



**COUNTERPOINT**  
NAVIGATING KNOWLEDGE

Making Senses:

Poetic Knowledge of Nature in Science, Art,  
and Shamanic Ritual



**Kocku von Stuckrad**  
**August 2018**

## About the author:

Kocku von Stuckrad ([www.kockuvonstuckrad.com](http://www.kockuvonstuckrad.com)) is Professor of Religious Studies at the University of Groningen (Netherlands), with a focus on the cultural history of religion, science, and philosophy in Europe. His forthcoming book is *A Cultural History of the Soul in the Twentieth Century*. He is one of the co-founders and co-directors of Counterpoint: Navigating Knowledge.

This essay was first published in August 2018. © Kocku von Stuckrad 2018

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## Citation

If you are referring to this document, we recommend the following citation:

Stuckrad, Kocku von. 2018. "Making Senses: Poetic Knowledge of Nature in Science, Art, and Shamanic Ritual." Counterpoint: Navigating Knowledge, 24 August.  
<https://www.counterpointknowledge.org/publications/>.

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## Abstract

The five senses of seeing, hearing, smelling, tasting, and touching are regarded in European and North American tradition as the central channels through which human beings access the world around them. Comparison with non-European cultures, however, shows that this list of five senses is quite limited, closely tied to a European distinction between the body and the mind. What is more, this list of five senses has been challenged in European thinking, as well. One example is speculation about the “sixth sense,” which gained momentum in the nineteenth century.

Romantic research into nature was interested in a science that did not make a clear distinction between the human “observer” and the “object” to be studied. The works of Johann Wolfgang von Goethe and Friedrich Nietzsche are cases in point. Such a “poetic” or “Orphic” science can subsequently be traced in twentieth-century literature, as well as in practices within the wide field of nature-based spirituality, particularly in forms of shamanism that became popular in the second half of the twentieth century.

This analysis leads to the following conclusions and recommendations:

- Transatlantic ideas about how we gain knowledge of nature are much more diverse than binaries such as “East/West” or “physics/metaphysics” suggest.
- Poetic science provides a strong theoretical and empirical basis for looking at nature and the planetary community without reducing the more-than-human world to mere objects of study.
- Romantic ideas about a poetic science that renders the human observer vulnerable to the impact of the more-than-human world should be incorporated into academic research methods and interdisciplinary research funding.
- Poetic science offers a language and frame for ritualized experience that is commensurable with terms and practices in many Indigenous systems of knowledge. The author recommends developing conversations and research programs that institutionalize the bridges between these epistemologies and methods.

## I. *Sinnsuche* or Turning the Kaleidoscope

The anthropology of the senses is a research field that has generated many relevant studies and a body of knowledge that can help us analyze and compare ways of conceptualizing the sensual contact of humans with their surrounding world. The five senses of seeing, hearing, smelling, tasting, and touching are regarded in European and North American tradition as the central channels through which we access the world around us. Through comparison with other cultures around the globe, however, it turns out that this list of five senses is actually quite limited, closely tied to a distinction between the body and the mind that has dominated European philosophy and science for centuries.

By way of example, if we look at the sensorium of the Ewe people in Ghana and Togo, we are dealing with at least seven senses. As Kathryn Linn Geurts (2002a) points out, *Nusese*, or “listening,” is an Ewe concept that includes “feeling” and is often translated as “listening to the spirits.” Ewe culture prioritizes senses of balance, intuition, and metaphor. In this way, the idea of senses is directly linked to a different concept of personhood than what we are used to in Euro-American tradition. It does clearly expand the usual list of five senses. Geurts mentions a long list of terms—such as *ameme*, *dzodzome*, *luvo*, *aklama*, *amedzoto*, *dzitsinya*, and *trowo*—to refer to the inner person, the outer person, the character of a person, the shadow or soul of a person, the guardian spirit, and conscience, as well as other spirits who dwell in and constitute a person (Geurts 2002a; see also Geurts 2002b; Rosenthal 1998, 174; Montgomery and Vannier 2017, 19). This strongly resonates with the work of Robin Wall Kimmerer, who teaches Environmental Science and Forestry at SUNY and is the founding director of the Center for Native Peoples and the Environment (see Kimmerer 2013; for a podcast presenting her ideas, see *On Being* 2018).

