

**ON IGNORANCE, SCHOOLING, AND EDUCATION –
UNDERSTANDING EARTH, THE PLANTS, AND OURSELVES**

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I was teaching a workshop in Canada, Once Upon A Time, and ended up talking at cross purposes with one of the participants. She was a black woman who worked in the inner city in California, helping (exhorting/supporting/being an activist for) the young to become “educated” as she said. She took offense at my comment that we humans had to realize that we are ignorant, that we understand less than one percent of what goes on here when it comes to Earth, to the plants, to the nature of this scenario in which we are embedded and from which we come. It was the word *ignorant* that did it. For her the word had a historical, social-context meaning that it did not have for me.

I was using the word in a much larger context, as the descriptive of an irremediable condition, a limit that cannot be corrected when it comes to our understanding of the natural world. As well, I was looking at the harm that comes to us and the planet when that limit is not recognized. It was and is a confrontation of the limits of rationality and science and their claims that control of the natural world is possible. Accepting our ignorance as truth, as an ultimate limit, forces a change in behavior. If understood to be foundational it necessitates approaching the world with humility, forces us to recognize that our attempts to control nature will always result in unforeseen side effects that make everything we do turn out all wrong. (And of course, there are thousands of examples, we see them around us every day of the week.)

I have thought about that exchange and its nature for many years now; I have learned a lot

from doing so.

On a relevant side note, when I read fiction these days, I mostly read what is called urban fantasy. That particular form of fantasy is sort-of credited to Jim Butcher's Harry Dresden series (though Andre Norton did a lot of it in her own way decades earlier). More properly, it's a form of fantasy which is set in present day cities, an interesting and quite enjoyable juxtaposition which, oddly, has relevance to our current climate problems, specifically the climate of mind endemic to western societies. That is, it is our climate of mind in here that has lead to behaviors *out there* which are creating the climate alterations in Earth systems that are destroying the civilization in which we now live.

I have a number of favorite authors in this genre: Ben Aaronovitch, Mark Hayden, Faith Hunter, Benedict Jacka, and Dan Willis among them. Ben Aaronovitch's protagonist is Peter Grant, a young police constable who meets a ghost one night while on duty in London. In consequence he becomes part of a special branch of the police that deals with such things.

Aaronovitch is a marvelous writer and one of the many interesting things he does in the series is this: Peter Grant's mother is from Sierra Leone (if I remember rightly), his father is white English, a jazz musician. Peter is mixed race but his orientation (and appearance) is far more black than white. So, whenever Peter is describing a scene he might say: "Two white women were sitting at the table, drinking coffee." The impact from my simply reading that sentence is profound.

I grew up and have lived in a mostly white world and so I see differentiations from a white-skin-color/white-world perspective. Aaronovitch's gift is to switch that common point of view in an offhand way. The technique continually shifts the orientation, the point of view, of the

reader. It really is marvelous. It forces me to continually shift from: “two black women walked into a room,” and see the world from a different orientation.

It allows me to see habits of mind that I was not completely conscious of, a climate of mind that has habituated a particular point of view in a way that is rarely made visible. (This, to be clear, is a common habituation among all people in all places and times irrespective of their ethnicity or race – we see and describe the world from the point of view we are immersed in. Believing that only white people do this is facile, sophomoric, ignorant.) Brilliantly, Aaronovitch does confronts this habituated point of view in a way that has no blame attached to it, no shaming, he just shifts the reader’s point of view in the simplest way possible. It is especially impactful because I care about Peter and the life he is living. And the repetition of his very-different-than-mine orientation toward color has, over time, shifted my own. It has altered the self that I think of as me. In other words this simple technique has *educated* me. It has brought something that has previously been unconscious on my part to conscious awareness. In consequence a narrowness of view that has long been present is expanded; I am brought more fully into the experience of a common humanity. This is a far different approach than the current shaming techniques that are rampant among the wokerati (i.e., the fanatical, progressive left). And, interestingly, it ties in with some other insights I have had over the past several years.

