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The Great Forgetting

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People long believed they lived in a world with more than human-derived meaning, a world in which they participated as co-inhabitants. In Hans Jonas's words, in such a world "life is the natural and comprehensible thing, death – its apparent negation – is a thing unnatural and cannot be truly real" (1966, 8). Death was a mystery in part because most human beings experienced the world as in some sense alive. The "deep" question was explaining how death, not life, had come to be. This view is shared by hunting and gathering societies such as the Inuit and Walbiri, and urban empires such as in Mesopotamia, the Maya, the classical Greeks and the Romans. This belief was a universal, or nearly so (Sahlins 2022). Why don't we share this view?

Our accumulated knowledge dwarfs that of these previous societies in an amazing number of fields. But we almost universally believe 'life' somehow emerges from a more fundamental condition where it is lacking. If consciousness/life is in some sense a fundamental dimension of our world, how could an insight accepted by most societies throughout human history be so lost from sight in society as a whole? How could so many no longer have the experiences that demonstrated this fact? This essay explores how this loss occurred and examines how it can be recovered. It is particularly appropriate that it appear in a *festschrift* honoring Alan Drengson, who did so much throughout his life to help many of us comprehend individually what Western civilization has collectively forgotten.

The all-but-universal belief in a living world was generally based on direct experience rather than abstract arguments or unexamined assumptions about the nature of reality. There were many roads to such experiences, such as dance, entheogens, physical isolation, ordeals, trance, meditation, ritual, channeling, music, and chants. What they shared in common was shifting people's awareness from day-to-day concerns with social life and meeting basic needs into a different context within which individuals became connected with something larger and more inclusive than themselves.

Today these experiential roads have been largely abandoned in the West. Over time, most Western religions gradually concentrated consciousness at a transcendental imperial top, often denying it even to animals other than ourselves. Modern science now denies its reality at the top as well. To the degree these means for accessing the more-than-human survived, it is mostly as entertainment, like music and dance. The universe's original state is assumed to be devoid of consciousness. Experiences opening to alternative insights are belittled as merely subjective, confined entirely within the skulls of the people having them, and of no great significance to

others. With the absence of God, values are ultimately rooted in a consciousness epiphenomenal to or derivative from a world where it is ultimately absent. In such a world, true knowledge is objective, without any reference to life (although ironically, knowing in any sense only makes sense as a quality of living entities).

As Jonas put it, "the lifeless has become the knowable par excellence and it is for this reason also considered the true and only foundation of reality" (1966). In such a universe, ultimate "explanation has to be in terms of the lifeless" (Jonas 1966, 10). Amid meaningless immensity, the questions that focus many inquisitive minds are, how could life come to be? And does it matter?

What is "Modernity" and "the West"

I am lumping together what in many ways are different cultures under a common label: the West. Further, I am characterizing the West as "modern." While I believe these labels are intuitively obvious, some disagree, and because the concepts are so vital to my argument I will elaborate briefly.

In a very large-scale study, Joseph Henrich and others discovered that psychological studies using Western college students as subjects while seeking to illuminate findings for people as a whole, extrapolated from a very unrepresentative sample. These students were WEIRD, meaning Western, Educated, Individualistic, Rich, and Democratic. Representatives of this culture gave birth to modern science and the worldview it supports, often called secular modernity (Henrich 2020). Virtually every reader of this essay is a member of it. One of its dominant defining characteristics is the complete desacralization of the world, the opposite of many, perhaps all, Indigenous views (Sahlins 2022). But how could experiences once nearly universal become so absent from a culture that the reality to which they pointed is denied by virtually all, and described as primitive superstition by many?

A long road led from cultures that experienced the world as alive and our own, which denies it. This essay seeks to follow that road, particularly its less known parts. It starts with a clue mentioned in the above introduction. While there was an enormous variety of practices that can lead a person to personal experience with some aspect of a living world, all of them share one trait in common. They seek to do so while disengaging with perhaps our most uniquely human quality: language.

I label this transformation from a living world to a nonliving one, and its perpetuation, "The Great Forgetting." How did it come about?

The First Step: Language

Modern science is discovering that many organisms communicate in far more sophisticated ways than we had imagined possible even a few decades ago. But communication takes many forms. Many species signal among themselves and sometimes to others. Some animals have big vocabularies. Some other species even appear able to learn enough English to communicate with us in it: Alex the African Grey parrot, Washoe the chimpanzee, and Koko the gorilla come to mind**.** But we do not enter into conversations with them analogous to those we have with other humans, nor do they appear to do so among themselves. Language as human beings understand it is unique to us. It massively increases the power of social learning which, as Carl Safina observed, gives us information in the brains of other individuals (2020, 45).

Language in the human sense is the result of nontrivial interactions between three complex adaptive systems: learning, culture, and evolution (Kirby 2007). These systems are complex in the sense that their details far exceed the knowledge of anyone successfully using them. They are adaptive in that they generate a pattern of comprehensible relationships which maintains itself, even with changes in every detail and in the embracing ecosystems making it possible. Language developed, and continues to develop, independently of human intention. Language is a human product, but not a human design.

Unlike even very intelligent animals possessing culture, such as crows, human language enables us to preserve and build on past discoveries through complex stories, and ultimately writing, and other media transmitted across generations. Crows can pass on personal experience and what they have learned from other crows, but cannot accumulate and build upon knowledge in this way. They do not tell stories. Because these intelligent animals cannot preserve and build on knowledge, skills no longer immediately useful would disappear (diZerega 2020, 22).

Language also enables us to communicate about what is not present, freeing us to some degree from space and time. We can think about what has never existed, such as unicorns or Martian canals. On the other hand, once we think such things do exist, we tend to interpret what we experience as in keeping with those beliefs, as did those scientists who saw non-existent canals when viewing Mars through a telescope.