Anthropological insights like these are highly relevant. For cultures rooted in the European tradition of “making senses,” anthropological comparisons not only provide us with alternative ways of conceptualizing the senses; they also raise questions about alternatives to the five senses within European thinking itself. This is the subject I want to engage in the following analysis.

One aspect of European discourses on the senses is the idea of a “sixth sense,” which is usually seen as something spooky—if it exists at all—and hard to define. It is spooky because it does not fit into the binary construction of body versus mind. Hence, mentioning the sixth sense is often simply an acknowledgment that human perception comprises more than what the five senses cover, even though the attempt to clearly conceptualize an extension of the accepted list of senses is fraught with many difficulties. Interestingly enough, speculation about the sixth sense gained momentum in the nineteenth century, during a period that also saw the emergence of professional psychology, occultism, and scientific methods that set the standards of objectivity and empirical testing that many still regard as valid today.

Perhaps this is not a coincidence. From a cultural history of science point of view, what we are observing here is a slow—and incomplete—separation of two discourses that had been more closely entangled before 1900. One of them consists of the ever more physiological and empirical notions of psychology, the soul, sensual perception, and experiment that have dominated academic research in the twentieth century, and which would rele-

gate notions of the sixth sense and similar concepts to “parapsychology,” “pseudoscience,” and similar terms. The other discourse is an attempt to construct a holistic or monistic philosophy of nature, the genealogy of which can be traced back to Romantic natural research and subsequent attempts to observe, conceptualize, and understand the creative power of nature or, in Aristotelian parlance, *natura naturans*. One characteristic of the latter discourse is its inclusion of allegedly non-scientific domains, such as art, poetry, and ritual practice.

What I am trying to do here is take a closer look at the second discourse. I am turning the kaleidoscope, as it were, and looking at patterns of historical discursive constellations that differ from physiological and experimental interpretations of the senses.

I am encouraged to do so also because the very term “sense” is kaleidoscopic, both in English and in German. Senses are organs of perception, but they are also indicators of meaning. “Making sense” is a process of translating sensual perception into more complex patterns of meaning-making. The German word *Sinnsuche* carries both the search for meaning and the search for sense(s). Is it a coincidence that our languages offer such a kaleidoscopic play of meaning when it comes to senses?

## 2. “Becoming With”: Poetic Science and Tender Empiricism

If we turn the kaleidoscope and queer the seemingly self-evident understanding of the five senses, we can see a pattern of perceiving the world in a different way. This sensuous and perceptive understanding of being in the world—or, as Donna Haraway puts it, “becoming with” other critters and even objects—throws some new light on philosophical and scientific methods, as well. Haraway also refers to this as interacting with companion species: “I am not a posthumanist; I am who I become with companion species, who and which make a mess out of categories in the making of kin and kind. Queer messmates in mortal play, indeed” (Haraway 2008, 19). With these statements, Haraway represents a larger turn in anthropology and cultural studies.

Are these eccentric and marginal contributions to European discourses on sensual perception? I don’t think so. In order to present a somewhat different account, let me start with the early Romantic period and the heated debate at that time concerning experimental science, objectivity, and the parameters of truth about nature.

In this context, we should not forget that our current understanding of “objectivity” as a method of enquiry entirely independent of observational subjectivity emerged quite recently. Lorraine Daston and Peter Galison point out that this understanding

first emerged in the mid-nineteenth century and in a matter of decades became established not only as a scientific norm but also as a set of practices [...]. However dominant objectivity may have become in the sciences since *circa* 1860, it never had, and still does not have, the epistemological field to itself. Before objectivity, there was truth-to-nature; after the advent of objectivity came trained judgment. (Daston and Galison 2007, 28–29; see also Goldstein 2017, 13)