Because I have been struggling with a terminal illness the past few years, coming very close to dying at least twice, I have spent a lot of time living in that almost intangible zone of being which exists between the living and the dead. It’s a boundary zone, a thin line of beingness, quite different than the zone in which most of the people on this planet live. On one side of it is form and existence and on the other side chaos and dissolution. It is a very tentative zone of

being and the world that one sees from within it is very different than what is seen otherwise.

There is a sensitivity that develops, that naturally emerges from being so long in that zone of existence. And because of that sensitivity many things occur – things *change*. One is that I have become particularly sensitive to kindness in the books I read. To be clear, the kindness I speak of resides in the author and not in the story. It shines through their words like early morning sunlight through a stained glass window. And because I am so sensitive to the presence of that kindness, I am also exquisitely sensitive to its lack. Over the past few years I have begun to consciously shift my reading to only those authors who are innately kind. This is why I particularly love Robert Crais and Dick Francis, for instance, but loathe Michael Connelly. It doesn't have anything to do with the subject matter of the story but rather the climate of mind of the writer. I have learned that to allow the thoughts of others to take up residence inside us without a simultaneous discernment of their character or analysis of their nature is often unwise.

William Gass once spoke of this in words of beautiful exactness, as was his wont . . .

For what is it to take a guest of this kind into the interior of the soul, from whence words rise like a sudden spring; what is it to offer your hospitality to the opinions and passions, the rhythms and rhetoric, of another, perhaps far from perfect, character and mind? . . . In societies which depend principally upon the spoken word to establish and maintain community, the real origin of one's words is a serious, even critical matter. . . . Rhetoric in the abstract [is composed of] words quite free of responsibility to anyone. It is no wonder that Socrates feels uneasy in their presence.

I have found that the stories of those who are innately kind deepen my humanity, allow me to see things in myself that I have previously missed. Those books written by the unkind have quite the opposite effect. The emotional origin of the stories they tell, in kindness toward and caring of the reader or in contempt and hatred, no matter how well concealed or invisible, infuse the mood or atmosphere of the story. And it has a powerful impact. (This is why it is not so much the words or topic that are crucial but something far deeper/much less shallow that is important to the point I am making.)

The kindness that I speak of, whenever I experience it in a story, never fails to educate me – but, importantly, it does not school me; there is a crucial difference.

Eventually, I will get to the point of all this in my own rambling, sooner-or-later way. But it will take a few minutes and some more storytelling . . .

People tend to use a lot of words without much specificity as to their exact meaning. They use the word *world* to mean both Earth itself (the real world) *and* the virtual reality that human beings have built on top of the real world. The virtual world, that is, our civilization (and which has a slightly different form from culture to culture) is often mistaken as being real rather than virtual. This is an easy thing to do since it is so extensive, so big, so dominant, so . . . well . . . heavy and filled with so much stone and metal. And because that virtual world is so extensive and natural ecosystems so very uncommon now to those who live in cities it is easy to make the mistake of thinking the virtual world is foundational instead of contingent.

The people in Pompei and the Roman Empire made this same category error long ago. It didn't turn out well then and it is not turning out well now. The virtual world has now disturbed the foundational world so much that ecosystem function is beginning to spiral out of control. The limits of our intellect, and our arrogance, is now being made plain. And as the years pass ever greater numbers of people will be forced to understand this distinction between the virtual world that people have built and the real world upon which everything that is depends.

The black woman in that workshop in Canada was talking about schooling in the virtual world as being crucial to young black men and women finding their way out of the structural oppressions that the powerful have created in our culture. I disagree with her (and most people's) assertion that it is a problem of racism. It is instead a class struggle, as it always has been and will always be. It has nothing to do with skin color or ethnicity or gender but everything to do with separating people into tribal groups based on some identifying quality so that the powerful and rich can keep on being powerful and rich. Nothing works so well as keeping the powerless at each other's throats by activating their survival fears and drives.

