Willing Spirit

essays on quantum mechanics and capitalism

Paul Kameen

Cover image by Bridget Underdahl

This painting hangs over the headboard in my guest bedroom. I like its playful allusions to Dorothy's shoes in "The Wizard of Oz" and the turtle that holds up the universe in Hindu and some Indigenous American Tribal mythologies. The head that wrote this book has been living in some combination of that East/West nexus for the last several months, and this is what it has to say about all of that.

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Willing Spirt: finding a new paradigm

1.

> *The [D]ao which can be expressed in words is not the eternal [D]ao; the name which can be uttered is not its eternal name.*

This is one of the many translations of the opening lines of Laozi's *Dao De Jing*. All of them strive, often awkwardly given the discursive rather than figurative inclinations of English, to say something about the limits of language for conveying the fundamental truths of this universe: I.e., while it is at least theoretically possible to fathom at some deep level how the reality we are a part of here operates, language is not the best way to get there nor can language fully explain what exactly you got to once you do. "The eternal Dao" can only be intimated via puzzling fables (as in Zhuangzi) or baffling riddles (as in Laozi), both founded on indirections that can't point out a "there" that is in fact there.

Here's another quote I like to the same effect, this one from Plato's *Phaedrus*, which was being written roughly around the same time as the *Dao De Jing*:

> *As to soul's immortality then we have said enough, but as to its nature there is this that must be said. What manner of thing it is would a long tale to tell, and most assuredly a god alone could tell it, but what it resembles, that a man might tell in briefer compass. Let it be likened to the union of powers in a team of winged steeds and their winged charioteer. (*246, a 492)

Again the message is clear: It is impossible to fully explain via representational language the most fundamental elements of our

world—in this case the nature of the soul, which for Western thinkers wears at least some of the raiments of the Eastern concept of the "Dao/Way." Socrates' confidence in what "can be expressed in words" is certainly more expansive than Laozi's. Still, he is incapable of saying directly what "manner of thing" the soul "is" ("a god alone" can do that), only what it might be "likened to," fables and riddles again instead of statements of fact, leaving us, like his "winged steeds" circling around in the heavens, "balked . . . of the full vision of being," forced to "feed upon the food of semblance" (248, b. 494).

Jesus says much the same thing a few centuries later, explaining to the apostles why he speaks in parables rather than just saying straight out what he means:

> *The reason I use parables in talking to them is that they look, but do not see, and they listen, but do not hear or understand. So the prophecy of Isaiah applies to them:*
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> *"This people will listen and listen, but do not understand; They will look and look but not see, because their minds are dull, and they have stopped up their ears and closed their eyes."* (GNT Matthew 13:13-15)

Jesus goes on to say that the apostles are "fortunate [because] your eyes see and your ears hear," though there is scant evidence that this is ever true, including in this case, when Jesus is forced to gloss the "meaning" of his parable for them in the most simplistic terms. Once again, the only reliable options for intimating what is true are indirect, those pesky fables and riddles.

A couple of millennia later Erwin Schrödinger coined the term entanglement to describe the intimate relationships that result when subatomic particles interact with one another, a concept that, though the math is transparently clear, was and has remained elusive to clear verbal rendition. He says this entanglement is "not one but rather *the* characteristic trait of quantum mechanics, the one that *enforces its entire departure from classical lines of thought*" (italics

mine). That's a lot of heft to give to a single concept, and it inaugurates the paradigm shift quantum mechanics entails for our understanding of what "reality" is (or more accurately isn't quite), and what our rightful place in it might be, one which "can be expressed" only via enigmatic figures (including some elegant math) instead of transparent words, the staple of "classical lines of thought."

And finally, in a song I wrote about five years ago, this confoundingly indeterminate relationship between language and "reality" is likened to the one we face when we are in love with someone who doesn't reciprocate. As we resist accepting that fact, we end up in states of mind that feel like "trying to make something not there stay." The song is rife with contradictions of this sort that attempt to capture the instabilities that arise when we mistake nothing for something. Laozi, Socrates and Jesus might prefer to reverse the order of that "mistake," but I think they would understand completely what it's like to try to say "all those things you just can't say" (the song's title.) It is from the blurry spaces of this conundrum about what language can and cannot do that this essay emerged and through which it wends its way.

I started thinking toward this problem in the midst of a personal crisis of spirit, a sort of "dark night of the soul," that I experienced late last fall (2024) when two terrible things happened almost simultaneously. One was the election of Donald Trump at the end of a seemingly endless year of his brain-addled babbling as he juked a justice system incapable of acting expeditiously, if at all, to hold him accountable for his criminality; the other was a series of medical emergencies that someone dear to me suffered as a result of chronic abuse in her workplace**.** Both were "health crises," one national, one personal. Both were induced by repeated acts of micro-aggression, gaslighting, bullying, designed to wear down resistance, instill self-doubt and confusion; in other words, to break spirits, individual and collective, textbook examples of how to inflict authoritarian violence on others, all the while with a smile on your face. Those terms—"abuse, "aggression," "bullying," and

especially “violence”— may seem like overreach in interactions of this sort that leave no visible bruises on the victims, may even be deemed socially acceptable, but I will try in what follows here to warrant all of that.

In the wearisome year leading up to this nexus of events, my head was ire-mired in the noxious fog that often wafts up from one’s stomach-pit during periods of stress, making it hard for me to steer a clear path forward, or even see one there at all. The co-incidence of those “two terrible things” cleared out this bleariness almost instantly, more like a hard slap in the face, really, than an epiphany, initiating what has turned out to be a surprisingly rewarding journey toward restoration. The first step on that journey was simply recognizing that for me to be an effective instrument of change I could only fully attend to one of these matters, and I chose to focus my care on the person closest to me, which you may have guessed already is not Donald Trump. I spent hours in ERs, OR waiting rooms, and the hospital room in which she began to recuperate. My focus was suddenly singular, honed razor sharp to do one thing: help her beleaguered spirit recover from the long-term stresses she had endured. I say spirit here for a reason. Her body suffered some damage, of course, which took a couple of surgeries to set right. But more concerning to me was the general demise of her spirit. She is by nature a joyful presence in the world, brimming with confidence, even in the face of overwhelming resistance. She works tirelessly on behalf of the welfare of young people via her job, which pays her bills, and on behalf of her community, work she does for free and that has made her a beloved local institution. She inspires me and others profoundly and routinely. All of a sudden, that light was dimmed.

When your own life or, even more so, that of one you love is precarious (and spirit is as much an index to life as embodiment, its material expression) the public square within which many other disturbing events are happening suddenly shifts from the foreground to the background. Which is not to say that it goes away or can be ignored. Only that the urgency of the moment commands attention

to what's right in front of you. Life is distilled to its essentials. Action replaces anxiety, always a salutary shift. This shift was, oddly, amplified by Trump's victory. What had been only a frightening possibility was now a fact. Facts are incontrovertible. You can accept them (if you're smart) or deny them (if you're not), but they are unalterably true. To fear them is counterproductive. You try to foresee as exactly as possible the difficulties you'll have to face and address, you prepare plans as best you can, and you take it day by day thereafter, full of the kind of resolve that leaves no extra space for fear to regain a foothold. I compared the election result, in my head, to the experience of having been in ill-health for some time without an explanation for the cause. Then a doctor tells you that you have a specific malady. Attention shifts almost automatically to what you can do about it, the work of recovery. What was dispiriting is suddenly inspiring. I'm now about four months down the path that opened for me back then. I and the one I shared care with are reviving our spirts. The country is another matter. That will take some doing and more time. But I'm absolutely sure that spirit will recover too.

I've used the term "spirit" a number of times and in various of its forms so far, which is why I just decided to make it the centerpiece of my title. So, let me say a couple generic things about that concept. First of all, nations and individuals can be (and often have been) said to have spirits, at least figuratively, the former collective, the latter personal. I fully believe that both such spirits not only have embodied presences in the world but are expressions of an even greater communal and universal spirit they share in common. That may sound kind of new-agey, but contemporary physics, especially quantum mechanics, makes it clear (at least to me) that at the most fundamental level of "reality" that is true. That's why I include Schrödinger as one of the representative gurus of this way thinking, one that, if we actually abide by it, can and will change our way of day to day living down to the ground. Or, maybe more accurately, down to our most fundamental particles. I'll get to all of that in more detail below.

There are implications to thinking about spirit in this way. Specifically, how I orient and care for my own personal spirt will inform in an expanding field how I impact the spirits of those I love, of those I interact with in less intentional ways, and, ultimately, of the collective spirit not just of the country and world but of the material universe. That final leap to universalization may seem problematic to you, but it has been made routinely and intuitively throughout human history, in many Indigenous cultures, in (mostly Eastern) philosophical systems, in poetic, artistic, and spiritual visions, always with the same mantra: One is all, all is one. Western culture has been generally averse to that leap (which is why it may seem problematic to you) for at least three millennia now, arguing that spirit and matter are two separate and incommensurable things. For most of that time this counterargument was couched in the various Semitic and Christian texts that were deemed to be the word of God. In the simplest terms, spirit has two aspects in those systems. One is the big one, God the overseer, distinct and apart from the material universe he created. The other is all the little ones, human souls, which, likewise, are distinct and apart from the material bodies, and the material world, in which they have been ensconced. If you throw in hierarchy, patriarchy, and other-isms of various sorts, all of which derive quite directly from that dualism, you have Western culture in a nutshell.

Second of all, spirits get broken all the time by various kinds of "torture" designed (whether tacitly or expressly) to do just that. That term—torture—like abuse, aggression, bullying and violence may seem out of keeping in matters of this sort, especially in the workplace, where the practices I'm characterizing that way are fully normalized in service of the good of the collective. As Paladin of "Have Gun - Will Travel" fame (binge watching old Westerns has been my jam for the last 6 months or so, the "black and white" of both their moral universes and their video mode instinctively alluring to me) says pertinent to this, misquoting a maxim he assigns mistakenly to Herodias instead of Herodotus: "We can contend with the evil that men do in the name of evil, but heaven protect us from what they do in the name of good." Western (the big

one, not the TV one) civilization as an ideological framework is expressly designed to instill this specific delusion about "goodness" in relation to authority in hierarchical systems: on fields of battle, in the halls of government, in workplaces, in relationships with others and "nature," in our own experience of personhood, pretty much everywhere. In some respects, we all inflict this kind of torture routinely and without chagrin to get our way in professional and personal contexts with people who resist our control and that we deem unworthy of empathy or persuasion, including, often, our own bifurcated selves. As I said, this structure was built into our (Western) way of understanding relationships between spirit and matter, body and soul, millennia ago. So much so that it most often "goes without saying" as a template for everyday behavior.

