

Built for Ethics: 4 Billion Years and Evolving
Mid Rivers Ethical Society lecture by Adam Saiter

A few months ago, late at night, I laid in bed unable to sleep. My mind started wandering, as minds tend to do when unoccupied, and I had a bit of an epiphany. Essentially, I re-framed my experiences of social interaction, love, hate, happiness, and depression by looking far beyond myself and putting it all in terms of ethical culture and the evolution of humanity itself. Suddenly many of my experiences made a lot more sense to me. Since then I've refined my thinking a bit and composed this brief presentation of my reflections.

As a species, we humans are pretty narcissistic. Despite all evidence to the contrary, the majority of us believe that we're fundamentally different from the rest of the animal kingdom, that we have "souls" (whatever those may be, exactly), and that our actions really have an objective moral relevance beyond their immediate impact on the people around us. It's very easy to forget that despite all our skills, all our complexity, and all our faults, we are still animals. We inherited our basic psychological and physiological constitution from our great ape ancestors; we may be far more advanced than our evolutionary cousins, but we're much more similar than we are different.

In order to comprehend fully how human societies work and why we behave the way we do I find it useful to re-examine our evolutionary history. By examining humanity within our context of life on Earth we can draw some interesting conclusions about why we are the way we are, what kinds of things really are good for us, both individually and as a species, and we can even make some good educated guesses about the future of our societies and our species as a whole. Let's review, briefly, the history of life on Earth, courtesy of the contributors to Wikipedia:

4 billion years ago the first self-replicating molecules formed. Not quite life as we would define it, but chemicals that take on one of the main defining functions of life – that of reproduction. After 100 million years, these molecules figure out that they're better off forming basic cells. This is the birth of the prokaryote – simple cells we would recognize as bacteria. They have no internal structures, rather just an amorphous blob of chemicals contained within a microscopic phospholipid membrane bag.

1.8 billion years after the first basic cells appear, these critters finally figure out that they work better in groups. A particularly large cell essentially gobbled up some smaller cells, but rather than digesting them, this larger cell let the smaller cells live inside it because they started performing specialized functions that helped the larger cell. The chloroplasts in green plants and the mitochondria and ribosomes found in all living organisms are thought to have their start this way – these organelles are actually something like symbiotic parasites. This development marked the birth of eukaryotic cells – the type of cells that make up you and me and every living thing large enough for us to see. Eukaryotic cells are a huge step forward. Internal organelles – compartments inside the cell where complex organic chemical reactions can take place – allow cells to carry out more advanced functions and lets them do this faster than prokaryotes.

Another 900 million years later, these eukaryotic cells figure out how to have sex. This was another leap forward in evolutionary terms. When organisms can only reproduce by duplicating themselves, evolution goes pretty slow. When they can work with others of their kind by exchanging DNA, the process of evolution is greatly accelerated by virtue of the fact that new combinations of traits can be created that otherwise would be impossible.

After 600 million years of sexual reproduction, life figured out how to make the first animal: a sponge. At this point, with the birth of the Animal Kingdom, things start to get more exciting.

50 million years later the first critter with a brain appears: a flatworm. Another 10 million years and the first hearts and kidneys begin to appear, again in a type of worm.

Another 150 million years and we have the first skeletons in the form of bony fish. Note that we're up to 400 million years before the present. 90% of the history of life on Earth passed by before the first bones appeared.

85 million years later and the first amphibians with limbs appear on the scene. Bear in mind it took the Animal Kingdom 285 million years to learn how to walk. On all fours, nonetheless.

At 256 million years ago the first reptiles appear, and at 220 million years ago the first mammals appear. 95 million years later these early mammals develop the placenta and the process of giving birth to live young.

40 million years ago the first primates appear. They look something like a cross between a common squirrel and a lemur and aren't much bigger or more intelligent than either one.

15 million years ago the Great Apes form. We can presume that most, if not all, of these species are pretty social creatures, considering that ALL apes are pretty social guys except for orangutans.

About 4.5 million years ago our ancestor Ardipithicus learns how to walk on two legs instead of all four.

2 million years ago one of our recent ancestors, Homo habilis, learned how to use rocks to kill things. 3,998 million years of evolution from the origin of life to the first hand axe.

About 130 thousand years ago the genetic components necessary for the development of speech appear. This is another huge leap forward. Our primate cousins rely on grooming behavior to solidify the bonds between individuals to form small societies of, at most, 100 to 200 animals. Thankfully, as a human endowed with speech, I can form a bond with all of you without having to pick lice off of anyone.

74 thousand years ago, incidentally, we were nearly extinct. After a supermassive volcanic eruption there was a 6 year long "nuclear winter" followed by a 1000 year long ice age, during which the entirety of humanity was reduced to about 2,000 individuals. We've identified this population crash through genetic studies – this crash caused humanity today to be less genetically diverse than almost any other species on the planet.