Prior to this shifting of parameters, we see a rich discursive constellation involving engaged forms of empiricism, poetry, and art, for which I introduce the term “Orphic science” in the next section. My understanding is similar to what Amanda Jo Goldstein



calls “revisionary poetic sciences” or, following William Blake, “sweet science.” Goldstein traces this understanding of science in poetic sources, particularly in Johann Wolfgang von Goethe and Percy Bysshe Shelley. “Romantic, revisionary poetic sciences,” she argues,

challenged emergent life-scientific and aesthetic protocols to understand “raw” sensation itself as susceptible and generative of social and rhetorical transformation; to countenance the mutual, material influence between the subjects and objects of experiment; and to position vulnerability—to impression, influence, and decay—as central, not inimical, to biological life. Against the vitalist ideal of self-generating “organic form” with which Romantic biology is frequently identified, sweet sciences conceive of animation as a relational effect of contact and context; against the twinned, post-Kantian scientific and aesthetic ideals of impartial observation, they pose an ethos of ineluctable participation in that which is felt or known. (Goldstein 2017, 8)

Goethe depicts this approach to nature as *zarte Empirie* or “tender empiricism.” Here is his definition from *Wilhelm Meisters Wanderjahre*: “There is a tender empiricism that intimately merges with its object and through this very identification becomes proper theory. This growth of mental abilities, however, belongs to a highly educated era” (“Es gibt eine zarte Empirie, die sich mit dem Gegenstand innigst identisch macht und dadurch zur eigentlichen Theorie wird. Diese Steigerung des geistigen Vermögens aber gehört einer hochgebildeten Zeit an”; Goethe 1991, chapter 43; all translations from German are mine unless otherwise noted). In other words, instead of applying a Cartesian or Kantian dualism between subject and object, Goethe develops a scientific theory that moves beyond this dichotomy and includes a “growth of mental abilities,” which we can interpret as an extension of the normal use of the senses.

It is reminiscent of Novalis’ Romantic understanding of science, too. In *Die Lehrlinge zu Saïs*, Novalis speaks of the visionary perception (*Beschauung*) of the eternal ebb and flow of nature that creates in the observer

a new revelation of love’s genius, a new band of the You and the Me. The careful description of this inner world history is the true theory of nature. Through the internal association of [the] world of thoughts and its harmony with the universe, a thought system that exactly mirrors and formulates the universe is automatically created. (Novalis 1999, 1:225)

Therefore, Goldstein makes a valid point when she asserts:

The “tenderness” in Goethe’s “tender empiricism” is a double-sided virtue that will recall the sweet science of Blake’s Antamon: a mode of “beholding” an object in “beautiful flexible hands” that averts the violence of experimentalist practice not only by handling objects gently but also by acknowledging the experimenter’s own tractable softness and vulnerability to their touch. Indeed, [...] Goethe’s “objectively active” poetic science slyly exposes the Kantian ethics of distanced “impartiality” in aesthetic and scientific observation as built to guard against tenderness in the second sense. (Goldstein 2017, 101)

Beholding, touching, tenderly observing—all these are modes of “becoming with” a companion in mutual respect and vulnerability. It is a different way of “making sense” of the world; what is more, this understanding is “making senses” into broader ways of perceiving and acknowledging.

### 3. Orphic Revelations around 1900

By the end of the nineteenth century, the new standards of objectivity and scientific perception were still controversial. The discourse on the senses was a complex one, too. While the reductionist understanding of the senses certainly gained momentum in experimental forms of knowledge production, there was also a new fascination with deeper ways of knowing. Let’s have a look at how these discourses shaped understandings of the senses that move beyond mere physiological sensation to levels of perception that we may call mystical or totalizing.

During the second half of the twentieth century, many of these discursive constellations would materialize in forms of spiritualities that prioritize nature and think of the earth as an animated, living being. Shamanism is a prime example of this. It comprises practices that were introduced to Europe and North America after 1970. But—and this is an important genealogical point here—shamanism has a long history of fascination in European culture, which goes back more than 400 years (for a more detailed account of this genealogy, see von Stuckrad 2003). Missionaries, traders, and travelers were the first to bring news and stories describing exotic rituals from the large steppes of northern Eurasia to the west. By the eighteenth century, we already see a more or less fixed image of “shamanism” as a specific type of religion. For most Enlightenment thinkers the shaman was a model of irrational behavior, and Catherine the Great even wrote a comedy entitled *Der sibirische Schaman, ein Lustspiel* (“The Siberian Shaman, a Comedy,” 1786), in which she tried to ridicule shamanism and lead her subjects toward a new age of enlightenment. But this was only one side of the coin. For quite a few European thinkers in the eighteenth and nineteenth centuries—among them Goethe, Johann Gottfried Herder, and Victor Hugo—the shaman was a religious virtuoso, a relative of those ancient ecstasies and artists who were able to transgress ordinary reality by means of music and poetry. The most prominent figure in this European imagination was Orpheus, the Greek singer, poet, and healer. At the end of the nineteenth century, the Orphic discourse was blended with constructions of Dionysus. And this has everything to do with Friedrich Nietzsche.

