The Meaning-Filled Universe

Modern science has silenced nature. But we can still choose to listen.

Stephen L. Talbott

We are all materialists now. As children of this current scientific era, we experience things around us as if they were nothing but collections of inexpressive and indifferent particles offering no opening for feelings of inner kinship with material nature. We seem to have little choice but to perceive ourselves as existing within an unliving and impersonal landscape of alien, mind-independent things. Further, the explanatory resources provided by science for making sense of the world we live in, including our own bodies, consist, at bottom, of little beside cause-and-effect relations expressing the necessities of universal law. As a result, many of us are convinced that somewhere, somehow, an invisible and implacable necessity cruelly mocks our vaunted humanity.

Think, for example, of neuroscientist Robert Sapolsky, who in 2023 wrote a bestseller with the aggressive title *Determined: A Science of Life Without Free Will*. He wrote that human behavior happens "because something that preceded it caused it to happen." Everything occurs "because of events one second before, one minute … one century … one hundred million years before." The picture is of an unbroken chain of causes "over which you had no control."

One sensed the same feeling of lawful entrapment when Ferris Jabr, then an editor of *Scientific American*, tried to show us in a 2014 *New York Times* op-ed "why nothing is truly alive." His judgment was rooted in the idea that everything is made of particles from which all hints of the sense-perceptible world we live in have been evicted, leaving behind only a kind of ghostly lawfulness without any meaningful presence. That's why Jabr's seemingly straightforward statement —

> All observable matter is, at its most fundamental level, an arrangement of atoms and their constituent particles.

— challenged even our powerful intuition that animals are essentially different from rocks. At bottom there is nothing but mathematically precise sameness; one electron is indistinguishable from any other electron. So how could one chunk of matter differ in any essential way from another? How could one thing be alive while another is not?

If Jabr's statement faithfully captures what is most fundamentally true — if we and all existent things are in fact made of atoms possessed solely of lawful, quantitatively characterizable features and are therefore incapable of supporting the meanings of human life — then the world's qualitative presentation of itself is as insignificant as it is puzzling. If the movements of these particles through space are unceasingly lawful, then (so the thought seems to run) how does anyone ever intentionally and meaningfully transcend the mindless whirl? Can we, with our minds and wills, cause a single one of those particles to swerve from its preordained path?

The classic statement of this feeling that we are imprisoned within a non-qualitative world ruled by unbreakable laws came in 1814, when the physicist and mathematician Pierre-Simon, Marquis de Laplace, confidently assayed the mind of Omniscience in a famous passage in his book *A Philosophical Essay on Probabilities*:

> We ought then to regard the present state of the universe as the effect of its anterior state and as the cause of the one which is to follow. Given for one instant an intelligence which could comprehend all the forces by which nature is animated and the respective situation of the beings who compose it — an intelligence sufficiently vast to submit these data to analysis — it would embrace in the same formula the movements of the greatest bodies of the universe and those of the lightest atom; for it, nothing would be uncertain and the future, as the past, would be present to its eyes.

With these words the human imagination rose to a height where it dared to interrogate a god-like intelligence — an intelligence that easily posed as our jailor,

and who, as it happens, is commonly referred to as "Laplace's demon." The specialty of this intelligence was to calculate the movements through space of qualitatively featureless bodies, whether minuscule particles or massive collections of the same, governed by an iron chain of causes and effects against which the dream of human freedom and meaning is futile.

Since Laplace's day, his picture of inescapable causal bonds has been criticized from various angles. But its central, all-encompassing failure has gone oddly unrecognized, and its oppressive weight remains. Not many people today find the intellectual resources to counter the deflating impact of his thought experiment.

It does, however, seem rather odd that, if all things are made of qualitatively mute particles, it is difficult to find any two natural things that are exactly the same or ask for exactly the same response from us. It may be true that every movement in the universe, whether studied by the particle physicist or the expert in celestial mechanics, is ever faithful to equations possessing no qualitative terms. And it may be true that the movements of a professional dancer *can* be described this way. But that's not what we are usually interested in when watching someone dance. Then it is the *expressive character* of the dance that we care about. What it is *saying* to us in its own language of meaning is what matters. Does that language not belong to the world?

