predictor, probably, of the next culture is the size of a household and the overarching metanarrative and belief structure of the home?

Rick Rosner: Muslims have a birth rate of 3.2. Nonreligious people have about 1.6, so basically suburban whitey vs. Muslims. My conservative buddy, Lance, is always arguing that Muslims, if we let them, are going to take over demographically.

My argument against that is we don't have that many Muslims in the US anyway, roughly 1% or about 3 million. There's not enough time before future weirdness is fully upon us for a differential birth rate to, say, pump the percentage of Muslims - if Muslims are what you're going to worry about - over 10%.

It would take, at least, 80 years. That is being wildly not conservative in your estimates. That is like wide open immigration, which the US doesn't want to tolerate at the moment and then crazy rates of reproduction.

Even then, 80 years from now, having Muslims being 8% of the population is a) not going to happen and b) there are going to be so many other technological changes and sociological changes that 8% of the population being Muslim is not going to be the thing to worry about.

It might be if you were trying to address social change now in Europe. Some Western countries have seen the Muslim population approach 10%. Everything else that is going to happen is going to be more of a worry for Americans than too many Muslims.

To go from that to a general point of view, the future will bring us incredible abundance, but the deal we make with the future will also bring us incredible weirdness. Conservatives, of at least the American type, are against weirdness and change or, at least, pay a lot of lip service to it.

Right now, the conservative politics in America is owned by rich people who want to see if they can squeeze more money out of America: pay less in taxes, take more and more profits. That is the real agenda.

Then there is the semi-fake agenda of standing for traditional values and being against change because change means the ungodly erosion of everything we stand for. Even though, the conservative president and the Department of Justice is taking kids away from parents who want asylum and putting them in mini-concentration camps.

The conservative politics are the most hypocritical they have been in living memory, but they still stand against change: gay rights, gay marriage, against trans being a thing. Along with that, much conservative politics is zero-sum.

The philosophy for us to hold onto what we have then other people have to be denied access to what we have, particularly, right now, immigrants. All this stuff serves the hidden but main agenda of conservative politics right now.

For rich people to get more money, including the idea of taxation as theft or government services should be privatized, Carolla talks about things. He has become increasingly libertarian. One of the things that he brings up is that he doesn't get his money's worth out of the taxes that he pays as a rich guy that are more than a regular person pays, e.g., public services, streets, schools, and garbage pickup.

He is not getting his money's worth. He has a problem with that. Carolla is smart enough to not entirely believe this point of view. But there are a lot of other people who try to manipulate people into the zero-sum points of view: "any money given to taxes are given to people who didn't work for it."

On the other hand, we can talk about the guy who is best known for making claims about the future path of history is probably Karl Marx, who came up with the whole idea - I haven't read enough of his work but have read enough about him - of communism.

It includes a whole history of what has happened in the past and extends it into what will happen in the future, concluding with workers eventually obtain the means of production.

That is, capitalists are overthrown and, eventually, workers own everything and use the means of production and capital -money, equipment, and factories - to make stuff for themselves and each other, and the common good.

He is wrong. In that, he was seeing an old-style industrial future. People making the stuff that they have always made but more productively and better, and using what he conceived of as the means of production, e.g., factories and heavy machinery.

Karl Marx didn't anticipate the information-based future at all, as far as I know. I could Google it, but I do not want to. He was dead wrong. We are not going to live in some communist utopia.

His idea that you can predict the future is not entirely wrong, especially since the future is coming at us so fast. There are some things that you can predict. One is that stuff will continue to get cheaper, as long as you're talking about basic necessities and some not-so-basic stuff.

Being flooded with entertainment and information, if you wanted to do the math, it would be the cost per entertainment option. I am a kid of the 70s. We had 3 network channels on TV and PBS, and one independent channel that put on crap.

We had no choice. Now, we have a thousand choices for what to watch on TV at any given instance. I belong to the TV academy, so I get to vote on the Emmy's. That means we are sent DVDs of every show whose producers think has a shot of winning an Emmy, of getting nominated.

I am sitting in a room next to our huge TV, which is cheap now. I am looking at 7 boxes of each containing other boxes of DVDs containing thousands of hours of entertainment. 98% of which is better than any of the crap that we were forced to watch in the 70s.

There is some way to apply math to that and then come to the conclusion that entertainment is fantastically cheap and improved. It might cost 15 bucks to go to the movies. But you can stay home and watch shows on Netflix for 11 bucks a month now.

You can watch Netflix for 168 hours a week without exhausting what is on Netflix. That is 2/3rds of a thousand hours. It is 700 hours of entertainment if you're able to binge that much for pennies an hour. Food and clothing cost a quarter what they did compared to the average income of a century ago.

So, we are already live in an era of plenty, thanks to technology. There is an era 100 years or 150 years from now, of ultimate plenty. Where once human cognition and thought and consciousness are all mathematicized, and replicated, it'll be possible to live on the cheap - a cheap cyber-existence, where you are not even part of the material world, for zero.

That'll be a choice. If you are broke and/or old and worn out, you can take a path 100 to 150 years from now, where you can live for basically free in a cyber version of reality. We can look at, I think, several paths people will take, which we have talked about a lot.

But most of these paths include some levels of abundance because manufacturing both the necessities and the stuff isn't too crazily luxurious, but will still be awesome compared to what we have now, will be super cheap.

We will still have people who are the technical Amish. People who choose to maintain various levels and limits of historic human existence. Of the 12 billion people we will have by 2080, many billions of those people will choose to live traditional human lives.

They will choose to limit the weirdness that they embrace. They will limit the amount of built-in technology that they allow in their bodies. They may live in nations that limit these options for them.

These lifestyles that are less weird than they could possibly be. There will be a gazillion different flavors.

[End of recorded material]

Ask A Genius 389 - Welcome to Star Bar

Scott Douglas Jacobsen & Rick Rosner

September 21, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: You saw some of the recent *Star Wars* movies. Let's hear it.

Rick Rosner: I saw both latest *Star Wars* movies, *Solo* and *Last Jedi*. It is no secret that there are two major models of interstellar travel in entertainment. There are *Star Wars* and *Star Trek* and then secondary or less important ones - *Babylon 5*, *Battlestar Galactica*.

But all of them - including *Alien* or the *Alien* series. Nothing works unless you have faster than light travel. Because going from star to star at less than light speed means like a 40-year trip, generally, because even the most ambitious interstellar travel programs, I think, have ships that we could build now that would reasonably go more than a 10th of the speed of light.

You might be able to get them to go faster, but the trouble with going faster is if you run into anything then you ruin your ship. You need faster than light to get the characters from place to place in a reasonable amount of time without the risk of being destroyed by a dust particle.

The deficiencies of that model point to what could be a satisfying science fictioney, fictional, world of interstellar exploration set 150 years from now. You could have people aboard ships. But the ships would not be real.

They would be compiled from data from actual galactic exploring ships. But calling them galaxy-exploring is giving them way too much credit, but ships pointed at nearby stars. The only reasonable ships, at least at this point in our technology, wouldn't have people on them, because that would be a huge issue.

You can have people on board ships going to some of the planets in our Solar System, but you cannot have people on board ships if you are aiming for nearby stars. It is senseless. You need ships that don't cost very much, are full of some AI and a lot of telemetries, and a bunch of shielding or some magnetic field that directs particles away from the ship, so if it is traveling 10 or 15 percent of the speed of light junk in its path doesn't destroy it.

To have a science fiction series based on the actual attainable technology of one to two centuries from now, you would have to assemble virtual ships based, at least in part, on the information you're getting from these unmanned, cheap telemetry vehicles. Those heading out in all directions.

Those that are, probably, being followed by repeaters, by amplifiers - like a 1/10th of a light year away, because you're not going to get adequate signaling, as far as I know, from a little ship that is going to be .4 lightyears from you, after 4 years at 10% of the speed of light.

I think you need to send a steady dribble of ships after it, in order to keep in touch with it. After a few decades, you would have a network of these ships. They would be sending all sorts of observational data.

From this, you could construct the experience of manned spaceships. But they would be virtual. People could take on various roles on these ships. You could have legitimate scientists doing legitimate research but who like the environment of being on a ship.

You could have virtual adventurers who like the adventure of being on a ship even though it is virtual. Given the control over thought and perception 150 to 200 years from now, you could have participants in the shipboard experience who do not know that they are on a virtual ship.

In addition to the hard data people are working with there, you could add fun plot elements like various aliens. You can travel as fast as you want in this virtual environments. You could travel from one direction to another at the speed of light because this would be based on the information already compiled.

A more realistic picture of this kind of entertainment could make for a decent show and would provide a more realistic picture of what we are and are not going to do in space over the next few centuries with some added dramatic elements.

I read a book called *The Planet Factory*. It summarizes the current state of knowledge about exoplanets. Planets orbiting other stars, of which there are plenty; where the vast majority of stars are orbited by planets, you're always hearing in the news about the discovery of Earth-like planets.

But it turns out reading this book, "Earth-like" has, in every case, right until now has been an exaggeration. When they say, "Earth-like," it means the rough mass or radius of the Earth or orbits its star at roughly the same distance as the Earth orbits the Sun.

But it turns out these so-called Earth-like planets do not have the conditions that support life. Most planets in an Earth-distance orbit are not that solid. They are gas planets. They do not have a solid surface, at least on you could use.

The planets with an Earth-like radius or mass are orbiting way to close to their stars, like 1/10th the distance to their stars as the Earth is from the Sun. It turns out this is discouraging, except that there are 10^{22}nd stars.

It means that there are at least that many planets. It may be that one, on average, on a solar system out of a thousand or five thousand, or ten thousand, or a hundred thousand have a planet that can support life, or a moon of a planet that can support life because you're still dealing with 10^{22}nd planets.

Dividing that by 10^{5}th still leaves 10^{17}th stars still with potentially habitable planets, it doesn't preclude life in other parts of the universe. What it does mean, though, we might have to travel a lot farther to find those planets, which is another discouraging aspect of the real universe.

It runs counter to the *Star Wars* universe. If you are a super *Star Wars* nerd, you have seen maps of its galaxy, which shows you how far apart the major planets in the whole deal are.

But I have never seen that. I would assume that they are not too far apart from each other. They talk in terms of parsecs, which is, like, 3.26 lights per parsec. Without faster than light transportation, that trip is taking 300 years.

It is in a galaxy where you're likely to find a habitable planet within 30 lightyears. At least according to the message I got from this book, it might be 50 or 70 lightyears or more before you find a planet that is at all habitable.

It is brutal when you're dealing with slower than lightspeed exploration. That is, if only 1 planet in a thousand is habitable, then it is 10 times the distance compared to a universe in which every planet is habitable, where you're talking about 40 lightyears instead of 4 lightyears on average.

So, there's that.

[End of recorded material]

Ask A Genius 390 - To Know You Know and To Not Know You Know, You Know?

Scott Douglas Jacobsen & Rick Rosner

September 22, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: We were talking for some time off-tape about explicit and implicit forms of knowledge. What were you thinking in terms of the distinctions and definitions there?

Rick Rosner: Yes, particularly as they apply to consciousness, Minsky has a model of consciousness, which is not bad: the society of mind. You have either evolved expert subsystems or subsystems that have arisen in an individual brain via experience and cultural imprinting.

Lisa Feldman Barrett in her book, *How Emotions Are Made*, argues from a constructivist point of view. She argues the emotions that we feel are basic and inherent to humanity are created in people, person-by-person via cultural imprinting and experience.

But regardless of whether our expert systems are inherent and evolved or whether they have arisen due to life experience, it is not unreasonable to look at consciousness as being, in part, a dialogue or a sharing of information among various expert subsystems - a whole bunch of them.

That is, informationally, problematic or, rather, a big pain in the ass because, generally, when we as individuals or as humans communicate and pass the information along to each other; we do it via some language, in general.

Either words or math, but we use language to communicate, there are more direct forms of communication. Forms of communication more directly sensory, like pictures, where you send somebody a picture or a video clip.

They can see what you're trying to communicate; although, they may not get exactly what your meaning is, because we use language to be specific about meaning. Then if you extend the idea of language to the communication among the subsystems in your brain, that seems like a huge informational burden.

That every subsystem has to be communicated within a language it understands from every other subsystem. That seems like a lot of information flying around in addition to what the language is describing.

It also implies a language of the brain, which exists in the brain and not anyplace else.

Jacobsen: Linguists talk about a surface complexity of language, which really lies on a very similar substructure where, basically, all languages come from. It is a dominant theory, I think, in linguistics.

Rosner: You are saying there is a similar substrate all human languages stem from, and a constructivist, like Lisa Feldman Barrett, would be skeptical of it. She would say, "No, there is not an evolved language system for verbs and nouns. That we're ready to have those based on a structure in the brain. Those, rather, arise via cultural imprinting.

Jacobsen: What about the ability of some people to speak at six months to one year?

Rosner: Even so, it does assume there is some underlying language structure, where you could add a second premise. The brain speaks to itself using some form of language substrate or something.