More lately, starting in the 17th century, what we now call the Enlightenment, this spirit/matter division was transmuted into cultural ideology via the marriage of convenience between science and philosophy, which worked out in detail the "classical lines of thought" we pretty much take for granted now as the norm. Almost all of the great thinkers of that epoch— Francis Bacon, Galileo Galilei, Thomas Hobbes, René Descartes, Baruch Spinoza, John Locke, Isaac Newton, Gottfried Wilhelm Leibniz, Immanuel Kant, Georg Wilhelm Friedrich Hegel (arranged here by birth order, to give you a sense of sequencing)—were philosophical scientists or scientific philosophers. Most of them did keep God as a placeholder in the background of their equations (the verbal ones, I mean) to avoid the often-unpleasant side-effects of heresy. But they preferred to found their dualism of animate spirit versus inanimate matter on less deific terms. Descartes for example reframed it, famously, as a mind/body problem, a distinction that stuck, metastasized and generally holds sway to this day. Newton idealized the material universe into a very complex and elegant machine comprising immutable atomized pieces timed by a universal clock, with us standing outside it as transcendent spectators. Since one could predict the future (or past) of any part of that machine based on accurate information about its state right now, determinism became an endemic feature of their (and our) universe. When it came to

"spirit," most of the named figures above preferred a "softer" version of determinism, one that allowed for some degree of what they called "free will." There were a few outliers, of course, like Baruch Spinoza whose "heresy" of animating matter with spirt deterministically won him shunning and exile.

Which gets me to the other term in my title: "willing," the adjective that arose spontaneously in my mind when I picked the noun it now modifies, "the spirit is willing . . ." bromide echoing in the back of my head. 17th and 18th century thinkers argued endlessly about this aspect of our being in the world, primarily through that "free will" trope, and about whether we have a lot of it, a little, or none at all. This is the general framework we inherited for thinking about human agency in a material world—the ghost in the machine. I have zero interest in thinking about "will" that way. To presume that our wills are "free" given all the cultural and biological forces operating on them is nonsense. And to presume that "will" is a faculty of mind separable from the others, which it can control by force, is, well, also nonsense, a transubstantiation of the Western inclination toward authoritarianism built into the orthodox versions of the Abrahamic religious lineage.

The willing I have in mind has two complementary valences: The first pertains to a yielding, an openness, a permeability, in response to everything from local emergencies (like mine) to the cosmos. This kind of willing-ness is expressly designed (in my opinion) to promote connection and diminish individuation. And thereby to calm the spirit. There are any number of intersecting traditions that codify this, including the ones I reference above: Daoism, Buddhism, early Christian heresies (like Gnosticism, and Pelagianism), and quantum mechanics. All but my song which I don't think qualifies as a "tradition." I've written extensively about the first three of these traditions in various places elsewhere. So I'll address them only briefly here, reserving my attention for the fourth, quantum mechanics.

The other valence built into the concept of willing is its behavioral role as a form of assertion, one we tend in Western systems to think

of in terms of force. That way of conceptualizing willing winds like a fraying braid through modern philosophy, often via the concept of "desire," from Hegel through Nietzsche to Lacan and undergirds Newtonian physics. I want to propose an alternative (and in my view healthier) way of thinking about this mode of willing as not only an inbuilt feature of individual consciousness but of universal consciousness, as, in effect, the means by which what we typically imagine as the "out there" can be brought into consonance with what we typically imagine as "in here," a bridge between subject-as-object and object-as-subject. This mode of willing favors determination over domination. It fosters fortitude, resolve, and persistence. The "willing" that appears in my title and is helping to restore my "spirit" has those two aspects, which I'll generalize as humility guided by courage.

2.

> *The baby, assailed by eyes, ears, nose, skin, and entrails at once, feels it all as one great blooming, buzzing confusion; and to the very end of life, our location of all things in one space is due to the fact that the original extents or bignesses of all the sensations which came to our notice at once, coalesced together into one and the same space.*
>
> William James

It struck me the other day while I was walking that my greatest gift might be that I don't actually believe in any singular set of answers to the eternal human questions. A singularity in quantum and cosmic physics is merely a place where the mathematics we have available to us crashes, usually by defaulting to infinity as a solution. I prefer to see in each -ism I explore the insights it is good at proffering, the foundational values or principles that inspire it, all the way up to the point where the math defaults to infinity. I do this

with every system I study, exploring it until the math fails, which it always does. Then I superimpose what's left of them, one over another and another, creating a sort of palimpsest. The Venn diagram of their overlaps, tiny as it might be, becomes what, at the moment, I feel I can relatively reliably trust as "true." At least until a new math becomes available. To quote an old Big Band era song: "I know a little bit about a lot of things," a line that finishes this way: "but I don't know enough about you." To which I'll add I also don't know enough about me. So I am not an "authority" (what a terrible word to describe knowledge) in any of the "disciplines" (another terrible word for marking off field boundaries) I talk about here. I am not a Daoist, a Buddhist, a Platonist, or even an orthodox Christian, my native religion. And I no longer have the math skills to certify me as a qualified quantum mechanic. I have a pretty good idea of what's "under the hood" there, but you wouldn't want me messing around with the valve timing. So why should you trust me on any of this? Or, more importantly, why should I trust myself? I'll try to allay that understandable skepticism below.

My two "emergencies" filled me with a determination to keep a calm spirit in response to the current chaos, one that is a highly amplified version of the instability human beings seem to enjoy inflicting on others and their communities to assert control, a Western specialty. I had spent my life cobbling together various strategies to inculcate peaceful states of mind in response to all of that. Some of my earliest memories are of crafting meditation techniques, including making up poems in my head, to relieve my innate (inner) anxieties and induced (outer) fears. But it had all begun to feel more like plastering patches and layering paint on a falling-down wall. What I needed, I thought, was to start over with new studs and stucco. In other words, I wanted to find a comprehensive paradigm to hold it all together structurally. Surprisingly I found what I was looking for on YouTube TV. It all started innocently enough. I have long enjoyed watching car restoration shows. I have absolutely no interest in restoring a car myself or even changing my own oil. See my "under the hood" comment above. I just enjoy seeing how something in disrepair can

be transformed into something beautiful with skilled handiwork. For years I watched an assortment of such shows on the Velocity channel, which then rebranded as Motortrend. I would lay down on the couch, watch for a while, fall asleep for a very refreshing nap, then wake up for the finishing touches and the reveal. My favorite of these by far was a British show called Wheeler Dealers. The series has well over 200 episodes and I streamed each of them at least 5 times, which means, with nap time factored in, I've seen every second of every show at least three times. A year ago Discovery bought Motortrend and immediately ceased making new episodes of all these shows, including Wheeler Dealers. So I had to find a new fixit "fix." I read that Edd China, my favorite of the three sequential Wheeler Dealers mechanics, had a self-made show on YouTube TV, and I decided to watch those instead.

YouTube TV does what most streaming channels do: If you watch something it will automatically curate other comparable programs as suggestions for viewing. About a month ago, out of the blue, one of those sidebar videos had to do with the "lost" Gospel of Thomas, my favorite Christian text and the foundation for most of what remains of my commitment to that ideology. So I watched it. Afterwards, a number of other YouTubes about Gnosticism and the lost gospels came up**.** So I watched those, too. Then YouTubes about Daoism and Buddhism began showing up. So I watched those. Then YouTubes on quantum mechanics appeared, and it struck me: All these things I'm interested in have something in common with quantum mechanics and I want to figure out exactly what that is. I've watched maybe 50 of those quantum mechanics YouTubes in the meantime, some multiple times. I have a lifelong interest in physics, majored in it in college, have written about relationships between Daoism and quantum mechanics, and have read many books and articles in the field, so this line of thinking is not new to me. But what I quickly noticed was how much the field has evolved over the last decade or so. The YouTubes I was watching were cutting edge. All of a sudden I could see not only analogies between these philosophical systems and current science. I could see how current science could provide me with a full-

fledged paradigm to transform my way of thinking about the world and my place in it fundamentally, once and for all: not a temporary antidote to the toxicity of Western culture but a way to evade it, translating my openness and determination in response to my emergencies into a durable way of being. I say "evade" rather than replace here simply to acknowledge an obvious fact: I, you, anyone, can't fully escape the paradigm that organizes the cultural moment we are born into. It simply "is." But understanding its imperatives, its problems and its limits, then aspiring to rise above the most deleterious of them via an alternative paradigm is possible. And, in "spiritual" terms, it is urgent work.

I've used the term "paradigm" in its generic sense a few times now. Let me define it in a more technical sense, the way Thomas Kuhn does in his famous book, *The Structure of Scientific Revolutions* (1963), in relation to scientific movements/epochs. For Kuhn scientific systems and practitioners operate within a relatively stable, commonly shared, and largely unconscious set of assumptions and values about what the main problems of their fields are and how best to address them. These paradigmatic structures are historically contingent: They emerge for specific historical reasons; they tend to last for long periods of time as stable matrices to measure "progress" in a field; and they begin to fall apart only when intractable anomalies they can't explain become too pestiferous to ignore. The dominant paradigm of the moment establishes the taken-for-granted norms that regulate how scientists think and behave. And, to get to my point, once that paradigm has enough time to seep into the cultural sensorium, it regulates the way pretty much everyone thinks about everyday things, whether they can "do the math" or not.

I have over the years tried to keep up with advances in physics, especially quantum mechanics and cosmology, which are driving innovation in our understanding of the universe on the tiniest and grandest scales. Quantum mechanics has been around now for over a century, with new developments emerging all the time. It is, then, a paradigm still in the making. I understand that before it can fully

supplant the one that got entrenched during the Enlightenment it will need to figure out some important things, especially in relation to gravity. But what it proffers is so appealing to me as a contrary to the established conventions that I decided, in the service of my recovery, to create a thought experiment that could install this new paradigm not simply as a body of knowledge but as a way of being in the world.

Which gets me to what I want to talk about here, hearkening back to Shrödinger: the influence of the "classical" paradigm on our everyday attitudes and values, and how they would change if we adapted our "lines of thinking" to a "quantum" paradigm. None of this requires or assumes even a cursory let alone a professional understanding of either the physics or philosophy of those systems. The vast majority of those living during the 18th-20th centuries, the heydays of the classical paradigm, knew next to nothing about Newton or Descartes, say. But if you examine the taken-for-granted systems that organized their economic, religious, and social lives, and the various subsystems they invented to implement them, the influence is unmistakable. Likewise, almost no one, including the scientists who study it, claims now to fully understand how reality operates at the quantum level. I simply want to think about the differences between the classical and quantum paradigms. I'm going to do that via a series of contrasted concepts, one derived from classical mechanics one from quantum mechanics, and then try to imagine the new one into my daily life.

3.

> *When the Dao is spoken as words, how thin it is, without taste. Look at it and it cannot be seen; listen to it and it cannot be heard. But use it, and it cannot be exhausted.*
>
> Laozi

Let me remind you again how I started this essay: with the frailty of language not just as a way of getting to truth but as a way of explaining or revealing it once one does. Quantum mechanics is the poster child for that maxim. Everyone, including the most advanced theoreticians, concedes that fact before they start talking about what their calculations and experiments show to be true: The results are often so counterintuitive and baffling that the commonly accepted representational discourses available to explain them are incapable of doing so. So they generally turn to metaphors, to what the world their mathematical equations describe can be "likened to" (recalling Socrates and those fables and riddles again.) Even these are limited in their efficacy. This is especially the case in Western discourses, which both lend themselves to and have long been domesticated in the service of the classical paradigm. One symptom of that is the isolation of poetry as a specious medium for conveying truth. Socrates and Aristotle laid the foundation for this linguistic bifurcation—a transparent foundational discourse suited to scientific facts, philosophical truth, and everyday life, that is occasionally disrupted by an arcane, aberrant, figurative discourse suited to the arts and certain limited kinds of meaning emergencies that are inevitable in human systems, "the food of semblance" Socrates says must serve us when we confront our most vexing questions. Enlightenment thinkers worked out the details of that paradigm. Quantum physicists, on the other hand, turn often to poetic discourses and devices to intimate how the world they and their equations are imagining might look or feel. Which is to say that my descriptions below are simply rough stabs at explaining "all of those things you just can't say."

