

Lecture - Learning What Our Place in the Natural World Might Be

by Andy Gilman - July 31, 2018

What is nature? What does *natural* mean? Or, more specifically, what is natural for humans to do and to be in the world, and what is our relationship to the world? Do we belong to the world, are we wholly made of the world, or are we a part of it and also alien to it? What is our responsibility to the world? To investigate these questions we will explore examples from mythology, biology, physics, psychology, philosophy, linguistics, and the arts.

There are origin stories from around the world that describe our situation as partly of the world and partly not of the world. Here are just three stories, and they are amazingly congruent:

From Greece - Prometheus and Epimetheus were spared imprisonment in Tartarus because they had not fought with their fellow Titans during the war with the Olympians. They were given the task of creating humanity. Prometheus shaped man out of mud, and Athena breathed life into his clay figure. Prometheus had assigned Epimetheus the task of giving the creatures of the earth their various qualities, such as swiftness, cunning, strength, fur, and wings. Unfortunately, by the time he got to humans Epimetheus had given all the good qualities out and there were none left for man. So Prometheus decided to make man stand upright as the gods did and to give him fire.

...

Native American - In the beginning there was no land, no light, only darkness and the vast waters of Outer Ocean where Earth-Maker and Great-Grandfather were afloat in

their canoe... Earth-Maker took soft clay and formed the figure of a man and of a woman, then many men and women, which he dried in the sun and into which he breathed life: they were the First People.

...

Old Testament - Then God said, "Let us make mankind in our image, in our likeness, so that they may rule over the fish in the sea and the birds in the sky, over the livestock and all the wild animals, and over all the creatures that move along the ground.

God blessed them and said to them, "Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground."...

Now no shrub had yet appeared on the earth and no plant had yet sprung up, for the LORD God had not sent rain on the earth and there was no one to work the ground, but streams came up from the earth and watered the whole surface of the ground. Then the LORD God formed a man from the dust of the ground and breathed into his nostrils the breath of life, and the man became a living being.

The simple way to read these accounts is that our bodies are made from the same stuff as every other natural thing, such as clay, and the breath of our life comes from supernatural forces that created and govern the world. Even in comparison to the animals, of which at least our bodies have so much in common, humans are particularly situated not just with life but also with a god-like fashioning. Other aspects of these peculiarities include *morality, language, abstraction, timing, calculation, imagination, understanding*... in short, what *reason* produces.

Differing Abilities and Their Consequences

Even if we want to criticize these origin stories for uniquely raising the status of humanity to divine proportions (or at least divine instigation), it's difficult to deny that our experience in the world appears to be distinct from other life. Let's consider a few examples:

- 1) You can watch a nature program and see a group of lions single out a juvenile antelope, cut it off from the herd, tackle it, keep a firm bite on the antelope's neck until it falls, and then the lions begin to tear the flesh away *while the antelope dies*. It's gruesome. We understand that this is the way of nature, and the entire living world only survives with the death of other living things. Even plants require the nutrients that soil provides, and the difference between soil and sand is dead plants and animals. Even floating sea plants metabolize the soil-like nutrients found in the water, the product of former living things. The disturbance here is that we know this is how life works and if we want to be alive we have to cause the death and potential suffering of other living things, but we can't ignore the pain and presumed terror of the antelope, nor the suffering of the hungry lion. But of course the lion is not being cruel. The whole system seems cruel to us because we can imagine what it's like to be all of the creatures. Not only that, we also find life and living things profoundly beautiful and rare in, at least so far, an otherwise lifeless universe. By nature, it seems, we are fundamentally driven to want to continue to survive while we abhor (when we deeply think about it) the method of our continuance. When we don't think about it we just enjoy our burger. It does seem strange that nature would have an offspring so ill-disposed to the process, but hold that thought for now.

- 2) If we try to define *music*, we typically come up with something like the following: the science or art of ordering tones or sounds in succession, in combination, and in temporal relationships to produce a composition having unity and continuity. Or more simply: vocal, instrumental, or mechanical sounds having rhythm, melody, and harmony. So, by these definitions, when wind chimes are blown and making sound are they also making music? And when birds are singing in the forest are they making music? Let's take each question in turn.