#### 3.1. Friedrich Nietzsche: *Music and the Ventricle of the World’s Will*

For Nietzsche (1844–1900), the tension between the Dionysian and what he conceptualized as the Apollonian became the major interpretive tool for ancient history, and even for human culture as such. The basis for this theory is laid out in *Die Geburt der Tragödie aus dem Geiste der Musik*.

The early Nietzsche, like Schopenhauer and some of the Romantics, found the essence of the world in music. Music was the link to the ultimate primordial reality, which Nietzsche tried to conceptualize as the Dionysian. While in antiquity the Apollonian refinement of the wild rage and the sublimation of the animal drive in the human being was

the task of the tragedy, in his own epoch Nietzsche found a similar task realized in the musical dramas of Richard Wagner. Wagner's projects offered a true experience of art and an antidote to the increasing intellectualism and commercialization of music in the nineteenth century. Such an experience means listening to the "ventricle of the World's Will" (*Herzkammer des Weltwillens*). This music does not aim at superficial beauty, but at making contact with the "monstrous" (*das Ungeheure*) and the "deep." To his close friend Erwin Rohde, Nietzsche wrote on 28 October 1868, after listening to the overture of Wagner's *Meistersinger*: "Every fiber, every nerve twitched; for a long time I haven't had such a long-lasting feeling of rapture [*Entrücktheit*]" (Nietzsche 1923, 58). "Entrückung" (rapture), "Extase" (ecstasy), "Rausch" (frenzy): these are the three terms that—not only for Schopenhauer and Nietzsche, but subsequently also for Rohde and others—became the master key for interpreting Greek "irrationalism."

In *Die Geburt der Tragödie* Nietzsche writes: "The tragedy sucks the highest orgiastic feeling of music into itself" ("Die Tragödie saugt den höchsten Musikorgiasmus in sich hinein"; Nietzsche 1999, 1:134; see also pp. 135–136). What Nietzsche so emphatically claims is the power of music to open up our normal senses to a deeper structure of reality and an ultimate understanding of the world. In doing so, Nietzsche is part of a discourse on Dionysus and Orpheus that gained further momentum in early twentieth-century German literature, from Rainer Maria Rilke's *Sonette an Orpheus*, to Thomas Mann's *Tod in Venedig*, to Hermann Hesse's *Das Glasperlenspiel*. Let me just illustrate my point with regard to Rilke and Hesse.

### 3.2. Rainer Maria Rilke: Stepping into the Listening Ear

In the works of Rainer Maria Rilke (1875–1926) we can trace these themes in many different ways. His poetry is perhaps the pinnacle of Orphic understandings of nature, art, and transformation through death and rebirth. The Orphic theme also has a lot to say about the ways in which poetry can expand sensual perception and open up the human being to transcendental truths. It is particularly the sense of hearing (and its expansion) that is at stake here, quite similar to what we have seen in Nietzsche.

In his *Sonette an Orpheus*, Rilke depicts the Greek god as the epitome of a singer who understands the language of animals and plants. Even after he was torn apart by the maenads, Orpheus' "sound remained in lions and rocks / and in the trees and birds. There [he's] still singing," as the twenty-sixth sonnet has it. And the same sonnet concludes: "we are the hearing ones now and a mouthpiece of nature" ("sind wir die Hörenden jetzt und ein Mund der Natur"). It is through Orpheus, through art and music, that the human being can still hear the hidden, true sound of nature. That is why Rilke exclaims: "Ein für alle Male / ist Orpheus, wenn es singt" (Once and for all, it's Orpheus when there's singing; Sonnet I, line 5).