The remainder of our story should be familiar to most of us. Around 12,000 years ago we started agriculture. 6,000 years ago we figured out how to smelt metal and we started creating bronze tools. 2,300 years ago we discovered the scientific method and promptly lost it for over a thousand years. I'm sure you don't need me to recount the more recent history of the discovery of the New World, the Industrial Revolution, the advent of computer technology, and, of course, the earth-shattering parallel developments of MySpace and the Fox News Channel.

These past 4 billion years had a lot going on. As self-aware, conscious, and social creatures we have

not only the opportunity, but I believe the imperative to examine ourselves as a species, examine the history of life, and put ourselves in context, learning all we can from this perspective. What is it that made certain creatures highly successful in the past? How does that relate to humanity today? Does this examination give us cause to change our behavior or be more cognizant of what we do?

The most salient reason for any animal's success in populating the Earth is body form. The arthropods were the first to discover a really good body; since then they have existed in every corner of this planet. Starting with trilobites, these critters with exoskeletons and jointed, segmented bodies and limbs have proven to be amazingly versatile and durable. All insects, arachnids, crustaceans, and several other groups of animals are members of this category and all share the same basic morphological building blocks.

In many respects, we humans have pretty good bodies too. We may be kind of soft and squishy and vulnerable, we don't have much hair so we get cold easily, but we walk on two legs, we've got two extra appendages with really nifty hands on the ends of them with opposable thumbs and curved fingers for grasping and manipulating things, and we've got really big brains to make up for where our bodies may fall short. Arthropods ran into a morphological brick wall in developing higher intelligence, but we humans have the best-yet developed bodies capable of supporting a big brain.

Good bodies aren't all it takes to form a successful critter on this planet though. Let's look back at the evolutionary history once again and examine the big leaps forward to see what we can glean.

After 1800 million years there came the leap from prokaryotes – bacteria – to eukaryotes, the kind of cells found in all higher life forms.

900 million years later we had sexual reproduction, allowing for the exchange of DNA between individuals.

600 million years after that we see the development of the Animal Kingdom, where many individual cells combined to create a greater being.

575 million years later we see the development of primates and their highly developed social structures.

24.9 million years after THAT we see the development of language in our immediate ancestors.

97 thousand years later we develop the modern nation-state and the division of labor.

What kind of patterns do we see? One very obvious pattern is an increasing rate of development. Not only are these paradigmatic changes arriving, but they're arriving faster and faster.

The second and more important pattern is that of increasing social complexity. Each leap forward involved the cooperation of individual organisms to create something greater than the sum of their constituent parts. There is no effective difference between a mitochondrion without its parent eukaryotic cell and an individual human being completely cut off from its society. In the case of the mitochondrion, it cannot function without the support and assistance of the cell it belongs to. In the case of the human, similarly, it cannot function without the support and assistance of the society it belongs to.

This is so important it's worth some visualization. Imagine a human being, born into existence and

then immediately cut off from all human contact. We'll assume its physical needs for food, shelter, and the like are somehow taken care of. What kind of a person would this human be? With no context whatsoever, this human has no meaning, no relevance to anything, no self-consciousness, not even any awareness that we would recognize. Such an existence is so alien to our experience of the world that it's really impossible to adequately describe or visualize what it would be like. We depend on our interactions with others to give us language and create our intelligence and to enable us to recognize what is self and not-self. These are the fundamental things that create what we perceive as consciousness.

As human beings, we find our worth, our context, and our self-awareness through our integration with other human beings. 50,000 years ago humans lived in small tribes that formed that context and integration. Today we have built huge societies of hundreds of millions of people, in which each of us personally forms connections with many thousands of people over the course of our lifetimes. This is how we integrate, how we become parts of something greater than ourselves to give our lives context and meaning.

To grossly oversimplify the amazing complexity of human social interaction, there are several core forms of human interactions that allow us to achieve our integration and development. We talk to each other. We touch each other. We do things for each other and have things done for us. More than just that, we love each other, we have sex with each other, we help each other grow, and we protect each other. Admittedly, we have some pretty highly developed rules for how all this gets done, but it does get done. These elemental types of interaction are the basic building blocks upon which our social structure is built. We have inherited these elemental types as a part of our heritage as primates. Our evolutionary cousins, chimpanzees and bonobos, have highly recognizable analogs for all this behavior and almost all other social mammals do pretty similar things as well.

Humans are clearly built to work in groups. We can't make it on our own; that may work for arthropods but not for us. As such, nature has endowed us with a few gifts to motivate us to integrate with others – this is how we work best, so nature has seen it fit to provide some impetus to make sure we do it.