Language also facilitates our self-consciousness, enabling us to wonder who or what the "I" is when we say "I think." Most of the time, when speaking I focus on one or a few others to receive my message and me theirs, focusing on their individual consciousness. Wider cultural, linguistic, and physical contexts remain tacit or are incorporated into aiding my purposes.

A language's grammar sets the rules by which a limited number of words can be comprehended in a potentially infinite number of cases. This includes rules for using nouns, verbs, adjectives, and pronouns. To be sure, when I encounter a word within a conversation it appears in a context

that helps make its meaning clear (though even here there are long standing differences dividing interpretations of even long studied passages). But, when freed from context, a word by itself, say "red," or "dog," or "love" might have many meanings, some mutually exclusive. The more abstract the word the greater this possibility. Consider "freedom" and "justice."

Human beings are unique in developing a complex grammar, creating a linguistic system existing independently of any individual or even generation, and shaping both our perception and thinking in ways sometimes mutually unintelligible to different cultures. A complex grammar enables people to talk about an open-ended number of subjects and say things neither they nor those they speak to have ever heard before, and be easily understood.

Based on work with an unusually isolated Amazonian tribe, linguist Daniel Everett demonstrated language evolved along with culture, rather than our having some kind of innate instinct for it, as had long been thought (Everett 2017; 2012). Language is an artefact of cultural, not biological evolution, promoted by the need to communicate effectively and quickly. Words are ideational carriers of meaning shaped by the forms they take and the linguistic ecosystem of which they are a part.

Everett argues culture and language are the foundations for human reason and understanding, enabling us to think and perceive in ways other beings do not (Everett 2012; Deacon 1997, 102-144). Language is maintained, and modified, by our social interactions. When we learn to speak as children we necessarily treat language as an external reality. For children, the meanings of words are as real as stones and parents. What "stone" and "father" or "mother" mean to the child is powerfully shaped by the context of those words in a language. Later a person can shape how they use their language, and in rare cases even influence its content, but these influences are always marginal, and from within a linguistic reality that, as a practical matter, nearly all of which is taken for granted. When we speak a language fluently we rarely wonder what words mean or pause to consider the best one to use. They flow through us. When conversing, most of the time we do not deliberately choose the specific words we use.

But language is not simply a tool. The means used to communicate information shapes the information able to be transmitted. But it does more than this. It shapes our perceptions, and so, our thoughts. Ideas can take on a life of their own. They are not simply neutral transmission belts for communication.

It is here that we return to the disappearance of the living world.

Hypnotic Trance

Howie Mandel is a judge on *America's Got Talent*. He is also a germaphobe, who will not shake

hands with others. On one episode of the show he was hypnotized to think the people around him were wearing gloves. He then had no trouble shaking hands with the hypnotist and his fellow judges (Mandel 2015a). When Mandel came out of hypnosis he no longer would shake hands, and later admitted he was angered and upset when he learned what had happened (Mandel 2015b). On something personally important to him, Mandel saw what clearly was not there.

Sandra Blakeslee of *The New York Times* reported susceptibility to hypnosis is correlated with suggestibility. Ten to fifteen percent of adults are easily hypnotizable and perhaps 20% are resistant, with the rest of us spread out between these two extremes. However, some 80 to 85% of children are very susceptible, at least until the age of twelve (Blakeslee 2005). These findings suggest a kind of cultural hypnotism takes place during children's early socialization. For most of us this cultural message is culturally reinforced throughout our lives.

Consider now a different example. In 1999, subjects in an experiment were asked to count the times a basketball changed hands between students wearing white. Among the group the ball sometimes went to those wearing white, sometimes to those wearing black. While counting, very few subjects noticed a person wearing a gorilla suit enter from the right, walk to the middle, pause, face forward, beat its chest, and exit to the left. They were focused on counting ball passes. Daniel Simons, one of the experiment's designers, described what happened as "inattentional blindness." This phenomenon is clearly important in day to day life, yet it is difficult to say how important because we don't notice what we don't see (Simmons 2012). Normal adults see what is not there and do not see what is.

Initially, children learn a language without questioning the adequacy of the words they learn. Further, they are by far the most receptive to deliberate hypnotism. It is hardly a stretch to say they are even more open to cultural hypnotism, intended, or usually unintended, where their environment continually reinforces the meanings they have learned. As the manipulation of cult members clearly demonstrates, the line between hypnotism and socialization is fuzzy.

Children learn to experience the world as powerfully shaped by concepts they did not create but rather learn from their social environment. A child's brain is undergoing rapid development and making/mapping connections, so there would naturally be a greater openness to absorbing cultural forms of attention, while trusting in its validity, and they are apparently significantly more open to hypnotism (Blakeslee 2005).

This mental environment influences the rest of their lived experience. Recent research has found when people are "putting their thoughts into words, their mental processes may be shaped by the structure of their language." For example, language influences how people see colors and whether. Language also affects how people look at a picture. English speakers looking at a picture of a woman washing a child generally look at the woman first, as she is the acting part of the

picture. Some languages that start a sentence with a verb look at the woman and child "more evenly" because they must first assess the action rather than the actor. Christine Kenneally writes "Language and culture form a feedback loop, or rather, they form many many feedback loops" (2023). Parts of a language (or culture) can always be questioned, but always from within a context accepting the rest.

Studies of bicultural individuals support this perspective. Bicultural individuals navigate and identify with two cultures. Bicultural individuals differ in how much their two cultural identities are combined and compatible (high) versus divided and conflicting (low). Authors of a recent study found that during conformity in cultural ingroup contexts, biculturals with low bicultural identities felt inauthentic (untrue to themselves), whereas biculturals with high bicultural identities felt authentic (true to themselves) (Mok et al. 2022).