Orpheus is the singer, and we are the listeners. Through the encounter with music and art, our sense of hearing is significantly broadened. Rilke says that nature "was stirred / to total hearing only when Orpheus sang. / You were still moved by those old words / and a bit irritated when a tree took so long / to step with you into the listening ear" (Sonnet II, line 28).



The theme of merging with trees and animals through song and hearing is a recurring motif in subsequent nature writing and shamanism. Before I follow up on this, let's have a quick look at Hermann Hesse, too.

### 3.3. Hermann Hesse: *When the Eyes See Again*

Hermann Hesse (1877–1962) was of the same generation as Rilke. Throughout his work, Hesse wrestled with the consequences of totalitarianism and fascism and tried to find an antidote to the horrors of his time. It is particularly in *Der Steppenwolf* and in his late masterpiece *Das Glasperlenspiel* that he formulated his utopia of purity, beauty, and truth. As part of what I have described as an Orphic discourse, Hesse linked perceptions of nature to deep knowledge, art, and death (for the following, see also von Stuckrad 2010).

In *Steppenwolf*, it is Harry Haller who finds the truth of the world inside his own soul, which he has to accept—despite his longing for death and his disgust for the “surface”—before he can ultimately enter the world of perfection and immortality, where he would hear the “laughter of the immortal,” most prominently Mozart's. Hermine—who, like Harry, has “one dimension too much”—becomes the mirror of his own soul, the dangerous depths which he consciously has to plumb before he can put the pieces of his personality together again and enter the land of eternity. About this understanding he says:

My soul breathed again, my eye saw again, and for a few moments I glowingly began to understand that I only have to pull together the shattered world of images, that I only have to turn my Harry Haller Steppenwolf life into a complete picture, in order to enter the world of images myself and to become immortal. Wasn't this the goal that every human life attempts to reach? (Hesse 1974, 155)

When he notes that his “eye saw again” and that he pulled together the “shattered world of images,” we can interpret this as an extension of the normal senses into something mystical and primordial. Hermine lets Harry Haller see “the sacred beyond, the eternal, the world of everlasting value, of divine substance” (“[d]as heilige Jenseits, das Zeitlose, die Welt des ewigen Wertes, der göttlichen Substanz”; Hesse 1974, 169).

Hesse's masterpiece *Das Glasperlenspiel* picks up the Orphic theme of art and knowledge. In this novel, the Glass Bead Game offers direct access to the revelation of eternal truth.

Suddenly I understood that in the language, or at least in the spirit of the Glass Bead Game, in fact everything meant everything, that every symbol and every combination of symbols did not lead to this place or that place, not to single examples, experiments, or proofs, but into the center, into the secret and the interior of the world, into the primordial knowledge [*Urwissen*]. Every change from major to minor in a sonata, every transformation of a mythos or a cult, every classical, artistic formulation was, as I understood in the flash of that moment, considered really meditatively, nothing other than the direct way into the interior of the world's secret, where in the movement of inhaling and exhaling, between heaven and earth, between Yin and Yang, the sacred is happening eternally [*sich ewig das Heilige vollzieht*]. (Hesse 1972, 125)

Hesse often added a mystical perception of nature to this constellation of music, poetry, and deep layers of understanding. One example is his poem “Manchmal” (“Sometimes”), which in translation reads as follows:

Sometimes when a bird cries out,  
Or the wind sweeps through a tree,  
Or a dog howls in a far-off farm,  
I hold still and listen a long time.

My world turns and goes back to the place  
Where a thousand forgotten years ago,  
The bird and the blowing wind  
Were like me, and were my brothers.

My soul turns into a tree,  
And an animal and a cloudbank.  
Then changed and odd it comes home  
And asks me questions. What should I reply?  
(Translator unknown, see <http://www.gss.ucsb.edu/projects/hesse/manchmal-engl.html>, accessed 18 August 2018)

It is interesting to note that this very poem, written in 1904, figured prominently on a program brochure for the Scandinavian Center for Shamanic Studies, run by Jonathan Horwitz and Annette Høst in Copenhagen, one hundred years later. Indeed, the Orphic and shamanic connections turned out to be quite strong in this genealogy of sensing nature. Why is that?