A stove in action is only *hot* for beings that have nerves. For a rock, the stove is not hot, better said the stove is in greater molecular motion which will influence the molecular motion of the rock if the rock is close enough. That is a way of understanding what *temperature* means, and we are lucky to be able to sense it in order to avoid injury. Similarly, when the wind chime is in motion, we hear the sounds it produces and find it to be beautiful and even musical, but the chime does not hear or understand what it is producing, nor did it compose the sounds. The maker of the chime intended those sounds, and that maker is also a potential maker of music, just as we listeners are. So, the chime does make music, *for us*.

The singing bird in the forest is intending to make the sounds it's making, unlike the blowing chimes. Again, we may find the sounds to be beautiful and musical. All of our observations of birds singing seem to involve communication of territory and mating readiness, although we should always be cautious about defining the intention of animal behaviors with absolute confidence. Still, we would not call all bird "communication songs" harmonious. Kingfishers rattle, owls hoot, and woodpeckers seem to use hammering to communicate as well as to find food. Contrast these bird examples with a woman alone at home, learning to play a song on her guitar. Why

might she be learning to play a song? If the song has lyrics we could say that the music is speaking to her experience or emotionally moving her. Let's say this is a song without lyrics... the song is not about anything, it is just melody. Why learn the song now? Maybe she plans to perform the song in a crowd, in the hopes of attracting a mate. Let's say she is shy and never intends to perform the song in front of others. Why now? What's the point of learning the song?

Music has the distinct honor of being the most muse-like of all of the art forms, hence the name. In its non-representational melodic and rhythmic forms, music seems to have the potential to elicit fantastically rich responses: excitement, sadness, melancholy, joy, wonder, peace, etc. Of course the addition of lyrics can make music be about something particular, and that is just another dimension of the form. Consider what more is within the practice of music – ratios. When we hear a C , and a C' , they are stacked, they belong to each other. Then we learn that the C' vibrates at double the frequency of C . Then consider the perfect 4th and its ratio of 2:3, and the perfect 5th at 3:4. Were we simply interested in making maps we would say that it makes sense that the 4th or 5th work with the root, because there is a proportion that appeals to our cognitive sensibility. Luckily we are not just mapmakers... these notes together also sound *beautiful*.

The name *music* suggests that this art is a gift from the gods, and therefore not originating from the natural world... another example of our peculiarity. Learning a song certainly does not feel artificial or unnatural to us, but it does seem to be a unique activity in the world.

- 3) As some thinkers have questioned, if we were to visit another world and look for a sign of intelligence there, what might we look for? An easy and demonstrable sign would be

a made image. Why? Consider what goes into the making of an image, such as a prehistoric painting of a bison on a cave wall. The producer of this work must be able to do the following things:

- a) Hold a mental image from the past and reproduce it in the present,
- b) Have the ability to discern essential qualities of a many instances of the same general kind of thing, and reproduce that essence,
- c) Both a) and b) suggest the ability to experience time outside of the present awareness and abstraction outside of the present sense perception.
- d) If the bison happened to be present and modeled for the artwork, the imagemaker is still deciding what is essential to reproduce from the model, since some truncation must occur.

Beings who can make images also *time and abstract* in a manner non-image-making beings do not seem to be doing, and this might be the beginning of symbolic, abstract language. In the animal kingdom we do find signs, such as urine marking territory or location, but these signs seem to lack the dimensionality and depth of definition we see in human image making.

- 4) In the animal kingdom apart from humans, suicide is extremely rare and, when it does occur, seems to generally take three manifestations:
 - a) self-destruction to defend the colony – as in the case of carpenter ants,
 - b) suicide-inducing parasites – such as worms that control crickets from early age and then, in adulthood, get them to die in water so the worms can reproduce and find new crickets to zombify,
 - c) animals such as dogs and ducks that appear to be depressed about the death of the human master or the life-long mate, and then

abstaining from food until the animal dies.