The signals need to be passed from every expert subsystem to every other expert subsystem using some carrier of information, which would be some form of language. But I suspect that there is a difference between explicit information and implicit information in the brain.

That much of what constitutes consciousness is an effective implicit information, which communicates information on an as-if basis among the various parts of your mind without that information being shared explicitly.

To start off, I claim, and I think a lot of people agree, you can know stuff without explicitly naming it. For instance, if somebody gave us a plate of food, we would think this is food or dinner.

Words pertaining to food would pop up into our heads. You put a bowl of food in front of a dog. The dog does not have words, but the knowledge pertaining to there being a plate of food in front of the dog pops into the dog's head.

But it is not codified into a language. The dog knows the food is there. The dog, which I believe is conscious because I believe you can have consciousness without language, is conscious about the food, excited about the food, anticipating how the food will taste, smelling how the food smells, but the dog is not using language descriptors.

In fact, if you lost the language center of the brain, you would still know there is food in front of you. But you would not be able to characterize it in words.

Jacobsen: Let's do a thought experiment, two people speaking two different languages, say romance languages, trying to communicate the dinner to one another. It seems like the similar case.

You have taken the language out of their brains, functionally, inasmuch as they cannot communicate directly to one another, but there is enough isomorphism between the way they process information and have an understanding of the world in order to communicate.

Rosner: So, one could say a bunch of stuff and describe things with their hands. If somebody was trying to tell someone else that they were having spaghetti, they could make noodle gestures and eventually get the message across.

Jacobsen: It is less efficient, but it is a form of language. The question then arises: if you bring people from different cultures together, but they could come to the same conclusion in the thought experiment, how constructivist? To what extent do constructivist perspectives, such as Lisa Feldman Barretts, provide an answer to that universality in information processing to allow in-species communication?

It does some form of argument for some inbuilt stuff in terms of a general information processing.

Rosner: I think her constructivist argument is the information we use to construct our consciousnesses is mostly received through experience rather than through previously evolved specialist systems.

Jacobsen: What if language and its structures is an evolved specialist system?

Rosner: I think a constructivist would argue against that. They would argue for a minimalist program, I do not know the various levels of an argument for in-built language. We, more than any other species, can manipulate the passage of air through our mouths to make a bunch of different sounds that form words.

There are birds that can imitate almost any sound that they hear. But they are not, as far as we know, doing that to communicate specific ideas or things about the environment. We use our repertoire of sounds to communicate using many tens of thousands of words.

There may be something that is evolved in us. Certainly, the architecture that facilitates speech is something that is evolved. But how much of the software behind speech is evolved, and how much is received culturally or experientially, is open to debate.

Jacobsen: There could be a hybrid argument.

Rosner: Yes. Regardless, you don't need words to understand stuff. Because there are plenty of conscious species that are almost entirely lacking or would be in their natural state almost entirely lacking words.

That is entirely fair because, probably, among wolves. They have 20 or 30 different woofs or howls or whatever, which signal different things. But 30 different howls or woofs is not the average person's vocabulary of 20,000 words.

Jacobsen: It could be an in-built thing. The greater level of cognitive flexibility of the human mind. Something like an emergentist-constructivist argument.

Rosner: You can understand things without having the ability to assign words to them, even something like a red light. If you had a stroke, and could no longer know any words whether speaking or hearing them, you are not aware of words being a thing anymore.

But you could still see a red light and understand what it is; something to regulate traffic. Although, you would not have words for "regulate" or "traffic" or anything. But you might still have memories in which red lights are an ingredient in those memories.

You would understand the red of the light as being equivalent to other reds or close to the red of an apple. You could understand all that without having to facilitate those concepts, memories, or ideas.

That is simply an appetizer before we get to the idea that, maybe, information is shared on a tacit as-if basis. We act as if we know things without those things being expressed explicitly, which would save a lot of information transmittal in the brain.

I suspect it is that kind of information-transmission that has things in common with the efficiency of quantum computation. Quantum computation computes things as if an entire set of things are true without those things all being expressed explicitly.

Jacobsen: Does that amount to a pseudo-true or a tacit true?

Rosner: I do not know enough to not be full of shit at this point. But! Quantum computers are best at processes where it is implicitly running a bunch of related cases in parallel.

The computer is basically straddling a bunch of different possible worlds. It is a kind of hyperbolic way of expressing it. But what comes out of a quantum computation are the things

that would be true regardless of however many worlds or scenarios; some things are true regardless of which set of particulars the computation exists in.

A quantum computation, you can argue, exists in a bunch of small parallel worlds or in a set of parallel worlds that different from each other in some tiny, concrete ways. You only get the stuff out of the computation that would true in 8 different worlds or something, or given 8 different instances.

It is due to the quantum architecture of the linked qubits, computational bits, that let it function as if it knows each of these worlds. I would suspect that a lot of knowledge within consciousness is the knowledge that is shaped by the informational architecture of the mind so that what comes out is thoughts that are built from as if knowledge.

To put it into practical terms or more concrete terms, I don't necessarily think each photon transmits an individual chunk of information like a bit does. That each photon is a yes-or-no proposition or an answer to a yes-or-no question.

I have a feeling photons may transmit information in the aggregate. As the energy that comprises them is lost to the structure of space with the structure of space encoding tacit information, which, and here's another area in which my ignorance means that I am bullshitting, it sounds, to me, holographic.

That the information is there, but it is distributed and shared and is encoded in space as a whole.

Jacobsen: Some things localized but represented everywhere, tacitly.

Rosner: Yes, your mind knows specific things. You can know today is Hitler's birthday. It is also the anniversary of Columbine. It is also 4/20, which is stoner day. Those are all really specific things. The knowledge of those things as they exist in your awareness may not be encoded in the transmission of specific photons in the way that information would be encoded in a computer through the opening and closing of logic gates.

Jacobsen: If you take the parallelism there, the mapping of your own thoughts onto the universe or the way the universe encodes information and your own or other minds, the assertion is the way the information is encoded is then reflected in the universe's distribution.

I have a question. If we encode certain things in our mind. Certain forms of knowledge only relevant to human beings but not to lizards, dogs, to squirrels.

Does that, in a way, get holographically distributed to the rest of the universe in a way that is not locally represented without, for instance, is encoded in a specific photon? It is presented as if true without having a realized manifestation in the world. That form of knowledge or information encoding.

Rosner: I don't know. I am not sure I am even speaking to what you're talking about. I am not sure. In an extreme case, individual photons may not exist; unless they are singled out via some process. In other words, we are hit with light all the time, which involves being hit with quadrillions of photons in the course of a day or something.

I am not sure how much individuality those photons have in terms of passing on information. Unless you have an apparatus designed or that has evolved to pick out individual photons.

Or another way of putting it, all the information conveyed by photons locally in the course of a day. Much of that information is, maybe, erased by not being specifically noted. If individual photons do not cause individual events that are part of something ending up being noted or recorded, or changing something in a macro sense, I am not sure those individual photons can be said to exist in the way a famous individual photon, say in a double-slit experiment, with notification by scientists or something.

If the individuating information in those photons does not create discernible outcomes, I am not sure those photons exist as individuals. Similarly, but not really, there's no way to tell electrons apart under a lot of circumstances.

I believe, and I don't know for sure because I'm ignorant, there are plenty of electron-electron interactions, where it's not legitimate quantum mechanically to talk about which electron is which after the interaction.

All you can say is two electrons went in and two electrons came out. That's it. The electrons are identical. Not only do you not have information of which electron is which; there may not be a "which is which," because they may be indistinguishable no matter how far down you go.

There are probably other experiments that you can design so you can tag electrons by giving an electron a distinct spin, a distinct trajectory. For instance, you can shoot two electrons across the room two meters from each other.

There would be almost no question as to which electron was which or shoot the electrons ten seconds apart from each other. You haven't done anything to muddle which electron is which.

The odds that they have somehow switched and are indistinguishable are low. Anyway, I have a feeling information is transmitted in the mind, in a way that isn't as discrete and localized as information being processed in a computer.

There are two long-distance transmitters of information: photons and neutrinos. I am lumping anti-neutrinos in there too. They may transmit different forms of information. I don't know. There is a lot talking out of my butt here.

Even though what we are talking about is important, I am super ignorant about what I am trying to talk about. But neutrinos have a tiny bit of mass; photons have no rest mass. Neutrinos have a tiny bit of rest mass and travel some miniscule speed less than the speed of light.

But for practical purposes, they travel at the speed of light. They, maybe, have a billion times more kinetic energy than they do rest mass. They still have a little rest mass.

It means that, say, a neutrino traveling across the universe for 10 billion lightyears will lose the same fraction of its kinetic energy that a photon would lose, but also that a neutrino cannot lose all its energy to the curvature of space in the way a photon travelling to the ends of the universe would because there is still the rest mass that doesn't get lost to the curvature of space.

Which, I would suspect has something to do with different types of information sharing. Taking a wild guess, it's not even right to call it a "guess" because I am also guessing that it's almost entirely wrong; that neutrinos reflect a deeper change in the matter of the universe.

Because if you put a neutrino, a proton, and an electron together, you get a neutron. That event is generally associated with fusion, where that neutron ends up being linked. You start with two

protons, two electrons; you end up with deuterium, for instance, which is one proton, one electron, one neutron.

The neutron is now electrically neutral and is not interacting electromagnetically with the rest of the universe. It has entered this partnership with a proton, where it is part of a deuterium nucleus.

The neutron interacts with the proton as part of a nucleus, but the neutron has quit interacting with the rest of the world electromagnetically. It is a deep structural change.

Perhaps, the questions being asked and answered by neutrino-mediated processes - fission and fusion - are deeper and, perhaps, less implicit than photon information communication.

Perhaps, photons are really the ones that do the lions share of implicit describing of the world because they are better able to share information implicitly by losing information to the curvature of space.

[End of recorded material]

Ask A Genius 391 - Return of the Translation of Information Problem: Physics & Mathematics, Topology & Geometry, Representation & Universe, and Armature & Physical Framework

Scott Douglas Jacobsen & Rick Rosner

September 23, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: This leads to question with regards to IC. What do particular sizes of objects mean over time in terms of information and information process? Also, why those types of information processing? As well, how do they relate to one another?

Rick Rosner: The answer to the first question is "I don't know." The various sizes of objects in the universe and the types of information is also an "I don't know." I can expand on that.

The idea of orange or the idea of an orange the fruit. I do not know what that would look like informationally. It is some kind of combination between localized and distributed information but it is nowhere near as localized as the information in a computer - where things are described by very specific lines of code.

But I do not know that much about coding, so, maybe, there are less localized forms of characterizing objects and stuff.

Jacobsen: If you take a simple commutative math arithmetic, there are few variations on the representation of the information; but if you take Algebra, there are more ways to represent the information.

I suspect that there are different types of information that can arise that can represent different types of processing but represent the same information.

Rosner: I half agree with you. I think the same information can be represented in a bunch of different ways. But I don't think you can have universes that are that much different in terms of basic structure, unless you engineer some universe.

I think the physics of information is going to be the same from the universe to another universe.

Jacobsen: Think about a cube or a Moebius Strip, if you look at them from different angles, you can get a similar representation.

Rosner: It may be possible to drag enough matter around to allow wormholes to allow faster-than-light. It is where you connect two distant parts of the universe. You might be able to bend space enough to do that.

That space would have a different topology than a universe without a wormhole. But the physics that lets you do it would be the same in both universes, donut universes and regular universes.

I think the rules would stay the same. It is just what you can do with them and what might arise from them, which might be different but the physics will be probably the same.

Jacobsen: I like that idea. It leads to segmentation for me, three - actually four. In one, you have the physics, the math of it. You have the topology and the geometry of it. Then you have the representation of it, the information. Then you have the armature, the physical structure from which the stuff is allowed to exist in the first place.

The stuff that you hadn't mentioned before. The principles of existence but represented as the math or as the physics. That's interesting. Because you should be able to translate the rules or the physics into the topology into the representation and that into the armature.

You should have a basic isomorphism there. However, that should not make them necessarily the same in scale or in purpose.

Rosner: I still think the most basic or most approachable, or most appropriate geometric representation of the information is a 3-dimensional information map that looks like the universe. You should be able to represent that in something like a line of code.

But the most appropriate form is the visual form. The information transmittal of the universe is largely visual. Photons transmit visual information. Neutrinos do that, too; except, they make everything seethrough because they can peer through anything.

You have the universe constantly transmitting images of itself to every other part of itself. It is a very visual thing. You mentioned arithmetic. But it is not simple encoding that informationally into/experientially into an information processing system.

It wouldn't be a matter of stating a couple rules. It would be deeply rooted in the history of the information space, or the mind, of the universe that would encode based on vast experience of how counting and numbers work - how the Unitary Principle works. That things have oneness.

A thing that is a thing is one thing and then you can combine them and then have two things. It seems super simple because we are used to it. But building a system that truly understands that, it is not as simple as that.

Jacobsen: Given those particular types of structures and representations of information, why those structures and representations of information?

Rosner: That is asking a whole bunch of different questions. Ultimately, that boils down to why the universe is the universe and why it looks the way it looks, and is there another way for a universe to look and work.