With the right attention, we could ask this about every appearance in nature. A tree presents us with a very different "dance" depending on whether it is an oak, giant sequoia, or willow — a difference manifested not only in its growth from a seed, but also in its interaction with the wind, light, soil, and communities of life around it. Likewise, every mountain, every river, every flower, every human act presents a distinct character of its own.

If, at bottom, there is nothing but sameness, then there is a huge explanatory gap between the particles that everything is supposedly made of and the world's vivid presentation of itself. How do we account for the qualitative richness, the infinite qualitative differences, of the experienced world? Mere aggregations of qualityless

particles tell us nothing of what it means — or how it could even be possible — for us to become conscious of a green, red, orange, or yellow leaf. What is it in the world that gives things the power to *speak* to us?

Equations governing movements tell us little about what it is that moves and nothing at all about what the movement itself is expressing. Qualityless particles do not inform us about the world we experience as the significant context of our lives. So something fundamental is missing in our usual scientific understanding of what this world is.

At its most basic, this explanatory gap has to do with the difference between the world's being there, or not. That is, the world's existence, as far as we could ever know, depends on its qualitative presence. Subtract all its qualities, and nothing would be there for humans to experience, know about, or investigate quantitatively. We would have no way to demonstrate, or even believe in, the existence of an external world.

Even in referring to "the movements of the greatest bodies of the universe," Laplace was not speaking of any perceivable material reality that a scientist (or anyone else) can experience. For the purpose of analyzing its movements in space, the physicist treats the earth as an abstraction — for example, as a single, mathematically precise center of mass — disburdened of the reality we can observe. But this is a long way from the earth we know and care about, that we experience walking on a path through a rainforest or climbing above the tree line of a glaciated mountain peak.

Here, then, is the almost wholly overlooked triviality of Laplace's statement: he was not talking about any knowable world. His notional particle-world is incapable of expressing the specific character of a real place in which we humans or any other beings might dwell. He was working with a science busily abstracting whatever mathematical regularities it could from the world while purposely excluding from consideration the qualitative features that alone enabled the

world to *be there* for scientific investigation, that is, to be there in the only way a material reality can be there — as expressive substance and specific appearance.

But it is time to say something about the play of meaning in the world we do live in.

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Experience Restored

Stand sometime under a blue sky, extending from horizon to horizon, and try as best you can to comprehend it. I am amazed at how late in life I came even to notice the sky, let alone to contemplate it for a few moments. It can be a life-changing experience. One thing you can do as you take in the boundlessness and grandeur of the sky is to imagine how Native Americans might have experienced it over the Great Plains. Or you can try to imagine how hellish your own life would have been if you had never known anything except a ten-foot ceiling.

In the constricted space under that ceiling, without the endless depth of a blue sky overhead, without the remote and unreachable stars at night, would you have anything but the meanest content for the word "transcendent"? Or for other words rooted in the ideas of height and depth, such as "exalted," "superior," "sublime," "lofty," "supernal," and so on? Reflection upon such matters might easily lead one to wonder how many of our meanings have been bequeathed to us by the world we live in.

Or, coming down to earth, imagine the times you have sat, perhaps with a group of friends, around a campfire. And then, in your imagination, extinguish the campfire; you and your friends are now conversing without the effect of those flames upon your mood and consciousness. Ask yourself: What *is* that effect? What are its qualities? Your experience would be quite different with the fire extinguished. But how?

The difficulty we have in answering such questions tells us how inattentive we have become to the world's qualities. But we can still sense that the qualities are there, and that we *could* learn to pay more attention to them. Sitting around the flames of a campfire is not the same as sitting in a fireless space.