It is true that in our time, one of the few ways the powerless *can* gain some amount of power in the current system is through what is most often called education. What people are talking about when they use the word education is more accurately termed schooling. That is, the young enter the meritocratic schooling system, do well (actually *very well* is what is now necessary), and become part of the meritocratic elite that exists in the nebulous zone between the poor/working class/middle class and the rich and powerful. (They are being taught to think and behave in a certain way, that is why this is more accurately schooling, what is done with horses and dogs to get them to behave as the people with power over them wish them to.) If successful,

the well-schooled become higher level functionaries in the virtual system. We know them as doctors, lawyers, scientists, engineers, and so on. In other words, they get a very specific kind of job training. They *do not* necessarily become educated. Anyone with a chronic disease who has gone into the American medical system can tell you this: very few MDs are educated. For the most part, they aren't even very nice or kind people. (And yes, there are a few exceptions. That such exist should not be used, as it often is, to excuse a terrible system.)

Now, I happen to agree with the woman in the workshop, who is at root a social justice activist concerned about a particular problem. For the majority of the powerless, the only way to survive and gain any power at all in the virtual world is to become schooled.

And yes, there are a few other routes, inventing something that others want, like Apple computers or the sippy cup, music, sports, and so on, but for most people these are not viable options. And to be clear, there are many people for whom reading, riting and rithmetic are not options either. They are not interested in them or their brains just don't work that way (people who process the world kinesthetically or aurally are examples). The tragedy is that there is no easy-to-find place for people who are not visual/didactic, no accepted and dignified niche that is valued, where they are wanted for who they are and what they bring. So they are stuck with sports or music or finding one of the few trades or industrial jobs that still exist and will have them. Most of them, however, end up poor and disenfranchised, working in the gig economy for far too little money and very little respect from those in the meritocracy.

Schooling is at root just a means to getting a job among the elite – as well as the money and proportional degree of power that come with it. The trouble is, however, that there is far less room among the elite than there used to be – the competition has become fierce, brutal in fact. (One of the major elements in the breakdown of virtual worlds – that is, the fall of civilizations – is an overproduction of meritocratic elites. As an example of that overproduction: Ph.D.s who work as adjunct teachers, without hope of tenure, who make a pittance, assuming they can find any job at all.) So, the woman was right in that the only way out of the kind of powerlessness she sees every day is advanced, successful schooling. She cares and she wants to help those she cares for to find a place in the virtual world where they can be nurtured, make a good living, have a home, health care, a family, children. A place where they are respected and belong. For most people that means to play by the system's rules. She just isn't yet aware of the fact that the system itself is overloaded and beginning to break apart. All too soon the very path she is urging her students to take will no longer be viable for the entire edifice is collapsing. Who would have thought that getting a Ph.D. in economics would lead to food stamps and homelessness? To the gig economy? To living in a car while teaching at Dartmouth during the day? No one. But it does.

That woman and I ended up in a conflict of orientation because in her frame of reference, the word *ignorant* has a negative, even a racist connotation (to poor whites it has a very specific class connotation, it is a powerful term of disrespect, even of hatred).

But it has a very different connotation for me. I was talking, and teaching in that workshop, about the real world, the one that is foundational, the one that the virtual world rests upon – Earth itself. And that makes all the difference in the world.

Truthfully, when I was a teenager, I began in the same place as her students. I knew very little – though like most teenagers I did not know how little I knew. I was ignorant in her (and the white lower class) meaning of the word. I only went to college because it enabled me to escape the draft for the Vietnam War. And to put me more firmly in the ignorant class, I did not even have a high school education (I was asked to leave my high school at the beginning of 11th grade and never return; I was something of a disruptive presence).

But somewhere along the way, as I immersed myself in college, read more deeply and widely I became interested in learning for its own sake. (And no, it did not come from my professors, most of whom were useless. It came from something else, from a few of the books I read, from a few authors who touched me, the ones who urged me to become more than I thought I was. Importantly, all of them made a clear distinction, one way or another, between schooling and education.)

I began to consume human knowledge in multiple fields at an enormous rate and with great depth. I read both horizontally and vertically – as I still do. I paid no attention to discipline boundaries, what was proper or right or considered respectable. I pursued whatever caught my eye or captured my interest and I immersed myself in it until I reached the limits of that interest. Some things I studied eight hours a day for a few months, others I spent years, even decades studying. There are some which I still study and contemplate after more than half a century.