You can answer it bit-by-bit. 3-dimensionality is the best and, perhaps, the only marriage between spatial flexibility and informational compactness. That you can do a lot in 3 dimensions.

In 2 dimensions, you cannot do that much because a line is a wall. You can't have two lines; they can't get past each other if they are going in different directions. In 3-dimensions, you can have a number of lines going in all sorts of different directions without being stopped by all sorts of other lines.

It is an unlimited number, not infinite. 3-dimensions are simple to describe, to characterize, informationally; the more dimensions you have then the more information you need to describe the space itself and the things in space.

I think there is probably some kind of information efficient push to go with the simplest flexible number of dimensions, which is probably 3. Why do you need neutrinos and photons as the two

different long-distance particles? Why do neutrinos have to have a little bit of mass? These are things that are way, way ahead of things of where we are now?

Jacobsen: Why those particular relationships? Why not others? It is a deeper question.

Rosner: Why these things? Does it have a choice?

Jacobsen: It begs the question of what you mean by "choice."

Rosner: Can you have a universe with 4 spatial dimensions? Can you have a universe with any dimensions but some other arrangement of information? Because dimensions are an arbitrary construct that works very well, where a lot of stuff that is, apparently, close to you based on how it appears to you visually and other interactions appears larger than something that is distant.

In terms of the universe, something that is way distant from you; it is partially a reflection of less information in common with that thing. Although, that also means the less information you have in common.

There is something in Linear Algebra - maybe - called the Kernel. It is what you can boil a matrix down to; this isn't going to be helpful, but the less information something has in common with you - then the more different distant points there can be of things that have only 20% information in common with you.

Because there are a lot of ways to sample 20%. You would expect a universe that gets bigger in diameter, as the diameter increases, as distances increase, then you would suspect the circumference or the amount of different possible places at a given distance to increase with distance.

Because there are more and more ways to not have a lot of different information in common. I would guess the dimensionality of the universe - that it has dimensions - is based on rules of information and freedom of information to vary from point to point. That's not too clear. But anyway!

Let me go back to filamentary nets, you have things with tight weaves like sweaters or carpets or fussy needlepoint dealies, but then you have loose nets like fishnet stockings or like those bags that the baby oranges come in.

So, I imagine that the filamentary structure of the universe is a bunch of intertwined but only loosely connected loose nets or widely spaced nets. That you can pull on one net without having to pull on that entire area of the universe.

Because, I think, the things that function as memories or the apps that aren't always on and fade away to the edges of the universe; I see the edge of the universe being hot and messy and primordial and lacking a lot of organization because it is close to an apparent T=0. It is hot and chaotic, like the beginning of the Big Bang universe.

But within the hot chaos are volumes of collapsed matter, that function as memory and are, to some extent, shielded from the hot chaos by them being collapsed into themselves by them being down their own gravitational wells.

So, it is a hot broth with lots of tight nuggets in it. The tight nuggets are connected via filaments to a bunch of stuff including the active center. If enough stuff gets lit up, it lights up these certain concentrated areas and then turns them into active galaxies and, maybe, larger sections than galaxies.

Then they bubble out of the primordial chaos. They do not have to bubble up to the active center; they just have to bubble up enough that they are within the fringe of the active region of the universe.

It doesn't take much of a pull or much deformation of the overall structure of space to pull up memories because the associational nets, the filaments, can be pulled. You can pull on stuff. Say you've got a thousand, roughly, different nets, you can pull on the corner of one net without pulling, necessarily, all the nearby collapsed areas along with it.

Because most of the nearby collapsed areas are parts of nets that formed at different times. So, the nets aren't strongly tied to each other. But you can tug on one region and then pull it up without ripping a hole or deforming space badly. You don't have to pull them that far. Only pulling them, maybe, T=way-close-to-0 to T=10%-apparent-age-of-the-universe; if they stay lit over time, and prove useful, they rise to T=20%-apparent-age-of-the-universe.

It gives you time. Because this would take billions of years for the universe to reconfigure and for new filaments to form. That is the whole deal there. I think that might be enough of a mechanism.

I think we're getting close enough to a program that would allow actual physics to be done by, maybe, people who know more physics or, maybe, even us if we're dogged and intrepid enough.

Maybe.

[End of recorded material]

Ask A Genius 392 - Our Narratives and The Future

Scott Douglas Jacobsen & Rick Rosner

September 24, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: So, we were talking off-tape about our stories and the future, and the way the future will be talked about regarding our stories. That needs unpacking.

Rick Rosner: I think there are certain eras that tend to be more attractive to writers and producers. People who do projects and books. Anytime there is a great change in society, not anytime because the 60s are terrible to try to capture.

Because it looks goofy often. Times of war, like WWII, get tons of projects. Anytime you have a good author that captures an era. There is some storytelling set around 1800 because Jane Austen was writing around 1800.

I am thinking that the era that we are entering into, looking back 2 or 3 hundred years from now, will be a popular era to examine through stories, whatever the main entertainments are then - whether still books, movies, TV, or some advanced version of those.

I think there are a lot of themes and forces that will make for good storytelling. One theme is that we entering into an era when some people will die and others will keep on living for extended periods of time.

There will be struggling with that - the unfairness and politics and philosophy of that. Another theme is AI on a trivial level. We already have it. A lot of science fiction of people living in a more automated world, often with the robot butler and the robot girlfriend.

But in the future, looking back on near to mid future, we will have a lot of stories wrestling and conscious-thinking beings wrestling with their roles and what they want to be.

Whether or not they will acknowledge other conscious beings and that whole huge struggle as people and other conscious beings tries to straighten everything out, a third theme that will happen a little later is conscious beings struggling with the devaluation of consciousness.

Consciousness will always, I think, be, perhaps, the predominant - perhaps not - form of information processing, but I do not know of any form of information processing that is as versatile and powerful.

So, consciousness will continue to be a big deal, but it will also become more and more understood. People will have to confront the mechanicalness, the non-mysticalness, the non-magicness and the tragedy of what consciousness is.

It is a technical deal. While it is powerful and emotionally powerful, it is not necessarily this transcendent thing from the divine that has been plugged into us. As consciousness gets deconstructed, people will have to struggle with disillusionment and the loss of the last piece of magic in the world.

I think that is three big themes that will be moderately interesting to the residents of the future.

Jacobsen: The representations that they get from us will be stories. I mean stories in a broad sense. Stories from Twitter accounts, social media in general, correspondence that we've kept, or representations of objects that are digitized.

I mean, this before we get some hard math of what makes up a mind, so we can put that into a digital substrate. We are putting our stories into the future by making them now.

Rosner: One huge trend in storytelling is that they become more and more multimedia and embracing of more and more of the senses. We get closer and closer to putting ourselves in each others' heads.

That is another big theme. The present tends to look back on the people of the past and feel sorry for them. I think that is a legitimate deal.

Because life keeps improving and people's understanding of stuff keeps improving, then you look back on people back in 1850 trying to struggle to live and understand and look for clues as they fight against cholera and so on, e.g., of the five sisters and one brother of the Brontes only one makes it to 39.

These are among the most gifted family of their generation.

Jacobsen: This becomes a common story. Even with extended lifespans, even with some great productions of literary works, art and so on, those are really low fidelity. Any knowledge about what's going on inside people's heads.

That will be more or less low fidelity extrapolations of what's produced, which won't necessarily give that much of an insight.

Rosner: One tragedy will be people not being able to pass on what is inside their heads, except only through social media or through extended writing. There is loss via death but also loss through the very imperfect ways in which we can communicate our experiences to each other now.

Jacobsen: Nature is ruthless with us.

Roner: Yes. I said this before. In a way, we are living at the end of the world; the end of the unaugmented human world. People have lived in it for at least 5,000 years. Depending on what criteria you use to define civilization, you could take it as far back as 10,000-20,000 years.

There have been about 107 billion people who have lived so far. Those people are lost.

Jacobsen: Completely lost.

Rosner: If the future cares about them at all, they could replicate them with calculated guesses and simulation. If you have the choice between that and nothing, you would take that. Lincoln left a huge historical record, for the time.

Among the people of his generation, he is, probably, among the top 10 Americans in what he wrote and other people's observations of him, in what's known about him. He also left descendants. So, you could probably get at most of his genes.

It will be possible to resurrect Lincoln with some limited degree of fidelity. According to some index of the future, you will be able to come up with an 82% accurate representation of Lincoln.

Jacobsen: That makes the separation between stories, even in a broad context, and stories in the future, where a math of the mind or a mathematics of consciousness is slowly and inevitably produced - and humans become less central and important.

Rosner: The stories of the future will focus on individuals to an extent, as they always have, but they will become, to an extent, more distributive as the walls between people's thoughts break down - as it becomes easier to transmit thoughts between people and the walls thinking come down.

The focus of stories will eventually move away from individuals, as long as you are dealing with eras in which the individual has become less important. That's not exactly it. In that, the movers of the future, the power entities, may still be considered individuals to some extent, but they may be collective individuals or teams of linked thinkers.

It will be in a way that is not Borgish. You may get horrible Borg-like things in the future. But the future will still contain a lot of the emotional experiences that we have now, except conveyed via different aggregations of information processors.

The stories of how that will transpire are going to be huge. 150 years from now.

Jacobsen: The inevitable process will work as with every other generation. Woody Allen had a statement that every 100 years there is a flush and a whole new generation of people.

Maybe, every 20 or 30 years depending on the culture, sub-culture, or group, then you have a new generation of people who will be more willing to accept what is going on around them with more pervasive artificial consciousness and the decoupling of regular consciousness and the ease of acceptance of new technology, which, to prior generations, would devalue what they cherish and consider the norm.

Rosner: That seems valid.

Jacobsen: It seems a natural extension of the way nature treats us as a part of nature, and the way we deal with the sentiments and consideration of people centuries and centuries ago.

Rosner: Yes, we get impatient certain eras because they seem so uniformly benighted and miserable. *Monty Python* used to make comedies in the miserable Middle Ages, but the stories set in the Middle Ages - not everyone loves those stories because they are so grim and grubby.

I like near-future science fiction because that is where all the cool stuff is. I don't necessarily want to see people being farmers in 1954. Because there is less fun there. I understand there are all sorts of human drama.

But I prefer my human drama to come with sky cars or some crap.

[End of recorded material]

Ask A Genius 393 - Filling Foods

Scott Douglas Jacobsen & Rick Rosner

September 25, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What are some quick examples of foods to keep you going?

Rick Rosner: A couple examples of food would be rice cakes, popcorn with no butter and a little salt, or you can drink water (a disappointing dietary choice). For a while, there was a product called *Full Bars*.

[Laughing]

You ate them, and then they puffed up inside of you. But they were a failed product.

[End of recorded material]

Ask A Genius 394 - Moore's Law Running Out of Power

Scott Douglas Jacobsen & Rick Rosner

September 26, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What is going to happen to Moore's Law?

Rick Rosner: Moore's Law is going to be done in the near-future. You can't build a transistor that is smaller than an atom. The brain is a product of evolution rather than directed technological development has reached a limit of compactness that is probably much less compact than the most compact circuitry that we could invent.

The brain already hit its own Moore's Law, the end of its Moore's Law. Though, the brain has other constraints. One of the main ones being how big can you make the head without killing the mom at birth.

Whether or not we have hit Moore's Law in human-made circuitry, we are going to hit it in the next 20 years. Further improvements in performance are going to be through more and more efficient ways of organizing the circuitry, I do not know much about computers.

But when people look back on computers of the past 50 years, they will seem primitively straightforward and unspecialized.

[End of recorded material]

Ask A Genius 395 – Brain Efficiencies

Scott Douglas Jacobsen & Rick Rosner

September 27, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: How does the brain achieve its efficiencies?

Rick Rosner: One way is specialization. I am sure. It is important for humans to be able to recognize verticals and horizontals in their field of view. I am sure the neural circuitry associated with that is specialized to do that task, and does it much more efficiently than a bunch of generalized circuitry would do.

I would guess that there is specialization throughout the brain. Another thing the brain does is that is has evolved efficient pruning to turn general circuitry into efficient circuitry by sending connections out and then pruning the ones that aren't helpful.

There's a third efficiency, which is efficiency generalizing - having the most efficient general neural net circuitry with even some specialization mixed in with the generalization.

All of this is extremely powerful because it is the product of hundreds of millions of years of brain development. Leading up to humans and then a couple million years of brain development in hominids and homo sapiens as well; however, it is also somewhat sloppy because it is based on evolutionary processes, which is not optimized to weed out all sloppy and inefficient structures.

[End of recorded material]

Ask A Genius 396 – Simplest Forms Most Beautiful

Scott Douglas Jacobsen & Rick Rosner

September 28, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What will be the basis for replication of consciousness, the non-mystical deeply interconnected information processing of the brain?

Rick Rosner: Humans will be able to replicate or come up with things that think; it will be in a way that is compelling and similar or ways that are quite similar to the ways humans think.

Because we will have directed development and exploration. The brain via evolution has most likely exploited all the simplest ways to process information and to share with itself/modules of the brain to share information. You get this conscious arena where these specialist systems are sharing information.