But nature has only two pretty blunt sticks at its disposal to ensure this social interaction happens: pleasure and pain. When we have all our social-animal needs met, we experience some level of pleasure. When something is deficient – touching, talking, growing, protecting, or even sex – we experience some degree of pain. If the deficiency is severe enough, that pain we feel can be just as excruciating as a severe physical injury. It's certainly a blunt system nature has going for us, and possibly not the most effective or efficient, but the spectrum of pleasure and pain does work and generally keeps us on track.

So what does all this have to do with ethics? EVERYTHING.

One of the difficulties we run into as humans is examining things too closely and failing to see the big picture. Ethics is an exercise in determining what types of behavior are “right”, for establishing rules for people to live by.

Bear in mind that without other people, without a society, what is ethical and what is unethical is not a relevant question. If no one in the world exists but me, I can do anything I want and it really can't be deemed morally right or wrong. It's only when my actions (or lack thereof) have an impact on other

people that the question of ethical action becomes salient.

Ethics, therefore, are the set of rules – or the systematized way of thinking about behavior – that results from a functioning society of humans. Ethics are products of human thought; it's a set of tools we use to integrate individuals into society and keep societies functioning. As such, one can define ethical action as behaviors that promote the welfare of the human species and, inversely, unethical action is any behavior that is destructive to an individual, a group, or to humanity as a whole.

By virtue of our evolutionary history, we are social creatures; it is our social abilities in combination with our intelligence that has allowed us to become the successful species we are today. Since nature has only provided those two blunt instruments to keep us in line – pleasure and pain – we can conclude that if being ethical was anything other than ultimately pleasurable we would tend to behave unethically and, as a result, be a miserably unsuccessful species. This is not the case, however, so we can infer that ethical behaviors are behaviors that bring us pleasure.

We have to be careful, however, that we examine what is pleasurable and what is painful with a broad enough sense of perspective that our idea of ethical doesn't become synonymous with hedonism. Many people might consider injecting heroin to be a highly pleasurable act, but the consequences of drug addiction are so broad and so severe that excessive recreational consumption of intoxicants cannot be considered to be ethically good or even neutral. Hedonism is ultimately both unethical and unpleasurable insofar as it results in destruction to the individual or to society. Sacrifice and delayed gratification, likewise, may substitute a lesser pleasure today for a greater pleasure tomorrow and as such, are often a preferred ethical choice.

What is ethically good – and what brings us pleasure and satisfaction – is to be well integrated into society, to grow and develop personally as best we can, and to help others achieve these goals as well. These behaviors make us feel good about ourselves and help ensure the welfare of both ourselves and our society. They are ethical and desirable behaviors.

We start with the presumption that ethical behavior is something we should endeavor to adhere to, we can now conclude that ethical behavior feels good and is a large part of why we have been able to form a successful civilization. The next question to address is just how this conclusion is relevant to us as a species today and in the future.

Every type of organism in the history of the Earth has followed a very similar pattern of population growth. In the absence of predators, all living creatures grow and reproduce as rapidly as they can. Then, when the population becomes too great, either the resources on which they depend become inadequate to fulfill their needs or the byproducts and waste of the species accumulate to the point where it becomes toxic to the organisms. The population of the species then dies off, collapsing catastrophically to small numbers. The cycle then repeats.

In most situations nature provides ecological feedback mechanisms to keep species populations from growing too large. Usually this is accomplished through predators or a lack of resources that slows the organisms' reproduction rate. Deer won't reproduce as much if food isn't plentiful, for instance. In other situations there is no such feedback that keeps a population in check. If deer have a truly abundant food supply, they will reproduce until they eat everything suitable and soon begin dying off due to starvation.

If we aren't careful, we will follow this same pattern. We will use up all the resources at our disposal as our population grows, only to run out and collapse in a terrible, apocalyptic event. I don't know if we have reached that critical turning point or if it's still in the future, or even how far out into the future it may be. I am certain, however, that after millenia of tremendous population growth, all 6 billion of us should be worried about a possible future collapse.

Our alternative is a path that should be familiar to us by now: enlightened self interest through social constructs. This forms nothing short of another leap forward in evolutionary development.

Past leaps forward in evolution have relied on genetic and morphologic changes in species to exploit new and different niches in a changing environment. The coming developments, however, will rely more heavily on cultural changes than genetic ones. As a species that covers the face of this planet and has a capacity orders of magnitude greater than any predecessor to change and exploit this planet, we are now faced with the unprecedented necessity of managing the resources at our disposal to avoid catastrophe. This requires us to use every human resource at our disposal as rationally and pragmatically as possible to engineer a global sustainable society not subject to the cycle of growth and collapse that other species have experienced.

There are a few approaches to tackling this problem that we have tried before with some awfully horrific results. We tried to develop societies where a select few would have their welfare secured while another lesser group would suffer the vagaries of life; slavery has never really worked out all that well.