To be clear, I was enormously poor during most of this time. (I didn't make any money to speak of until I was 53.) During most of the 1970s I lived on less than \$2000 a year. When I finally did go to work at age 23 – as a laborer on a construction job – I made two dollars an hour. After taxes I took home about \$280 a month. My first hammer cost me \$16, more than a day's

wages. It took me years to buy the tools I needed, to gain the skills I needed to make five dollars an hour as a carpenter. (And over the years I became an artisan in wood and yes, that educated me as well, in ways the meritocracy will never understand. There is no awareness among them that wood speaks, that it will tell you what it needs to become as it is shaped, and that to do this you must first learn how to listen. That kind of listening takes a long time to learn. It takes contemplation and love and, yes, kindness, compassion and empathy. The skill of it cannot be learned in books.) And through all this, I kept on reading, studying, and learning. I kept on becoming educated; it is a process that never actually ends.

I have read some 30 or 40 thousand books in my life so far – and hundreds of thousands of journals and other articles. I read *all the time*, a novel or nonfictional book every day or two and perhaps 20-40 articles a day.

During all those years of reading and studying, some of it in college, yes, but most of it on my own, I would come across elder writers every so often who'd say something like, "I have learned so much that I now know how little I know." I didn't believe them. It made no sense.

But it does now.

The image I have is of the young man I was, standing in the midst of an old and dark forest. I watch as he begins to learn, as he does a small circular clearing starts forming around him. In the beginning it is very small, just a few inches from his feet. But every time he learns something new, the clearing expands a bit more. I am almost 70 now and that clearing is very large indeed. I am in the center of a circular meadow that extends a mile or two from where I stand. Nevertheless, around the clearing that ancient, elder forest still remains.

That forest emerges from the foundational world, from Earth itself. And it has been

growing itself for 4.5 billion years. The matrix which surrounds it, Universe itself, has been growing itself even longer. Earth itself is embedded in *that* scenario, emerged out of that scenario just as we emerged out of this scenario we call Earth. Despite this, I don't care much about that larger scenario except in fairly minor, pretty much tangential, ways. It has not captured my interest. I am almost solely concerned with Earth (which has). For I am of Earth, emerged into specific form for specific ecological function in a specific geological time. A node of consciousness as it were, surrounded by other nodes, some of which are human, most of which are not. We are ecological beings on an ecological planet. There is no escape from that foundational truth (and it is time that the human species realized it). Nevertheless . . . the important thing . . . to the nature of ignorance anyway, is the relationship of that clearing to the forest itself.

As the meadow of my knowledge expands, its circumference also expands. The larger it becomes the more points of contact it has with the forest which surrounds it. And because I so intimately know the clearing that my knowledge has created for me (my circle of understanding) I am also aware of the thousands of points of contact it has with that ancient and mysterious forest. Every day, I am ever more excruciatingly aware of how much I don't know. No matter how long I live, no matter how much I read, study, contemplate, no matter how large my circle of understanding grows, I will never live long enough or be wise or educated enough to grasp in full the forest, the mystery, which surrounds me. I live in a state of irremediable ignorance. It is just . . . I have learned to not mind. I have learned to feel the touch of mystery upon me and revel in my not knowing rather than be afraid that what I don't know will hurt me, that there might be presences in that forest far beyond the human, that they might have other plans that don't

necessarily include me or my species. I have learned what it means to be humble – and respectful – before powers far larger than myself.

And so I know, without question, that when I approach a plant I am approaching a node of consciousness, an intelligence, that has been growing itself for hundreds of millions of years in a thousand different forms (which we call species). And those hundreds of millions of years are inside every plant that is, present in it, even though to the outward eye it appears to be a simple flower of the field. The plants, even that tiny, simple flower, have learned the answers to questions that we, as a species, have not yet had the awareness to ask.