My extension of the quantum paradigm into my personal "philosophy of life" is admittedly problematic. Quantum physics is a work in progress. For it to evolve into a paradigm as fully fledged as the classical one we tend to take for granted will take either a generation (or more) of diligent work by the many or the intervention of one (or two) Einstein-level "geniuses." At least as we understand them right now, quantum effects are generally displayed in systems on the subatomic scale. They become blurred

out at the macro level we live our day to day lives on. In other words, quantum turns into classical at the scale of human life in the world. One could argue, then, that using quantum mechanics to construct a personal philosophy is merely casuistry. My counterargument is simple: Who among us understands either Newtonian physics, advanced mathematics, or Western philosophy? Yet we blithely adapt our daily lives to the foundational imperatives of those systems, pre-constructing the ways we see and understand both ourselves and the worlds we live in. The classical paradigm has failed us. It is time for a new one. The quantum paradigm offers one template for that. That's as much as I'm able to confidently argue on its behalf.

As I said, I'm going to lay out my argument via pairs of terms that suggest (to me) some of the more obvious differences between these two paradigms, trying in each case to tease out the behavioral implications (for me) of moving from one to the other. I arrange them as pairs for simplicity's sake. They are not proffered as express polar binaries or implied dualities but as fundamentally different lenses for seeing and making use of what's there. Some of them could in fact be re-mingled variously, and there are likely many others of equal import I'm not noticing. In other words, there is an inbuilt element of uncertainty to all of it, in keeping with the fundamental nature of "quantum" paradigm I want to explore.

Stability/Emergence

In the classical paradigm, our universe is fixed in space, stable, its basic laws and structures universal and immutable. Things move around, come and go, of course, but the matrix within which that happens is organized by measurable causal and temporal relationships, one thing predictably connected to the next, etc. It is important to remember in this regard that until the 20th century we assumed that our galaxy was the entirety of the universe, and that even Einstein resisted the notion that the universe was expanding, despite compelling evidence to the contrary. That's how powerful

the classical paradigm is. The quantum universe is, on the contrary, always churning up, evolving in a quasi-Darwinian sense. Change then is not aberrant but endemic and causality is never entirely calculable.

Translate this distinction into the realm of personal identity and the implications are obvious and consequential. The classical model implies that personal identity is singular and quite durable. In effect, as Popeye says, channeling Descartes, "I am what I am and that's all what I am." Change is of course both possible and inevitable, with age, education, life experiences, etc. But no matter all of that, one's personal mantra would remain "I am what I am." A quantum paradigm tends to reduce identity, especially "the self," to something like the froth that Daoists and Buddhists claim is floating on the surface of the flux of experience, a barely-there matrix that provides the illusion of fixity and permanence, presumed to be extrinsic from, superior to, and somehow in control of everything else. Quantum systems are chronically emergent, always in flux, one thing or state evolving into another and back again. There is no out there durably there. And no in here reliably here.

At a behavioral level, what shifting to the quantum paradigm invites me to do is define my "life" not as a chronology of causally connected events trailing off endlessly into the past, the present merely a diminishing mote in time; but as a series of extended moments each of which is the future emergent in the now. Change is not an irritation or challenge, it is the essence of life in time, one my spirit can and should yield to willingly (recalling my title) rather than resist mightily. One of my go-to sources for describing this way of thinking about experience is Mikhail Bakhtin, most especially his concept of the "unfinalizability" of human identity as he outlines it in *Problems of Dostoevsky's Poetics* (1929). He introduces the concept this way, describing the distinctively realistic way Dostoevsky deploys his characters:

> *They all acutely sense their own inner unfinalizability, their capacity to outgrow, as it were, from within and to render <u>untrue</u> any externalizing and finalizing definition of*

> *them. As long as a person is alive [s]he lives by the fact that [s]he is not yet finalized, that [s]he has not yet uttered the ultimate word*. (highlight his, 59)

As long as one is alive, he implies, there is never an "ultimate word," to hearken back to my opening quotes; and every "externalizing . . . definition" is by its nature "untrue," to hale forward the quantum paradigm I want to valorize. Bakhtin then generalizes it this way, as it applies to human life in the world:

> *A [wo]man never coincides with [her]self. One cannot apply to [her] the formula of A=A . . . [T]he genuine life of the personality takes place at the point of non-coincidence between a [wo]man and [her]self." . . . The genuine life of the personality is made available only through a <u>dialogic</u> penetration of that personality, during which it freely and reciprocally reveals itself.* (highlight his, 59)

I especially like that baffling second sentence, which suggests to me that "the personality" of an individual can only be "genuine" when one is non-coincidental with oneself, a kind of radical freedom from the before and after in the moment, which is related to the A that was already there but alters it into something non- or extra-A in the serendipity of the interaction, such that "the formula of A=A" "cannot apply." Ever. This to me is a good template for understanding identity as an emergent rather than stable construct. Same with "truth," which Bakhtin defined as "polyphonic," multi-vocal, not an authoritative pronouncement but a mélange of mutually proffered, arguable, often contradictory and logically inconsistent statements. Truth, he says, cannot be held within a single mind, it also cannot be expressed by "a single mouth." The "reality" imagined by the quantum paradigm shares all of those features.

Bakhtin's biography is a good demonstration of this difference. He wrote most of an essay called "Forms of Time and of the Chronotope in the Novel" in the 1930s, when he was in his 30s. He was quite aware of Einstein's theory of relativity. But quantum

mechanics was too new to be of much relevance to his thinking about these matters. That portion of the essay is primarily a taxonomic catalogue of standard chronotopes (literally "timespaces," channeling Einstein) for organizing Western modes of storytelling. When the essay finally reached the West in the 1980s it included a section called "Concluding Remarks." A brief footnote says simply that this addendum "was written in 1973." The difference between these two parts, proffered seamlessly, could not be more extreme. The former is "classical" historiography, the latter is a swirl of insights both cooperating and competing with one another, which explains the sort of whiplash one experiences after crossing the speedbump that footnote points to, like exiting Newtonian space and entering quantum space. Bakhtin's work was largely suppressed for ideological reasons until the 1960s. But he was clearly thinking and paying attention. He doesn't get to "show us the work," but the two "answers" his rhetorical calculations proffer—one developed in the 1930s, the other in the 1970s—could not be more at odds with one another. What was stable becomes emergent, what was classical feels quantum.

One prominent symptom of this shift is pertinent to the concept of change itself. In the classical universe change happens gradually along a continuous path when energy, as force, say, is added to or subtracted from a system. In the quantum universe change can only happen in integer leaps from one level to another, up or down. Until the specifically required amount of energy is added to or subtracted from a system, it remains stable. Electron probability paths in atoms are a good example of this. Only certain states are allowable and change from one to another happens abruptly not gradually. In other words, evolutionary change in quantum systems happens suddenly not incrementally. The terms biologists use to mark that difference are gradualism vs. punctualism. The basic imperative I take from this as I plan out the changes I want to effect in my own life is this: It will take the input of a certain "quantum" of energy to produce any effect at all. And adding that minimum amount of energy will take a certain "quantum" of time. That requires work, constant day to day work, often (at least for me) months or years of it. The

change of level or state I aspire toward will occur suddenly at some point, but it will not happen providentially. The ability to keep adding energy to the system via that work without immediate results requires discipline and faith, which hearkens back again to what I said earlier about the term “willing” in my title.

Outside/Inside

In the classical paradigm, humankind is positioned outside of “nature,” an idealized observing platform afforded privileged status to calculate, measure and define the truth of the rest of reality, from which it is separated. Matter and life in this matrix are incommensurable, the latter so inexplicable that it must, most likely, be the result of extrinsic intervention. In a quantum paradigm, the observer is with “nature” not against it, integral with the observed, having evolved in concert with it. Any act of measurement is mutual, often in quite mysterious ways. What we can know of reality emerges from this collaborative arrangement. In such a model the universe is innately biophilic, built from the ground up to create and support the life forms that become conscious of it. And these life forms are not only correlative in status with one another but also with all the “objects” whose “life” we may not ever be able to fully fathom. Here, there is no inside vs. outside, no top vs. bottom, no observer vs. observed, only relationships. Consciousness becomes then both an integral and inevitable manifestation of nature, infused everywhere.

This new way of thinking implies that I should accord to all other “beings” in the world—from other humans to trees to rocks the same respect I accord to myself and my human peers. Object Oriented Ontology proffers one philosophical framework for thinking about “things” in this way. And, to me at least, it also implies that our relations with and among these things is more like communication, listening, than measuring, a mutuality of consciousness. It takes a lot of work for a Western mind to get to the point where that feels like a natural way of being. Once one gets as

close as it is possible to get, given that our original programming is so averse to this model, certain behavioral changes become imperative, including honoring that sense of oneness I alluded to above, along with an implicit attitude of equality, equity, equanimity, like DEI on steroids!

I think you can work out for yourself some of the more obvious implications of this shift for how we think about and use the "resources" the universe proffers, in relation to global warming and sustainability, e.g. A somewhat less obvious one hearkens back to another term I started with. The classical paradigm promotes hubris to the extreme; the quantum paradigm humility, conceptualized not as subservience to a higher power in the hierarchy of authority—whether a partner, a political leader, a boss or a god—but as a "willing-ness" to stand on an equal footing with everything and everyone one encounters. If you don't think that's a hard one for a Western mind to "master," you haven't tried it.

This outside/inside coequality applies as well to consciousness which is first of all not exceptional to humans or a few "intelligent" mammals, but universal. Nor is it distinct and separable from embodiment. My go-to source for inspiration in this regard is the "lost" Gospel of Thomas. I've written about this in more detail elsewhere, so I'll just summarize here. In this early Christian text Jesus shares his secret teachings with the apostle Thomas, who then shares them with his colleagues. Jesus says that the kingdom of heaven is not a futural event on another plane but God's presence in the world right now, always right now. The only way to enter this kingdom is via self-knowledge (not authorized orthodoxies mediated by priests.) This kingdom is, further, both "in here" and "out there," everywhere. Here are a few of Jesus' sayings that communicate this understanding:

> *Jesus said, "If your leaders say to you, 'Look, the kingdom is in the sky,' then the birds of the sky will precede you. If they say to you, 'It is in the sea,' then the fish will precede you. Rather, the kingdom is within you and it is outside you."*

. . .

His disciples said to him, "When will the kingdom come?" "It will not come by watching for it. It will not be said, 'Look, here!' or 'Look, there!' Rather, the Father's kingdom is spread out upon the earth, and people don't see it."

. . .

Jesus said to them, "When you make the two into one, and when you make the inner like the outer and the outer like the inner, and the upper like the lower, and when you make male and female into a single one, so that the male will not be male nor the female be female, when you make eyes in place of an eye, a hand in place of a hand, a foot in place of a foot, an image in place of an image, then you will enter [the kingdom]."

I particularly like this last one because it says (to me at least) that unless we are willing to remake ourselves piece by piece from the ground up, guided by self-knowledge, we will not enter the kingdom.