Or take the wind. Once, during a great windstorm, my wife and I looked out our front windows and saw our two grandsons, then about four and six years old, running joyfully through the tall grass — running with the wind, circling, dancing, whooping it up, laughing uncontrollably. They were exhilarated. This was a truly great wind, the trees were bending over before its force, and the energies of that wind, to which the boys were giving such energetic expression, had clearly come to vivid expression within their psyches. They had become one with the wind, a seemingly natural experience. They didn't have to think about it; the forces without them gave immediate rise to the forces within.

Of course, if it had been a terribly destructive hurricane, ripping the roofs off homes, the children would have been frightened. Such are the powers and meanings of nature in human experience.

And again: we normally see the sun, not as a qualityless mass with a particular velocity of rotational and translational movement, or even as a ball of hot gas and plasma, but rather as (among many other things) an expressive *sunrise* followed by a differently expressive *sunset*. I suppose these might be thought more or less identical — they display the same mathematics of solar motion, only reversed. And yet, qualitatively, they could hardly be more different.

You can glimpse this difference by performing a simple exercise. Stand with your arms hanging by your sides, palms facing forward. Then, very slowly and keeping your arms approximately straight, raise your hands in front of you as you imagine the sun's rising. Now turn your palms downward and slowly let your arms descend as if the sun were setting. Notice the different qualities of the two movements, ascending and descending.

This gives you a minimal and one-dimensional experience of the difference in *meaning* between a sunrise and a sunset, with reference to little more than the opposite directions of motion. But your experience is of *real* directions, not the axes of a graph. And if you have truly paid attention to your own experience, you

have gained a very real sense for how “up” and “down” relative to our position on the earth are freighted with distinct meanings.

This exercise, of course, leaves out the different qualities of the atmosphere in the morning, compared to the usually more stirred-up and turbid air yielding the evening’s colors. It also leaves out the different temperatures of morning and evening; the daytime expansion and evening contraction of everything from sunlit rocks to storm systems; the opening and turning of some flowers and leaves toward the sun; the way so many birds, especially in the spring, rousingly greet the sunrise with singing, and settle down in the evening; and the different meanings, for humans, of starting a day’s work and resting after the day’s achievements.

The World Is Our Interior

I have gestured above toward some of the ways in which our meanings are given to us from a world that is actually *there*. The more we attend to this, the more we come to realize that the entire mental and affective content of our lives derives from the expressive contents of the world. In fact, as the philosopher Owen Barfield has shown, even the language with which we describe and think about our inner lives of thought and feeling originates with what we now consider the "outer" world. This is true also of the abstract language that dominates everyday speech:

> To what, precisely, does each one of them refer — the tens of thousands of abstract nouns which daily fill the columns of our newspapers, the debating chambers of our legislatures, the consulting rooms of our psychiatrists? *Progress*, *tendency*, *culture*, *democracy*, *liberality*, *inhibition*, *motivation*, *responsibility* — there was a time when each one of them, either itself or its progenitor in another tongue, was a vehicle referring to the concrete world of sensuous experience with a tenor of some sort peeping, or breathing, or bursting through.

Ralph Waldo Emerson pointed to a similar truth when he wrote in his 1836 essay *Nature*:

> Every word which is used to express a moral or intellectual fact, if traced to its root, is found to be borrowed from some material appearance. *Right* means *straight*; *wrong* means *twisted*. *Spirit* primarily means *wind*; *transgression*, the crossing of a *line*; *supercilious,* the *raising of the eyebrow*.... *Thought* and *emotion* are words borrowed from sensible things, and now appropriated to spiritual nature.

If words characterizing our interior life are borrowed from what we now think of as the outer, material world, it does not mean that our interior life is actually

material in nature. Rather, it signifies that material things are not the material things we usually think of. They have an interior aspect — an aspect that we can draw on in describing our inner lives. A bent or twisted branch speaks to us in an expressive language much like the wind that spoke to my wife's and my grandsons.