We've tried to construct societies of the best and brightest, of the ideal people, and throw the undesirables to the wolves. Neither the Khmer Rouge nor the Third Reich are models anyone with a modicum of good sense looks at with anything but disgust.

We've even tried to construct societies where central planning would serve to benefit all. Communism, however, ended with tragic results as well.

So what do we do? How do we construct a society that will benefit all people and not just a select few and will ensure the transcendence of that society past the biological cycles of boom and bust? What would such a society look like? To be honest, I really don't know. I don't think anybody does.

What I do know, however, is that we have to avoid the tragic mistakes we have made in the past, namely that of squandering diversity in order to favor a select group. The construction of a future successful society will require all that each of us have to offer. It will require all our works, all our intellects, and all our established knowledge to do this, if it even can be done. We will not grow by identifying and leaving behind the less well adapted in some kind of misguided version of Social Darwinism, we will grow by identifying and exercising strengths in each of us.

Thankfully, this part of the design we, as Ethical Humanists, are quite familiar with, even when we don't do it especially well. It demands that we act so as to elicit the best from those around us.

To me this is the very definition of love itself. Furthermore, this type of love is the very definition of ethical life.

With this form of love, of ethical life, we have to recognize the traps that we are prone to falling into. We humans are pretty fallible beings. We do stupid things that are totally contrary to our self interest.

We eat too much and become obese. We fail to take care of our physical bodies and then we get sick. We make mistakes and fall victim to depression or addiction. We develop odd quirks like obsessive compulsive disorder or other anxiety disorders. Sometimes we get hurt and then become vindictive to the point of excessive harm. We fight, kill, squander, torture, hate, and, worst of all, we become stubborn and stuck in our ways even in the face of incontrovertible evidence that another way is better. Another fault is our over-reliance on associative learning rather than deductive thought – this is part of what leads Americans to feel less safe than we did 30 years ago even though the violent crime rate is a small fraction of what it was. If you want to feel safer, turn off the evening news and ask your friends and family how many people they know who have been the victim of a crime recently. You'll get a more reliable and realistic impression than the media will ever give you.

Whenever confronted by one of these faults in ourselves or in another person, we have the choice of ignoring it, avoiding it, or trying to change it. Often one of the first two options is the wisest, but too frequently we choose not to help others grow beyond those things that are harming both themselves and those around them.

In addition to recognizing these traps, we as ethical humanists must recognize the strengths in ourselves and those around us. This is an equally, if not more, difficult challenge as recognizing faults. We have textbooks filled with thousands of diagnoses related to traps we fall into; I recently took an online psychological test to identify my own “personal strengths” that had exactly 8 different strengths test takers could be identified with. Interesting that we identify a thousand different ways to screw up but only 8 ways to do well. This is particularly odd when you consider that research has clearly and repeatedly indicated that to increase happiness and satisfaction with life one should focus on developing one's strengths, less so worrying about fixing weaknesses.

As such it is imperative for us to work not only to help each other avoid traps and escape them when they catch us, but to recognize our strengths and offer each other opportunities to exercise and develop those strengths. Just as an underutilized muscle will atrophy and remain weak, underutilized personal strengths require exercise to develop; short of strain to failure, the more exercise, the greater the growth of that strength.

Bear in mind that facilitating someone's growth is a very tricky proposition. Our first reaction might be to offer advice. This is not likely to be effective. Growth always comes from within oneself, never from without. The best facilitation of growth is that which is so subtle it might not even be detected; one must enable, not drive, another's growth.

It would be easy for me to conclude here, saying that as a consequence of our position in the history of Earth and of life itself that we have an ethical imperative to always seek to help each other grow and become the best, most self-aware, most intelligent beings we possibly can become. While an agreeable proposition, it is not quite the core of the message I want to convey.

A more accurate conclusion is a recognition that we humans are under a biologically driven imperative to love each other and to help each other grow. When we fail to do this and cut ourselves off from the rest of society, we do experience pain in varying degrees of severity. Nature itself has given us the basis for this imperative to behave ethically. It is now our job to recognize not only the pleasure and the pain we individually experience as a result of our behavior, but to consciously recognize the larger implications for our society and our species consequent to our behavior.

Our next test, as a species, is to overcome our deeply rooted biological inclination to grow and

consume without respect for consequences. If we continue ignoring the long term consequences of our ever-increasing thirst for natural resources and energy, our increasing ability to use military means to destroy and contaminate our fellow humans and the earth itself, or the impact our regular lives have on the stability of the environment that makes our lives possible, we will continue, as all animals do, to experience boom and bust cycles. If we are able to heighten our level of awareness so as to enable adequately the personal growth of ourselves and those we relate to and thereby take charge of our destiny, we truly will be enabled to become creatures advanced far beyond anything Earth has seen in its 4 billion years of biological history.