All the sharing is a product of opportunistic development and undirected development. As such, it is not going to be magical. It is going to be sub-optimal and, thus, approachable technologically.

There is nothing about the brain that is so insurmountably complex that technology can't replicate it, for the most part. With any failed replication of thinking in the near future, it will probably not be that big of a deal.

We will probably be able to come up with brain-like information-processing systems that are as good as human brains within 60 years.

[End of recorded material]

Ask A Genius 397 – Talkin', Chattin', Communicatin', Speakin', Conversin', Dialoguin', and Discoursin'

Scott Douglas Jacobsen & Rick Rosner

September 29, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: How do these subsystems communicate with one another if they specialize into a particular form of information processing, of data analyzing?

Rick Rosner: I suspect the first thought when thinking of specialist subsystems sharing information with one another is that they have a language in common. Each must speak a bunch of different languages for the language of every other subsystem sharing information with it.

I suspect the brain's methodology is much more efficient than that. Systems that are pertinent to each other connect to each other and organically learn what each other is about via dendritic networks that get pruned - leaving only the gist of a very efficient communication of very pertinent information among the subsystems.

Again, I suspect that that methodology is replicatable. I also suspect that using the metaphor of the universe as a map of consciousness or the literal structure of a vast consciousness; you do not see all the dendritic connections.

That is part of the hardware that is invisible. I would suspect that the connections among the subsystems are such as they are sufficiently efficient and multiplicitous and fine-grained enough that they define a space in which information can be shared in an apparently seamless manner.

We do not see information being communicated when we look at the wider universe. We see physics happening. But to the information processor that is the universe; information is being communicated.

It is supported by specialized sets of connections among specialist subsystems such that they pick up most of what can happen where they set up an arena where most potential behaviours of each subsystem can be encompassed and understood by the connections among the subsystems.

So, everything flows smoothly, seamlessly. You do not see any limitations of connectedness. You do not see glitches in the universe doing physics. With that physics, according to our metaphor, also being the seamless communication and the sharing of information, you do not see glitches in the functioning of the universe in the way they like to show it in the movies where someone suspects they are not living in pure reality but in a simulation.

They see pixelated areas, things winking out, and so on, just at the fringe of awareness. The hardware is sufficiently efficient that you do not get glitches.

Any further stuff would not add clarity; although, this thing has not been super clear.

[End of recorded material]

Ask A Genius 398 – Proximal & Distal, Relevance & Irrelevance

Scott Douglas Jacobsen & Rick Rosner

September 30, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What is this armature, this background structure?

Rick Rosner: The connective structure and the hardware, which you can't see, is probably reflected in the locations and relationships among celestial objects, which you can see.

That massive information processing structures that have a lot to do with each other are going to be located close to each other in the universe. We never see the hardware but we see the relationships among specialist subsystems via what bodies in the universe are close to each other.

A quick analogy: the parts of the brain that have to do with listening is highly related to the part of the brain that has to do with speaking. Both are highly related to whatever part of the handles language.

You've got decoding what you hear, if it is speech into language, translating thoughts into words that you say. So, all those three rough modules will be highly connected to each other in the brain - you would assume, more connected to the part of the brain that handles walking, skipping, running, and so on.

You would expect in a universe that is a massive information map or is the information itself; you would expect the celestial bodies, the celestial structures, that encompass the information involved in speaking, listening to speaking, and words, to be close to one another in a universe composed of information. That's reasonably clear, right?

Jacobsen: It depends on the isomorphism.

[End of recorded material]

Ask A Genius 399 - Golden Age of Comedy

Scott Douglas Jacobsen & Rick Rosner

October 1, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: How did we come to the Golden Age of Comedy?

Rick Rosner: I have a half-assed and obvious theory. Dominant media attract the most talented people. The shift over the past 120 years. The stage gave way to radio, to TV and movies. Now, radio sucks.

Because there are so many other media that pull the other good talent. That radio is this neglected wasteland with few good broadcasters. I would say Carolla was the last great one. But he is a podcaster now.

Mad Magazine was this little comic book. There was a Golden Age of Comic Books, especially horror comic books. Until they were shut down in 1954 when a book by Frederic Wertham was published, called *Seduction of the Innocent*.

It said comic books were destroying America's boys. Then there were congressional hearings. The horror comics got shut down. All these authors and artists were working for EC comics. You had a giant corral of super-talented writers, artists.

The EC was decimated, more than decimated. It lost most of its titles, but *Mad* survived. You had a super big concentration of talent working on *Mad Magazine*. It was not only funny and incisive in satirizing American life and culture.

It was also a really good capsule guide to American life and culture. Most of what I know about the 50s comes from me collecting *Mad Magazine* in the 70s; all those issues from the 50s.

Many comedians of the latter half of the 20th century up to today mention *Mad Magazine* as being a major influence. It can be cheesy and super juvenile. It was squeezed out of its niche as being the leading satirical magazine by more salacious, less innocent products into the 70s and beyond.

The 70s, you had *National Lampoon*, which was an outgrowth of *Harvard Lampoon*. One a movie and another a dramatization. In the 70s, the *National Lampoon* took over the premiere satirical magazine.

It has a good 10 years and then was squeezed out by the company self-destructing. One of its greatest minds may have committed suicide; it is not clear. Out of *National Lampoon* came SNL. They poached most or much of the talent.

National Lampoon branched out into stage and radio productions. Then their stage of performers were poachers - some writers too - by Lorne Michaels. SNL has been in production for 44 years now.

It seems like a normal part of the comedy landscape, when it came out it was revolutionary; but when it came out, it was revolutionary. There had been sketch-comedy shows before like the *Carol Burnett Show* but nothing targeted at young people - and as irreverent and as anarchic as SNL.

Also, it also arrived during the downfall of Nixon, so the timing was great. Now that it has been around for 4 decades, it seems normal; people have always felt comfortable saying, "It sucks," because, on average, about 1/3rd of its skits work.

It is actually a good batting average. A huge percentage of the things that it tries like coming up with new skits every week work and then become cultural touchstones.

Jacobsen: Who are some of the top comics with an influence from prior eras that led to now? Who are people you look towards in a similar way you look to *Mad Magazine*?

Rosner: As a general thing, before *Mad Magazine*, there was a little mass market satirical attack on American culture and American politics. Lenny Bruce gets a lot of credit for being among the first in the late 50s and early 60s.

A comedian who went after actual targets. There is a trend in comedy around the same time in not only telling jokes but also making it personal by telling about yourself and the world you live in, as opposed to the "take my wife, please" jokes like the Catskill/Borscht Belt comedy of the 50s.

People who came out and told generic jokes for people who wanted to get out and laugh with little social outrage. The Borscht Belt refers to resort hotels in Upstate New York where a lot of Jewish families would go in the summer.

Those places would book good but harmless comic: Henny Youngman, and so on. Then the comedy scene got targeted: Lenny Bruce was ruthless, Mort Sahl did political comedy. Then you had a wave of attacks through political comedy.

Mad Magazine did a lot of stuff against the Vietnam War - not as harsh as the *National Lampoon* when it came out. Then in the 70s, you started having the brick wall comedy clubs like Carolines in New York.

Then you had this wave of comics that came out of there: Letterman, Leno, Seinfeld. Before Letterman and Leno were talk show hosts, they were good comics and personal comics.

Comedy became developing your own comedic persona. This is who I am; this is my life; this is why it is funny. Then you had sitcoms developed around these sitcom characters: *Everybody Loves Raymond*. *Roseanne* was based on Roseanne Barr's comedic persona as a stand-up comic, which she developed in Denver in the early 80s.

This character of the "Domestic Goddess, " as she called herself. It was kind of a terrible housekeeper and mother and celebrating her own messed-upness in those roles. She was saying that she was entitled to be. That those were terrible roles anyway; that they deserved the full force of her half-assedness, as a wife and mom.

Along with these satirical pushes, you had an evening out of the comedy landscape. There is a Thomas Friedman book that says the world is flat. It is a book about economics. It makes the point about the increasing interconnectedness of the world reduces competitive advantage among producers and countries. Anyone can get into the economic game now with everyone having advanced communications technology.

When I say, "The world is flat in comedy," I mean everything is knocked down; everything is subject to being made into a comedy. None of the taboos or few of the taboos are left that dominated TV from the beginning of TV through the 80s.

You and I talked off-tape yesterday. I mentioned some of these projects that celebrate the end of taboos. *Preacher* is a TV series where the Christian God has disappeared from Heaven and may be living as a dog in New Orleans.

A preacher goes out having super violent adventures trying tot rack down God because he thinks God needs to get back into Heaven. He runs into this Catholic military organization, which has the job to protect the descendants of Jesus for the past 2,000 years.

They always have a Messiah on hand, a descendant of Jesus, but because the descendant is the product of 2,000 years of inbreeding the Messiah is completely retarded.

Jacobsen: [Laughing].

Rosner: This is a TV show! There is *American God.* One is called Bilquis. She shrinks them down, collapses them down to their penis, and then absorbs them during sex. This is a TV series! It is not even a pay per view channel.

It is a regular cable channel. In movies, you can only say one "Fuck" and its remains PG. More than one and you get an R rating. On cable TV now, there are no limits; *Atlanta*, they say, "Fuck." A lot of the FX shows. They say, "Shit," a lot.

FX seems to think that saying, "Shit," is okay to a certain extent, to be edgy. *Comedy Central* on *South Park*, they tried to swear more than any other show in a half-hour episode. You have references to anal sex on Prime Time sitcoms.

It is shocking to someone as old as me that this is going on. Nothing is off-limits. Even if it hadn't been off-limits, I do not know what you would do in the current political landscape, where a major political candidate in Roy Moore in Alabama, I think, was narrowly defeated because of accusations that he was a pedophile.

We have another blatant pedophile - a proud, strong pedophile - who is running on a conservative ticket in one of the Southern States right now. You have something like 6 white nationalists and white supremacists running as candidates across the US.

You have the president caught on tape before he was president talking about grabbing women by the pussy. You have Samantha Bee on her TV show calling Ivanka Trump a "feckless cunt."

We mentioned Roseanne. Her show was cancelled because she compared a black woman, Valerie Jarrett, with *Planet of the Apes* - that she was a product of it. The landscape has been debased, but, at least, we have the comedic tools to go after it now. Unlike, the miserably bland 70s, where you had shows like *The Brady Bunch* that tried to get comedy - and, I think largely failed - out of a bland and limited palette.

It left most serious issues of life off the table. That is enough of that.

[End of recorded material]

Ask A Genius 400 - Moore's Law As Moore's Laws (1)

Scott Douglas Jacobsen & Rick Rosner

October 2, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What is the plural nature of Moore's Law?

Rick Rosner: People have been arguing for years. Moore's Law is a set of laws about the rates at which various computer components shrink down, become more powerful, or the number of transistors you can jam onto a chip.

It is a combination of these laws. Every 18 months, something is supposed to happen. A micro transistor is supposed to shrink and so on. I think it celebrated its 50th birthday. It has been going for a while.

For at least 20 years, people have been speculating when it will stop being able to continue. Some argue it already is past that point. There was a well-respected person giving a speech in March saying that the more computation you do then the more heat you generate.

The number of calculations per second is such that there is not efficient way past a certain limit, even if you keep shrinking the transistors, to push the heat out of it, especially if you're producing 3-dimensional stacked systems.

Everybody in the past saying it was over, then it hasn't been. At the very least, it has to slow down. These doubling times of three years and so on. But the performance of computers now, instead of doubling every two or three years, can't keep going.

It looks like there are only, according to this article, doubling times of 20 years. That's thing one.

[End of recorded material]

Ask A Genius 401 - Moore's Law As Moore's Laws (2)

Scott Douglas Jacobsen & Rick Rosner

October 3, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: How did the conversation with the AI guy go?

Rick Rosner: I talked to a guy who works in AI. He told me that I was way off about human-level AI in the near future.

I said that we were talking about different things. I said I was talking about computational density. That is, we are coming close to the computational density of the human brain.

But we are, certainly, farther away from replicating the architecture of the brain. At that point, we got distracted and then the conversation fizzled out. He would have fought me if the conversation continued.

He would argue that it would take about 100 years or more to replicate the architecture of the human brain. I disagree. I think replicating the architecture will go slow initially and then fast.

It will be a hockey stick thing, which is seen everything in the development of technology. It goes hand-in-hand with science fiction stuff. The predicted stuff never shows up as soon as it is predicted to show up in science fiction, but, eventually, it does show up.

If you combine both things, it will take longer to replicate brain architecture. But when it takes place, it will happen in a hockey stick manner. It will be sputtery and puttering and not great and then become super efficient.

[End of recorded material]

Ask A Genius 402 - Moore's Law As Moore's Laws (3)

Scott Douglas Jacobsen & Rick Rosner

October 4, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: How might this trend in Moore's Law relate to evolution?

Rick Rosner: I think evolution is imperfectly opportunistic. That all the organisms in the world are facing the conditions that they face; life is organisms facing conditions. According to traditional ideas of evolution, organisms that have abilities well-suited to their conditions are, on average, more successful at passing on their genes.