This is why, when I suddenly realize one day that (contrary to what botanists generally believe) the bark of most trees engages in photosynthesis in winter, long after the trees have lost their leaves, I am unsurprised. I only become more full of wonder and awe.

This is why, when I finally understand that the reason why plants have no “brain,” I am unsurprised at my ignorance. They don’t need a brain because the important thing is not the organ (that is, the brain) but what the brain contains, *the neural net*. (The reductionists who suffer brain chauvinism can’t see what they have trained themselves to ignore.) *There is a reason* why plant roots resemble the human neural net housed in our brains, it is because their neural network is identical in nature, form, and function. It’s just that they use the soil as the “organ,” the “brain” which holds their neural network. And I remain unsurprised when I realize that they use the same chemical messengers that we do to maintain their biological functioning.

And later, when I finally understand the reason that our bronchial tree resembles the branches and trunks of trees – I am again unsurprised. We are merely plants morphed into new form over long evolutionary time to perform specific ecological functions (and yes, we do have

free will, as do all living things – and no we are not a cancer or a virus).

The chemical mechanicalists are and always have been psychologically damaged. It is time we no longer accept the model that they insist we use of ourselves or of life. Look around you and see the dystopian world that they have made for us. It is devoid of kindness, of compassion, of empathy. It is cruel, mean, psychopathic.

If you look at the human respiratory system you will see that we are just upside down trees. Their neural net is housed in soil, their bronchial tree grows upward, their leaves breathe through stomata, the great inhale and exhale of the world. Our neural net is in our heads and extends downward, the leaves on our bronchial tree are called lungs, and they engage in gas exchange (breathe) through the modified stomata which we call alveoli.

It turns out that our lungs have a microbiome, just as our GI tract does (though researchers have only acknowledged this the past decade or so, they had a theory that said otherwise). The inhabitants of our lung microbiome eat aromatic volatiles just as our GI tract microbiome eats the compounds in the foods we eat. And because I know of the evolutionary history of our lungs and bronchial tree, it is not a surprise to find that the stomata and leaves of plants have a microbiome as well. They too eat aromatic volatiles. (And altered hydrocarbon pollutants affect their breathing just as they affect ours.) We are kin, siblings in different forms, who come from a common ancestor, whose origin is Earth itself.

And here is an interesting thing . . . if you look at the trunks of young aspens you will see that just under the outer layer (and this is true of many trees) the inner bark has a greenish tint

from all the millions and millions of chloroplasts within it. The sunlight goes through the outer bark (as it does with even the rougher bark of other trees) and the chloroplasts do what chloroplasts do, whether the tree has leaves or not. And I have noticed that many of the plant people I have met . . . well, their eyes often have a green tint to them. Mine, originally brown, gradually became hazel green over the years I sat with the plants in the wildness of the world. I wonder sometimes what happens inside me as the sun touches, then passes through, those green eyes.

I have made many discoveries in herbal medicine over the past decades – a few of them new to the human world – others just reclaimed knowledge, long forgotten. I did so because I knew that I knew nothing – that I was ignorant – and so I went to the Earth and the plants without a dominant perspective already in place. I wasn't humansplaining the world to itself. I let the plants and Earth tell me of themselves and what was true for them. The knowledge I have did not come from books.

Because of this the world I grew inside myself as I myself aged has extended its roots into the real, foundational world – not the virtual world that humans have built on top of it. The climate of mind that I carry within me is rooted in the real world. And it turns out that for many herbalists this is common. (But no, not the phytorationalists nor those who have put themselves into positions of power and control in the herbal world.)

We are at a time in the history of our species that we must choose a different path. We no longer have a choice. The path we have taken the past two hundred years (and which has come out of another that began two thousand years ago) has exhausted its potential. It has also laid waste to Earth and every ecosystem that exists. Every day, we see the ruins that rationalist and

monotheist beliefs have made of our world; we are surrounded by them. Thus, we are faced with a terrible, terrible decision: to turn our faces to the real world before the real world itself forces us to or to continue to avoid the harsh truths of life until those harsh truths teach us the real meaning of ignorance denied. As Jesse Jackson once said (leaving out a lot of people in the process but, yes, it is still a good metaphor), “Your ancestors came over on the Mayflower and mine came over on a slave ship, but we all in the same boat now.”

