

Joe Gitchell Rosh Hashanah 5775 Remarks, Beth Chai

I am happy yet humbled to have this opportunity to share some perspectives on this Rosh Hashanah, 5775. Happy, because I enjoy talking and think that I will share at least a few worthwhile nuggets, but humbled, because I'm stepping in the impressive shoes of those who have presented before me—I hope I do not stumble! I did have gracious help from two dear friends, plus Rabbi Blecher, who kindly read and provided comments on this talk. Anything you like is probably due to their influence; anything you don't like is on me.

I love learning about evolution, and my intention this morning is to share some facts about human evolution and consider and reflect on how they impact all of us today. Hopefully, at the least, you will gain some useful party conversation starters, and maybe even some inspiration to look at our world slightly differently and then act a bit differently to those around us. Fundamentally, I believe that our social and public lives revolve around identifying and navigating who is “us” and who is “them”—and that won't change. But how big we judge each of those groups to be, and how substantial are the differences we choose to believe exist across them, could be modified for the better.

One of my favorite college classes was “Darwin and the Darwinian Revolution”—combining my interest in science and history. I relish the requirement that to attempt to understand evolution, akin to geology, one must completely alter one's sense of the pace and flow of time. For example, our family visited Yellowstone this summer and the beauty and majesty of the park awed us. And while 630,000 years seems like a long time, the burbling paint pots and geysers of Yellowstone provide ample reminders that essentially everywhere we were in the park at that not-so-long ago time over a few days or weeks was in the process of exploding

with a magnitude of 1000 Hiroshima fission bombs detonating every second¹. Gulp.

In that same timeframe, our ancestors were responding to their environment, following their fundamental drives to survive and reproduce, leading to the physical, mental, emotional, and communal characteristics that shape our experience today. And if Yellowstone can manifest such an array of seemingly permanent natural beauty, and yet also, frequently, demonstrate how it is still changing, I would like to think that with a deep enough awareness of how we “work” and are “wired”, that we, too, might be able to change. And, just maybe, that change could be beneficial to us and to the planet and its other denizens. To be clear, I do not want to suggest that we are simply automatons that act according to programming laid out in our DNA—as individuals and communities we have choices and we can feel positive about many of the changes that we have pursued over time. Yet I would submit that we may be able to consider, decide and act on our choices to get to better outcomes with the understanding of how our past shapes our present.

So here are some of my favorite examples of why we are what we are and why we behave the way we behave:

We have been shaped, more than we like to admit, by forces of natural selection operating over millions of years—and for almost all of that time frame, we (and to be clear, by “we”, I am referring to homo sapiens as well as our ancestors) lived a very challenging and frankly brutal existence. As single organisms, we had a host of physical disadvantages compared to other predators, and thus we survived and thrived through networks, communications, and communities. But I am getting ahead of myself.

¹ <http://www.bbc.co.uk/sn/tvradio/programmes/supervolcano/article.shtml>

As an example of how existentially brutal our existence was during the time of all of this natural selection, during sleep, our ears do not completely turn off but maintain a substantial “threat assessment” function. Such a devotion of resources has a real cost (as sleep is critical to restore our ability to function while awake), but the risk of mortality during sleep was sufficiently great that letting some parts of the brain stay active (and being able to categorize subconsciously different sounds into threatening and non-threatening) was a benefit. And let’s pause for a moment to consider this further: I am sure that we were not seeking out the most risky and perilous locations to sleep (“I love falling asleep to the sound of wolves howling!”), but, rather, spending a lot of time examining the caves and tree boles for risk factors before nodding off.

This risky and threatening environment has had enormous impact on how we process our world, and how we behave. In such an environment where threats to gene propagation were largely fast-moving and life-threatening, survival was maximized for those who made quick decisions based on the information available and who committed to them. Imagine the differing fates of these two hominids:

- Oliver ponders if the rustling he hears in the bush is perhaps some of his friends playing a trick by sneaking up on him, or maybe it could be a leopard or other large fanged feline that is about to make a meal of him;
- Clark, however, leaps instantly to the conclusion that the sound is being caused by human-hunting predator and takes off in the opposite direction as fast as he can run.

Yes, Clark’s action definitely will cost him scarce energy (and perhaps embarrassment if the source of the sound actually was his friends), but in a substantial number of cases, obviously, Oliver’s careful reflection and weighing of evidence resulted in human consumption—of the non “first-world” kind!

After the assessment of the threat, our entire bodies react by activating to increase our chances of survival—“fight or flight.” This broad array of physical responses primes us to have the best chance of surviving for the next few minutes. We are the descendants of creatures whose environment shaped this as the optimal way to respond. But I am sure that we can all think of examples where such an aggressive response is counterproductive in our current world. ~~Did anyone encounter a distracted, discourteous, or dangerous driver in the last 24 hours?~~

~~These instincts are powerful and pervasive, even when identified and explicit—and not just in response to a leaping lion. One of my favorite experiments was done by the social psychologist, Paul Rozin, in his lab at UPenn. The test involves asking undergraduates what their preferred beverage is, presenting a glass of it to them, and then inquiring, on a -100 to +100 scale, how much they would like to drink it. The experimenter then produces a dead cockroach held in tweezers and explains that it is dead and completely disinfected and pathogen-free before dunking it in the beverage and swirling it around for a few seconds. After removing the cockroach, the participant is then asked how much they want to drink from that glass. Suffice to say, the ratings fall broadly and precipitously, even in the face of the asserted explicit fact that nothing has changed with their beverage. Now, this could be explained because the participant just can't believe that the cockroach is as pure as described, but regardless, the contagion and revulsion response has helped us avoid premature morbidity and mortality for generations, and simply because we have a prefrontal cortex—the reasoning part of our complex brains—does not mean that we can easily tamp that reaction down.~~