In sum, there is no radical distinction between the "inside" (mind, or spirit in the parlance of this essay) and the "outside" (the body and the material universe in the classical paradigm.) They are not only constantly intermingling, in fundamental respects they are one and the same, that "one is all, all is one" trope I've used a couple of times so far. Once such boundaries are taken down "the kingdom" is right here, right now. All we need to do is wake up to it, "see it," the kind of sudden revelation that Laozi describes over and over as the defining feature of Daoist enlightenment. This state of consciousness, of awareness, requires both kinds of willing I describe earlier. One is receptive, open, the mirror mind of the *Dao De Jing*. The other is a determination to maintain that mirror mind persistently. It's possible, I assume, to get to a point where that latter kind of "work" is no longer necessary and the former state is permanent. I'm not even remotely close to that

point and likely never will be, having started down this path too late in life to achieve such wisdom.

Though I am less familiar with the Hindu sources that describe the same elision of boundaries, I have read the *Upanishads* multiple times, by far my favorite text from that archive. There, the word we typically translate as "self" is often used interchangeably to name individual identity, the animate universe, and god. In this case, it is language itself that refuses to respect our customary distinctions between inside and outside! In the realm where all of these manifold expressions of self are simultaneous, the whole of the universe assumes a willing spirit.

Deterministic/Probabilistic

This is a big one. The classical paradigm posits a universe whose regulatory rules are clear and distinct, discoverable and knowable, universal and predictable in their effects, every time, everyplace. Measure or time one event accurately and you have a template applicable to all equivalent events. In other words, the system is deterministic, a keynote for all the foundational thinkers that ushered in the classical paradigm. Newton's mechanics is a good example: His physical universe is essentially a mechanism predictable in its movements forward or back, if you start with enough of the right information. Most of the philosophers of this era generally accepted that way of construing the "laws" of nature. They did, of course, leave some room for what they called "free will" in human affairs, but even that had a deterministic aspect. Kant is representative here. He agrees with Newton, with a few notable exceptions, about how the natural universe operates. The moral universe is somewhat more nuanced. His concept of the "categorical imperative" for example accords a considerable degree of conscious discretion to human behavior. But it also assumes a universal standard to which human beings should aspire, each act in effect establishing a law which then serves as a template for subsequent acts. In other words, it is an expression of what came to

be called the "soft determinism" of almost all the philosophers of the era, Spinoza an obvious outlier. If you translate all of that into everyday terms, certitude, while not guaranteed, is possible and/or aspirational. Predictability is inherent in behavioral terms, again, assuming you have enough of the right information about the base state. Implied in this model is a hierarchy of authority—experts on the scientific side, priests on the moral side, "bosses" on the economic side—who serve as the elite who manage and oversee those laws and therefore determine, and then mediate for non-experts, judgments about what is right or wrong, true or false.

The quantum paradigm posits a universe whose pre-observational behaviors are anything but fully predictable or knowable. They are probabilistic. The term that captures this feature of reality best is superposition, which basically describes the natural (pre-observed) states of fundamental particles as having multiple and often contradictory aspects simultaneously ongoing. One of the tropes that got established early in the 20th century for thinking about our perspectival relationship with reality was "relativity," which in the general marketplace of ideas often got translated into some version of "it's my opinion and it's very true." Quantum mechanics does not say or imply anything of that sort. Basically it says that the non-observed state of reality is fuzzy, indeterminate, rife with possibilities which remain in wholistic suspension until faced with a specific question, what physicists call "observation." The structure of that question will determine which of the available answers it will respond with. That range of possible answers varies—in the double-slit experiment it's one of two, in quantum computers it is one of an almost infinite array of options—and our response to those responses is not a matter of opinion. It can actually be calculated quite accurately in terms of probabilities.

One of my favorite expressions for capturing this indeterminacy of quantum states was coined by Philip Ball: At the quantum level, he says, it is not a matter of "what is, but what if." Which is to say that quantum systems in their unobserved state exist in various modes of superpositionality—wave/particle, left spin/right spin, up/down

directionality, etc. Acts of observation force these "wave functions" to "collapse" into one of the available options. The probabilities for how that will happen across a range are quite predictable, low to peak to low again, usually in bell-curve form. But certainty is simply not possible beforehand. As best I can tell, no one fully understands why the process of measurement has this effect. It just does.

This is, obviously, a radical departure from the way the classical paradigm represents and measures things and their interactions at the macro level. One of the mental disciplines I've been trying to inculcate on its basis is to resist the temptation to believe I see or know "what is" and keep my attention in that suspended state of "what if," something like what Coleridge calls a "willing [to echo my title] suspension of disbelief," which quantum systems not only invite but require, or what Keats calls "negative capability," the ability to accept "uncertainties, mysteries doubts, without any irritable reaching after fact or reason." You can see the analogy with Bakhtin's concept of unfinalizability. But it is less rhetorical and more sensory, even intuitive, in some ways easier to apply to the interpretation of everyday events.

Certitude/Uncertainty

One of the central tenets of Newtonian mechanics and the classical paradigm is that calculative certitude is possible, at least in relation to the material universe, which is mechanistic, i.e., regulated by mathematically predictable laws of causality and temporal sequencing. The human universe is more resistant to certitude, but the classical paradigm includes certain elements and beliefs about truth that help to counter that. Some are vested in religious systems, each of which operates on the presumption that what it proffers is the truth, the whole truth and nothing but the truth. Some are vested in the scientific method itself. You can see this most evidently in the cultural obsession during the 19th and early 20th centuries with transforming traditionally "humanistic" provinces of knowledge

into sciences. Psychology became an applied science, a lineage that begins late in the 19th century in Germany, is amplified by Freud and reaches its apogee (or nadir) with Skinner, or maybe with the current tech-bro obsession with eternalizing life (at least for certain elites) via various brands of transhumanism. Sociology rebranded as social science. Economics had the same ambitions and worked mightily to assimilate mathematics and logic models into its theories. Even my own field, English studies, had such aspirations, starting early in the 20th century with I.A. Richards who, along with a few of his British colleagues, founded what came to be known (via a strange amalgam of poets and critics at Vanderbilt University on this side of the pond) as the "New Criticism," which allied itself with psychology to borrow its scientific aura. This method of "close reading" presumed that a poetic text was a self-enclosed, self-referential universe of meaning, an object in effect, much the same way the classical paradigm imagined the material universe. Richards and his colleagues generated all kinds of arcane terms for effecting the study of such objects. He attempted to do something similar with an ancient field called "rhetoric." In *The Philosophy of Rhetoric* (1936), for example, Richards famously defined rhetoric as the "study of misunderstanding and its remedies," an approach animated by the belief that if we could only become more and more precise in our use of language we might avoid confusion in our communications. He and C.K. Ogden had previously spent years working on what they called "basic English," creating a dictionary abridged to 850 essential words organized together by a very limited set of syntactical rules, a sort of linguistic math. By this means, they believed all sorts of "misunderstandings," from daily arguments to cultural catastrophes (like WWII, which Richards could see looming up over the horizon) could be avoided. Their project aspired to do with language exactly what I and all those other voices I channel at the outset of this essay say is impossible. Didn't work, obviously

One of the central tenets of quantum mechanics, on the other hand, is uncertainty, formalized into a "principle" by Werner Heisenberg. Basically what this means is that the more closely we measure one

aspect of a quantum system, the more vaguely its counterpart becomes knowable for us. In other words, you can't have one *with* the other. This is not a function of limitations in our measuring devices. It is how reality operates at what is called the Planck scale. Max Planck originated the idea that matter and energy came pre-packaged in discrete units called "quanta," the study of which is quantum mechanics. Matter and energy are not, then, as I say above, smooth functions. They increase or decrease in steps, with a unit at the bottom end that is indivisible. And it requires the addition or subtraction of specific units of energy to precipitate them. What I want to reemphasize here is the basic fuzziness of reality at the subatomic level. Subatomic entities are more like complex interacting wave fields than the particulated planetary systems I was taught they were in high school.

At the behavioral level this principle animates both aspects of the willing-ness I'm writing about: an attitude of openness to what's possible and the humility to accept the limits on what can be known; and a determination to persist in the face of uncertainty. It doesn't preclude certain kinds of precise knowledge about oneself, others, or the world at large. It merely suggests that absolute precision in one area means complete ignorance in another. I apply this "principle" now via my disinclination to adopt any specific -ism as an unquestioned orthodoxy. Even more so, it warns me not to become too attached or subservient to any specific authority or public figure. The current obsession with cults, from Christianity absent the actual teachings of Jesus to Donald Trump, sometimes pictured with Jesus by his side, are good examples of those two kinds of misplaced certitude. An attitude of uncertainty on the inside promotes an attitude of acceptance on the outside. The whole dynamic of othering that afflicts our culture is founded on the belief that one can "know" who another person is (or is not) simply by noting what they look like, as in race and gender bigotry, where they (or their parents) came from, as in ethnic bigotry, or what their life experiences are, or were during their formation, as in identity bigotry.

One metaphor I have found myself turning to over and over in the aftermath of my two emergencies, as a way to explain both to myself and others how directionality is mapped for me in this uncertain time is "moral compass." Until this afternoon, I hadn't given much thought to what that meant and how it operated for me. What became clear to me today is that I am not using the term to describe a moral code or system that has been pre-constructed on "the outside," its magnetically paired needle transplanted into me relatively unconsciously, rotely, the way religious, political, and nationalistic ideologies are imposed on us while we're young. Or, if we are unreflective, when we are older. The figure of the compass in this model always operates with certitude the same way a compass does: bring it into the realm of a magnetic field, and it jerks instantly north. I have in mind one that operates responsively in a "field" I self-create quite consciously, on the basis of long and deep thinking, reading, and critical inquiry, and is always to some extent still under construction. The needle still always points north. The field, though, within which it operates is always under revision, sometimes even under erasure (as mine is now as I try to fathom how to make this paradigm shift.) That sort of uncertainty is not at all frightening. It is inspiring. As with Heisenberg's principle, the lesson to take is if you push for absolute certainty in relation to some aspect of the world or your experience, there will be a complementary side of its reality that you will either never see or completely misunderstand out of absolute ignorance.

Vacuum/Field

In the classical paradigm space is imagined as a huge, static void within which many objects move around and interact, with time an extrinsic and universal yardstick to measure rates of change. The vast majority of space is empty, whether on the intergalactic scale or the atomic scale. These voids are absent energy. In this system "nothing" is in fact nothing. In the quantum paradigm there is no such thing as a fully energy-depleted system. Space and time are one thing: spacetime, which buzzes with a rest energy state of

greater than zero, and it hosts a vast assortment of other fields all of which energize it everywhere at once. At the base level, particles and antiparticles fizz up endlessly and annihilate one another instantly, like unending static. Gravity curves spacetime into various manifold shapes into which other objects "fall" or circulate. Force fields pulse everywhere, some measurable, like electromagnetism, others more exotic (in that we can't easily feel or measure them), fields that invite tiny wave-like things to coagulate and grow into the bigger things we can see. "Nothing" is never nothing. Buddhists, Daoists, and some Gnostics would say something similar.