Approximately 0.5% to 1.4% (varying by country) of people die by suicide, a mortality rate of 11.6 per 100,000 persons per year. Suicide resulted in 842,000 deaths in 2013 up from 712,000 deaths in 1990. Rates of suicide have increased by 60% from the 1960s to 2012, with these increases seen primarily in the developing world. (Wikipedia). In the U.S, firearms account for 51% of all suicides in 2016 (American Foundation for Suicide Prevention). This highlights a difference between human and the rare animal suicide: we use tools. According to *Psychology Today*, there are five main reasons people attempt suicide:

- a) They're depressed,
- b) They're psychotic,
- c) They're impulsive,
- d) They're crying out for help,
- e) They have a philosophical desire to die.

The last cause offers the most to consider for our purpose here. Our peculiarity gives us a distorted view, or a view that exposes too much, and makes some of us to prefer unconsciousness over continued consciousness. Healthcare professionals will say that some thoughts of suicide are normal... So whatever happened that triggered our long ago ancestors to be able to see and do more came at a price. Jeff, our storyteller on Friday morning, will touch on this.

- 5) Sometimes a bright young person will ask: “I know in English we call that thing over there a *dog*, and in Spanish we call it a *perro*... but what does the dog call itself?” The answer: “We’re not sure if it calls itself anything, or even if it calls anything anything.” What avalanche of cognitive implications does (simply) giving something a name

suggest, and how does that indication separate the named thing from all other named things? So much has been said of human language and we need not reiterate it here, we can just point out that while we continue to learn more about animal communication and different species' abilities at recall and limited abstraction, the spectrum of animal abilities (humans included) does not seem incremental... rather exponential or at least with enormous qualitative gaps. We will certainly learn more about animal's abilities in the future.

There is a lack of consensus on the difference between humans and our close animal cousins (in nature, without being trained). In general, the following list summarizes what many say are the observable divergent attributes, while omitting more obscure abilities such as self-reflection:

Symbolic, recursive language
Fashioning permanent tools
Image making (abstraction)
Making art (visual, musical, etc.)
and, Burying our dead

Perhaps we can take this list as a tentative group of examples to suggest why, in the area of abilities, we sometimes feel alien to the world.

The World as a Testing Ground

In religions and philosophies that involve an afterlife, the world is often considered a testing ground, and humanity's performance during the test will determine what will happen in the next phase. Sometimes the next phase is coming back to the world to be tested again, an example of this system being the karmic cycles in Hinduism or in Buddhism. But just as in the

final-resting-place type of afterlife, the karmic cycle can end in a final destination of non-existence when all goes well (Nirvana). So, within this framework of losing the self or maintaining the self in something like heaven, the world is not our true home... it's our temporary home, just as our body would be our temporary suit. Within these beliefs, the breath of life (or the spark of human consciousness) given by the creating powers is our real self, or at least the self or essence or quality that will endure for the next or final phase.

There are at least three ways we can respond to the world-as-testing-ground proposals:

- 1) The afterlife accounts are right, or perhaps one of the accounts is right. We don't really belong to the world and whatever kinship we feel to other life or non-life ends at the body. Our essence, which manifests in abilities we don't share with other life, is evidence of our difference in kind. The reason we might feel alienated or expatriated is because we are longing to go to our final home, which is God, Nirvana, etc.
- 2) If one does not subscribe to a traditional religious or philosophical belief that advocates for an afterlife system, one could propose that the afterlife accounts are a consequence or an attempted soothing reaction to the differing abilities we described above. More explicitly, when we first encounter the death of a beloved, we say "what was the most *her* or *him* is not there now... the body is still there but the main thing is not... the animating thing is not." And since we have the ability to time in a way that can hold both the past and the future, including the past before us and the future after us, we quite naturally ask where the departed beloveds are *now*? Where were they before their birth? Where will I be after my death? It's comforting to think of the beloved or ourselves as continuing after death, but perhaps the richer question for our task now is to ask *How can we imagine eternity and glimpse universals and seemingly be at least*

somewhat free from the mechanical constraints we see in matter, and yet be finite, clunky, self-delusional flashes of ephemera? How can both be true?

The mechanical or reductive view that is sometimes posited is that human life and human abilities solely reside on a spectrum that includes animals and plants, and extends further to non-living matter, since that is what everything is made out of. The Enlightenment view of matter is that it is predictable, extended, measurable, governed, and can be useful when viewed through these mechanical laws. By extension, this paradigm can be applied to complicated things (e.g. the heart is like a pump), which too must be guided by material laws. Finally, even the most complex things we can find would also fall within these material structures, and living organisms are by far the most complex phenomenon we have encountered.

