

LOVING, KNOWING, AND GROWING

Growing with Rick Hanson: Part 2 Talk

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As you were having those experiences flow through your mind, simultaneously all kinds of cascades, eddies in the stream, of neural activity were cascading through your brain with mental neural correlates as the basis, fundamentally, certainly within ordinary reality, for hearing and seeing, loving and hating, wanting and rejecting, suffering and happiness.

And this means that our experiences, fundamentally, have an embodied underlying basis. We might be mindful of the body some of the time, experientially. Objectively, factually, we are always body-full of mind. Exactly how the neural activity in the retina, then moving through the optic nerve, cascading and bouncing around in the occipital lobes, and the thalamus, and whatnot, then becomes, in less than a tenth of a second, the sight of a friend's face. Exactly how that happens? That's still a mystery. That's the ultimate answer to that question is a deep question in cognitive neuroscience.

But the fundamental idea that there are very high-level tight correlations between the experiences we are having and what our brain is doing, that's extremely well established, in research on both humans and non-human animals. For me, bringing into account the body, the actual body, as the basis for our experiences, and really appreciating that it is the living body that is making our experiences, moment by moment by moment. It is the living body that is establishing awareness of our experiences. Appreciating this, for me, is not reductionistic, or mechanistic, or narrowing. And in fact, it takes one into a sense of wonder and awe at the complexity of the processes that in human beings - or simpler but very similar ones in gorillas, or squirrels, dogs, cats, lizards, goldfish, maybe even little shrimp - having perhaps experiences of some kind themselves. To really appreciate that the mind is grounded in life is, for me, respectful, it's humbling, it's awe-inspiring, and it takes us to an extraordinary sense of responsibility.

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This capacity that we have as human beings, to wonder about things, and reflect, and guide ourselves, and imagine the inner world of other people in great detail, this capacity in us is the result, basically, of about three and a half plus billion years of evolution of life on this planet, including the last 600 million years or so of evolution of the nervous system. Think of all the ancestors we've had: human, hominid, primate, mammalian, vertebrate, multicellular, and beyond, in an unbroken line, so that you right now can be hearing, and seeing, thinking, feeling,

and remembering right now. To me, this takes us out into a wonderful sense of appreciation for all that we've been given. To have these capabilities and with it a sense of responsibility.

What will we do with these gifts to help our own life be as good as possible, and also help the lives of others as well? So fundamentally, appreciating the ways that mind is grounded in life is very consistent with people who have spiritual and other forms of practices that have to do with opening the heart and expanding consciousness. They're not, one doesn't contradict each other. I want to give you a little basic information about your brain and how it changes for the better. And then let's apply that to really developing more and more of these key inner strengths.

So, the brain. Now, of course, the brain is embedded in the nervous system, which is entwining throughout the entire body, integrated with other bodily systems, which are integrated with life altogether, culture, the physical universe. Fine. Experiences are intangible, so they don't have a location, just like an idea doesn't have a location. On the other hand, the causes of hearing, seeing, thinking, and remembering do have locations, and basically the final common pathway of the causes that are making this moment of consciousness run right between your ears.

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So I'm not trying to reduce the mind broadly or experiences to the brain per say, but what I am doing certainly is appreciating what we can learn for practical purposes from what scientists have been discovering, especially over the last 20 years or so, about the human brain.

So, quick facts. About three pounds of tissue, roughly one and a half kilograms, about the size of five cups in volume, the brain contains about eighty-five billion neurons, which are connected on average to several thousand other neurons, each of them, which gives us an amazing internal internet with several hundred trillion nodes, each one of which is like a little microprocessor, all sparkling away continuously inside our own head. And those eighty-five billion or so neurons are supported by another hundred billion or so glial cells, support cells. Though, the neurons are mainly where the action is in terms of information processing in the brain. So the brain is always on. Even though it only is about 2 to 3 percent of body weight, it uses about 20 to 25 percent of the metabolic supplies in the blood, especially oxygen and glucose.

In any moment, trillions of events are occurring in the many, many points of connection, the synapses of the brain. A typical neuron is firing five to fifty times a second. Wow. Large coalitions of neurons are firing together five, ten, fifty, even a hundred times a second. Many, many, many

things can happen in a single second.

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So what's the function of all that amazing hardware, which the neuroscientists Charles Sherrington called an enchanted loom, continually weaving the tapestry of our experiences? Well, the function of the nervous system, broadly, and certainly its headquarters, the brain, is to process information. And a lot of that information processing is forever outside of awareness. Within awareness, one of the key functions of the brain is to be changed by our experiences. The technical term for this is experience-dependent neuroplasticity. Plasticity simply being the capacity of anything to be changeable, including the nervous system.