Entranced Perception

In the 1970s, Buckminister Fuller attracted considerable attention when he wrote *I Seem to Be a Verb* because he noted, compared to many others, European languages tend to be noun-heavy and verb-light (1970). In English, it is easier to think of us as things that do stuff rather than as processes. However, in some other languages people would have wondered why Fuller limited what seemed obvious to them only to humans.

Robin Wall Kimmerer is a modern botanist and ecologist. She also belongs to Citizen Potawatomi Nation. After listening to elders at a Pow Wow, she vowed to learn Potawatomi, a language in danger of extinction. Unlike English, Potawatomi is a language of relatively few nouns and a great many verbs. One result of this difference is English frames the world as mostly inanimate, whereas Potawatomi frames the world as mostly animate. English is easily compatible with seeing the world as lifeless "its." Potawatomi invites seeing the world as living subjects; of many independent "peoples." A noun can move, but its movement is distinct from its identity. Movement of some sort is central to a verb. As Kimmerer got more proficient with Potawatomi she began to experience her daily world differently. In *Braiding Sweetgrass,* she describes the transformative impact of immersing herself within a language so deeply different from the English she grew up with as like an electrical shock (2013, 55).

What in English we call a hill, a noun, in Potawatomi is a verb translated as "to be a hill." The same is true for much else. Perceiving the world in this way is very different from perceiving it as shaped by our language.

Potawatomi is not unique. Many Native American languages are heavy with verbs and light with nouns. Linguistic anthropologist Keith Basso's study of Apache place names in and around Cibecue, Arizona revealed most were complete sentences such as "big cottonwood trees stand

spreading here and there" (Abram, 155). Another First Nation, the Nuučaanuł (Nuu-chah-nulth) live on the coast of British Columbia. Gisele Maria Martin, citizen of the Tla-o-qui-aht First Nation, explains "the names of everything in our language describe what they do or how they're connected to the rest of the world." Consider the Nuučaanuł word for 'tree: *sučas*. The word *sučas* breaks down to the verb *sučas*, which is 'to hold,' and the suffix *ʔas*, meaning, 'on the land or of the land.' So the Nuučaanuł word for tree, *sučas,* literally is 'landholder'" (Streilein 2018). This is more action than title, more agent than thing, more active than passive.

When growing up in Oklahoma, Cherokee author Brandon Hobson observed "I was entranced by all the trees and hills. . . One thing I am really interested in writing about is the earth and the land, how the earth remembers history and how it deals with trauma. Just like people, the land reacts and remembers it." (Manuela 2021, 14). Native American writer Scott Momaday put this point beautifully: "You say I use the land, and I reply, yes it is true; but it is not the first truth. The first truth is that I love the land; I see that it is beautiful. I delight in it; I am alive in it" (Duerr 1987, 241-2). Abram observes "A particular place in the land is never, for an oral culture, just a passive or inert setting for the human events that occur there" (Abram 162).

Over centuries English has shifted the meanings of important words from verbs to nouns. Rhyd Wildermuth observes that "thirst" and "hunger" now modify nouns, as in "I am hungry." But much earlier they described actions. They were verbs as in the Biblical "blessed are those who hunger and thirst for righteousness" (Wildermuth 2021, 60-61; Matthew 5:6).

This distinction between modern English and many Native American languages is not just a matter of verbs and nouns. Pronouns also shape perception. Kimmerer writes "Imagine your grandmother standing at the stove in her apron, and then saying of her, 'Look, it is making soup. It has grey hair." … In English we never refer to a member of our family, or indeed to any person, as an *it.* . . . we [Potawatomies] use the same words to address the living world as we use for our family. Because they are our family" (2013, 55). Inanimates are without value except as tools and resources for our use, whereas what is animate can be worthy of respect. When an animal becomes a beloved pet, the pronoun we English speakers apply to 'it' often changes. But most animals, and all other things, tend to be referred to as "its."

Jane Goodall, who revolutionized the study of chimpanzees, was once strongly criticized for giving the chimps about whom she wrote names rather than numbers. Suggesting they had personalities was to "anthropomorphize" them. She persisted and now there is no reasonable doubt that she was justified (Bekoff 2007, 125). Frans De Wall wrote movingly of his last encounter with a dying chimpanzee, "Mama," and her joy at seeing him (De Wall 2019). These examples, and many others, demonstrate to me that what had long been the scientific standard for dealing with other beings was a form of sociopathy.

And yet most scientists are not sociopaths.

Abstracting and Distancing

All languages abstract and the more they abstract the farther they move from concrete encounter. For an oral culture learning or knowing requires a close, empathetic, and communal identification with the known. Hugh Brody describes this pattern in the language of Canada's Inuit people living on northern Baffin Island. They have terms for "arctic char," "arctic char that are running upstream," "arctic char that are moving to the sea," and "arctic char that remain all year in the lake," and other words for specific kinds of fish, such as lake trout. But "they have no word that means 'fish.'" (Brody 2000). Again, we see verbs here, not nouns, verbs that focus on action within ecosystems, not objects outside all such relationships. Brody observed when hunter-gatherer peoples used English they simplified the detail carried within their own language (2000, 189-90).

Compared to direct encounter, abstractions reduce the senses involved in determining meaning. In abstract thinking the senses of smell, taste, and touch are minimized in favor of sight and hearing, and with the rise of literacy, even the centrality of hearing begins to decline. Compared to the other senses, sight distances us in many ways. Walter Ong observed only a culture that reduced knowledge to what could be seen "could suppose that vision alone gives satisfactory access to the real…" (1967, 18; also Abram, 128).