By one way of counting there are at least 17 such fields (by others, dozens more), one for each of the "particles" the Standard Model currently identifies. I put particles in quotation marks because at the level of these fields, a "particle" is simply a wave function that arises proudly enough out of its constantly buzzing field to achieve something akin to material status. Each of these standing waves can then interact (in specifically allowable ways) with other standing waves in other fields, relationships mediated (in specifically allowable ways) by different types of force-fields, to build bigger and bigger "things." The limitations of language are especially highlighted in this arena. At the most basic level, the quarks, the discourse is playful, poetic. Physicists (at least of the YouTube variety) prefer visual representations to try to suggest what these fields are. You've probably seen the famous one that Einstein (who had an extraordinary ability to visualize his thought experiments well in advance of even mathematics, let alone language) imagined of the universe as a sort of large rubber sheet with a bunch of dips and depressions created by the massive objects floating through it. The task of trying to reimagine how that operates in four dimensions instead of two is a challenging one.

The quantum fields are almost impossible to visualize. The most commonly used image is a sort of multi-leveled wavy parfait, each layer a different color, some occupied by the particles with mass, some by the massless forces that regulate their interactions. The

wifty relationships among them are akin to dance or music. String theory, the current best hope for a "theory of everything," depicts its concept of the subatomic universe in exactly those terms, an array of vibrating strings, each with a unique shape, frequency and purpose. Again, the challenge left to the viewer is to try to imagine any of this into the four dimensions of spacetime (or the 10 dimensions string theory posits!) instead of the two dimensions of TV space. In "reality" (always a risky word in this arena) all those fields are everywhere at once and somehow each "particle" seems to know its place, its role, and its options in the system. Or at least that's the most sense I can make in words of what seems to be happening all the time at the quantum level. The best discourse for describing this action is mathematics, which is elegant, clear and precise. But it takes a considerable expertise to use it. When I was able to do higher level math I recall how it transported me into something akin to a vast universal, immaterial space through which I could whirl around like I was both on a carnival ride (controlled by the rules of the system) and playing Grand Theft Auto (controlling a relatively limited joy stick.) Sometimes the ride was exhilarating, sometime nauseating. I decided I'd rather engage with the world through poetic images, which is what I've done. Ironically, as quantum mechanics has evolved, physicists tend to explain what they know to non-experts via similarly poetic imagery. All that said: Since I can't do the math to "show my work" here, you should take all of this with a big grain of salt and do some work of your own to check and correct me. Lots of YouTubes you can start with. Watch one, and the algorithm will give you more and more.

So what happens if I shift my allegiance from space as a stable vacuum with some things in it to spacetime as an array of constantly energized spontaneously interacting fields that make new things? The obvious effect is the one I've mentioned multiple times already: I'm no longer a "rugged individualist" separate from everyone else and in command of the non-human material universe; I am simply an assortment of aggregated waves that has become intelligent enough to understand that "all is one, one is all." Again, that taps

directly into a lot of the work I've been doing to fathom Eastern philosophy, early Christian heresies, and Indigenous cultures. Take for example the Buddhist concept of dependent origination (or conditioned co-arising), which suggests how phenomena arise from specific "causes and conditions," like seeds that have generative potential when given the right conditions, emphasizing the interconnectedness and interdependence of all things. In other words, nothing exists in isolation, one of the most common and intractable delusions of Western ideology and the classical paradigm, which individuate "thinkers" as isolated personal "identities" standing aside from both space and time. In this frame of reference, "thinking" is a purely mental activity reserved for a very few "intelligent" species.

In the Buddhist frame of reference, thinking happens in the same way as all other things happen. It rises up like a froth and passes. What is durable is mindfulness, the field of attention that subtends thinking and moves with the moment. In other words it turns Descartes on his head: I think therefore I am becomes I think therefore "I" is not. That is a huge liberatory shift, at least for me, addicted as I am to the Western drug of assuming I'm above and outside, independent, individuated. The fear that inhibits making this move arises from anxiety in the thinker about a loss of control that we associate with mental disorder, even chaos. The effect of the shift, again for me, is exactly the opposite: understanding that the obsession with control is itself the origin of chaos. Mindfulness is in fact a much saner and more orderly way to live both with myself and in the world I interact with. In some sense, I am like one of those standing waves in quantum field theory, moving around in my assigned space, interacting spontaneously with the other fields out there in the ways that are allowable, given the "causes and conditions" that regulate our "spirits," assuming they are "willing" to "go with the flow."

Daoism conceptualizes this conundrum via presence and absence. The latter is the primordial unformed state from which things emerge—better imagined not as a "void" but as a reservoir of

energy without (or before) form. Laozi calls this “dark enigma.” Presence is the manifest universe, what Laozi calls “the ten thousand things” with form that we see and feel and know. There is a constant dynamic interplay between these two modes of being, a churning of one into the other, each a re-expression, a re-animation, of the other. Again, it is much easier to imagine all of this as wave functions rather than particle formations. Mindfulness in this system requires a similar kind of liberation from the addiction of attachment. Mind, for Laozi, must function more as a mirror, a kind of creative absence, that proffers its highly specialized “field” to allow the universe to witness its ongoing celebrations of creation and transformation. Enlightenment in such a system is not a mode of authority or expertise. It is an absent presence. Or a present absence. And one can foster or facilitate enlightenment in oneself or others only indirectly, through the “willing” engagement of “spirt.”

In other words, there is no priestly caste with the answers to your (or my) questions or concerns. Such paths to enlightenment are not (to my way of reading) alien to Christian ideology. My primary evidence for that is, as I said, the Gospel of Thomas, though there are other gnostic texts that are compatible. [Many, admittedly, are not, given their strictly Manichean views.] And if you just read Jesus’ actual words in the canonical gospels you will I believe (or at least I do) conclude that they convey the same wisdom: There is no “in here” vs. “out there,” no polar binaries, only interacting fields that vibrate with and for one another, the sum of which, experientially, is the kingdom of heaven! Paul’s interpretation of what Jesus meant (which is often not quite what he said) and then Augustine’s transformation of Paul’s missives into a battle plan that transformed the early church (small c) into the Roman Catholic Church (all caps, those first two modifiers especially crucial, suggesting imperial and universal), say and do something else entirely. They excised what I consider to be Jesus’ most radical vision, excommunicated and exiled those who practiced it, and extinguished all the scriptures that warranted it by burning or burying them. The old “if you can’t join ‘em, beat ‘em (to death if necessary)” approach. The classical paradigm didn’t originate in the

4th and 5th centuries while this purge went on, but it could never have arisen at all without that foundational work having been done ahead of time to install individuation, patriarchy, authority, and hierarchy deep into the Western psyche.

One concept dear to my heart that gets reconceptualized in the shift from an economy of vacuum to an economy of field is solitude, a state of being that Western culture tends to set aside for saints, visionaries, or lunatics. I am none of those things. I simply have by nature a reclusive bent. Not misanthropic, except in the sense that what humans sometimes say and do in this world is worthy of critique, even contempt. No apologies for that. Basically I just enjoy my own company more, in the main, than the company of most others. To read my moderately asocial nature as overly judgmental toward others is your problem, not mine (as long as I manage it properly.) I mean I literally enjoy my own "company," which includes multiple layers and versions of myself that I can, when I want, put into active conversation with one another, like Bakhtin's polyphony all in one head. To read that as mental imbalance is, again, your problem, not mine. I don't hear "voices" (other than variations of my own, some of which have appropriated the wisdom of others) telling me what to do. I am not disconnected from, let alone dissociated from, the world around me, including the human universe. My solitude actually happens in the presence of pretty much everything around me. In other words, I often feel least alone when I'm in my own company. That is especially so when I'm out walking, the things I encounter, some beautiful, some mundane, radiating not just life, but meaning in frequencies my body, when I'm right, is tuned to receive. To read that, for better or worse, as some extra-ordinary skillset is, again, your problem, not mine. What I do in that respect is, in my view, stereotypically human, utterly normal. You don't need an education to do it. I've been like this since I was kid. In fact, I believe we are born that way. Culture, especially the most toxic aspects of Western culture, expends an enormous amount of energy to extirpate that part of our nature. And you don't need to give up anything of consequence to do this. Quite

the opposite. I've lived a full life with partners, family, friends and colleagues. I am just not afraid to also be with myself.

Isolated/Entangled

And finally, I get back to the foundational difference between classical and quantum approaches that Schrödinger pointed out a century ago (and at the beginning of this essay.) In the classical paradigm, as I said above, space is populated by a vast assortment of separate and distinct things that interact with one another in various predictable ways, often violently but rarely intimately. Like human beings in that respect. The sum of the mass of those things comprises the physical universe, the machine. It became clear during the 20th century that this model could not possibly work without the addition of vast amounts of what we now call dark matter to provide a framework for those other things to do what they clearly do and dark energy to expand that framework at the exponential rate it was clearly expanding. Via these calculations, what we actually see and know is only about 5% of what's out there. That's a big problem, but it doesn't necessarily undermine the assumption that all of those well-cossetted things are still separate entities. In such a system it is actually "common sense" to assume that the whole shebang must have been designed from the outside in. And that we are separate and distinct not only from the material universe, but from one another, and even, at some fundamental level, from our embodied selves. Thus the rabid individualism and sense of entitlement (in relation to Earth, among other things) that permeates our culture. Always at odds. With everything.

Entanglement not only calls all of that into question, it precludes it. At the most basic level entanglement is the built-in inclination of unattached subatomic particles to unite with one another when they meet. A kind of love at first sight story. This is not a once in a blue moon phenomenon that requires highly specialized laboratory conditions. It happens to subatomic particles all the time, is built into their nature. Once this entanglement occurs, the two entities

behave as if they were one, no matter how far apart they get. Not two things somehow communicating with one another instantly through the void, but one continuous wave function. When we happen to "measure" the state (angular momentum, say) of one of those particles, we influence the state of the other instantaneously, no matter how far apart they are. No obeying the speed limit of light. Einstein, as the inventor of the speed of light as an absolute limit, had a problem with that, understandably, calling it "spooky action at a distance." He just couldn't rationalize how two separate things could "communicate" in that way that fast. And this action would in fact be spooky if it was at a distance. But in reality it is not. Subsequent theorization indicates that these entangled particles are in fact one thing, aspects of the same wave function, present with one another non-locally. So there is no distance to be spooky at. These particles go on to entangle themselves with others in their "environment" until their special relationships become more and more diffuse, leading to what is called decoherence. When the system becomes sufficiently decoherent, which doesn't take long, it appears (to us) to behave like a classical one instead of a quantum one, which is why so many of our intuitive assumptions about spacetime can remain credible even if they are founded on gross errors about the nature of "things."