But there are a gazillion assumptions hidden in that idea and a bunch of probabilistic landscapes spread out for these organisms. Every organism has a set of things that it could possibly do given what it is.

An amoeba isn't going to tap dance. But there is some variability in amoeba behavior. You have these landscapes of what the organism can do in terms of behavior when faced with various situations.

You also have various probabilistic landscapes in terms of what is doable genetically. Is there something in the amoeba's genome that would let it change color to somehow absorb more heat? Would that be helpful if it possible?

Every organism faces a landscape of things that it could do both behaviorally and genetically. Groups of organisms have probabilistic landscapes as to whether a novel behavior is going to be embraced by the group.

You have probability working all the time through organisms. Where things that are genetically easy, there is a possible mutation to make this happen easily. For instance, there is a crazy mutation, as far as I know, in all mammals.

There is a gene that turns off muscular development. If that gene fails, if there is a glitch and the gene is missing, the individual organism will have double the muscular development of organisms in that species. You can google this.

There are dogs, bulls, people, and all sorts of mammals that have double the muscle. We know that just from looking at mammals that doubling muscle is an easy glitch. But it has not caught on. It has not spread through the population for probabilistic and other reasons.

It might be too rare for there to be enough organisms with this glitch to pass it on efficiently. It might not be advantageous enough and may come with extra costs. Organisms with double muscle are less fertile. Maybe, they die earlier. Maybe, they cost too much. They have to work harder to find all the nutrition to support all this muscle.

A genetic glitch that supports all this muscle has not become common for all sorts of probabilistic reasons. Associated with the idea of evolution as being probabilistic and opportunistic, more likely to take easy ways to do stuff or to do the hard stuff, for instance, there are no organisms that I know that can achieve escape velocity and escape Earth's gravitational field.

There are no organisms besides humans who can do it technologically rather than evolutionarily. There are no organisms that can get to an escape velocity of 25,000 mph. Because the genetic mutations to do that are almost inconceivable.

Also, there are no immediate conceivable advantages to achieving it. You leave the atmosphere and then die. It is not efficient at focused technological things that humans have become good at.

As far as I know, there's not much more genetic advantage to faster travel. For instance, a cheetah can travel at 60-70 mph. It is not worth the extra effort to double the speed to 140 mph. You already locked in the niche at 60-70 mph.

Evolution is imperfectly or weakly opportunistic, but widely opportunistic. It will take anything probabilistic that is accessible and advantageous. When the AI guy said duplicating the brain's special architecture will take more than 100 years - I assumed that he would say, I would disagree with that.

Because I believe the brain has found a bunch of easy tactics to function. This guy finds that the neural nets are super simplistic. He finds that there is no way you can build a brain out of something as simple as that.

My thinking is the brain takes whatever simple things it can get to easily build. It takes advantage of, according to probability, most opportunities to develop efficiencies in information processing.

You will find most of the simplest ways to do neural nets or simple feedback information process, and maybe some more complicated or complex ways to do information processing.

They will be mixed haphazardly, except with a focus - as evolution is focused on the tasks that it needs to focus on to help the organism thrive in its environment. The brain takes a bunch of simple mechanisms, optimizes and combines them in an imperfect and haphazard manner.

You get a fairly well-functioning brain out of good but not perfect systems and components because everything is built out of this probabilistic and opportunistic evolutionary and sloppy mechanism.

[End of recorded material]

Ask A Genius 403 - The Overturning of Normal Human Life

Scott Douglas Jacobsen & Rick Rosner

October 5, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What bases are there for what you call the end of normal human life or a steady erosion of normal human life?

Rick Rosner: We were talking earlier: Is it surprising or weird that we're at the end to having no alternative to human life? For the last 10,000 years of human life, all that is going to become a minority option in the next 150 years.

More entities, people, augmented people, and other entities will have a vast array of choices of how to exist from moment to moment in the coming centuries. It is weird that we live at the cusp of it.

Even though, we have been living normal human lives for 10,000 years. It is not that great. It is mostly sucky. Especially until recently, as recently as the beginning of the 20th century, the average human lifespans only went to 50 years or less.

Even with our increased longevity, the period in which we're at optimum physical and mental ability and attractiveness is only about 25 years. Before your early 30s, you are clueless. You are attractive and competent from the mid-20s to mid-40s.

Then the signs of aging start to make you invisible if you're interested in being attractive to people. That goes away for everybody by age 50. It is a short little run. We are talking about a few decades.

Somebody is really strong if they can lift their body weight. If we fall more than 6 feet, we break. We can't hold in our heads a string of numbers longer than 12 digits. The 12 digits are only now because everyone as to deal with area code for texting and stuff like that.

The general rule is that it is possible to imagine vast improvements in any area of human performance that you can think of. We will get those improvements. The price of getting those improvements is the blessing and the curse with the way people living being overturned.

[End of recorded material]

Ask A Genius 404 - No Credit Where Non-Credit Isn't Due

Scott Douglas Jacobsen & Rick Rosner

October 6, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen:

Rick Rosner: I think we've talked about this before. But that may be giving books too much credit. I am sure there are books that get it way wrong too. There are thousands, tens of thousands, hundreds of thousands, of science fiction books.

But only dozens or hundreds of science fiction movies or TV shows. So, they stand out more. You can swim through the sea of crap and find the people who do a good job. The guy who wrote *The Windup Girl.* Charles Stross, Neil Stevenson, David Marusek when they write about the future.

I should find some female writers about the future. We can talk about the ways in which the future goes wrong on TV and in movies. Thing one that makes me crazy is unaugmented humans being the primary form of conscious life more than 100 years from now.

The major offender is *Star Trek*. You have regular people with regular bodies zipping among the stars centuries from now. Mostly, it is regular people walking around on starships.

One problem is the ships are going faster than light. It is one of the only ways to make stellar exploration narratively doable. It is not the only way but the main and easiest way.

The *Aliens* series, they will try to reboot it again in the next 5 years. That series has ships that can't go faster than the speed of light. It actually has people in cold storage. It is narratively tougher.

But it seems somewhat more accurate. Although, a much more accurate version would have the exploration of space is largely automated, at least in the early periods. It depends on what you call automated.

But it is fantastically wasteful of people and resources to try to send other humans to stars. You can't go faster than the speed of light. You are sending hunks of flesh that are at least 50 kilos, plus food and water.

It is a huge expense in terms of getting it off of Earth and into space. There is a model. Is it von Neumann? There has been a model popular for decades with galactic-explorers that go out into space.

Jacobsen: Do you mean the von Neumann probes?

Rosner: They have instructions to replicate themselves and proliferate as they go out. There are problems with that method too. It announces you to the rest of the galaxy. Also, it is unsophisticated, as you have probes that double and then double again.

At least, it does so without sending people out as well. Even Hawking made this mistake, the only way to save humanity is for humans to get off the planet and colonize other planets. Actually, Hawking doesn't make this mistake.

He says that if we want to guarantee humanity's survival then we should have colonies elsewhere. Other people make the mistake of thinking to reduce population pressures; we should colonize Mars.

It is super expensive. It takes a long time. It doesn't do anything to put even a tiny dent in burgeoning populations on Earth. If you're looking at 200-300 years from now, anything that has mostly humans and a few scattered virtual beings or AI.

I had an idea or have all sorts of ideas. Fictions projects that I do not turn into anything because I am scattered and lazy. I think it would fun and interesting to present an empty world of the future 250-300 years from now.

By empty, I mean the world population of regular humans or largely only somewhat augmented humans. The population going from a peak of 12-14 billion 80-100 years now declining to less than half that.

Another 200 years later but with hundreds of billions of virtual conscious beings. Conscious beings of human-level information processing abilities and levels of consciousness existing virtually along with all sorts of other forms of AI.

Big swarms of these mostly existing in ways that don't necessarily overpopulate the Earth. There are fewer people on Earth than there are 300 years from now.

But there are 100 or 1,000 times as many conscious beings as there are now, but existing within information processing infrastructures and with much of the Earth being Disneyfied having been taken over fairly extensively by nature management technology turning much of the Earth into a giant park.

An apparently wild, undisturbed natural realm but one that is being extensively monitored to make sure we don't fuck it up again. With much of the Earth have a subtle level of tech, tech that tries to be unobstrusive. While, at the same time, you've got tech having fantastically penetrated the Earth but in a way that leaves Earth's surface or alrge parts of the Earth's surface apparently pristine.

That's just an opening thought. I would have to work out the whole thing.

[End of recorded material]

Ask A Genius 405 - The Democrats and Republicans

Scott Douglas Jacobsen & Rick Rosner

October 7, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What do the major political parties in the United States of America represent?

Rick Rosner: The major political parties, Republicans and Democrats, take huge demographic slices out of the population. When you look at the expressed values of each party, they're both positive in terms of their explicit values.

Republicans have traditionally stood for traditional values. Patriotism and self-reliance and a country that is strong in the world. Democrats stand for the positive values of community and tolerance.

There is some overlap of positive values between the two parties. Between them, they represent the entire spectrum of positive values. Historically, you have huge parties. Parties that encompass or each encompasses 40% of the population.

It is less now as people hate the parties. But I assume there were times in the past century when close to 90% of people belonged to one of the two major parties. Now, it is down 65% - ? - of American adults.

But you had these huge parties. These parties would slice through huge chunks of America. The people in the parties were representing a whole bunch of different folks. Demographically, and to some extent ideologically, the slices are taken through America by each party captured enough of America that the parties weren't cray.

You had enough variety that each party would behave more or less reasonably. Even Nixon himself who was a little bit of a criminal and a little bit mean and awful, even under Nixon, the Republicans did a lot of good stuff. They started the EPA.

Nixon started the EPA. They started the War on Cancer. They behaved reasonably. There was a certain amount of cynicism. He didn't care about the environment. He figured it would be a good thing to do.

But over the last 30 years, the Republicans saw that they could gain or find an advantage. That they could attract more easily than other segments of voters. They could pull into their tent and keep in their tent dumb assholes.

Or to be nice, the low-information voters, voters who do not know a lot and do not care to know a lot, and want to know easy explanations and might be angry or scared. There is that cliche phrase: economic anxiety - that led to the election of Trump.

People who are dumb jerks who can be told easy stories and who are more vulnerable to branding and catchphrases. So, once the Republicans started doing that, they represented a tighter and tighter sector of America - a tighter and tighter more assholish sector of America because of primaries.

In the primaries, the person is the biggest asshole wins. The person who is the strongest to their parties leaning wings: if the Democrats, then to the left; if the Republicans, then to the Right.

In the gerrymandered district, the person who wins the primary wins the general. After 30 years of this, of pandering to dumb assholes, Republicans are more and more solidly comprised of dumb assholes.

There are tens of millions of Republicans who aren't dumb assholes. But, unfortunately, now, the loudest millions of Republicans are the dumb assholes. They are the ones who elect the people and the ones who get elected.

People without integrity. People who win by any means possible. In any case, one political party has gone completely crazy and has given it a ruthlessness that has allowed it to dominate. There are three levels of the government.

They own all three now: Supreme Court, the Judicial, the Legislative, the Executive, the Presidency, and the House and the Senate. That is where we are. Everybody is hoping that the Democrats will manage to scratch back one half of the legislature.

[End of recorded material]

Ask A Genius 406 - Science Faction Halting

Scott Douglas Jacobsen & Rick Rosner

October 8, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What happens if the science fiction future does not become future science?

Rick Rosner: What you're talking about harkens back to Feynman's three scientific futures, one where science grinds to a halt because the things in the world that can be understood by science are limited.

There are things that science can't understand because science can't decipher it. Then there is science understands everything. There is a limited number of things to understand and science is able to understand all of it.

There thre is the future where science keeps plugging along because there is a limited number of things to understand and science keeps chugging along and making new discoveries using increasingly powerful techniques.

With regards to the actual future and the science fiction future, there are some things that are probably absolutely impossible like time travel and FTL travel. But those are simulatable via information processing.

About anything that can emerge in a science fiction way via increasingly powerful and sophisticated and power information processing will come to pass, all of this will have some suckiness due to us being able to imagine things being better than they are.

There will be increased expectations due to market forces, where there is not enough profit in making stuff perfect and completely non-sucky, and the compromises of time and money.

People, or what people turn into, will have to do what they have always done, which is build their best world based on what is available to them. Netflix presented to me in 1980. I remember how awesome it was when I first saw HBO, in 1980.

You could see a whole movie and not a shitty movie from 20 years ago. But a whole movie that had been in the theatres 18 months ago and boobs on TV. That was so fucking fantastic.

I quickly learned that it wasn't that fantastic. But imagine giving Netflix to me in 1980. It would be awesome. You learn about Netflix. You learn that if you do some really hard binging for 2/3/4 months out of the year.

You exhaust the easily awesome stuff: the *Bojack Horseman*, the *Black Mirror*, and then you're left to sift through the sleeper hits. The private life with some celebrity. It is the same deal.