And yet, in other ways language deepened people's experience of a living world, separating us from direct encounter to focus on unifying patterns characterizing many encounters, transforming the relations we could have with it. There is both gain and loss here. No oral culture ever connected the tides with falling apples, or explored the implications of this connection. But this abstraction silences the caress of the tides, the crunch of an apple, and the contexts of their existence.

Think of the difference between encountering a stranger who fits various abstract categories into which we might seek better to understand him or her, and encountering a friend. The difference is qualitative. Certainly it is the case that friendship is useful. But if the only reason you engage in friendship is because friends are useful, you are never a friend. You are a sociopath. But if you approach a stranger simply for aid that does not mean you are a sociopath. 'Friend' and 'stranger' are very different relationships that can overlap and transform, but they are different.

In a living world everything has both an instrumental and an intrinsic value-rich dimension. From such a perspective, modern English speakers relate to the natural world much as a sociopath relates to other people. Living beings are "its." Sociopaths do not appreciate what they are missing. Traditional Potawatomi and similar peoples say neither do we.

Language separates people from direct encounter by interposing abstractions. Literacy continues this trend.

The Second Step: Literacy

Literacy transformed human perceptions by providing a new context within which they could be communicated and thought about. All cultures embed knowledge into its ways of life, knowledge its members need not know and customs whose advantages no one need understand. Literacy transforms how knowledge is embedded and accessed, opening us to worlds extending well beyond what an oral culture can provide. But it also hides knowledge once more easily accessible.

We can easily find current knowledge unknown to us, or anyone we know. This written and printed knowledge exists independently of everyone we have, or ever will, meet (Bartley 1987). Knowledge can survive in untranslated texts awaiting rediscovery by future generations or suddenly make itself evident within long scrutinized texts when a new insight comes to light, even an insight unimagined by the original author. When reading novels, especially alone, we can more easily put ourselves into the shoes of people very much unlike ourselves, increasing our ability to empathize with others (Chiaet 2013). With literacy, this "I" becomes even more a matter of reflection because we more often must separate ourselves from encounter with another in order to think about who and why they are rather than going with the flow of encounter.

David Abram first demonstrated to me just how profound this change has been. Think of the dramatic changes in Americans' reading and writing with the advent of the internet and then of smart phones. The earlier transformation dwarfed this. In *The Spell of the Sensuous*, Abram explains how early signs of this perceptual shift could be observed in a difference between Homer's *Iliad* and *Odyssey* and Plato's writings. In Homer's poem, nature is alive. The Gods are active in life, and many other spirits are as well. For example, when Odysseus was trying to swim to the shore he called out to a river for assistance, and the river responded helpfully (Abram 1996, 103). By contrast, with one exception, Nature is silent in Plato's work, a passive and largely invisible backdrop to the affairs of the purely human world. Socrates is devoted to Athens, and it is the world of people which he regards as important. As he explains "I'm a lover of learning, and trees and open country won't teach me anything, whereas men in town do" (Plato *Phaedrus* 230d).

In an interview, Abram explained the alphabet short-circuits "this old reciprocity that any oral culture and the participants in any oral culture are experiencing, in relation to the animate earth that surrounds them" (2004). Nature comes "to seem just like a kind of inert or passive backdrop against which human unfoldings happen" (Abram 2004). There is one exception. In the *Phaedrus,*

when outside Athens' walls, Socrates enters into trance with a Dryad who speaks through him. When he leaves his trance, Socrates and those with him then discuss her speech critically. Socrates was not impressed with it, and felt compelled to give another to correct her errors. The Dryad's knowledge was inferior to that of Socrates. She didn't teach him anything.

Today this event is largely ignored by philosophers. Yet Socrates' companions are not surprised at all, and clearly took dryads and possessory trance as a normal dimension of Greek life. Were the same to happen in the midst of a philosophy seminar today, the professor would likely lose employment, and as long as they lived, the students would describe it as an inexplicable and disturbing event.

According to Abram, the profound difference between Homer's world and Plato's arose when Greeks moved from an oral into a literate world. Oral cultures transmit knowledge through custom, and memorable stories, rhythms, and images (Abram 1996, 119-21). Literate cultures increasingly do so through texts freed from larger context. Abram writes:

> Alphabetic writing can engage the human senses only to the extent that those senses sever, at least provisionally, their spontaneous participation with the animate earth. To begin to read, alphabetically, is thus already to be dis-placed, cut off from the sensory nourishment of a more-than-human field of forms (1996, 196).

Both Socrates and Plato seemed to be of two minds about this transformation. Plato twice wrote he refused to write down his most important teachings. Socrates is recorded only in dialogue form, and no one knows whether he was literate. Plato's written Socratic dialogues were the most powerful foundation for the Western philosophical tradition. They also provided a powerful critique of literacy! In Plato's *Phaedrus*, when rejecting the advantages of literacy, Thamus said to Thoth:

> [T]his discovery of yours will create forgetfulness in the learners' souls, because they will not use their memories; they will trust to the external written characters and not remember of themselves. The specific which you have discovered is an aid not to memory, but to reminiscence, and you give your disciples not truth, but only the semblance of truth; they will be hearers of many things and will have learned nothing; they will appear to be omniscient and will generally know nothing; they will be tiresome company, having the show of wisdom without the reality. (275a-b)

Later, Socrates added "writing is unfortunately like painting; for the creations of the painter have the attitude of life, and yet if you ask them a question they preserve a solemn silence, they simply repeat themselves" (*Phaedrus* 275d). The challenge and burden for understanding is entirely the

reader's.