Extrapolating behavioral consequences at the human level from this property of the subatomic universe is risky. There is no incontrovertible evidence that this sort of entanglement—two into one—can operate at the macro level. But following my method thus far, I feel quite comfortable making that leap, at least by analogy, the "likening" method Socrates mentions. Entanglement, like everything else I've said about the quantum paradigm, suggests what I said above: One is all, all is one. It may start small, two particles conjoining. But I'm going simply to assume that the same principle applies everywhere. We can see something akin to this in large flocks of birds preparing to migrate or large schools of fish swimming *en masse*. One moves and they all move. Or vice-versa. That is not technically entanglement, but it suggests it. As do certain kinds of experiences that I have quite routinely. When I walk in the

forest, for example, I often make, or feel, intentional engagements with specific trees. In those moments we become entangled, not two but one. Similarly, everyone I truly love is present with me in a very real way all the time, whether they are physically "here" or not. Spacetime provides the field for such ongoing entanglements. On a smaller scale, even when I'm simply engaged in a genuine conversation with someone in front of me, I feel that same kind of entanglement, as if some hybrid version of the two of us is being created in the space between us, our getting to see and know one another, and ourselves, in deep and revealing ways, literally "on the same wavelength." On a stranger scale, I have had and written about real-life experiences in which "others," trees for example, have come from very remote distances to comfort me, or when time has been suspended while, I assume, I was being called elsewhere to provide the same sort of comfort for someone or something else. And I have had and written about my fallings-in-love with things as grand as the star-mottled night sky or as mundane as manhole covers and the white lines on highways. I am absolutely certain all these entanglements happened. And my spirit has been enriched by its willingness to trust that they were true.

In the classical paradigm experiences of this sort range anywhere from counter-intuitive, to magical, to absurd, to lunacy. In a quantum paradigm, extrapolated to scale, risky as it might be, they are perfectly normal. It's possible that I simply prefer this way of thinking about how the universe, including the human part I get to occupy, operates. But you have the same choice I have: Stick with the classical paradigm and remain separate and alone or go with the quantum paradigm and be constantly and intimately entangled, loving and loved. As for me, I am going to continue my work of replacing what has become not just a toxic, but a falling-down-rickety paradigm founded on lies and delusions with one that actually makes sense. Quantum mechanics tells us quite clearly how reality emerges at the foundational level. Humans throughout history, especially outside of the Western tradition, almost uniformly intuited reality pretty much that way without the equipment to prove it or the math to decode it. I aspire to that kind

of enlightenment instead of the Enlightenment values I've inherited culturally. And my spirit is willing still to do the work to fathom that "great blooming, buzzing confusion" as deeply as my remaining time in this astonishing universe will allow.

A Brief “Diss”-ertation on Capitalism

1.

There is, in my view, no more stereotypical or toxic expression of the classical paradigm than the economic system it invented to control human commerce: what we now call capitalism. This way of thinking about how we make and exchange goods emerged during the Enlightenment, integral with the Newtonian mechanics and Modern philosophy I just wrote about, with Adam Smith generally acknowledged as its founding father. I am not a fan of capitalism, and I’ve been reading and writing critiques of it for years. So, a heads up, the tenor of this piece will be more manifesto than meditation.

I had spent much of 2024 having those “spirited” conversations with someone on “my wavelength” (to echo a couple of metaphors from “Willing Spirit”) about abusive workplace practices we were both familiar with, where they come from, how they are not only induced, but justified, even lauded, in the general economy of the capitalistic tropes that regulate pretty much everything related to “work” in American culture. In the inane “let’s explain how this happened” blather after the 2024 election one particular trope that went viral in the media was “the working class.” Gaggles of talking heads used it authoritatively without bothering to define what it was, as if its meaning was transparently clear. Their consensus was that Democrats lost because they no longer spoke to those class-based interests; Trump and his coattails won because they did. This made no sense to me. It is arguable of course whether the Democratic party could any longer feel the pulse of “the little guy just trying to get by,” one generic translation. But to argue that a gang of oligarchic billionaires did seemed ludicrous to me. So, I began to wonder: What in fact is this thing we’re all so blithely calling “the working class” in 2024 America?

Several options emerged quickly. Was it, for example, indexed in some way to unionized workers, or those who aspire to organization, something like what Karl Marx calls “class for itself?” If so, it is almost negligible as a political force. Less than 10% of the current workforce is unionized, compared to 35% just a few generations ago. The capitalistic forces arrayed against organized labor are formidable these days. Some unions and unionized workers actually supported Donald Trump, indicating a lack of unanimity even on labor-related issues. So that cohort is unlikely to increase in numbers or influence. Was it perhaps indexed inversely to college degrees, something akin to what Marx calls “class against capitalists,” with the educated class deemed to belong by definition to the bourgeoisie. If so, then it is a significant majority. Less than 40% of American adults are college graduates. But that seems a very arbitrary marker for distinguishing class boundaries, especially these days when a college diploma is not a ticket to any special advantage or dispensation in the workforce, and more and more college graduates over the last few generations have family or experiential roots in the very class they would be exiled from, which makes no sense. Was it indexed to broadly shared cultural grievances stoked up in the furnace of political/media propaganda? If so, then it is not a “class” at all; it is a cult, or something like what Marx calls “class in itself.” I considered a range of other options, but they too went bust under the slightest pressure. I was at a loss.

So I designed a simple thought experiment, which was to ask everyone I know what that phrase meant to them, whether they felt they were now, or ever, in the working class, whether their parents thought that they were, and, finally, whom did it now include under its umbrella. I have a very small social circle, family and friends, that’s it, most of them roughly comparable in terms of education and professional history. So my pool was limited and obviously biased. Still, I was stunned by the responses I received. While most of the respondents were first-generation-in-family college graduates and sympathized with what they felt were traditional working class issues—increased minimum wage, support for unionization, federal

programs to address childcare and food precarity issues—they all said either that they were not now or never were in the working class, and that their parents—many of them second-gen, up-by-the-bootstraps immigrants—would not have defined themselves that way either. One even resented being lumped into that cohort, though he was a strong supporter of their issues. A few had trade union roots in their family history and identified with those values, though they were less certain about whether they were still worthy of that moniker, or, if so, whether their parents would agree.

Only one believed she was now and always had been in the working class: my chronic interlocutor on this subject, highly educated and employed in a salaried, professional position with a previous personal history of low-paying service work. Her response was instant: "At least 80% of the current workforce is in the working class." I asked her for her rationale, which was generally in the Marxist/socialist register: The working class are all those who have no control over "the means of production or wealth-sharing protocols." In other words they are what came during the 19th century to be called "wage slaves," trading carceral time in workplaces for money. In the most practical terms, for her, anyone who lived paycheck to paycheck was in the working class.

I am highly educated, like her, and I worked as a college professor, hardly classic "working class" credentials. But by her definition—paycheck to paycheck living, no instrumental control over my employment, I fit the bill. Coincidentally, I always did believe I was in the working class, at least in part because my professional work (by my own choice) included a lot of what in the business is called "service work," entry-level teaching and program-related administration. Most of my senior colleagues, whom I took to calling "the cloud people," never sank to this level and had an obvious if obviated contempt for those of us who felt that kind work was not only important but our preference.

In any case, I had made very little progress in understanding what that trope meant to those in the media who were bandying it about, aside from serving as a convenient feint to hide their ignorance. So I

decided it was time for me to do a deeper dive into the dreary discipline of economics. I set about reading some of the foundational texts that organize what we in the West take for granted about making things and money, about the ins and outs of what we call "capitalism," and how we use various economic tools to mark class-related distinctions in their context. I was once again stunned by what I found, in both senses of that word: enlightened and stupefied. There are two different kinds of "abuse," to get back to one of the original animating metaphors for this inquiry, I want to attend to here: One pertains to the abusive nature of what capitalism has become for us culturally, the other pertains to the abuse economists inflict on the texts they claim are canonical in their field, either by misreading them or, more likely, cherry-picking quotes without reading them at all, as many Christians are wont to do with the Bible: Why read the whole book when you can just parrot the parts someone else serves up that justify your most noxious purposes?

I was already somewhat familiar with Karl Marx, whose book *Das Kapital* installed the concept of capital (though he doesn't often use the term capitalism) into the lexicon of economic theory in the middle of the 19th century. So I decided to go back to his nemesis, Adam Smith, specifically his iconic *An Inquiry into the Nature and Causes of the Wealth of Nations.* I made it through Volume 1 (Books 1-3, which is the gist of his argument, if you can use the term gist for something that takes over 500 pages to get across), as tedious a tome as you're likely to find on any subject. Smith himself says "I am always willing to run some hazard of being tedious in order to be sure that I am perspicuous" (132). Indeed! My main takeaway was that what we call capitalism today—at least in the current "mid-century modern" neoliberal mode that congealed in the 1950s and became rabid in the 1980s—has next to nothing to do with what Smith was describing or proposing. He would, I'm sure, consider Gordon Gekko (and Elon Musk) a psychotic, Alex Keaton (and Donald Trump) a narcissist, and trickle-down or supply-side economics scams of epic proportions.

But let me begin at the beginning. Before he wrote *Wealth* Smith wrote another opus called *The Theory of Moral Sentiments.* I read that, too. Well, most of it. There he argues it is by means of what we call "sympathy" that we can understand, at least to some extent, what another person is feeling, wanting or suffering. We do that basically by projecting ourselves into an imagined semblance of their circumstances and then seeing how that feels to us. Assuming, as he does, that there is a relatively consistent "human nature," this ability to resonate with others gives us a way of knowing what they feel. That's a pretty standard principle for ethical behavior in most human communities. The "Golden Rule" itself, which appears in some version in every religious system I'm aware of, says something to that effect: the "Do unto others" trope. Some call it compassion, some empathy, some love. Smith prefers sympathy.

What starts as "care for [our] own happiness" expands by its nature, according to Smith, to include our family, friends, neighbors, and nation. We take a natural "pleasure" in others' happiness, as we do in our own. And a natural displeasure in their pain, as we do in our own. His concept of the "neighbor" may not be as expansive as the one Jesus insists on in the parable of Good Samaritan, but it's pretty broad and is, of course, given his historical moment and cultural setting essentially Christian in nature. I could go on and on about this, but I simply want to make two points: It seems abundantly clear to me that Smith wrote these two books in their sequence for a reason: Everything of consequence for him is founded in "moral sentiments," including the ways we make, buy, and sell the commodities we value. To see economic systems as amoral, which is the turn capitalism took shortly thereafter, and where it remains, would simply be repugnant to him. So anyone who claims that their "business plan" is founded in Smith's ideology without including this element, well, whatever they are, they not capitalists in a way Smith would respect. And, of course, while they may quote Smith, they have certainly not read his books.

And that's the second point I want to make: These are turgid interminable books. The vast majority of the subsequent experts who allude to Smith as their guiding light I am almost certain never read either of them. They all tend to quote the same three or four sentences, which take on a Biblical status in the service of whatever aberration they want to promote, sentences that are wrenched from their contexts and neutered enough in the process to support pretty much any agenda.

Here are a couple of examples. The first focuses on that famous "invisible hand" that was used to warrant a predatory *laissez faire* approach to the market in the latter half of the 20th century, a scourge that still afflicts us. Smith used that figure twice in his work, once in *Moral Sentiments,* when he says:

> *The rich only select from the heap what is most precious and agreeable. They consume little more than the poor, and in spite of their natural selfishness and rapacity though they mean only their own conveniency, though the sole end which they propose from the labours of all the thousands whom they employ, be the gratification of their own vain and insatiable desires, they divide with the poor the produce of all their improvements. <u>They are led by an invisible hand</u> to make nearly the same distribution of the necessaries of life, which would have been made, had the earth been divided into equal portions among all its inhabitants, and thus without intending it, without knowing it, advance the interest of the society, and afford means to the multiplication of the species*. (184, underline mine).

The "selfishness and rapacity" of "the rich" these days (think Musk, Bezos, and Zuckerberg) are certainly not allowing any "invisible hand" to "make the same distributions of the necessities of life, which would have been made had the earth been divided into equal portions among all it inhabitants." Their hands are very visible and grasping everything they can, well, lay their hands on.