What seems amazing only seems amazing for a second, then you're left to make the best of it to make your own little oasis of goodness from the rinky-dink technology that you're surrounded with.

We live in a paradise of food. Supermarkets, imagine taking someone 1883 and then dropping them into a Costco or a Ralph's. But to a modern and informed consumer, you have to walk, take

your time, really see if you need a 48-pack of Pop Tarts, or whether that 3-pound box of triangular ravioli is something you'll be sick of after 1 pound of it.

Whether that package of a dozen chocolate, chocolate chip muffins are awesome or simply disgusting, people will still have to exercise judgment and make reasonable guesses about how to reduce their exposure to suckiness and assholes.

[End of recorded material]

Ask A Genius 407 - Holographic and Distributive Information Networks

Scott Douglas Jacobsen & Rick Rosner

October 9, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What is the split between forms of information processing at a large-scale, potentially?

Rick Rosner: I haven't done that much thinking about it. Hawking suggests that the surfaces of the event horizons of black holes are holographic and contain a bunch of information.

It is 3-dimensional with the consequence of being shrunk down to a 2-dimensional surface. I do not know the math of it. But I know what I read from articles. I can conceive of something like this.

The information from the events that transpire in the center of the universe basically get plastered up against the rest of the universe given enough billions of years. It can be seen as a painting over of the rest of the universe.

It is not that the clusters of matter aren't maybe the sole repositories, specific bits of information, but there is a sequential painting over by receiving radiation somehow encodes the history of the universe on the rest of the universe.

That still leaves the problem about how you get specifics out of everything. Even if there is no place in the universe that contains the logical associations and instructions around the concept of "orange," you are still able to pull out of the whole mess the notion of orange within a series of associated and specific things.

You are able to think about those things, not in their original context. You can think about them in a new context. It means that we're not that far in thinking about how the information is encoded, retrieved, and manipulated.

I hate the idea of holography. It is one of those things that people default to because they do not know the math of it, and it seems mysterious. But it probably can't be discarded as a context or an analogy to think of.

Then that leaves the further question, "If it is all holograms, how do the clusters function here? Is everything some mix between holography and specificity?" It would make sense in terms of how the brain is structured.

In that, we know from experiments that you can poke into various parts of the brain and get very specific reactions in terms of what is being thought about. This book, the researchers found that there are specific neurons that light up when you think of specific people.

The two people he gave were Bill Clinton and Homer Simpson. That is a site-specific associated with very specific entities. At the same time, there are still arguments for distributive storing of information.

Those two things may not be mutually exclusive. Maybe, you do have a neuron that specializes in, among other things, Bill Clinton. But it is linked to thousands of other neurons.

That massive connectedness may be some distributive scheme that does pop out specific information at specific locations but, somehow, it is able to do it via something that is informationally smeared out.

It might be more efficient to have smeary storage of information that is still able to pop out of specific nodes. Still, I don't know how that works. I would guess that there are information advantages. I would guess this is both for holographic and distributive storage.

I guess the universe is set up to or structured in a way to maximize those efficiencies. But that doesn't get us anywhere. It is simply hand-wavey.

[End of recorded material]

Ask A Genius 408 - All for the Price of Time: New Logic, New Science, and New Gods

Scott Douglas Jacobsen & Rick Rosner

October 10, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What is this God proof you've been thinking about for the last little bit?

Rick Rosner: It is a super sloppy and unrigorous proof that some time in the future. We will discover an omniscient and/or omnipotent God or gods. The crux or spine of the proof is that we've been wrong every single time in history.

Initially, the Greeks and Romans had a bunch of gods. Then the major religions that replaced them - Christianity and Islam - tended towards singular or solo gods. One big God in the universe.

Scientific-based or science-based versions of the world replaced those gods. For the past 200, 300, or 400 years, we have had an increasing belief in scientific and naturalistic explanations for everything.

It goes against the previous 10,000-year of belief. The proof that we're going to be wrong in our scientific beliefs is that we've been wrong about everything leading up to those beliefs.

Even if you grant science being the true version of things, that has only been 4% of the last 10,000 years. So, we have been way wrong 90%+ of the time. It is a strong argument that as time goes on and we learn more about the universe; the odds that there is a purely cold and random universe explanation for everything.

The odds that that viewpoint will stand without being corrected by later discoveries and insights are pretty low. If we drew a quadrant or a grid with the various general types of belief in gods, atheism, agnosticism, monotheism, polytheism, and all the different degrees of belief and flavors of belief and non-belief, the idea that any part of that grid is off-limits to justified beliefs in the future might be wrong because we've been so wrong in the past.

You and I could imagine a semi-naturalistic world with a bias towards increasing information, which has room for plenty of god-like entities but none of which are the ultimate creators of anything and none of which is omnipotent.

Even if that becomes substantiated, I do not think that is reasonable to think that that is the endpoint. I think our understanding of things will keep expanding over time and become more rooted in or based on what we discover about the universe and the logic behind the universe: the rules of existence behind the universe.

There are plenty of places in that logic - that future logic - where crazy surprises can lurk. Those surprises have an almost statistical tendency to overthrow previous beliefs. I am thinking that there is a non-zero chance in the future that we will end up believing in god-like things that would be shocking to the scientific thought of today, but wouldn't align with the old forms of gods either.

It is not like there will be science and logic pursued into the future and then ending up with the Roman gods, and then end up with a form of old-school polytheism. But we may find hidden in the structures of logic and the structure of the universe that there is room for crazy twists in the belief about the nature of existence and what is behind it.

[End of recorded material]

Ask A Genius 409 - Number-Curious or Hidden Figures in Numbers: Numbers of Here-and-Now and There-and-Then as We Understand Them

Scott Douglas Jacobsen & Rick Rosner

October 11, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: Is God a mathematician?

Rick Rosner: As an analogy about the weird things that may arise in our future understanding of existence, think of the number line, it is the 1, 2, 3, 4, and so on, 11 apples, 14 apples, and so on.

Every 4-year-old can count to 10. It is the simplest kind of math. But as mathematicians poked more at mathematical structures, they found more and more weird stuff. The Complex Numbers, the square root of negative numbers, the different magnitudes of infinity, the countable infinities that are Rational Numbers, uncountable infinities that are Real Numbers.

I bet if you looked into it; there are probably 50 or 100 different numbering systems that mathematicians have uncovered. You have fractals. You have Godel's Incompleteness Theorems. It says a bunch of stuff. It says that there are true statements that can never be proven to be true.

The mathematical system that gives us the counting numbers can never be proven to be consistent. There are all these trap doors and crazy surprise, even lurking behind the most conservative parts of mathematics.

I am saying, similarly, there will probably be explosive surprises lurking behind our existences and the existence of the universe. That given that we're generally wrong whatever we believed to a certain point, where what we believed is overthrown by what we believed in the future.

Nothing can be ruled out, except, perhaps, the things that we have believed historically. Like I said, we're never going to arrive at a conclusion that the universe is really run by Roman gods. But it is not unreasonable to think that, at some point, some point 100-200 years from now; the paths of exploration and knowledge will conclude that there are entities in the world that have the powers that we once associated with once-debunked gods.

It is not that the old-school gods will be brought back. It is that some of the ideas of omniscience or omnipotence - some aspect of godhood - can be found to be embodied in the principles of existence.

It seems ridiculous and antiscientific. But we just don't know what the future will hold. I can imagine a future where everything has a scientific basis. Almost every material manifestation of the world and every phenomenon in the world has a scientific explanation.

But if you keep poking the logic as to why science is effective in the world, if you dig deep enough, it may show surprises or paradoxes that allow for the idea of things we thought that we were beyond, including the ideas of God.

I think it was Einstein who said one of the most amazing things about the world - not a direct quote - is the way in which mathematics is so crazily good at describing the world. It may be that as we try to figure out why that is the case.

If we poke deep and long enough, it may lead us back to areas of belief that we thought we were done with.

[End of recorded material]

Ask A Genius 410 - Homo Opinionem

Scott Douglas Jacobsen & Rick Rosner

October 12, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What was the book that you were reading? Did you finish it?

Rick Rosner: I may have mentioned this in another session. I finished reading *Homo Deus*. It basically meshes with something else that we were talking about, which is the types of gods that you can believe in.

A lot of this was without research, so a lot was taken out of my butt. This guy did a 400-page treatment of the history of belief and then speculated about the future. He argued each god represents humans' position at some point in history and prehistory.

The idea of finding the divine in everything. Pantheism makes sense when humans are primitive and have not developed civilization yet, when they are out there and struggling to survive amongst every other species.

So, things are on more of an equal footing, so you find the divinity in everything including the animals that you are hunting. The next step is monotheistic religions where God has created Man in God's image.

Now, Man is on an elevated position of dominion over the rest of nature. It is consistent with the newly formed agricultural civilization and the formation of towns. You go to town and farm dwellers.

At this point, humans have a pretty good control over nature. They can raise their own animals and crops. The author argues that it would feel like shit if you had to continue to consider every other species divine.

Because these are now animals that you're raising for slaughter. For everyone's peace of mind, animals lost their divinity. Once you get the Rennaissance, you get humanism, which the author posits as the worship of humans with the increasing knowledge of the world and doing stuff with that knowledge.

The author argues that the final belief system for humans - which will lead to the end of unaugmented humans - is data-ism or worship of information and information-processing, which he says we are starting now.

I agree with him. It will be this way for the next many centuries. It will be more and more about information processing, which will dominate the world. Where he gets it wrong, I think is right at the end.

He thinks that consciousness is a) no big deal and b) characteristic of humans and animals but not of AI or, at least, a helpful characterization of AI. He argues AI will get increasingly powerful and render humans irrelevant.

I don't disagree with it. It is similar to horses. He argues horses are amazing creatures capable of a bunch of stuff. But nobody uses horses on a daily basis. Nobody uses horses as a part of daily

activities in the cities anymore, because we have invented better ways of transporting us than horses.

He says AI, as it takes over, will have less and less use for us and for consciousness. I think this is where he goes wrong. Because I think consciousness is an unavoidable characteristic of high powered information processing.

When you have a whole panoply of AIs, some of which are simpler and do not have sophisticated consciousness, and then sophisticated AIs with consciousness, and AI-human hybrids, you have these consciousnesses and not quite consciousnesses acting on each other.

He does not think consciousness will be a part of high-powered information processing of the future. He thinks high-powered AI will simply not value human consciousness at all. He thinks they will look at humans the way humans look at horses.

Interesting and fun, and capable of a lot of stuff, but not really involved in the main work of society, he says consciousness will go by the wayside. Future AI will not value humans and their consciousness at all.

When he goes wrong by discounting consciousness as part of information-processing, he reaches the wrong conclusions, I believe. I think it lead me to a more reasonable conclusion, at least step in history.

Where there will be a bunch of different consciousnesses 100-200 years from now, he argues AI will not give a shit about consciousness at all. There will not be any moral judgments by AI.

It may be nice and let unaugmented humans go on about their existences without giving much of a shit about us. But in a world that has a whole bunch of consciousnesses because it has a whole bunch of different powerful information-processing systems that combine and bud off with each other, those moral judgments will be more central to civilization in 50-200 years from now.

The only way, I think, that consciousness will be addressed - that the issues of which consciousnesses get respect and don't - is to develop a technology where everyone's consciousness gets preserved.

Everyone who wants it, get it. Because it will be increasingly cheap to create and preserve consciousness. We will have a mathematical understanding of how consciousness works. We will be able to replicate it.

There will be commerce in consciousness. There will be an economics of consciousness. There will be a system that acts to preserve consciousness because it will be helpful in many contexts.

In the context in which it isn't particularly helpful to the dominant means of the time, it will be so cheap to preserve anyway. That the powerful entities in charge will simply go ahead and preserve it.

It is consistent with the idea I had for not quite a science fiction story but for the background of a story. In the woke future, all animals with consciousness have been infected with more sophisticated consciousness than they previously had.

Everything has gotten smarter. Bears, deer, rabbits, and so on, are smarter. Everything has a worldview. A picture of the world that is the best that they can have given the size of their brains.

It is the kingdom. It is the animal kingdom, where animals can communicate with each other in ways that we communicate with each other. Animals have a vaguely, roughly human equivalent human understanding of the world, where they had zero understanding of the overall nature of the world before.

Because they never had the brains to develop a science and a language to develop a complete picture of the world. Here, animals are abridged versions of humans. They still have to function in nature as animals.

But the covenant set up amongst all animals is that if an animal is going to kill another animal then the killing animal has to absorb the consciousness of the animal it kills. It is the only fair thing to do.

The animals who do not exercise this courtesy are considered assholes. if a coyote is going to take out a rabbit, the coyote that takes out the rabbit will take in the rabbit's feelings and awareness.

This way the rabbit has an afterlife of a sort in the coyote that killed it. I kind of see that existence being the way in which the blob will work in the future. The worldwide thought blob.

Consciousnesses will be absorbed and combined, and everybody will be reasonably happy because they will have a certain kind of immortality where their thoughts and experiences remain relatively preserved - even as you get absorbed into the blob.

There will be a bunch of commerce in consciousness. Both as the driver of future civilization and to provide solace for the participants in that civilization. It is part of the deal of future civilization.