#### 4. “You Hear a Different Song in Your Head”: Shamanism, Animism, and Perception

The phenomenon of shamanic practice in North America and Europe is part of a larger movement that attributes intrinsic value to nature and regards the planet earth as a living being—sometimes called Gaia in its Greek form. Scholars of religion refer to this movement, which has gained momentum steadily since the 1950s, as the large field of nature-based spiritualities. Experiential access to nature through an extension of the normal senses is a cornerstone of many of these quite diverse milieus, and that makes them interesting for our topic here.

Shamanic practice basically means learning the shamanic journey: By beating a large frame-drum, an altered state of consciousness is induced, enabling the practitioners to send the focus of their consciousness through an entrance in this—visible—world into the lower or upper world, sometimes also simply referred to as the “other world.” There they meet their power animal, which is subsequently addressed as the most important helper and teacher.

The underlying spiritual philosophy is animistic. “Animism” in most cases affirmatively stands for the proposition that everything is alive and animated—even stones, rivers, and other allegedly “inanimate objects.” In Nevill Drury’s words: “Shamanism is really ap-

plied animism, or animism in practice” (Drury 1989, 5). Jonathan Horwitz confirms this: “Animism for the animist is not a belief: it is the way life is experienced. All objects do contain a life essence of their own, and as such do also contain power” (1999, 222). Indeed, the relation is so strong that sometimes the two concepts seem to converge, as becomes clear in Horwitz’s statement:

The word shamanism has become over-used and really very over-worked. A lot of the time when people say “shamanistic,” they actually mean animistic—a perception of the world as it truly is, with all things alive and in connection. “Animism” is the awareness of our connection to the world that is the foundation of the practice of shamanism. These two things are inseparable. (Horwitz 1995, 7)

The shamanic journey is designed as a means to communicate with those layers of reality that are not accessible in normal states of consciousness. Considering all things alive, the shaman tries to learn the language of different entities, and in non-ordinary reality she or he is able to talk to them in order to get advice or help. It is this communicative aspect that Joan Halifax—the American Zen Buddhist teacher, anthropologist, ecologist, and civil rights activist—has in mind when she says:

The sacred languages used during ceremony or evoked in various states of consciousness outside culture (if we are Westerners) can move teller, singer, and listener out of the habitual patterns of perception. Indeed, speaking in the tongues of sea and stone, bird and beast, or moving beyond language itself is a form of perceptual healing. (Halifax 1994, 92)

Beginning in the 1960s, discussions concerning the sacred dimensions of nature increased—these entailed both *participation* through human awareness and *protection* through environmental efforts. The adaptation of Buddhist philosophy was a driving force in this process. At times, the various lines of tradition come together in single persons. I’ve already referred to Joan Halifax; another example is the well-known poet and activist Gary Snyder, who speaks of himself as “Buddhist-Animist.” He has also been involved in the radical environmentalist movement “Earth First!” Hence, the animistic attitude is by no means restricted to neo-shamanic circles. It is part of the larger flow of nature-based spirituality and activism, which has spread from North America to Europe over the last four decades.

From this perspective, shamanism can be addressed as a kind of ritualized way of experiencing nature, and this experience involves shifting gears in sensual perception. Gary Snyder points out that poetry and song are among “the few modes of speech [...] that [provide] access to that other yogic or shamanistic view (in which all is one and all is many, and many are all precious)” (Snyder 1977, 13–14). This supports Snyder’s proposition that communication with non-human species is realized not by normal speech, but through song: “They don’t talk to you directly, but you hear a different song in your head” (quoted in Taylor 1995, 113). The shamanic journey can help put mystical experiences—for instance on wilderness trips—into a ritualized form that not only conceptualizes the experience, but also gives evidence for and coherence to it. By means of this *framing*, those experiences are controllable and repeatable.

As these examples demonstrate, the shamanic ritualization of healing and contact with nature is part of a larger discourse that includes poetic and experiential layers of engaging

the more-than-human world. In the USA, the Transcendentalist and environmentalist traditions are a particularly influential contribution to this discourse. John Muir (1838–1914), for instance, described his sensual perception of the Sierra Nevada in the following words: “You bathe in these spirit-beams, turning round and round, as if warming at a camp-fire. Presently you lose consciousness of your own separate existence: you blend with the landscape, and become part and parcel of nature” (Muir 1915–1925, 1:416). In his journal, Muir noted: “The plant people seemed glad, as if rejoicing with me, the little ones as well as the trees, while every feature of the peak and its traveled boulders seemed to know what I had been about and the depth of my joy, as if they could read faces” (Muir 1979, 96).

