

Rethinking

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Acknowledgements

The writing in *Rethinking* is eclectic.
Its pages draw on and reflect the work
of educators, scientists, artists, writers...
in a way, all who have dedicated their lives
to leaving the World a better place than they found it.

The piece was written while living on land
stolen from the Ho-Chunk People.
In an area known as "Taychopera,"
meaning "Land of the Four Lakes."

It owes its publication
to everyone whose efforts, labors and sacrifices
have made and make
a complex Society like ours possible.

It's an invitation,
to think our way beyond the impasse.
To see how each of us in our own way,
can together create the transition to the World,
all of us in our Hearts have wished for,
but may have thought impossible.

Rethinking

Part I — Why

1	where to begin	1
2	to rethink or not to rethink	3
3	mind and matter	5
4	the backstory	9
5	going back further	13
6	modern science	16
7	mind side meaning	20
8	the postmodern	23
9	a less-taken path	26

Part II — What

10	where to turn	33
11	it's elementary	35
12	free or determined	39
13	non-local and entangled	44
14	space, strings and branes	47
15	what's time got to do with it	52
16	in the beginning	56
17	complexity	59
18	a long story short	62
19	stepping into life	66
20	the unexpected	68
21	from there to here	70

Part III — How

22	or who	76
23	in the mirror	77
24	what's holding us back	80
25	guidance	86
26	a change of heart	93

Part IV — Actualities

27	saving the world	95
28	given to our care	97
29	a strange setting	100
30	dreams deferred	104
31	a place for one another	106
32	getting real	108

Part I — Why

1 where to begin

Whether driving down a fog enshrouded interstate
and seeing red brake lights up ahead,
or suddenly suffering shortness of breath and feeling crushing pain in one's chest,
if what we wish were the case doesn't align with the facts,
and we fail to change our minds in order to get it right —
self-deception / illusion can lead to disaster.

In our everyday lives
we generally understand this.
It's better to pay attention to what Reason
informed by our senses and experience is telling us;
less good to base decisions on desire and imaginings.

Many of us would agree,
we've reached a critical moment in Human history.
In addition to the longstanding threats:
 international tensions, wars, nuclear arms;
 political manipulation of frustrations, fears and hatreds;
 extreme wealth and privilege alongside deprivation and hunger.
New perils have appeared:
 cyber, hypersonic and information warfare;
 global pandemics;
and, perhaps most pressing —
an unsustainable relationship with our Mother Planet.
Climate Crisis tracking to disaster.

The root causes of our hurting World begin with questions,
 whether consciously asked or not —
Where do we come from?
What are we a part of?

Because the stories told in answer,
 by our Culture, our Religion, Science, our Politics,
 and by our own interpretation,
define who we are —
inform our relationships with One Another,
prefigure the thinkable regarding Nature and Earth.

In a word, how we understand Ourselves determines our moral codes,
which frames our laws and systems,
sets the horizon on what we see as possible.

With the acceleration of technology and industrialization,
the time to make the needed corrections is rapidly shrinking;
bringing us abruptly to this juncture.

Do we keep going on the path we're on?
or pause at this precipice,
rethink what brought us here?

2 to rethink or not to rethink

Rare the situation that requires us to rethink everything.

We seldom need to question our place in the World.

What Nature and Others mean to us.

What we mean to Others and Nature.

Responsibilities, family, class schedules, work patterns...

Our busy calendars typically don't afford much space,
especially for reviewing the big picture.

Every day brings its own set of challenges;
and we need to get on with our lives.

When a situation does arise,
our initial response is to adapt.

Go along with what seems to be working, at least well enough.

We often put up with trouble — even serious trouble,
trusting that things will eventually work themselves out.

Yet we know it can happen,
an event or circumstance proves no longer acceptable,
or an alternative so desirable —
the potential loss of not acting too great a risk.
Like falling in love.

Some might question
how rethinking some of our most basic understandings could help.
You're never going to get everyone to rethink what they believe,
it might be argued,
and even if you could —
Peoples' Lives, experiences and opinions are so varied...
What's the likelihood of reaching any kind of agreement afterward?
Moreover, thinking and doing are very different propositions,
and we need to actually *do* something.