With literacy, our experiential connection with the world increasingly shifts from nature to the words on a page, from the more-than-human to the purely human world. In an interview, Abram elaborates:

> We come down in the morning, open the newspaper, focus our eyes on these little bits of ink, and they start speaking to us. And we enter into this rich, magical field of conversations happening at other times and in other places . . . this new magic we're engaged in has effectively eclipsed all other forms of participation in which the human organism once engaged. (2004)

Poetry can still take us to this other world as far as words can go and, sometimes, a little farther. But within a literate world the poetic mentality declines in influence. For example, Serbia was perhaps the last European region that preserved equivalents of Homeric poetry. Once these poets learned to read and write, their ability to perform that kind of poetry disappeared (Abram 1996, 106-7).

Abram argues Plato lived during Athens' transition from an oral culture to an increasingly literate one, a transition initially taking place among its elites. Literacy reinforces a different kind of awareness than had been the case in oral cultures, leading to a shift in focus in how we perceive and think. An important part of Socrates' impact lay in his using thinking shaped by literacy to criticize and challenge ways of thinking rooted in oral culture.

For example, in the *Meno,* Socrates asked Meno to describe what virtue means. In response, Meno provided many examples of virtue in action. Socrates responded "I only asked you for one thing, virtue, but you have given me a whole swarm of virtues" (Plato *Meno* 72a). Abram observes, like most Athenians of his time, Meno "cannot abstract these qualities from the lived situations that seems to exemplify these terms…" (1996, p.110). Virtue is always contextual. Today a literate person seeks to give an abstract definition intended to apply to all acts of virtue.

Abram writes "the new technology of writing imparted to the spoken word 'virtue' a new sense of autonomy and permanence, it brought a new sense of changelessness to the quality itself" (1996, 287n). Virtue became an essence located somewhere rather than emerging from appropriate relationships shaped by context. Virtue became an abstract noun, not a verb shaped by context.

Language necessarily abstracts, and literacy increases this abstraction. As I first wrote these words I thought about how we might try and describe virtue in this pre-literate sense. It is "appropriate action". What makes an action appropriate is not its abstract characteristics but rather how it fits into the specific context a person confronts. Appropriate action cannot be defined abstractly. It must be illustrated by examples. Neither deontological nor utilitarian ethics

can do this. I think this perspective helps explain why in oral societies the elderly were generally more venerated than in our own. Not only did they have a greater knowledge of their culture's ways of living, they had accumulated far more experience of acting appropriately, or learning what went wrong when they did not, than had younger people.

In a genuine sense, literacy distances people from immersion in daily life. From a literate perspective truth is not found so much by attending to the world, but as attending to relations between thoughts about the world. The meaning of "virtue" is removed a step from actual life, where every action takes place within a context that often powerfully shapes it, to an abstract realm divorced from all contexts.

I am no more rejecting literacy's value than does Abram, who is an uncommonly gifted writer. Literacy is a tool, and no tool is neutral. We do not blame the hammer if it encourages us to see potential nails everywhere and never think of saws or screwdrivers. Hammers are not universal tools and too much focus on them alone can lead to ignoring better ones for the job at hand.

Literacy and Perception

Perception is powerfully shaped by contexts and expectations, and often in ways we do not recognize until it is pointed out, like the gorilla. Mediums of communication are not neutral. Each shapes how easily certain insights and knowledge can be transmitted, and each makes some meanings easier to express than others.

As it so often does with words like "virtue," the message in the text can become the medium through which people understand the physical world. This shift in focus became all the more important with the rise of sacred texts bearing "infallible'" messages. For example, Proverbs 3:5 says "Trust him with all your heart but lean not on your own understanding." At first glance this admonition seems clear. But every text of any weight can be and has been interpreted in different ways. For example, does this passage mean I should trust in God and not look both ways when crossing the road? My view about what He wants depends entirely on my understanding, or on someone else's understanding, which we are told not to trust! And there has never been agreement, even among those who devoted their lives to studying this text as to what it means. The text trumps experience and yet my experience reading texts influences how I understand them or accept that of someone else. The text alone is incoherent.

When literacy became widespread, interpretations multiplied, for no text spoke clearly enough to eliminate all meanings save one.

The Third Step: Monotheistic Religion

Some Christians see nature as an aspect of God, as do many Orthodox and Muslim believers. Orthodox Christian Philip Sherrard emphasized, "Like the Eucharist, nature is a revelation not merely of the truth about God but of God Himself... If God is not present in a grain of sand then He is not present in heaven either" (2003, 112; see also Ware 1979, 117). For the Orthodox the world is not fallen.

Alternatively, many Christians see the world as God's creation. For example, Catholic monotheism tended to link nature and God in the sense that He created it because He was good, and so Natural Law was embedded within its very nature. But now the world itself was fallen due to Original Sin.

From the dominant Western European Christian perspective, nature had no intrinsic meaning at all. Protestantism in particular removed morality from the world, and with it any foundation for natural law. God was good because He was omnipotent and so whatever He wanted was good by definition. Power determined what was right, right did not limit Power.

There were no spiritual truths to be learned from the world other than the mechanical principles of God's design. When people recognized its beauty, they attributed it to being, at best, "God's country." God is an artist, the world His creation. The rules that gave shape to the world were His rules, and not intrinsic to the world itself. Nature became the stage on which God's plans unfolded. He designed the set, but He could have designed it differently.

With the Protestant Reformation, it became incumbent for every Protestant to read Scripture, and literacy expanded rapidly. At the same time, interpreting texts was increasingly subordinated to their apparent literal meaning. Protestant theology emphasized Biblical literalism was the only reliable guide to salvation. Allegory in service to religion was denounced, along with religious images. Few readers had the opportunity to make a scholarly study of scripture anyway. Protestant iconoclasm and Biblical literalism stripped the world of meanings already obscured for many by literacy's impact.