Moreover, as Barfield stresses, high-sounding scientific terms "are not miraculously exempt" from the general rule. A great part of the explanatory apparatus of science consists of now largely abstract and dematerialized words such as *stimulus*, *cause*, *effect*, *reference*, *control*, *repress*, *information*, *code*, and *program*, all of which were once inseparable from an "outer" clothing. Only with time did the inner meanings become detached from sense perception. By abstracting away from that clothing we gained the powers of abstract thought necessary for our current science. But with each word we abstracted, we lost a little bit of our sensuous and meaningful experience of the world we live in. And with each such occurrence the idea of a truly empirical, experience-based science became a little more strained. It is up to us to work toward regaining the rich texture and savor of experience without sacrificing our worthy powers of abstraction.

The world we know — any world we could know — is a material exterior giving expression to an immaterial interior. This is true of *every* experience we have of nature, whether we are encountering mountains, canyons, or caves, waves on the beach or a storm at sea, a cloudy or clear sky, a rainy, snowy, or sunny day. It's just that, for the past several centuries, we have learned to be heedless of the real world — which is to say, heedless of its qualitative presentation of itself. After all, isn't it really just a collection of qualityless particles?

Sometimes it takes a poet to awaken us to the qualities of things. Take, for example, these simple words from Wordsworth, as he begins his poem "Resolution and Independence":

> There was a roaring in the wind all night;
> The rain came heavily and fell in floods;
> But now the sun is rising, calm and bright….

I suspect we can all sense rather vividly some of the qualities of this particular new day, simply from the image of the sun "rising, calm and bright," colored as this rising is by the wild character of one specific night. And then there are these lines from Emily Dickinson:

> The sun kept setting, setting still….
>
> How well I knew the light before!
> I could not see it now.
> 'Tis dying, I am doing; but
> I'm not afraid to know.

Would we be as likely to speak, not of a sunset, but of a sunrise as reminding us of our mortality? Surely we might easily do so, given the right context. But, at least as it seems to me, a sunrise speaks more readily of new life. Talk of death comes more naturally as the dusky earth and the labors of the day are losing, rather than gaining, their sharp contours.

It's worth pausing here to note that, in recognizing the qualitative and meaningful aspect of phenomena, we are not claiming there is some sort of unambiguous or neatly coded scheme governing qualities. Quite the opposite. Every material reality is multivalent and context-sensitive in its meaningfulness. That's just the way of meanings, all of which can enter into endless relations with other meanings.