Animal life seems to will and want things, and more complex creatures seem to have an inner lives (e.g. dogs dreaming). Human life also has a sense of free will and all of the abilities we described before. But within the mechanical view, some have argued, the human abilities mentioned above are not the essential forces or attributes that define and motivate human kind. Instead, the forces that govern humanity are the same forces that motivate all life: the drives to survive and reproduce. Consider the following quotes:

“We are survival machines – robot vehicles blindly programmed to preserve the selfish molecules known as genes. This is a truth which still fills me with astonishment.” — Richard Dawkins, *The Selfish Gene*

“Individuals are not stable things, they are fleeting. Chromosomes too are shuffled into

oblivion, like hands of cards soon after they are dealt. But the cards themselves survive the shuffling. The cards are the genes. The genes are not destroyed by crossing-over, they merely change partners and march on. Of course they march on. That is their business. They are the replicators and we are their survival machines. When we have served our purpose we are cast aside. But genes are denizens of geological time: genes are forever.” — Richard Dawkins, *The Selfish Gene*

Sometimes the human abilities above our animal kin are called epiphenomenal, generally meaning that the abilities are there but are not the main thrust of our being. They are more like attribute such as hair color... they are real but not essential. Some thinkers believe these abilities are actually illusions, the most common culprit being the feeling of having a free will which seems to be at odds with determined matter. Others would argue that our ability to reason is an aid to survival and reproduction, but also causes us to do things that don't seem evolutionarily beneficial, such as voluntary celibacy or committing suicide. Or sometimes the argument is that the origin of something like music comes from ancestors such as bird songs... useful origins that have abstracted and don't have their original function.

So, in this view, we are lying to ourselves when we say the world is a testing ground. It is the only ground. The faculties we possess allow us to hold the past and the future within the present thought, and makes the non-existence of the beloved or the self unbearable, so we make up a story that we will meet again some day. This might be the kind of thinking Francis Bacon is critical of in *The New Organon*, whom we are discussing tomorrow. Whatever alienation we feel from the natural world is caused in part by the stories we tell ourselves, exemplifying that we are different from the rest of the world in the most essential ways. If we do feel alienation from the natural world

because we are different, an alternative response could be that our accidentally enhanced awakeness is just allowing us to see the world more of the way it actually is. Sometimes the way it is is harsh and perhaps meaningless, and our final resting place, our “home state or homeostasis”, is non-consciousness and material dissipation. This should sound like a bummer.

- 3) Imagine a vertical line, where on the top you have the following:
- a) The body, wholly made of matter, following all physical laws,
 - b) The soul (animating principle or force), which is not made of matter, and therefore not subject to physical determinism. The substance of the soul is what the gods breathed into the clay

Now, on the bottom of the line, you have the following:

- a) Everything about a human, and all life, is made wholly of matter and subject to all physical laws and biological imperatives. If the human does something out of the determined ordinary, it's a quirky, inessential byproduct. The mind is a feature of the brain and is strictly a physical phenomenon.

Of course this is just another way of describing options 1) and 2) above, and is also the famous mind/body problem. The mind or soul does not seem to be the same thing as the body, but all of the work and scientific discovery since the Renaissance has been in the realm of matter, with the incorporeal substance of the mind or soul nowhere to be found. Our third way of responding to the world as our natural home versus a testing ground is to take the bottom of our vertical line and circle it to the top, connecting the ends to become one thing. It will be a cautious approach, step by step. (Much of this

portion is elaborated by Hans Jonas in *The Phenomenon of Life*, whom we will be discussing on Thursday).

Let's start from what is closest to us, and that is our inner life. We should be more convinced that we have inner lives than that each other actually exists. An inner life is our first fact. We also have a strong sense that we get to make choices. We have a sense of beauty, even if it's hard to exhaustively define. We have some moral sense, even if the origins of that morality are debatable or obscure. We can calculate, imagine, perceive, create, and emote. These qualities and their relatives are the exact opposite of epiphenomenal, in fact most of us prize these characteristics above many others that seem more basic. A life without these rich abilities is no life we would want. So, we will posit step one: Attributes that are dearest to us are most essentially us.