Compared to literal descriptions, Jeffrey Kripal observed that, "theological, mystical, and literary metaphors deliver far more imaginative impact. They are closer to the *lived experience* of things" (2010, 258 (emphasis added)). Peter Harrison writes "To deny the legitimacy of allegory is to deny the capacity of natural objects to act as transcendental signs" (1998, 124). The implications went beyond religion; symbols, images, and allegory were accused of being idolatry (Harrison 1998, 116).

The printing press magnified these changes. Cheaper and more abundant books facilitated a shift from an image culture for most people to a word culture for most (Stone 1969, 48 & 72). The rapid expansion of literacy encouraged a society-wide loss of contact with the natural world

except on purely instrumental terms. Electronic media have further enhanced this impact.

Separating the world from the sacred encouraged efforts to discover how God made it possible. This perspective gave birth to modern science and, for many, the complete removal of God from engagement with human affairs. During the centuries that followed, the many Christian assumptions embedded in early science have been gradually abandoned (Toulmin 1990). Except one. Nature is still lifeless, and one of the most vexing problems facing scientists and philosophers is how consciousness, no matter how defined, could arise from a lifeless world.

For a long time monotheism had provided a sense of deeper meaning to our lives that the world no longer could provide. But as monotheism was increasingly set aside, claims that nature was without meaning beyond whatever humans attached to it took on an ever more disturbing dimension. Every person was alone in a deeper sense than had ever been the case before. Bertrand Russel described the ultimate context of this view: "all the devotion, all the inspiration, all the noonday brightness … are destined to extinction in the vast death of the solar system, and that the whole temple of Man's achievement must inevitably be buried beneath the débris of a universe in ruins" (1903).

The Fourth Step: Science

Science is the best tool people have discovered for evaluating apparent patterns we discern in the world. Its initial challenge was to discover the principles God had imposed on it, giving passive matter the form it took. This theological framework set the stage for what we call the scientific view of the world.

Science's standard is reliable knowledge, not truth. No one knows what ultimate truth might be. Scientific explanations change when more reliable knowledge is discovered, making science uniquely self-correcting (Ziman 1978). The tools used to assess reliability are as impersonal as scientists can make them, which leads to their success in exploring a world of objective phenomena, phenomena where reference to subjective consciousness is minimized as much as possible. Many scientists even regarded consciousness as a mirage, obscuring nonconscious physical phenomena that really explains things.

Descartes thought his argument about the soul being radically different from matter helped prove its immortality. Early science turned its back on how people had experienced the natural world for thousands of years. The world was understandable mechanistically, as an engineer would understand a clock, whereas the soul was radically different. We were not machines, even if our bodies were. When scripture was abandoned by later scientists, meaning in all senses was removed from the world. Viewing the world as a thing remained a core assumption of science.

There is an irony here. Science began when people had necessarily subjective questions about the physical world, and then over time developed increasingly impersonal means for evaluating competing answers. But the questions themselves were rooted in subjectivity. Albert Einstein was well aware of this tension at the core of science. In his biography of Einstein, Ronald Clark writes:

> Albert Einstein was asked one day by a friend "Do you believe that absolutely everything can be expressed scientifically?" "Yes, it would be possible," he replied, "but it would make no sense. It would be description without meaning—as if you described a Beethoven symphony as a variation in wave pressure." (Clark 2007, quoted in Suzuki 1997, 19)

Meghan O'Gieblyn captures another irony in this process, "it is somewhat fanciful to believe that science can explain consciousness when modern science itself was founded on the exclusion of mind. . ." (2021, 107).

Science Draws the Line

If we encountered a person who believed people were nothing more than machines, and any sign of an interior self and of intrinsic value that accompanied it was an illusion, we would know we had encountered at least a philosophical sociopath, that is, a person who cannot relate to others as human beings, only as objects to be manipulated. Such a person could discover things about human beings most of us would never seek to know because we would be deterred from some investigations by their and our humanity. The same holds for modern science.

Descartes, who practiced vivisection, argued non-human animals were not actually suffering when they screamed, howled, and struggled. Descartes believed genuine emotions required a soul, and only humans possessed one. His inability to recognize suffering in animals was driven by the strength of his theoretical commitments. Whereas the sociopath cannot relate to others as beings of inner value, Descartes apparently cared about suffering in human beings. But animals were more like machines than people. As with so many before and since, he was blinded/hypnotized by his beliefs.

This blinding does not remove Descartes' responsibility for his actions, it only helps explain his subsequent behavior. In a very different context, reports of what causes ideologues to change are not rational arguments, but rather moral revulsion. But to have such revulsion you must have a strong moral sense able, ultimately, to overcome what had seemed acceptable (Polanyi 1969, 29-32).

Evolutionary theory ended the theologically created gulf between humans and nature. Charles

Darwin hoped its implications would improve the way people treated animals once our common connections were grasped. Darwin himself played a major role in efforts to end vivisection and lessen the suffering of animas in science and elsewhere (Johnson 2011). But in important ways the impact of his ideas was the opposite of what he had hoped. Many scientists were so committed to viewing the rest of the world as lacking awareness or feeling, that they sought to subordinate humans to a framework already in place rather than asking whether this meant that our interiority might be an important dimension of the other-than-human world.

Eugenics demonstrated the secular scientific attitude was compatible with the sociopathic relation to others as objects. In the late 1880s Darwin's cousin, Francis Galton, advocated applying scientific insights to human reproduction, labeling his proposed science "eugenics." In his words, "Eugenics cooperates with the workings of nature by ensuring that humanity shall be represented by the fittest races. What nature does blindly, slowly, and ruthlessly, man may do providently, quickly, and kindly" (2003). In practice, Galton's first two terms overrode the third.