Shifting gears of perception when one is in the wilderness or out in nature is a *leitmotif* of American nature writing. A more recent example is the work of David Abram, the American philosopher, cultural ecologist, and performance artist. In *Becoming Animal: An Earthly Cosmology*, Abram combines poetry, philosophy, and spirituality in an attempt to arrive at a new understanding of the human body and the senses. Shifting gears means opening up the human body to the languages of other critters and to the entire world: “Obviously,” Abram maintains, “these other beings do not speak with a human tongue; they do not speak in words. They may speak in song, like many birds, or in rhythm, like the crickets and the ocean waves. They may speak a language of movements and gestures, or articulate themselves in shifting shadows” (Abram 2010, 10). Becoming aware of their “animal bodies,” human beings learn to use their senses in a long-forgotten way.

When we stumble outside in the morning, rubbing our eyes free of sleep and gazing toward the wooded hillside across the valley, our eyes cannot help but feel their own visibility and vulnerability; hence our animal body feels itself exposed to that hillside, feels itself seen by those forested slopes. Such reciprocity is the very structure of perception. We experience the sensuous world only by rendering ourselves vulnerable to that world. Sensory perception is this ongoing interweavement: the terrain enters into us only to the extent that we allow ourselves to be taken up within that terrain. (Abram 2010, 58)

A more recent example of this discourse is the work of Richard Powers. In *The Overstory: A Novel*, Powers gives a fictional account of the idea of nature—and particularly the world of trees—as it offers old, forgotten, and yet still available knowledge.

*A chorus of living wood sings to the woman:* if your mind were only a slightly greener thing, we’d drown you in meaning.

*The pine she leans against says:* Listen. There’s something you need to hear. (Powers 2018, 4; italics in the original)

I conclude my overview here. The historical sources that I have presented from a cultural history point of view can be seen as indications that the “sixth sense” refers to a skill of perception that humans already possess, but which lies dormant, obscured by categories of sense(s), truth, and objectivity that we too easily take for granted.

## 5. Implications

Where does all this leave us? First of all, we need to correct some of the views that many people cherish about “the West” and accept that Euro-American ideas about how we gain knowledge of nature are in fact much more diverse than binaries such as “East/West” or “physics/metaphysics” suggest. The discursive combination of philosophy of nature, animism, poetry, music, shamanism, and tender empiricism constitutes an influential component of contemporary “modern” culture. It’s not an antidote to or a protest against modernity; it’s a different way of being modern.

Second, this different way of being modern provides a strong theoretical and empirical basis for looking at nature and the planetary community without reducing the more-than-human world to mere objects of study, detached from human involvement and learning, submitted to human domination and control. It offers a different way of doing science.

Third, this way of doing science may be different from the dominant reductionist understanding of science. It is not, however, new. We don’t have to reinvent the wheel; we can learn instead from Romantic ideas about a poetic and “Orphic” science that renders the human observer vulnerable to the impact of the more-than-human world. This understanding of science should be incorporated in academic institutions and interdisciplinary research funding on local, national, and international levels. Poetic science bans animal testing and is driven by curiosity about and deep listening to the language of the so-called object of study.

Fourth, poetic science is an excellent bridge to epistemologies and empirical methods that have been developed in cultures beyond Europe to make sense of the world. It offers a language and a frame for ritualized experience that is commensurable with terms and practices in many Indigenous systems of knowledge, as well as in other traditions that are not derived from a dichotomy between mind and body, observer and object, or human and nature. As the work of Robin Wall Kimmerer and others makes clear, there is real momentum for change around the globe. To deepen our understanding of the complexities of the living world, it will be necessary to further enhance these conversations and research programs and to institutionalize the bridges between alternative epistemologies and the methods that poetic science offers.

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Counterpoint: Navigating Knowledge  
Whitney A. Bauman and Kocku von Stuckrad, co-directors  
Burgunder Str. 2  
14197 Berlin  
Germany

Honoring the diversity of knowledge systems and enabling a fruitful conversation among them for the benefit of the planetary community.