Next, when we study non-human living things we see incredible similarity in body structures and many behaviors. As we mentioned above, if our natural abilities are on a spectrum with other animals, there are some huge qualitative gaps. But, the evidence of our senses indicate that we have much more in common with our animal kin than we have differences between us. If we are to take that evidence as true, it's not a big leap to say that animals too must have some form of inner lives (the dreaming dog), even if that inner life is the faint irritation in the single-celled creature. All metabolizing beings have inner and outer dimensions, and it could be argued that this makes us related not just in body but in essence, at least foundationally.

If, just for the moment, we are to set aside incorporeal soul-stuff, simply because we can't find it, and say that matter is the sole source of life and nature, then we need to rethink what matter is capable of, because *here we are*. In the 20th and 21st centuries,

much work has been done in the fields of Complexity, Chaos, Emergent Properties, investigations into dark matter and dark energy, and the instances of Quantum strangeness continue to amaze and puzzle us. Without detailing all of these theories here, we can simply say that there is a lot happening with matter that we cannot predict, especially when structures get complicated. The vision of Enlightenment material predictability does not categorically pan out upon further scrutiny. Even cause and effect relationships betray our own limitations in understanding and our use of overly simple categories. Can't we take this last step and wonder... since we can do all of the wonderful things we are naturally able to do, and if we are made solely of matter, than matter is capable of making beings who can do these wonderful things. Therefore matter is much richer than it appears.

If we stick with our senses, what appears to be the norm after the death of an organism is for the material and energy to dissipate into other life forms. In this view individuality does seem to be a dance of moving parts. But since storytelling is something the natural world has fostered in us, it will be our privilege and duty to carry on the story of the world.

Conclusion - Rethinking what *Natural* Means

Is a beaver's dam natural? Everyone says yes to that. Is a building natural? Put another way, is it natural for people to make buildings? If it is not natural for people to make buildings, what do we mean by *natural*? A dichotomy many make is that there is the *natural world* and the *human-made world*, which is another way of saying that we are not a part of the natural world... or perhaps we used to be a part of it but when we ate the apple we were exiled from nature. In this scheme the building is unnatural to the world. However, if we ask: *Are people*

natural to the world or unnatural, and if we answer that people are natural to the world, then we belong to the world and our buildings do too. If we change what *natural* means to: *What frequently and regularly occurs* then buildings are natural to people, just as dams are to beavers and nests to birds. But conversely, we see that if people spend insufficient time in non-civilization (what is typically called *nature*), they can become fragmented, anxious, and depressed. Our “at-homeness” in the world seems to require some time away from the stuff we made in order to plunge into what made us.

We will conclude that if humans are natural to the world then what we naturally do is also a product of world. The list of natural activities include reasoning, music making, abstraction, laughter, appreciation of beauty, mathematics, emotion, having a sense of time, morality, storytelling, image making, curiosity, kindness, and so much more. Instead of these abilities setting humankind apart from the world, by re-understanding the natural world and what the world has actually made in us, we can potentially recognize a richer home here. If we see that the world made creatures who are kind and artistic, then the world must at least have the potential of these qualities within it in order to generate these traits in its offspring. The so-called *dumb matter swirling in a meaningless void* has, in the right configuration and complexity, the potential to make creatures who can see the world, embrace the world, and make meaning in and of the world. Again, if our senses and essences are any guides, our job is not simply to reproduce, it is to love what is most precious to us... to recognize the cosmos because we participate and partake of that same cosmos.

I would like to conclude with a poem by **Mary Oliver**, whom we will read on Friday:

Blackwater Woods

Look, the trees

are turning
their own bodies
into pillars

of light,
are giving off the rich
fragrance of cinnamon
and fulfillment,

the long tapers
of cattails
are bursting and floating away over
the blue shoulders

of the ponds,
and every pond,
no matter what its
name is, is

nameless now.

Every year
everything
I have ever learned

in my lifetime
leads back to this: the fires

and the black river of loss
whose other side

is salvation,
whose meaning
none of us will ever know.
To live in this world

you must be able
to do three things:
to love what is mortal;
to hold it

against your bones knowing
your own life depends on it;
and, when the time comes to let it go,
to let it go.