The U.S. pioneered enforced sterilization of people deemed "unfit" to reproduce for biological reasons. Leading Nazis pointed to the American example as an ideal. Many American philanthropic institutions advocated and funded research in eugenics. In 1911, the Carnegie Institute mentioned euthanasia by means of gas chambers as one way to eliminate the problem of biologically undesirable Americans. If lethal methods were to be used, they needed to be out of the public's eye (Black 2008; 2003). While implementing such methods was politically impossible, forced sterilization continued, out of the public eye, until recently.[1]

The science of the time was compatible with the claims of those advocating such policies, as when Herbert Croly wrote:

> There is no certain way of distinguishing between defectiveness in the strain and defectiveness produced by malnutrition, neglected lesions originally curable, or overwork in childhood. When the state assumes the duty of giving a fair opportunity for development to every child, it will find unanimous support for a policy of extinction of stocks incapable of profiting from their privileges (1916).

In time, scientific research demonstrated the reasoning behind eugenic proposals was flawed, and scientists withdrew their support. Eugenics was ultimately rejected in the United States. However, its abandonment was not for ethical reasons, but because science had finally demonstrated eugenics wouldn't work. Had the evidence been less clearly cut, there is little

[1] *Editor's note:* The western Canadian provinces where *the Trumpeter* was founded (British Columbia) and is currently published (Alberta) also have a history of eugenics and involuntary sterilization: Alberta's Sexual Sterilization Act was passed in 1928, British Columbia's in 1933, and repealed in 1972 and 1973 respectively. For more information, see https://www.eugenicsarchive.ca/.

reason to believe it would have been abandoned.

Many individual scientists were horrified as to how science had been misused. For many, the response was to further emphasize the gap between nature and humanity. Even though from their point of view we were in every sense a product of nature, morally the realms of nature and humanity were deemed as far apart as any Christian might have said. It became a scientific sin to "anthropomorphize" even our closest biological relatives.

I am not condemning modern science any more than I condemned literacy. The true genius of science is its ability to uncover established errors and replace them with more reliable knowledge (Ziman 1978). Science ultimately discovered the arguments for eugenics were defective. More broadly, science has transformed our lives in many ways we find beneficial.

That said, science arose and was initially profoundly shaped by a context that radically separated people from the rest of the world, and concentrated all consciousness and value within the human world alone. This was an error, and Darwin, for one, emphasized our growing sympathetic capacities were the result of evolution, and not in conflict with it. But his insights were ignored even by those saying Darwin inspired them (diZerega, forthcoming). After the horrors of eugenics were rejected, the desire to separate humanity from nature became even stronger.

Modern science long called "man" the only tool-making animal, who replaced instinct with reason, was unique in being able to use fire rather than being afraid of it, and the sole possessor of language *as humans use it*. Only the latter turned out to be true.

Waking Up

The past several hundred years have witnessed scientists very gradually freeing themselves from these limiting assumptions. "Man" is far from the only tool-making animal, and not just chimpanzees, bonobos, and some birds. We now know many other birds and animals also make and use tools, and so plan ahead. In late 2011 a fish, the wrasse, was discovered to also use them, pounding mollusks it wants to eat against rocks (Perlman 2011). An invertebrate, the octopus, collects shells to construct a shelter (PhysOrg 2009). Tool-making and rationality had been considered unique to humans apparently because no one had ever looked for it in animals.

What about using fire? Bonobos seem to be able to learn to use fire without fear, even breaking up twigs, lighting them with a match, and then toasting a marshmallow they attached to a stick (ABC News, 2014). More broadly, trees act cooperatively, even altruistically (Simard 2021, 143-7). Elephants grieve their dead (Safina 2015, 66-85). Mimosa plants remember (Gagliano 2018, 56-71). Sentience is everywhere.

Even the case for humanity's supposedly unique moral sensibility has dramatically weakened.

Many animals have shown capacities that, if observed in humans, would immediately be interpreted as moral. In *Wild Justice: The Moral Lives of Animals,* Marc Bekoff and Jessica Pierce describe a wide variety of such cases, including a rhesus monkey who, once it learned that pulling a chain to get food would lead to another monkey getting shocked, went 12 days without eating. Another example they describe was a bat who, once it saw another female bat was having trouble giving birth, acted as its midwife (Bekoff 2009). We are obviously different from other beings, but, as Darwin maintained all along, those differences appear to be quantitative.

Human beings are the only beings who have language as we understand it. But the language barrier seems to be eroding (Shah 2023). African Gray Parrots apparently can learn and speak English. Bonobos have developed truly amazing abilities to communicate with human beings, and pass messages from humans to other bonobos (Rafaelle 2006). Even among rodents such as prairie dogs, animal communication is proving far more complex than ever imagined (Walker 2010; Abumrad 2011).

Building on its monotheistic assumption of an unbridgeable gap between humans and nature, reinforced by treating morality as the outcome of reason not evolution, mainstream science has a long record of blinding us to what earlier cultures nearly universally recognized. But now science itself is awakening from this trance, and realizing sentience is far more widely distributed in the world than had been imagined. Science is discovering a far more animate, interactive, and intrinsically valuable world than most any imagined even 50 years ago (Barton 2010).

Remembering

What has been forgotten can be remembered. Habits long forgotten can be revived. The modern world is witnessing a transformation in how many people view nature, away from simply as a store of resources towards a place of healing and renewal. Without giving up the gifts of literacy, many people are exploring other ways of encountering the world, from meditation to extended time in wild nature.