Although most of us would agree with that,
what we don't agree on is what to do.

While fewer and fewer among us deny there's a problem,
some still advocate clinging to the path that brought us here.
Others fear that trying to take the situation in hand could make matters worse.

We lack the necessary unified Will.

If only we could simply turn to Science and say,
 “Fix it, please. Quick!
 And also, end poverty and bring us World Peace.”

But we know things don't work like that.

Science certainly is able to help us.
 It can measure and point out our urgent problems,
 forecast the scenarios ahead if we don't act,
 suggest steps we need to take to avert disaster.
 And Science can also offer us rays of hope...

How Scientists understand the Beginning of the Universe, for instance.
 Researchers feel confident that our most powerful Particle accelerators
 approach the extreme energy levels present during those primordial moments.
 And among things they 'see' — Particle Pairs appear.
 Called “Quarks.”

Initially, the Quark Pairs rapidly decay and fall back into the Cosmic Sea.
 When stable Quarks do emerge, they're seen bonding in sets of three.
 Two “Up” Quarks with a “Down” Quark.
 Or two “Down” Quarks with an “Up.”
 Sharing Energy with Each Other.
 Engaged in a giving and receiving activity that enables them to hold together.
 Creating a duration — Time. Which hadn't existed before.

We've named these triune Quark relationships,
 Protons and Neutrons.
 They're found at the center of every atom in the Physical World.

Sharing and cooperation at the Ground of Matter.
 At the Heart of our Being.

Science offers us other possible rays of hope, too, as we will see.

But fundamentally, Science — as it stands today,
 can't help us with the attitude shifts that would bring us together to act.

Why not?

3 mind and matter

Most scholars would probably agree
 that René Descartes laid the foundation for Modern Science,
 when he urged his contemporaries to doubt everything;
 and, as will prove to be of central concern for us here —
 made an issue of the question:
 What are we to make of the difference between Mind and Matter?

Descartes was writing at a time
 when people had for centuries simply believed what they were told —
 by the church, the king, local folklore, word-of-mouth...
 Descartes' goal was to establish a reliable foundation
 for the entire edifice of knowledge.

So he asked: 'What can we know for certain?'
 and proposed his now-famous method in answer:
 'Doubt everything.'
 Every piece of knowledge you've ever had;
 and you'll find that you *can* doubt everything;
 — except
 you can't doubt that you're "thinking" (doing the doubting).
 (And because you can know you're thinking, you can know you exist.)
 "I think, therefore I am."

For Descartes, nothing else could be known for certain —
 including that a World exists outside our Minds.
 (Since perception itself, happens inside our heads.)
 So Descartes concluded that the Mind (thinking) must be one kind of thing;
 the World (all that extends in space) something else.
 The Mental and Physical Separate Substances.
 Absolutely distinct. Mutually exclusive.

What's at issue is easy to understand.
 We readily observe that material things like bodies, books, computers...
 extend in three dimensions — height / breadth / depth.
 They have Mass (respond to gravity).
 They're capable of motion and rest.
 None can occupy the same space at the same time.

Objects have definite shapes.

We can usually determine where things begin and end.

In general, Objects can be broken down / made into smaller Objects.

We can count things. The Physical is measurable.

Mind is different.

Although we're able to associate particular wavelengths

with different kinds of mental activity;

what we experience within our Minds appears both composite and indivisible.

Consider driving down the road, for example.

We might be noting the landscape / listening to music / thinking about someone,
even as we're paying attention to the traffic —

all in an overlapping seamless series of states of Mind.

Perception / reason / memory / feeling / intuition / imagination entwine.

Every particular mental moment is so entangled,

we're unable to tell where a single thought begins or ends.

Pieces of what's going on in our Minds can't be extracted.

Consciousness can't be measured.

Inner Space has no distinct boundaries.

It shelters dream, mystery, imagination, the impalpable.

It's the sanctuary of the Personal.

Music, art, literature, poetry, friendship, Nature...

invite and take us there.

The Mental refers to the realm of Subjectivity —

not subjectivity as opposed to objectivity;

but rather, Subjectivity as being a distinct Self.

A Center endowed with Will, the ability to Choose, to Act.