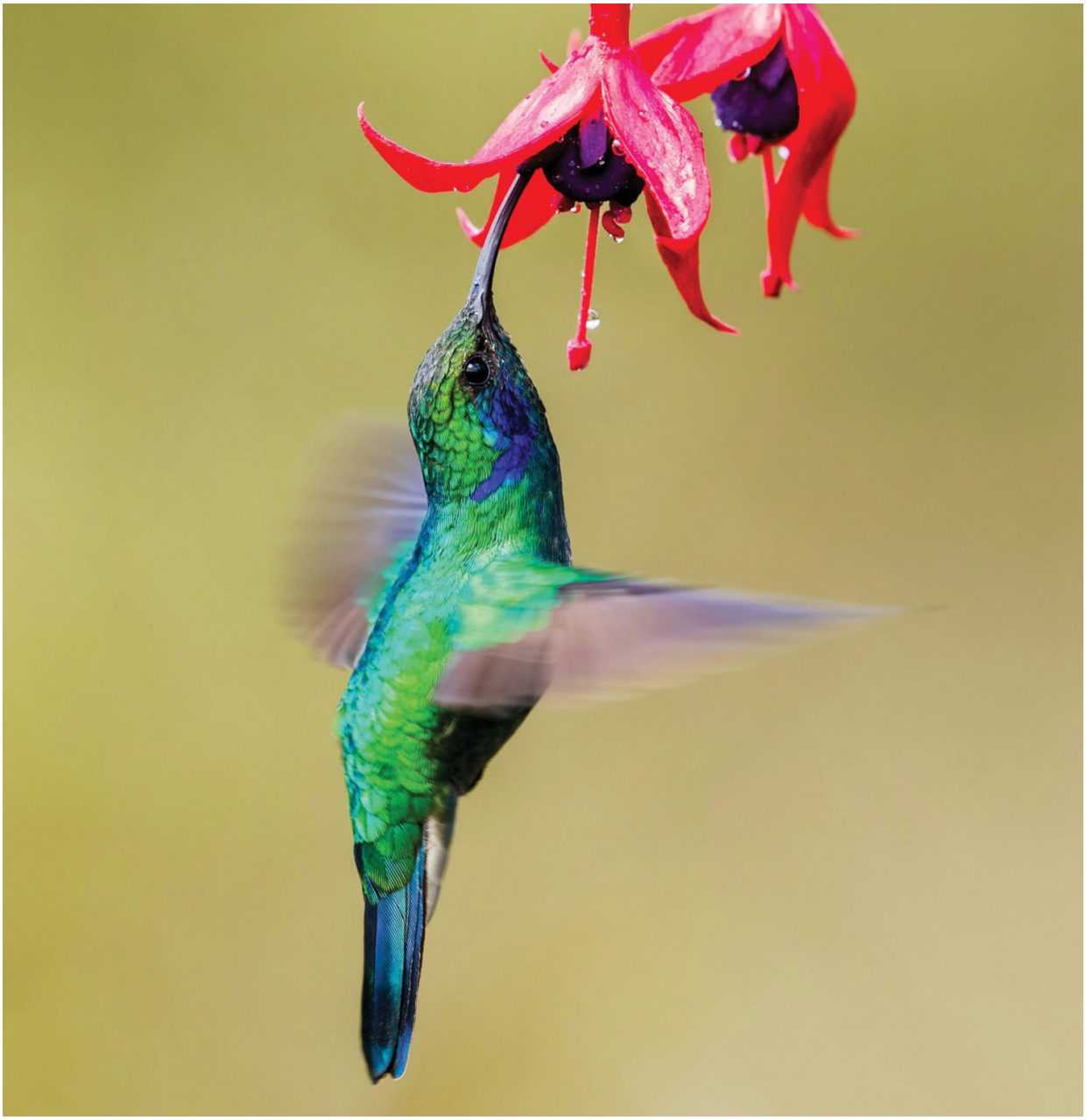
Think of a cave in the mountains. Of what, in our own experience, do we find it an image? Perhaps it signifies safety, as shelter from a storm, or a place of badly needed rest. Perhaps darkness. Perhaps receptivity and welcome; or secure enclosure; or hidden danger, as from a sleeping beast or concealed villain; or the unknown generally; or a Jungian treasure of the soul, lying in the depths; or a

door to the earth's or the psyche's interior; or any number of other things that might occur to you.

This is not to suggest that material realities lack specific character. We will not often find a cave likened to an open, flat meadow, let alone to a flower. It's just that every material reality is shaped by its context, so it's *possible* that one might find occasion to liken a cave to a flower, just as it's possible for almost any word to color and enter into a special relationship with just about any other word. Meanings are not discrete things spatially excluded from each other. Their own peculiar sort of lawfulness, in contrast to the way we usually think of "mechanistic" interactions, is expressed through a contextual power of interpenetration and mutual influence. It is well known that the color we see depends in part on the surrounding colors.

So, then, the expression or meaning of the material world lies in what a particular thing or phenomenon may *say* to us within a given context. The expression may not be rigidly univocal, but even when it is multivalent it is not therefore meaningless. Our dictionaries show that we have no great difficulty understanding words with more than one meaning.

The expressive aspect of material reality is not fixed and coercive, like the world of Laplace's demon. Every material phenomenon has this character: its outer form is that of interior meaning. Meaning, which is always qualitative, is the "spirit" of materiality. It is what brings things to presence and makes them real. It seems that nothing utterly meaningless can possess presence or reality. How can anything be there, or be real, without having a specific character and form? And why is it that our understanding of things, scientific or otherwise, is always put into words chosen carefully for their meaning?