So we're designed to be changed by our experiences. But here's the rub. We're especially designed to be changed by our negative, painful, stressful, harmful experiences. That's because back in the wild, in effect, we needed both to get carrots and avoid sticks. But if you failed to get a carrot today back in Jurassic Park, you'd have a chance to win tomorrow, probably. But if you fail to avoid that, stick, that velociraptor, or angry other member of your own primate band back in the day, well, no more carrots forever.

So we have a brain that's biased to scan for bad news, overfocus upon it, overreact to it, over-remember it, and then be sensitized to it, due to the activity of the stress hormone, cortisol, so that we become more reactive in the future. This is Mother Nature's plan for us. This is natural and it's a very effective way to survive the Stone Age, or a combat tour, or growing up in a neighborhood there's like a combat zone, like a war zone. All right. But for most people these days, the negativity bias of the brain, which makes it, as I say, like "Velcro for bad experiences, but Teflon for good experiences," adds a lot of unnecessary suffering, creates a lot of unnecessary conflicts with others, and obstructs a lot of useful learning we would otherwise have from our beneficial experiences.

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The Negativity bias is like kind of a bottleneck in the brain that lets in each moment of stress, irritation, frustration, resentment, feeling inadequate, feeling hurt, etc etc. etc.. While, bonk, bonk, bonk, experiences of gratitude, or calm strength, or self-worth kind of bounce off and we don't grow from them. It's really important to appreciate that experiencing does not equal learning.

The brain changes for the better in two necessary steps. The first step is to experience whatever you want to grow. As I said, either notice something useful you're already experiencing or deliberately create an experience of some kind that's useful, such as a sense of perspective

about things, or remembering that it's not your fault that your ex had a problem with alcohol. So that's the first step. But it's not a sufficient step. It's necessary, but it's not sufficient. Experiencing does not equal learning. Remembering that negative experiences automatically activate the second step of being internalized.

And that's the second step in which the passing experience leaves lasting residues behind. The takeaway point for me is, first, not to suppress pain. No, this is not about positive thinking. This is not about rose-colored glasses or looking on the bright side. This is about seeing the whole of reality with mindfulness and compassion, while also appreciating the ways in which reality includes, in most people's lives, many beneficial facts and beneficial experiences. And yet, due to the negativity bias, we tend to not notice them. Or if we notice them, we tend to move right on.

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So it comes from, what I'm talking about, comes from appreciating that. It also comes from the fact that we develop capacities to cope and be resilient, to overcome, to heal, to speak up and stand up for others. We develop those capacities mainly by internalizing beneficial experiences of those capacities, which usually feel enjoyable, or meaningful, or both. So it's through taking in the good that we become more able to deal with the bad. I'm using the words good and bad in a very pragmatic sense here as that which, in the sense of good creates happiness and welfare, or in the sense of bad, that which leads to suffering and harm. So there's this inherent two-stage process of positive change for the better. Experiencing what we want to grow, and then helping that experience to leave lasting physical traces behind as durable changes in neural structure or function. That's the fundamental process.

And so I invite you to do what I do, which is try to remember the second necessary stage of healing, and developing, and growing, and look for opportunities every day to slow it down for a breath, maybe two or three breaths in a row, to stay with that beneficial experience so it can actually really, really sink in.

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So here I thought we could do an experience I'll practice in which it'll be a little longer. I will use the methods that I'll be explaining in detail just implicitly in this experiential practice. And we'll focus this practice on developing the key inner resource, the inner strength, of being on your own side, being for yourself, a kind of muscular sense of loyalty to yourself, a commitment to your own well-being that you would have for a friend to whom you feel loyal, who you want to support. And the reason I think this is really important is kind of embedded in the classic lame but profound joke in the therapy world, "How many therapists does it take to change a light bulb?"

"Only one. But the light bulb has to want to change." In other words, how do we help ourselves want to change?

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If we're not on our own side, if our suffering doesn't matter to us, if we don't want to help ourselves become wiser, and happier, stronger, and more loving, more rested in an inner peace, if we don't really want to help ourselves in those ways, we're not going to do any practices at all. So this is really foundational, this fundamental stance of being on your own side. For some people, it's quite natural. They're already rested there. But, in my experience as a longtime psychotherapist and an even longer time teacher in the human potential and mindfulness world, many, many people don't really have a very strong sense yet of being a friend to themselves. So let's focus on this one as a key psychological resource. A key inner strength. A key trait to keep developing in yourself.