A significant problem for us, then, is that our current environment is completely different from the one that dictated our “wiring” and instincts. ~~We can see this disconnect in other arenas, too. For example, the primary characteristic of food during our evolution was “scarce”. Given that, we are~~

~~hard-wired to consume food as if our lives depended on it (they did). Now that most of us live in an environment marked by abundant food, we are like fish out of water, literally. It was never evolutionarily advantageous to be able to stop eating while there was still more to eat. Further, when we lose more than about 10% of our body weight, regardless of our starting weight, our body concludes that we are starving and pulls out all of the stops to get us to seek calorie-rich food with a powerful focus.~~

~~Back to our responses to threats, a challenge from our wiring is that we struggle to respond proportionally and appropriately to threats that are clearly not fast-moving and life-threatening. One example is our global society's collective failure to date to respond to the massively life-altering threat posed by climate change—just not moving fast enough.~~

As a species, we have put the “fight” response to very good use, but not always in a simple, straightforward way. One example where it plays a big role in our eventual success, according to a leading theory, is how homo sapiens displaced Neanderthals throughout Europe starting around 40,000 years ago. This is ancient history, but it shows that we have a long history of divvying up “us” and “them”, and we clearly decided that Neanderthals were a “them”.

I had the opportunity to visit the National History Museum in London over the summer and went through the “Million Years of Humans in Britain” exhibit. It was fantastic, and it concluded with life-size replicas of a Neanderthal and a contemporaneous homo sapiens. My initial reaction upon looking at the Neanderthal was being completely underwhelmed. The guy was only about 5 foot 3, and not all that broad in the shoulders. In contrast, the homo sapiens was almost six feet tall, broad shouldered tapering to narrow hips, lean and muscular. Looking more closely at the Neanderthal’s barrel torso, I remembered the first chapter of a captivating read called Manthropology where the author painstakingly reviewed all of the relevant science to conclude that a female Neanderthal could’ve beaten

the strongest modern homo sapiens in arm wrestling—likely breaking his arm. This was due to critical differences in how muscles are configured and controlled to fire. One on one, a fight would quickly end with the Neanderthal triumphant.

With these innate physical differences, what tipped the balance so strongly in favor of h. sapiens was, plausibly, our superior communication and networking abilities. Literally we could gather larger groups to act in coordinated fashion—and did. In the face of our ability to collaborate to advance a common goal, Neanderthals were relegated to a terminus of our family tree. But not quite: all of us of European descent have 1-5% of our genomes consisting of Neanderthal DNA. Given that there has not been a full-blood Neanderthal to contribute to our genome for about 30,000 years (or at least a 1000 generations), we can assume that 30,000 years ago, our genome contained quite a bit more than 5% Neanderthal DNA!

To tap in to the power of human collaboration (what University of Virginia professor Jonathan Haidt, in a very cool TED talk, called “the most powerful force in the known universe”) requires ways to deal with the inevitable burden of freeloaders who ride on the altruism of others. You may have heard of the concept of the “tragedy of the commons” where, for individuals desiring to maximize their own benefits, a shared resource will be consumed as massively and rapidly as possible—with the consequence that everyone ends up losing. As Haidt reviews, Nature has addressed this issue, starting with the simplest single-cell organisms, by uniting collaborators within the same membrane to align incentives. Essentially, the living embodiment of “We must all hang together, or we shall surely hang separately.”

For human communities, this necessitates the creation of boundaries—physical, social, cultural, linguistic, religious—between “us” and “them”. And I would submit that this efficient and effective tool to gain the benefits of organization enables the worst atrocities ever committed by humans

against other humans and by humans against other organisms on this planet.

The pattern has been repeated over and over—by building up the sense of differentiation and superiority of “us”, particularly as compared to a grossly inferior and inhuman “them”, we unleash our most base selves where literally any action can be rationalized and justified.

Even short of invasions and genocides, these tendencies pervade modern life. Tensions around civil and human rights, race relations, sectarian strife, “class warfare”, stigma and ostracization of the “other”—all complicate and degrade the quality and length of our lives.

So how to reconcile the seemingly irreconcilable? We need the boundaries and membranes to bind individuals sufficiently to collaborate, yet these very concepts become the foundations for horror, discrimination, and pain.

I cannot claim to have the answer, as much as I wish I did. But I do think there are simple, easy and direct steps that we can all take that might “extend the membrane” just a little bit. And with commitment, dedication, and time, even small changes can lead to substantial evolution.

As students and followers of Jewish history and culture, I think we can draw inspiration from lessons and guidance for how to “treat the stranger, as you were once a stranger in the land of Egypt.” Yes, I’m simplistic enough to invoke the Golden Rule, but let me make it as tangible as possible. If we can decrease the number of strangers in our lives, and increase the number of acquaintances and friends, even just a little bit, we can extend and expand the membrane and hopefully build a broader collective whole that views diversity and difference as sources of strength and creativity and pivots to the host of views and dreams that we share in common.

Let me conclude with this request: every day, at least consider extending your own membrane of community. Try it; introduce yourself to someone

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you don't know, convert a stranger to an acquaintance—lean in and don't let your instinct to judge and categorize instantly overwhelm your capacity to grow and learn.

I don't know that taking these steps can make enough of a difference, but I cannot see how it can hurt.

Thank you.