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Natural Law vs. Meaning?

We might summarize the argument thus far by noting what a strange intellectual leap we make when we claim that the calculable aspects of the natural world tell us everything we need to know about the whole of its reality. Or, from a different vantage point: it is odd to remove from view the profoundly self-expressive dimension of a world whose nature we are trying to understand.

Laplace's thought experiment is not about this manifest world; he speaks, not of the eloquent qualities of existence, but only of a kind of knowledge that was intended by the pioneers of the Scientific Revolution to remove qualities from view. But he does give us a question we might usefully reframe this way: Is our intentional and meaningful pursuit of our own lives somehow constrained or blocked by the consistently lawful movement of matter through space? Do we live in a world where we are bound by relentless physical law, or do we rather live in a world of speech from which our own speech derives, a world whose lawfulness yields itself to be governed and directed toward the revelation of meaning of all sorts, whether beautiful or ugly, good or evil — a world receptive to our own freely offered expressions of meaning?

What is the relationship between the world's lawfulness and its meanings? That is now our question. It's a question Laplace did not ask, because he didn't have a present world at which to direct the question. But we will ask it. And the answer is right in front of our faces — or, as I will say in a moment, in our own speaking throats.

I suppose the compatibility of meaning with physical law is immediately evident in the way, concordant with our intentions and purposes, we direct our feet this way or that. In doing so, we redirect uncounted trillions of "particles" in our legs toward our intended destination without requiring them to deviate from physical law. That seems clear enough from everyone's routine experience. However, I do

not wish to lean too heavily on this particular experience, since there are philosophers and neuroscientists who have earnestly twisted themselves into knots trying to make us doubt such experience, and since there is in any case a more direct pathway to the answer we seek.

I have already mentioned the expressive and meaningful qualities we can observe in a dance. But there is one activity we engage in where meaning is not only present, but is almost the only thing we notice: *speaking*. It may be the best illustration of the compatibility between lawfulness and the expression of meaning.

No one I have ever heard of would claim that, in order to express whatever we have to say, we must somehow seize the "particles" of our physical vocal apparatus and, by an act of supernatural violence against the natural world, force them to swerve miraculously out of their lawful paths so as to follow the course of our intended meaning rather than the laws of physical movement. Yet, in the absence of such violence, we all take each other's speech to be meaningful rather than merely lawful in physical terms. No one, regardless of his intellectual convictions, dismisses the meaning of another person's speech (such as a cry for help) on the ground that it is "really" just the result of the inescapably lawful motions of particles in the throat. This despite the fact that the mathematized laws of physics contain no terms making sense of the expression of meaning.

In reality, virtually all human activities — our ways of walking, our gestures, our conscious choices of all sorts — are meaningful expressions of who we are, and are therefore, we might say, forms of speech. Here, too, the same truth holds: the expression of meaning never requires a violation of physical law. This includes all the manifestations of nature noted earlier, as well as the ability of every animal to give qualitative expression, under all sorts of exigencies, to the distinctive character of its own species.

The lesson we can take away from our own speech, as well as all the other examples given above, is that *expressive meaning is never nullified by the physical*

lawfulness of the means of expression — a truth that is not only exemplified in human speech, but that also disposes of the threat so many have felt to be inherent in the Laplacian fantasy. Our ability to mean something with our words coexists with the physical substrate of our lives with apparent freedom and ease, and without a clash of any sort.

It's as if the meaning of things occurs at the very root of physical manifestation, where all varieties of lawfulness arise. Physical lawfulness (which is itself conceptual and idealized) and expressive meaning come to manifestation harmoniously together. Our meanings do not have to be somehow imposed on our physical being as an alien content from outside. Given our experience as speakers, why should we not take the conjunction of lawful meaning and expressive meaning as perfectly natural — the nature of reality — rather than as an inherent contradiction? What ever convinced us that there must be a contradiction here?