You don't get fucked over consciousness-wise. You don't get thrown away. Unless, you're okay with getting thrown away.

[End of recorded material]

Ask A Genius 411 - Gods, Old and New

Scott Douglas Jacobsen & Rick Rosner

October 13, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What are the old ways people believed in gods, and, to some extent, still believe in gods?

Rick Rosner: In the old days, which is Greece and Rome and before that, you had people without a lot of science and technology but who had sufficient technology and civilization for them to consider bigger questions of existence.

When people barely had language or had no language out on the Savannah 100,000 years ago or 150,000 years ago, any belief in gods would have been shared without anyone else and would have been a vague sense of rightness or wonder.

A person without language could see a tree with a different color that they'd never seen before, like a Jacaranda or a Bougainvillea. I don't know if they had that out on the African Savannah.

Something with a shocking color and still have a sense or feeling of beauty. Or they could bring down a large animal in a hunt. They could still be favored by existence. There might be feelings of their in godness.

That the world has provided for them or has given them a special visual treat or something. But really, then, you get the cave painting gods. Some speculate some of the cave paintings were meant to be in homage or a figurative sacrifice to God.

You're saying, "Hey!" But we don't know; the cave painting people didn't leave too many clues behind. People like to say that you can get clues about how people felt about the afterlife and, therefore, God by their burial practices.

The things a living person would need put in the graves. So, fine, but we don't have a lot of information, you can then get to the civilizations that everyone is forced to study. The Greeks, the Roman, the Etruscans, and so on, the people from 10,000 years ago up to 2,000 years ago.

Those people didn't have a lot of science and technology. But they had enough that they could live in towns and cities, and their lives were stable enough that they could - and they hand language - start thinking about questions beyond day-to-day existence in a more systematic way.

They developed extensive sets of gods to account for everything they couldn't account for given their level of knowledge about the world. The idea of gods intervening on a daily basis and fighting with each other via humans.

Gods coming downing and humping humans to make demigods. Their gods were active because they needed to do a lot. Their world was largely unexplained. Then the gods get consolidated under the big current religions of Islam, Judaism, and Christianity.

I don't know exactly what the push is, but religions with a bunch of gods were superseded with religions having, usually, one god. As the world becomes clearer, perhaps, it becomes more efficient to group all divine powers under a single deity.

There is a thing going on with the late Roman Empire. I doubt that most citizens of the Empire believed in the full pantheon of gods. Religion got hollowed out. People paid a lot of lip service to Roman religion.

But a lot of people probably didn't believe in the whole thing. Maybe, the new religions with the single gods were easier to earnestly believe in, because you didn't have a frickin' clown car of gods.

Maybe, it was easier to bring back sincere belief. You have, from the time of Christ up through now, these big religions and with many people sincerely believing that the information in the religion was provided through special spokespeople directly from the deities.

Moses gets the tablets. Jesus's disciplines get the Word and write down stuff. It comes directly from divine beings. It is similar to the kings of Europe. That system of kingdoms stood for many years on the idea that kings were kind of anointed by God or somehow had the power via God to rule over everybody.

As with all these beliefs, it is probably a combination of sincere beliefs and not having the time/gumption to question the beliefs. Then a big chunk of people who think, "Yes, it is bullshit." But it is a continuum.

You have people actively questioning it. But you don't have a lot enough of that. Because there is no overthrow until the Rennaissance. Then you have full and complete belief in gods and kings.

Then you have degrees of laziness, cynicism, and dealing with the tasks of life, and not having the time or the curiosity to really question stuff. Plus, there's still not enough information to definitively overrule these beliefs.

Who will you believe? The person who says the Earth goes around the Sun, or a religion that took 300 years to put up a cathedral with a 250-foot tower, and whose representatives dominate every aspect of life.

Those are the flavors that you get from the Rennaissance until now. Where 400 years ago, people start noticing that systematically applying analytic skills to technical problems leads to good results.

You can make machines to do jobs for you. You can make trains and ships. You can find math that accurately represents physical processes like gravity. Then increasingly, you get what you've told me to call the God of the Gaps.

That as the world continues to fill with scientific and technical knowledge. If people want to continue to believe in God, their belief will be strongest in where science hasn't yet extended.

For instance, the mind and consciousness, even today, there are more people probably believing in the special divinity of the mind than in the special divinity of any other things. Because it is the last big area that has not been adequately explained, except the entire universe has been explained by Big Bang theory.

Today, you have several predominant flavors. You have the entirely scientific people, who may or may not be that scientifically literate or not.

But a science-oriented person or believing person will believe there is no divinity in the universe - and it is all random processes. And if there are some things that science cannot explain now, there are things that science can explain later.

There is a slightly more sophisticated version of that expressed by Richard Feynman. Even if science is never able to completely explain everything, even the things that we can explain through science, they have a scientific basis.

But it is too tricky and complicated for us to explain it. That's science as default. That everything has a scientific explanation, regardless of when if ever scientists come up with an explanation.

Then there's "meh" science. People think, "Probably science, but I don't care, I'm busy." That flavor of belief has probably run through humanity for all of history. People who don't give a shit and have a casual acceptance.

They will not strongly examine the prominent beliefs of their society. They are spending too much time on other things like investing, getting laid, and so on.

[End of recorded material]

Ask A Genius 411 - Gods, Old and New

Scott Douglas Jacobsen & Rick Rosner

October 13, 2018

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[End of recorded material]

Ask A Genius 412 - Explicit and Implicit Characters and Plots

Scott Douglas Jacobsen & Rick Rosner

October 14, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What is the wave of new shows?

Rick Rosner: There explicitly state that their characters are terrible. They are the worst. There are shows, like sitcoms generally, are explicitly presented as huge assholes. We are supposed to be entertained and have learned how horrible these people are.

These people are presented as problems for themselves and others. It is explicitly stated that these people, these products of America, are awful and then we are supposed to be entertained by their awfulness.

There is a sub-text that, maybe, we should not be as awful as this. *Seinfeld* was one of the first shows to wallow. The idea is no one learns any lessons because it was a terrible sitcom troupe.

Most of the decades of sitcom are that people are generally good, goodness will prevail, and then people will learn their lessons. There is a backlash against this. It is seen as cloying and done lazily. Most sitcoms from the 60s through the 90s were lazy.

So, anyway, the degradation of culture was able to help. The end for this one.

[End of recorded material]

Ask A Genius 413 - I Must Scream

Scott Douglas Jacobsen & Rick Rosner

October 15, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What is this thought about the limited visions of the future?

Rick Rosner: Given the limited capacity to imagine the future, a more idealized version would not include the 1960s ones with the world inhabited by dystopian advanced intelligence, exemplified by the Harlan Ellison story *I Have No Mouth, and I Must Scream*, where a supercomputer has taken over the world, hates humans, imprisons their consciousnesses, and just tortures their consciousnesses for all eternity, 24/7.

Jacobsen: Also, knowledge is not produced in a vacuum. Stories are not produced in a vacuum. Same when talking about consciousness being tortured. There is a zeitgeist. You gave this example months ago. In the early Industrial Era, the lungs were bellows and the heart was a pump.

Rosner: They looked for mechanical descriptions. That's true. When people thought about duplicating humans, they had a much more mechanical mental image of what that duplication would look like.

Jacobsen: They had the basic idea. Biology is technology. It's just not the technology we're used to. For instance, if you take the recent Ridley Scott piece, which has been praised or lambasted, the *Prometheus* and *Alien: Covenant* dual prequels to the *Aliens* series, he is not a creationist but more of aliens came down and engineered.

Rosner: Yes, I always got pissed that the *Aliens* series had the good first and second ones and then they went to where I didn't want them to go. I wanted them to go to the planets where they made the acid-blood creatures because those people feel as if they are engineered creatures. They were engineered to fight wars for people.

Jacobsen: He viewed the Juggernaut ship as a battle chariot. So, you had the right idea.

Rosner: You never get to see the fully developed civilization because that would be too expensive and take too much hardcore imagination.

Jacobsen: Also, Giger is dead, which makes the job harder.

Rosner: You would have to go beyond Geiger anyway because he was good at imagining good penetrative, sexual aliens.

Jacobsen: Right, the biomechanical Freudian nightmares.

Rosner: You can imagine future mechanical humans into dry robots and wet robots when people of 1 and 2 hundred years ago imagined replacing the human body. They imagined clockwork robots made out of hard mechanical stuff.

So, you have dry and hard robots. Then when we imagine replacements for our physical bodies, we imagine the Ridley Scott deals that are wet and soft. You cut open an android in Ridley Scott movies.

They are filled with white goo, as their circulatory fluid. They soft and messy, are as gushy and messy as any human. That is a different model. That we will harness biology to build replacement organs that work because they are close to the organs that we have in their soft-squishy organicness.

Jacobsen: With that series, the metaphor that he builds with the main feature with the black goo is that it is a form of AI. What is the main fear of modern culture? What is the big thing coming around the horizon more and more?

It's AI. It is the metaphor of the time. 10 or 20 years ago, or even further in fact, but coming into the mainstream, we had the idea of the brain as a big mainframe computer that is super efficient and gushy.

A three-pound mass that is sticky like hot, wet oatmeal.

Rosner: But replicateable via hard electronics.

Jacobsen: Massive serial processing in particular.

Rosner: Now, we are getting to the models like the way we think the brain actually does work. The feelers reach out and try to make a connection. For those that work, they stay, but the ones that don't then die away.

The general cell count stays the same but the linkages change.

Jacobsen: When people talk like that, they talk in the manner of popular neuroscience. When I visualize this, it is not simply dendritic or axonal feelers. It is really an increase in gap junctions. Because it is the axonal-dendritic connections and the gap in between.

That is the important part.

Rosner: Okay, if a dendrite can reach out and go, "Hey," and then get a connection, is that what happens?

Jacobsen: Axons are the main feelers. Dendrites as the input. Soma or cell body as the main cell part. Axons as the outputs. That's where they get the computer model of it from, the 1,000-10,000 connections.

But they don't physically touch similar to early physics when atoms do not talk.

Rosner: Right, it is air molecules, so you never touch things. If you break a cracker or a vase on the moon, you can put it back together with bonds, at least according to what I've read, as strong as those before you broke the thing.

Because air does not coat the surface and then the surfaces are free to come back together and bond together with a lot of the original bonds reforming because air just cats everything and makes for crap bonds.

That's why superglue works. It gets in between two gaps and absorbs the excess air. Air is the crappiest glue. It makes almost nothing stick together. It incorporates the air into something sticky, and then you can get the nice bond.

Jacobsen: The gap junction is an empty space from which to spit out neurotransmitters across.

Rosner: To use an old model, it is a transistor gate kind of.

Jacobsen: The metaphor reflects that, of the time.

Rosner: We are in the beginning to see things. I think information processing will dominate the next few centuries. I think we are seeing the beginning of our information-processing metaphors.

I think it is the right framework via which to view the near future and much of the present.

Jacobsen: One add-on, the future is not predetermined. We don't know. There are a bunch of competing ones. Just the humanistic one, there is a certain flattening of everything trying to bring everyone to the same level.

There are the authoritarian ones. Where it is highly hierarchical, we see this in authoritarianism of various forms.

Rosner: The gross trends of the future are pretty hard to avoid, which is that the future will be dominated by increasingly powerful information processing. With the powerful information processors not being unaugmented humans, the major players - the types of future players - will not be too varied.

There will not be that much variation in the types of major players. I agree with you. What will be less determined is what will happen to the formerly dominant groups, is it a nice human future or a future that discards us?

I think the general thrust of civilization is probably unavoidable. But the specifics of how nice that civilization is, is up for grabs.

[End of recorded material]

Ask A Genius 414 - 'American Food' in China: China is Eating Our Lunch

Scott Douglas Jacobsen & Rick Rosner

October 16, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: Why is China eating our - Americans' - lunch? What is the anecdote?

Rick Rosner: I bought on eBay Minoxidil, which is this stuff that I use to try and keep my hair. For 99.6% less than I used to pay for it, it is super cheap. When it first came out, it was by prescription in the 80s.

Now, I just paid less than 67 cents per bottle of 5% solution. That's just crazy. This is with shipping included. It is because you can buy a drum of the stuff, of the powder in China. It may show in a 45- or 55-gallon drum and then you can sell it.

The per unit cost per bottle may be 20 cents per bottle. One time, I spilled some on a tablecloth and mashed the tablecloth on me, the Minoxidil, because that stuff was precious back in the day.

Now, it is cheap. The deal is, if you can find what you need from China, you will pay 90% less than what you would otherwise. It is not good news. It is good news for a while for consumers. But it is not good for us in the longer term.

Because it means that we will get our asses kicked by a combination of human capital and high technology, and dedication to progress. Also, it is a low wage environment over there.

As I have said before, it is the worst possible time to have America governed by a bunch of morons. If you let America do what America has done for more than a century, America will do okay and will possibly do great.

But if you have a political party that cynically tries to strip America of what makes us legitimately great, we will get crushed by what you called the big three, where there is a big four with America. You mentioned Nigeria.