The point I was making in that workshop so very long ago was this: it is time for us to sit at the feet of Earth and the plants and allow them to teach us what we need to know in order to survive the future that is coming for us, far quicker than most people understand. It is time for us to be educated, not schooled. It is time for us to approach the mystery of life and let it teach us once again how to be human, how to sit in the circle of life as a member not a dominator. It is time for us to reclaim the human characteristics we have abandoned to single vision, to rationalist and monotheist insistences. It is time for a different kind of science, a different kind of rationality, a different kind of spiritual approach to ourselves and the world around us. It is time to reclaim kindness, compassion, empathy, understanding, humility, love.

If you look carefully, none of those things are taught in school; they are not learned during schooling. You will not find them in chemistry or botany or physics or mathematics. You will not find them in science nor in the most powerful of the christian sects, the rationalists. And despite its protestations you will not find them in monotheism either despite the fact that a few of its adherents possess them. Most, assuredly do not. (The history of monotheism is littered with the dead, the oppressed, the destroyed – people, genders, religions, other ways of being and experiencing the world. It is a feature, not a bug, in the religion.)

Something new is needed and it starts with the willingness to be ignorant for that is the only way to the humility, and climate of mind, that will be our salvation. And prominent among those are the community herbalists for they are one of the very few communities of people whose lives have been saved by a plant, by the wildness of the world. As Dale Pendell once put it, “There is a part of us that knows we need the wild redeemer.” And as he also said . . .

*Though the gods have the power of speech
more often they choose a flower or plant;
elder leaves pressed on a blotter,
or spring buds emerging from a winter stem.*

*These messages they send –
so ordinary we often miss them:
an easy laughter and lightness,
or legs casually crossed and touching,*

*The way a serpentine dike
blends seamlessly into bedrock
or the way two possible lovers move,
starting and stopping, passing and pausing
on an April trail.*

*The subtlest oracles are always the most obvious –
seeing what's in front of us the most difficult:
a butterfly hatching from a ruptured dream,
or a splintered tree rooting in the soil where it fell –*

The woman left the workshop disappointed in me for I did not yet know how to tell her as elegantly as I do now that we were talking about two different kinds of ignorance, that we are involved in two different forms of social justice activism.

I seek justice for every life form on this planet, including the plants, the bacteria, and the viruses. I seek the place where our species no longer believes it has the right to “seek dominion over the earth.” I seek the place where we come to understand that the trees are the teachers of the law. That we finally understand we are no different, no more than and no less than, any other life form on this planet. A time when we are able to sit in the council of life again as a member not a dominator. Where we understand how little we actually know, how little we can or will ever know. Where we are able to, once more, bow our heads before the mystery of all that is. Where we value kindness, compassion, empathy, understanding, humility, and love as much or more than we do the intellect, the attainment of degrees, a job within the meritocracy, or the rationalist dissociation of science and its dissection of the world. Where we reclaim once more the best of what is human in us and set limits on those who would destroy the world for power and profit.

It is important to understand that it is not all about us, there is far more going on here than humans know or can know. And one of the things that is going on is that those of us who care for

Earth, who feel compelled to do something about climate change, about the damage to the world's ecosystems and kindred life forms, feel alone in this. But it is crucial to know that the kindred species of the planet are also concerned and they are working as hard as they can to respond to what is happening. They are crafting solutions, too, solutions that come out of a knowledge base billions of years old. Earth has been through this before, it has faced worse than the unrestrained corporate/scientific/monotheist destruction of the world that we call the anthropocene.

In the days that come, remember that. A substantial part of our despair is that those of us who care feel alone in what we see coming toward us, in what we know is happening, in the loss of the natural world we love. But in truth, we are not alone. We have never been alone. We are surrounded by loving kin who welcome us to the task before us. It is from them that we will learn the way – if we can give up our pride and accept our ignorance, if we are willing to be humble enough to listen. If we are willing to become educated instead of schooled.

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