This merits emphasis. No one has ever shown how physical lawfulness stands in essential conflict with the full, expressive meaning of things. The usual stratagem is simply to ignore meaning altogether. We learn at a young age to take for granted the materialistic claim that mindless and meaningless particles moving in the void are all we have. But the fact is that we do not "have" such particles at all. What we have are mountains and seas, deserts and forests.

However much one might prefer not to make a big deal about the obvious, it nevertheless needs saying: if we strive long enough toward an understanding of the world's lawful regularities while ignoring all meaningful presentation, we will eventually believe, however vacuously, that the world consists of lawful regularities without meaningful presentation.

It is not nature herself, as she presents herself to us daily, who imprisons us in a chain of causes. It is a science that has eagerly bound itself with theoretical constructs in its insistent quest for inescapable logic and mathematical certainty. This has required the practitioners of our most fundamental physical science to

narrow their point of view drastically so as to overlook the world we actually live in. This world gives us no faceless, expressionless things, which we therefore have to invent. It is far easier for us to feel imprisoned by our own theoretical constructs than by the actual world.

Determinism Is Empty

Once we see what has been going on, we can begin to understand that we are not "made of" particles; that particles are incapable of giving us the world we inhabit; that unviolated physical lawfulness is perfectly compatible with the meanings to which lawfulness is subservient, including the meanings of our own lives and speech; that a science striving to be quantitative while strictly ruling out qualities is a science that, almost by definition, can have nothing to say about the meaning of the world's phenomena.

Laplace ought to have inquired about the explanatory chasm between his notion of lawful, quantified, quality-free "events" and a real world. The chasm is unbridgeable in the usual fashion, since meanings (such as those of human speech) cannot at all be explained from the bottom up by a physical lawfulness that has been abstracted away from the real world precisely in order to remove from view all expression of meaning. If Laplace had explored this explanatory gap between lawfulness and meaning — a gap requiring us to see that (as with human speech) meaning governs lawfulness rather than the other way around — we might now be enjoying a science very different from the one we have.

But he didn't. So now we are the ones who must fill in the explanatory gap. To address the gap, I believe, is to recognize that the world is most essentially its qualities, which are the elements of its language. The language of nature is surely higher than any human language, but our speaking is akin to, derives from, and ever aspires to, that higher expressiveness. There is no mute, mindless stuff "out there." From winds, campfires, and sunsets to caves, there are only creative words, only significant expression.

We conclude, then, that the Laplacian line of thought is empty. It turns out that freely entering into the meaning of our lives does not require us to cause a single particle to swerve from its lawful path. Rather, it requires us to acknowledge and

interact with the expressive character of real things and real beings. We live by engaging with meaningful presences by means of our own meaningful intentions. The words bearing our powers of free expression were themselves given us from a nurturing natural environment.

The truth is the opposite of Laplace's deterministic contention. Lawful regularity, such as we encounter it in the real world, is not opposed to our meaningful lives, but serves us as a matter of grace. We ought, in our freedom, to give thanks for the world's regularities. After all, we would not be able to act meaningfully if our physical environment were capricious and unpredictable.

Further, we could not dance, or walk, if we didn't have the resistance of predictable gravity and friction to push off against — as we would quickly realize if we were floating in space. So while gravity constrains us in some ways, its absence would also constrain us. As far as I can see, the world we actually live in offers the perfect balance between constraints and a freedom of expression that requires such constraints — a cooperative balance of opposing principles that our humanity seems to depend upon. To live is always to make an *effort*. We can move forward with our lives only because something resists our movement.

As for Laplace's written surmise, it doesn't reach far enough toward reality for this fruitful opposition, qualitative as it is, even to be glimpsed.

More by Stephen L. Talbott

"**Recovering the Organism**" is a series on the organism as a purposive unity that is emerging from biology in spite of its own ideology.

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