And it appears once in *Wealth*, in this context:

> *. . . every individual necessarily labours to render the annual revenue of the society as great as he can. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it. I have never known much good done by those who affected to trade for the public good. It is an affectation, indeed, not very common among merchants, and very few words need be employed in dissuading them from it.* (Vol. II, p. 35, underline mine)

Read this passage in light of what I said about *Moral Sentiments*. Smith's invisible hand has absolutely nothing whatsoever to do with deregulation, eliminating constraints and oversight, or the sense of a "market" having a "free" hand of its own to which we are obliged to defer no matter how it raises itself to abuse those who serve its purposes. Smith's hand works most often on behalf of the general welfare of society because he presumes a society that has already inculcated some modicum of moral sentiments in the people whom it comprises.

Here is another oft-quoted sentence that purports to warrant relying entirely on one's "own interest" in making business decisions, this one from *Wealth:*

> *It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest.*

Sounds on the face of it more like Scrooge than someone interested in moral sentiments, and, to be sure, benevolence was not highly prized in the manufacturing economy of the 19th century. But here is its context:

> *In almost every other race of animals each individual, when it is grown up to maturity, is entirely independent, and in its natural state has occasion for the assistance of no other living creature. But man has almost constant occasion for the help of his brethren, and it is in vain for him to expect it from their benevolence only. He will be more likely to prevail if he can interest their self-love in his favour, and show them that it is for their own advantage to do for him what he requires of them. Whoever offers to another a bargain of any kind, proposes to do this. Give me that which I want, and you shall have this which you want, is the meaning of every such offer; and it is in this manner that we obtain from one another the far greater part of those good offices which we stand in need of. It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages. (119)*

So, at least as I read this, while "benevolence only" is not the express purposes of buying and selling, it is certainly not precluded as some hopelessly naïve moral sentiment. Smith seems to me to presume that it is a sort of "invisible hand" in these negotiations, which are rhetorical—almost a matter of etiquette—in the precise way he describes, because the society itself is informed by some concept of the collective good. And appealing to "self-love" in such negotiations? Smith is certainly not using it here in any Maslowian sense, a high-minded self-actualization. It is transactional, a socially acceptable way one can solicit "the help of his brethren," a backchannel to "their humanity." He is Christian after all, and Jesus' injunction to "love your neighbor as yourself" presumes that one

does in fact love oneself. Absent that, neighborly "love" is likely to be more abhorrent than admirable. There may be a few lucky people who have leaders in their workplace who consider themselves, and by inference their workers, worthy of a love-founded respect in that sense. But the vast majority of workers in the 19th century were precisely the "wage slaves" there "bosses" considered them to be. And the vast majority of workers remain so today. In short, Smith's image here cannot possibly be read as a sanction for rapacious greed or for profiting excessively at someone else's expense.

I would guesstimate that about 80% of the quotes from *Wealth* I've run across in my reading are those two sentences, absent their contexts. The main reason I believe that these abusers of meaning never get caught out is the fact that almost no one, including I would bet many of them, has ever read the actual books. And, based on that insight, my advice would be that if you want to create an ideological framework for an abusive set of practices that serves your self-interest at the expense of others, pick as your foundational texts books that are so long and boring no one will ever read them. You don't even have to read them yourself. Just rely on others to point out the few sentences from their many millions that serve your purposes. Then repeat them *ad infinitum* as if they are the word of God.

I went on to read a bunch of other things about capitalism to try to fathom how we got from Smith to the aberration we are forced to endure today. A series of major transformations in the system occurred in the latter half of the 19th century, less than a hundred years after *Wealth* was published, having generally to do with the working class conundrum that provoked this piece. Something that surprised me reading *Wealth* was the degree to which Smith saw "labour" as the primary value-adding factor in the workplace. Here are a few of the things he says about that:

> *The property which every man has is his own labour, as it is the original foundation of all other property, so it is the most sacred and inviolable. The patrimony of a poor man lies in the strength and dexterity of his hands; and to*

hinder him from employing this strength and dexterity in what manner he thinks proper without injury to his neighbour is a plain violation of this most sacred property. (225)

Labour alone, therefore, never varying in its own value, is alone the ultimate and real standard by which the value of all commodities can at all times and places be estimated and compared. (136)

Labour was the first price, the original purchase-money that was paid for all things. It was not by gold or by silver, but by labour, that all wealth of the world was originally purchased. (133)

The value of any commodity, therefore, to the person who possesses it, and who means not to use or consume it himself, but to exchange it for other commodities, is equal to the quantity of labour which it enables him to purchase or command. Labour, therefore, is the real measure of the exchangeable value of all commodities. The real price of everything, what everything really costs to the man who wants to acquire it, is the toil and trouble of acquiring it. (133)

By the time Karl Marx wrote his epic critique of capitalism, which lays bare not the nobility of labour that seems to me to be quite explicit in Smith, but the rampant exploitation of labour that characterized the manufacturing economy of Western Europe at the time, capitalism had already become a grotesquely abusive cultural enterprise. But the value of labour was at least still arguable. Within a few decades it was not.

One concept that helped accomplish this was "marginalism," which displaces the value-adding portion of an economic transaction from production to marketing. That, in any case, is my best guess at what Alfred Marshall is getting at in his *Principles of Economics* (1890). Marshall introduced terms like "marginal value" and "marginal

change," which become the guideposts for responding to what he considered the innate rationality of economic transactions. He laid the foundation for the introduction of mathematics—probabilistic statistics and calculus—as a discourse for explaining markets and market forces, which legitimized the field as a "science," the holy grail for almost all intellectual enterprises in the late 19th and early 20th centuries, in keeping with the fetishization of mechanization that the classical paradigm promoted. You can see this ambition across the board in what had traditionally been viewed as humanistic disciplines. The term "social science" for example was coined in the latter part of the 18th century and it became a distinct field in the 19th. Psychology took a similar turn in the late 19th century when Wilhelm Wundt established the first psychology laboratory in Germany. Even my own field, as I explain in "A Willing Spirit," had such aspirations running through the 20th century in two great waves, each choosing to ally the field with psychology, which had already made the status-transition to a science. The British New Critics in the 20s chose the Germanic modes of analysis emergent at the time; the American "process" movement in the 70s chose the cognitive/behaviorist modes then emergent in the field.

As long as I'm talking about things of this sort, I want to jump ahead a bit to a late 20th century movement called "complexity" economics, one of the newer cat's meows in the field. The geographic capital of this way of conceptualizing capitalism is the Santa Fe Institute in New Mexico. A friend sent me a link to a YouTube about this a few weeks ago. So I looked into it, which is to say I read a few articles, which led me to the one theorist who seemed of interest to me, Eric Beinhocker, and his book *The Origin of Wealth.* I'm going to open with the blurb for the book on Amazon, which says pretty much all you need to know to decide whether you want to "rewire [y]our thinking about how we came to be here—and where we are going:"

> *Over 6.4 billion people participate in a $36.5 trillion global economy, designed and overseen by no one. How*

did this marvel of self-organized complexity evolve? How is wealth created within this system? And how can wealth be increased for the benefit of individuals, businesses, and society? In The Origin of Wealth, Eric D. Beinhocker argues that modern science provides a radical perspective on these age-old questions, with far-reaching implications. According to Beinhocker, wealth creation is the product of a simple but profoundly powerful evolutionary formula: differentiate, select, and amplify. In this view, the economy is a "complex adaptive system" in which physical technologies, social technologies, and business designs continuously interact to create novel products, new ideas, and increasing wealth. Taking readers on an entertaining journey through economic history, from the Stone Age to modern economy, Beinhocker explores how "complexity economics" provides provocative insights on issues ranging from creating adaptive organizations to the evolutionary workings of stock markets to new perspectives on government policies. A landmark book that shatters conventional economic theory, The Origin of Wealth will rewire our thinking about how we came to be here--and where we are going.

Filter off all the review-related blather—"far reaching implications," "entertaining journey," "provocative insights," "a landmark book," none of which describes my reading experience—and complexity economics boils down to a response to the perceived problem of the intractable stasis of the dominant theories of capitalism, specifically their inability to adapt to changes in their environment. In keeping with the valorization of science I've been talking about, the new twist Beinhocker adds to solve this problem is "evolution," in the Darwinian sense, facilitated by the mathematical complications he endorses to explain it. As he says:

The notion that the economy is an evolutionary system is a radical idea, especially because it directly contradicts much

> *of the standard theory in economics developed over the past one hundred years.* (79)

Huh? This might be an interesting "radical idea" if its foundational assumption—intractable stasis—were true. But every economic treatise of consequence that I read does in fact have some mechanism for adaptation built into its system. It's harder to see in Smith, until you read his *Wealth* in the light of his *Moral Sentiments*. It is absolutely fundamental to Marxism, of course, the dialectic of history driven, if grudgingly, by its Hegelian motor toward the inevitable "dictatorship of the proletariat." Marginalism is almost by definition a mode of adaptation, at least at the crassest level of marketing. Keynesian economics sees governmental intervention and oversight as instruments of adaptation, ways of controlling the most deleterious social impacts of unregulated capital markets.

On a larger scale, Joseph Schumpeter, perhaps the most prominent economic theorist of the first half of the 20th century, proposes an evolutionary model for understanding the transitional function of capitalism toward what will be next and new. His reads to me like a "soft" version of the Marxian dialectic. Soft in that Schumpeter seems to favor some version of socialism as his preferred outcome of all this agitation. Even neoliberal capitalism—which I am now inclined to read as fear-based response to Schumpter's dialectic, a way to tilt the table toward capitalism in this evolutionary cycle—is a dynamic system that relies on deregulation to get the "trickles" running "down." Adding "complexity" to any of these systems seems to me to be more like rearranging the deck chairs on the Titanic than either building a better ship before you decide to set sail or resisting the temptation to trust without reservation those with an egomaniacal faith in their genius for engineering or navigation.