[End of recorded material]

Ask A Genius 415 - 2100 to Infinity

Scott Douglas Jacobsen & Rick Rosner

October 17, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: So, it is an extrapolation to 2100. China will lose about 33% of the current 1.5 billion population. India will continue to grow but taper off as development happens, life gets better, and life gets more precious, and so on.

Rick Rosner: Yes, it is the curve. As people experience less mortality, they have fewer kids.

Jacobsen: One is the empowerment of women. It is a catch-all of women having more say in their lives.

Rosner: In brutal terms, India is still a super rapey country. It will address a lot of women's empowerment issues.

Jacobsen: In Nigeria, they have, like most African countries, more births per woman, more deaths per woman, and so on. It is more infant deaths and maternal deaths.

Rosner: You can probably expect more technological access for Africa now with Wakanda.

Jacobsen: With Wakanda, it may act as a release valve for refugees in Africa from war-torn areas.

Actually, I did two interviews with two atheists who stopped believing in Burundi. It was having political strife. They fled to Nigeria or Kenya. I got their stories. They stopped believing in their faith.

Rosner: If African as a continent gets its shit together, it can be a huge amount of human capital.

Jacobsen: One aspect is recovering from colonialism. Another is stopping focusing on grievance politics about colonialism. It is valid to get some form of acknowledgment and boost post-colonial context from the globe and forgiveness from the other country.

But a grievance politics about the past will not allow, in the long term, countries to move forward. I hear both arguments and see validity in each.

Rosner: A positive erosive trend is the accessibility of technology, so people who are sufficiently motivated and intrepid and ingenious can reap benefits from worldwide technology - even when their country is going batshit.

I think that will continue to be a trend. It will be an eroding of nationalism as the more talented people sidestep their local politics or national politics to engage in worldwide thought commerce.

Jacobsen: Most tech-savvy people tend to be internationalists.

Rosner: You do not even need to be an internationalist. It is finding talented people wherever they are. If your country is a mess, then you're looking outside of your country.

[End of recorded material]

Ask A Genius 416 - Unable, Cannot, Don't Want To

Scott Douglas Jacobsen & Rick Rosner

October 18, 2018

[Beginning of recorded material]

Rick Rosner: Obviously, you know about Incels.

Scott Douglas Jacobsen: Right, I didn't know about them until the attacks in Canada.

Rosner: I didn't either. It means a creepy guy who can't get laid.

Jacobsen: Or a resentful guy who can't get laid, it could be the nice guy but turned bad.

Rosner: Yes, it is all rolled into a creepy guy. Once they call themselves an incel, it is bad. When guys are faced with not being able to get a girlfriend, there are several reactions that they can have, "Maybe, someday, I am only 15 or 18. Most people eventually find partners."

Another reaction that I had starting too early. I didn't do anything about it. It didn't work for me, for a long time, "What can I do to make myself more worthy of getting a girlfriend?"

Jacobsen: At the same time, it puts women on a pedestal and can be unhealthy too. It can be a barrier because it is a turnoff.

Rosner: You have to be reasonable about it. But you cannot be reasonable until you have educated yourself.

Jacobsen: If a guy or gal are looking for a long-term relationship, men need to know that, in general, financial stability is the most important, according to surveys.

Rosner: I started in high school. They are not looking for financial stability. You can be patient. You can address it by trying to improve yourself and trying to learn more about social relations or, the third thing, simply guys getting hostile and predatory.

They get really mad. They feel entitled to sex.

Jacobsen: You can see demographic trends. If you look at mass school shootings, 92 of the 94 in a decade and a half long period in the United States were men. Most were aged 17. 2 weren't.

The most probable group are young men aged 17 who are white by a race or Caucasian by ethnicity. This may come out of the Incel community. Even though, if you take into account that there are more white males than other males in North America, the majority of them will be white males, still.

Rosner: I agree with that to some extent. But a bunch of guys may gravitate to simply wanting a killing spree, wanting to do this thing. A lot of them find an issue to justify the killing spree.

The Incel thing can be one of those things. You can go with ISIS, the Incel thing, or being screwed over at work. But it is a chicken and egg thing. Which came first? The ISIS affiliation, the Incel thinking, the being pissed off at your boss, I would say in some cases that the urge to kill a lot of people - as a cool way to go out - came first.

Jacobsen: I suspect the Incel community is minor and still reflective of a larger phenomenon. If you look at the Kurdish community, one ravaged by war. In many stories,

these can be people who have gone through a trauma but react in the manner of building culture rather than being reactionary.

It was pointed out to me. That rape as a tool of war remains prominent. The boys and men are killed off. The girls and women are raped. It is the state and the soldiers feeling as if they own the female form or women and girls.

Incel communities reflect this. They feel entitled to sex with people simply for their existing.

Rosner: They reflect attitudes but are a small example of what can happen.

[End of recorded material]

Ask A Genius 417 - Monitoring Deviancy

Scott Douglas Jacobsen & Rick Rosner

October 19, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: The right and the left have valid arguments here. They tend to argue two points here. Conservatives argue fatherlessness. Liberals argue patriarchal structures in society. Both make sense.

If you look at the prison population, the ISIS population, and others, they are fatherless very often, including the women. The structures around the society. They encourage the idea that women are objects or their form, in general, is something that men can own.

If you look at the African-American community in rap videos, often, it is not necessarily the best representation of women is not being objectified. School shootings tend to be mostly white boys.

Rick Rosner: This argues against privacy and for algorithms to spot potential shooters. Because what comes up after a shooting is that there were all sorts of tells, in the case of the Parkland shooter, that guy had been turned into the cops dozens of times for being a psycho and various people had dropped the ball.

There was the guy who's dad gave him guns back and then he went on a rampage. The cops came and took the guns. They made the dad promise not to give the kid guns. Then the dad gives the guns back, and then the kid shoots up a place.

I just argue; there are all these influences in populations in general. It is a tiny minority who become shooters.

Jacobsen: But if you look at the media, it is women as objects.

Rosner: Like today, DJ Khaled is all over Twitter being made fun of, because he is saying that he is the king of the house because he gets blown but does not go down on his wife. This is one of the biggest rap producers being an idiot.

Most people are able to look at this for what it is, which is braggy nonsense. Rap, no matter how misogynistic some of it might be, does not cause most people who listen to it to commit rape or homicide.

Yes, you can exert pressure to make rap less misogynistic. But in terms of minimizing the number of shooters, we should probably develop things. We have this sinister algorithmic stuff like Cambridge Analytica, used to figure out who is voting for whom and how to change minds and stir trouble.

You can use the technology is a similar way, to monitor people's web presence to pinpoint people who need to be looked in on - to see if they are building an arsenal in their bedroom.

Every time a person shoots up a motherfucking place. The reporters do the post-disaster research and find out that the person had been turned into a cop a gazillion times and the neighbors were afraid of the guy.

None of this made it to the point of definite turning in. Maybe, we need an agency. If there were a branch of some law enforcement agency, I don't know. If it was devoted to promoting the finding of pre-crime, it is like *Minority Report.*

Jacobsen: How will this not infringe on fundamental rights of people? In China, they have mood chips in the caps of some workers in order to know when they need a break, when they need to keep working, and when, potentially, to demote or promote them.

Rosner: My answer is I don't know how you do it. If you tasked people, like a segment of the FBI, to figure out what you could do, and how it couldn't infringe, and if it infringes then it wouldn't piss everybody off, every time a person shoots up a place; we find evidence of them being a psycho beforehand.

Is there any way to get at this information beforehand and take action beforehand? It may not work before. If you find reports of people, and if they come in, then you can monitor them if they become an active shooter or not - as they are likely to do it.

Like those cops who examine this kid, who show a kid as a disturbed person, the cops give the guns to the dad. But if that agency had been instructed properly, or trained properly, maybe, they would not have believed the dad's bullshit to not give the kid guns.

[End of recorded material]

Ask A Genius 418 - The Physics of Punching (1)

Scott Douglas Jacobsen & Rick Rosner

October 20, 2018

[Beginning of recorded material]

Scott Douglas Jacobsen: What is the physics of punching [Laughing]?

Rick Rosner: For someone who is somewhat of a wuss, such as myself, I have done a lot of punching in my life. I have punched a fair amount. I was a doorman in bars for 25 years. I got punched - I don't know, maybe - a dozen times.

I would usually forget to punch back. I never punched anyone in a bar. I worked in one chain of bars if you punched a customer. But you got $25 if you took a punch. I used to punch myself in the face to toughen up.

In the gym, I used to work with the big rubber guys for practice. That you're supposed to beat up. I punched a lot of walls. This past week, I punched two walls because I got pissed off. Yet, having punched a lot of walls, I never punched through it.

In movies, you always see people punch through drywall. The angry husband or dad punches next to the wife's head and then punches through the drywall. I have punched a lot of walls and never even dented drywall.

We should talk about the physics of that. For one thing, most walls have a stud, at most every 16 inches. A vertical piece of wood holding the wall together every 1 foot and 4 inches. So, if you punch and happen to be over or near a stud, the wall will not move or break.

Your fist is, maybe, 3 or 4 inches wide. There is only a sweet spot of around 3 or 4 inches between studs where you might get enough flex in the drywall to crack it, and break through.

But that three and a half or 4 inches gives you less than a 25% chance of hitting the sweet spot. Also, it is harder to punch through drywall than you think.

[End of recorded material]

Ask A Genius 419 - The Physics of Punching (2)

Scott Douglas Jacobsen & Rick Rosner

October 21, 2018

[Beginning of recorded material]

Rick Rosner: The drywall in our house was built in 1966. It's 5/8ths of an inch thick. I think more recent drywall is half of an inch thick. You will easily punch through 5/8ths drywall.

In even older houses, you have plaster in half. You have vertical studs and then horizontal strips of wood to hold this mortar; that is probably 58/ths. Over the mortar, you have several layers of plaster that have been trowelled on.

You will not punch through that unless you're a superhero. There's that. If you are going to punch through stuff, then you want to punch through the greatest surface area of your knuckles.

If you make a fist and then look at your fist, you've got your first knuckle. The knuckles furthest up on your arm, right where your fingers start. If you look at those knuckles, and then the inch and a half or the two-inch lower half of your fingers when you make a fist, when you punch something, you want to make sure it's with the whole lower half of your fingers.

It should all make contact with whatever you're punching, so that the force is transmitted to what you're punching but it is transmitted across seven square inches. If you hit something off, so that only one or two knuckles make contact, that's no good. You might break a knuckle.

The way to transmit force with your fist is across the greatest surface area of your fist. Otherwise, you break your hand. Boxing gloves are not to protect the head of the person punched but the knuckles of the person punching because your head is less fragile than your knuckles.

[End of recorded material]

Ask A Genius 420 - The Physics of Punching (3)

Scott Douglas Jacobsen & Rick Rosner

October 22, 2018

[Beginning of recorded material]

Rick Rosner: In an earlier time, when I was a kid in the 1970s, I had been bullied and ridiculed a lot. In 9th grade, I punched 6 classmates. I did not get into trouble. But that was a different time.

Any punch you do of people (not drywall) should be before you are legally an adult. Unless you have been punched first, you probably don't want to punch someone, because you can be sued, especially in America.

If you are going to punch somebody in the head, I recommend the cheek. The side of the face, say between the cheek and the jawbone, where you give them a message; that they have been punched in the face.

If you hit square on with the greatest surface area, you probably won't break a knuckle or damage them too bad. Then you won't leave a mark. If you leave more of a mark, then that's bad, because it is more evidence of punching them.

You can punch them in the soft areas, like the gut or even in the groin, which won't leave a mark and is helpful when you're denying when you did it later. You don't want to hit them in the mouth.

Drunk people get in fights and punch people in the mouth. It is filthy. There is a chance that their teeth will puncture your hand. If drunk, a) you may not remember. You may awaken and have a swollen hand.

Your hand is swollen because it is superinfected. The teeth break the skin, I have known people who actually walked away with a tooth stuck in their hand without realizing it until later.

Teeth are filthy. If you relax your hand, your hand has been injected with all sorts of mouth bacteria. As you relax your hand, you pull the tendons back further up your arm that has been made filthy from the teeth.

Then you go back to sleep and forget when you wake up, you have a horribly infected hand. You can go online and read the medical journals about this. Also, if you are going to be punching stuff and be effective, you want to study punch mechanics.

It is punching effectively - not punching strategy if you study boxing - that is about transmitting force through your fist. Those aren't very effective because your fist and lower arm do not weigh that much.

And the person you're a person can see it coming if you are punching people against my advice. Instead, you want to punch straight out, so by the time the punch lands; you're pushing with your whole arm out through your arm.

You have also rotated your upper body, so you're leaning into the punch. So, you're transmitting not just the weight of your fist and arm but, to some extent, some of the force and inertia of your upper body.

So, by the time the punch lands, your arm should be almost straight and your left shoulder - if you're punching with your left hand - should be rotated towards the thing that you're punching to rotate and provide a strong base, the base of your body, to add force to your punch.

[End of recorded material]

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