In the paper “A Dose of Nature” Jules Pretty and Jo Barton found that people’s mood and self-esteem benefit from what they call “green exercise.” Pretty said of his study, “For the first time in the scientific literature, we have been able to show dose-response relationships for the positive effects of nature on human mental health” (American Chemical 2010).

Their findings applied to all ages and both genders, though there were interesting differences among them. The biggest benefits applied to the mentally ill. Reporting on this research, Peter Stanford writes:

> The study shows, for example, that being in a green environment is better than

> being in an urban one in terms of a measurable positive effect on blood pressure, hormones and stress levels. Intriguingly, it also concludes that the biggest beneficial boost from exposure to nature is gained within the initial five minutes of each encounter with the great outdoors. While it continues to reap a harvest thereafter, the crop of positives diminishes (2010).

Recent research indicates that living in more complex natural environments has measurably better mental health impacts than living in simpler ones, and that both are superior to being surrounded by concrete and traffic. See, for example, a report on better mental health in the presence of biodiversity (Herro 2007; Dobbs 2007). Scientific research indicates not only that immersion in other-than-human nature is good for you but, perhaps more significantly, the complexity of the ecosystem is positively associated with greater beneficial impacts.

Referring to my discussion of hypnotism, Sandra Blakeslee observed maybe 20% of adults are resistant (2005). If I am right in my previous analysis, it is no surprise that most modern Westerners are so disconnected from nature. What is perhaps surprising is that, despite this, so many people delight in parks, gardens, forests, mountains, coasts, and other places not dominated by human structures or obvious influence.

At some level even those millions unaware of this research in science and health appear to intuit it. E. O. Wilson points out more children and adults visit zoos in the US and Canada than attend all professional sports, combined (Wilson 1993, 32). In 2020, during the pandemic, there were 237 million visits to America's national parks, a 28% decrease from 2019, due largely to temporary park closures and restrictions to the coronavirus pandemic (National Park Service 2021). By comparison, in 2021 approximately 57.5 million viewers in the United States watched digital live sports content at least once per month (Statista 2023).

I suggest that we remain deeply connected to nature as a prelinguistic experience, even when we have lost awareness of its significance. Reconnecting involves both appreciating the importance of connection and learning larger contexts beyond "recreation" to better experience this connection.

Certainly the greatest environmental thinkers, artists, and writers, often penetrated this modern trance. They challenged it through powerful writing embedding itself in our spirit even if we could not intellectually defend it in traditional ways. For, at root, our experiences penetrate more deeply than our intellect can describe.

When they write about the importance of the other-than-human world, these writers often provide reasoned arguments and hard data to back up their position. But they consistently go beyond this to seek to elicit a deeper-than-logic connection between the reader and the subject. They seek to open us to the *experience* of deep connection with the natural world, an experience

that does not depend on abstract arguments. Instead they seek as concrete an account as possible.

Hence the haunting power of passages such as Aldo Leopold's description upon coming on to a dying wolf he and his fellow Forest Service people had shot, the better to promote a larger population of deer:

> Only the mountain has lived long enough to listen objectively to the howl of a wolf…
>
> We reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then, and have known ever since, that there was something new to me in those eyes-something known only to her and to the mountain… I thought that because fewer wolves meant more deer, that no wolves would mean hunters' paradise. But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view (1968, 138-39).

It would be years before Leopold fully shifted from seeking to manage wild lands to increase game for hunters to the ecological consciousness that led to *A Sand County Almanac.* Most likely his spending so much of his adult life in the other-than-human world helped him to distance his experience from the world as defined and reinforced by constant talk. Developing an ecological consciousness shifted his perspective from controlling it, exemplified by wildlife management, to supporting the intricate relationships exemplified in wilderness. Leopold's mature description of the wolf and the mountain was not simply poetic license. Elsewhere in *Sand County* he observed:

> …on a still night, when the campfire is low and the Pleiades have climbed over rimrocks, sit quietly and listen for a wolf to howl, and think hard of everything you have seen and tried to understand. Then you may hear it — a vast pulsing harmony — its score inscribed on a thousand hills, its notes the lives and deaths of plants and animals, its rhythms spanning the seconds and the centuries (1968, 159).

In 1923 Ansel Adams, who contributed so much to this culture's re-evaluation of the other-than-human world, was hiking through the California's Sierra Nevada. Later, he wrote of his experience:

> The silver light turned every blade of grass and every particle of sand into a luminous metallic splendor; there was nothing, however small, that did not clash in the bright wind, that did not send showers of light through the glassy air. I was suddenly arrested in the long crunching path up the ridge by an exceedingly pointed awareness of light. The moment I paused the full impact of the mood was upon me; I saw more clearly than I have ever seen before or since the minute detail of the grasses, the clusters of sand shifting in the wind, the small flotsam of

> the forest, the motion of the high clouds streaming above the peaks. There are no words to convey the moods of those moments. (quoted in Von Essen 2010,1)

And it is here that we can learn a great deal from more animist cultures, not to become like them, for their ways of life are not open to us. We are far too numerous. We must address this challenge from within the context of our own society, aided by insights from theirs.

The most important insight I have hoped to make clear here, is that experiencing the more-than-human world in this way requires being able to set thinking in language and writing aside. They have their uses, and those uses are intensely valuable, but for this issue at best they open the door and invite us to look in for ourselves. We must explore the methods Indigenous peoples over countless millennia have discovered to experience the more-than-human dimensions of the natural world through dance, entheogens, physical isolation, ordeals, trance, meditation, ritual, channeling, music, and chants, to name the major ones. In its respect for both insights rooted in modernity and those rooted in millennia of human experience with the other-than-human, deep ecology has found a way back to this primordial experience while enabling us to keep the gains brought about by modernity.[2]

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