One telling aside in Beinhocker's book has to do with a confab at the Santa Fe Institute in 1984 (an interesting Orwellian year to arrange an event of this sort!) that brought together actual physical scientists with economic "scientists" to compare notes, an event

Beinhocker characterizes as a "Clash of the Titans" "set up like a rugby match." Here's his take on it:

> *Squaring off on one side were ten leading economists . . . On the other side were arrayed ten physicists, biologists, and computer scientists . . .*
>
> *Each side presented the current state of its field and then spent ten days debating economic behavior [etc., etc.] The economists were excited by the physical scientists' ideas and techniques, but thought the scientists were naïve and even a bit arrogant about economic problems. On the other side, the physical scientists were impressed by the mathematical virtuosity of the economists and genuinely surprised by the difficulty of economic problems.*
>
> *But what really shocked the physical scientists was how to their eyes, economics was a throwback to another era . . .*
>
> *Not only did the mathematics of economics seem like a blast from the past, but the physicists were also surprised by the way economists used simplifying assumptions in their models. . . One assumption that got the scientists particularly exercised was what economists refer to as perfect rationality. . . Even without being fully aware of the long history of debate on this subject, the physical scientists vociferously objected to the use of a model so clearly at odds with day to day reality. The science writer Mitch Waldrop quotes one of the economists, Brian Arthur, who describes the exchange:*
>
> > *The physicists were shocked at the assumption the economists were making—that the test was not a match against reality, but whether the assumptions were the common currency of the field. . .*
> >
> > *The economists backed into corner would reply, "Yeah, but this allows us to solve these problems.*

> *If you don't make these assumptions, then you can't do anything."*
>
> *And the physicists would come right back, "Yeah, but where does that get you—you're solving the wrong problem if that's not reality."* (44-46)

What's interesting to me in this debate is not necessarily the focus on whether the problem you're solving is the right or wrong one—the hard sciences have often been distracted for long periods of time by the wrong problem—but in the function of "reality," which I'll translate into the currency of the hard sciences this way: Real scientists perform actual experiments in and with the actual world to demonstrate whether a proposed solution is right or wrong, at least given the limits of the available mathematics and measurement technologies of the moment. Real scientists make that step an integral and requisite part of their process. Economists don't. That is obvious to anyone who thinks for five seconds about the concept of "perfect rationality" in economic transactions, a common default position for specialists in the field. Since when? People, their markets, or their economic relationships are notoriously irrational. Advertisers, by definition, take their fullest possible advantage of that very fact to market their wares. Or to use another trope Beinhocker references: "People are not stupid." Again, since when? So that's a precis of where we came from and where we are with capitalist ideology. I won't even start on the lunacy of the Trumpian approach to markets, except to borrow a couple of concepts from the previous sentences: irrational and stupid.

2.

You might think I'm about to champion Karl Marx, who fancied himself as the antidote to capitalism. His book *Das Kapital* installed the concept of capital-ism into the Western lexicon as a way of explaining what Western economies began to do during the

industrial revolution, essentially transforming a farming economy overseen by the landed gentry, old money, into a manufacturing economy overseen by a means-of-production gentry, new money. *Das Kapital* is a brilliant critique of that transition and offers a powerful reading of the dialectical progression of economic history that, he says confidently, will culminate with the dictatorship of the proletariat. Which basically means that the means of production and the distribution of the wealth those means generate will be controlled not by private owners in search of greater private wealth but by those who do the actual work or those they designate as their representatives, with equity in mind.

My response is akin to the scientists in Santa Fe: Let's look at reality, the more than century and a half that has intervened since the first three volumes of *Kapital* were published (1867). There have been a couple of instances in which workers' collectives have taken over their local means of production and wealth distribution and made a go of it for a while, most famously in Spain in the 1930s. That particular efflorescence of wisdom, running smoothly, was promptly eradicated by a syndicate of political and military forces that included the fascistic Franco regime, of course, but also the Spanish communists. The problem with Marx is not with his concept but with his predictions about how it will play out in history. The Russian revolution was replaced by a Stalinist dictatorship almost before the blood dried up. A series of like-minded others followed including (after a brief interlude of relative sanity late in the 20th century) Vladimir Putin and his oligarchic entourage. The Russian client states in the Western world, Cuba, Nicaragua, Venezuela, are a shambles. North Korea is a large penal colony. China is more a mishmash of state autocracy and private capital than a dictatorship of the proletariat. Mao's Red Guards and the Cultural Revolution they inaugurated are long gone, for the better, to be sure. And the reign of terror that devastated Cambodia under Pol Pot is as ignoble a chapter in human history as you're likely to find. I can't imagine that Marx would say, "Yeah, this is what I was hoping would happen on the road to the dream."

Mikhail Bakunin, initially an avid fan of Marx, split with him in favor of what sounds to me like a very sane brand of anarchism precisely over the specter of such aberrations. He doesn't say so explicitly, but I hear in his critique of Marx the fear that any ideology with the term "dictatorship" in its mantra will, in fact, culminate in dictatorships. Except they won't be overseen by any proletariat. He, in my mind, has proved to be right and Marx (in the realm of reality where theories ultimately meet their match) was wrong. I understand the appeal of Marxism as a philosophical system and a method of inquiry. But to my way of reading it is afflicted by all the standard features of the "classical paradigm," including its dependence on the Hegelian dialectic, a capstone achievement of that epoch.

I want to conclude by circling back to Joseph Schumpeter and his book *Capitalism, Socialism, and Democracy*, published in 1942. This is a fascinating mid-century take on the effects and prospects of capitalism, written in the aftermath of the Great Depression, a cataclysmic failure of the system, and in the midst of WWII. Hard to blame the latter entirely on economics, though that clearly had an impact on the emergence of the National Socialists in Germany and the militarization of Japan in the 1930s. Schumpeter offers a refreshingly frank, opinionated, and well-informed take on the three primary alternatives in the wind at that moment, capitalism, of course, the dominant system, socialism well before it was knee-capped by right wing propaganda into just another off-brand of communism, and democracy, while we still had a legitimate one in this country. You can tell that he has actually read the books, has thought about them and is willing to share those thoughts whether you like them or not. This book is long but not at all boring. I particularly enjoyed his one-page dismissal of anarchism as a legitimate alternative—though I disagree completely with his characterization of that ideology as "utopianism with a vengeance" and of its adherents as a "pathological species." Those terms seem to me to apply more accurately, respectively, to Marxism and capitalists.

He opens, interestingly, with a very apt and surprisingly sanguine reading of "The Marxian Doctrine," for reasons that will become clearer later. As I said, this is 1942, well before communism was turned into an insidious criminal conspiracy by Joe McCarthy. You could actually still talk about Marx, the class struggle, etc., without being hounded off the public stage. His take is worth reading for that reason alone. The one thing I want to highlight is the way Schumpeter seems (to me) to borrow the Marxian historical dialectic and turn it to his own purposes. Capitalism in his view, as with Marx, is an intervening stage on the way to something better. Schumpeter's something-better is socialism. He sees it as having the fundamental features of a communist economy—public rather than private ownership of the means of production and public rather than private control of the way the wealth generated by those means are distributed—without all the hyper-authoritarian administrative nonsense.

Socialism has been rebranded in the meantime as a form of communism, threatening the "shining city on the hill" version of American exceptionalism. So it will be some time before capitalism transitions into it, at least on this side of the Atlantic. His discussions of the two possible faces of democracy—the "classical" one animated by the common good and the will of the people, the other by competition and concentrations of power in political leadership—are interesting but seem almost quaint in light of the authoritarian turn that our democracy has taken lately. It is I think legitimate now to ask not when capitalism will transition into socialism but when democracy will fully transition (if it hasn't already) into autocracy, wealth serving not nations but oligarchies akin to the landed gentry capitalism was supposed to dislodge.

One interesting sidenote about my encounter with Schumpeter's work and the ways in which it has been received and used: His concept of "Creative Destruction" (caps his) entered the lexicon of contemporary capitalism and then morphed into ideology, much like those tropes from Smith. In a front cover blurb Thomas Friedman seizes on it "as a key principle in understanding the logic of

globalization," one of the keynotes of neoliberal capitalism. Friedman, a journalist, championed globalization as the antidote to the Cold War mentality of nationalistic competition for global dominance. In effect, the "invisible hand" of capital can achieve rapprochement where diplomacy fails. As I said, Schumpeter is writing his book in the midst of WWII, so well in advance of the Cold War and subsequent economic globalization. Friedman is writing his blurb a couple of generations later, after some "Creative Destruction" has intervened. This seems to me to be another example of how economists (or in this case commentators on economics) seize a term less in the service of the originator's purposes and more in the service of their own preferences and agendas.

More importantly to me is the generally cavalier way in which actual economists either ignore or misuse Schumpeter's concept. Beinhocker for example laments the incapacity of modern capitalism to adapt, to evolve, citing Schumpeter. What Schumpeter actually says, in a chapter entitled "The Process of Creative Destruction," is this:

> *The essential point to grasp is that in dealing with capitalism we are dealing with an evolutionary process. It may seem strange that anyone can fail to see so obvious a fact which moreover was long ago emphasized by Karl Marx. . .*
>
> *Capitalism, then, is by nature a form or method of economic change, and not only never is but never can be stationary. (82)*

Chronic innovation/renovation inevitably has destructive consequences, some intentional, some unintended; which was my impression of capitalism as an ideology from Smith onward.

Schumpeter goes on:

> *This process of Creative Destruction is the essential fact of capitalism. It is what capitalism consists in and what every capitalist concern has to live with. (83)*

Schumpeter implies that this is the beauty of the system, the essential feature that will guarantee its continued success against its competitors, one whose sometimes deleterious consequences "every capitalist has to live with." If you just read that chapter, that's the end of it. But later in the book in a chapter called "Crumbling Walls," I hear him saying something much more revolutionary than evolutionary about Creative Destruction, suggesting, to my way of reading at least, that this essential feature of the capitalist dynamic, while it may sustain it in the shorter run, will also be its undoing, ushering in (I think Schumpeter hopes) a new economic paradigm he calls socialism.

I'm inclined to think that it was a fear of this premonition that animated the "Chicago Boys" (which included another Friedman, Milton, no relation) to resurrect the antidote from certain European trends in the 1930s, themselves hearkening back to some late 19th century thinking about free markets: neoliberal capitalism, which wended its way ingloriously through the horrifying Pinochet regime in Chile in the 1970s and into the Reagan/Thatcher juggernaut in the 1980s, ensconcing it in the Western economy and psyche deeply and durably. One of its ultimate ambitions, achieved more fully later during the Clinton administration was, in fact, the globalization of markets the other Friedman admires. That's a lot of "Destruction," which I hesitate to call "Creative." The point I want to make is, once again, a simple one: Capitalists, like most other ideologues, tend to take liberties with their foundational texts. You could call that stretching the truth. Or mistaken misappropriation. Or intentional misreading. I prefer to call it abuse. Which gets me back to where I started this whole inquiry.

We live in an abusive culture. Much of that abuse is made to seem acceptable by the many "invisible hands" that guide us relatively thoughtlessly into assumptions about what is "good" and what is not. What I want most to say is that those hands are made invisible

intentionally by actual arms and heads of real people whose ambition is to control human bodies in the service of their own agenda to increase their wealth and enhance their power, often both, sometimes just because they can. If those kinds of people—and in the end they are just that, not godly forces—are your heroes, then, unless you rise to the top among them, you are destined to endure various kinds of slavery in their service: wage slavery in the service of oligarchs, cult slavery the service of political autocrats. If they are not your heroes, I hope you will find the very limited number of ways you can resist or evade the abuse those sleights-of-hand dole out; for example, in your workplace where those you oversee can and should be treated not as cogs in a mindless machine but as fully fledged human beings, and at the ballot box where your available choices may seem less than ideal but are never exactly equal pertinent to what is good. Why? Because there are spirits at stake: mine and those close to mine, your colleagues', your community's, your country's, the earth's, and (if you follow my argument in "Willing Spirt") even the universe's. But, most importantly for you, yours! Don't give it up to adapt and fit into a culture that is abusive just because you have been and are being abused. Don't hand it down to others with that weak "I had/have to endure it, so you should, too" justification. Don't savor whatever smidgeon of power or privilege our culture endows you with automatically by dint of your "class," "working" or otherwise, displaying it proudly, at the expense of others, as if you both earned it, when you probably didn't, and deserve it, which you most likely don't. Don't do that. Do not do that!

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Paul is the author of numerous books available (at cost of production) at Amazon.com and (for free, in PDF form) at paulkameen.com

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