Subjectivity implies the capacity for Self-reflection.

It allows for the awareness of, "What it is to be like..."

as in, "What it is like, to be you,"

or "What it is like to be a spider."

Being a Subject Center defies definition.

It's always doing the saying.

Making the move.

Taking the action.

Free.

Consciousness inhabits the edge of the Possible.

Never reduced by what is said about it.

Objects, according to the standard definition, are without Mind.
They can have no awareness.

In no way feel, perceive, reason, imagine...

Things are incapable of acting freely.
They cannot create change for themselves.
Theirs is to be acted upon.

You don't have to know Descartes' name
to have absorbed this understanding of the World.
With the advent of the Scientific Age,
the Cartesian Paradigm gained ascendancy,
a predominance it has retained into the 21st century.

Today's Science generally sees the Cosmos as a vast thing.
Begun when a lucky set of physical circumstances met with a random chance,
setting off a series of mechanical events,
that ultimately led to this moment.
And in the minds of some, to an inevitable end of the Universe itself.
Consciousness has nothing to do with it.

Most Religions, meanwhile,
still teach as they taught before Descartes,
that the Universe is the creation of a Supreme Being existing outside of it.
In other words,
God (an Eternal Subject Center) created the World (a temporal Object).

Science or Religion —
either way, Nature is bereft of Mind.
Whether from the theological perspective,
or via the Scientific point of view.
Ours is not a Culture that believes the Universe itself has Subjectivity;
that the World could care about us Personally.
Nature, however beautiful and awe-inspiring, is reduced to Mindless status.

Seeing our Existence in this light carries important implications.
Something without a Mind can't care what happens to it.
So our relationship with Nature will only depend on how it matters to us.
From the Redwood Forests to the Oceans and the Atmosphere.
And because each of us exist in One Another's World,
if our World is bereft of Subjectivity, we become Objects to each Other.

Instead of a Universe, Nature, a World that can engage with us,
instead of Intersubjectivity and Community among us —
our Culturally transmitted concept of Identity relies on differentiation.

(Not-being an Object means Not-being the Other.)

Thus we understand Our Selves as being Separate —
from Nature, the World around us and One Another,
with fully Separable Self-interest.

As we'll see, however,

Science makes clear that this is a mistaken notion of who we actually are —
physically, biologically, as well as psychologically and socially.

And although Science remains committed to the Cartesian notion,
(that Matter has no Mind)

Science also provides us with evidence for rethinking that idea.

To unravel this paradox, we might start by asking:

How did Descartes' conclusion become so influential a paradigm for our World today?

4 the backstory

17th century Europe had been reshaped to some extent by the Renaissance, an intellectual stepping away from the Medieval worldview, although not yet away from its social order.

That “order,” called feudalism, had emerged from the smoldering ashes of the Roman Empire. It allowed whoever could assemble the most knights to take ownership of whatever lands they could grab and control.
 Including the Animals, Plants and People living there.
 All to be treated as property, whether or not they were called slaves or serfs.

The feudal system gave such overlords titles of “nobility,” which their eldest male offspring inherited, along with whatever wealth and power they’d seized and accumulated. Relatively speaking, the kings, noble lords and ladies lived lavish lifestyles, enjoying every pleasure available at the time; while outside the castle walls — hovels, hunger, a struggle to survive.

Christendom, by then institutionalized as an all-male hierarchy, fit right in with this “might makes right” system. Setting aside the “love-one-another” ethics that Jesus Christ had taught, the fathers of the Church taught that the Social Order was ordained by God, legitimizing feudalism’s raw violence, even exercising it themselves.

In addition to amassing enormous wealth while People went hungry, (rather than feeding them as Jesus had said to do), the Church hierarchy dictated what People were allowed to think and say. Its Inquisition burned so-called “heretics” at the stake.

Significant for our rethinking here, Medieval theologians addressed the ubiquitous suffering by formulating the doctrine of Original Sin. A narrative that explained the deplorable conditions as the result of an offense committed by our first parents, Adam and Eve, against God.
 Thus, Our Bodies — an inherited fallen Nature.
 Our Souls / Minds — eternal and redeemable, if we believed.

The Church also taught that there existed a host of invisible Spirits, Angels, who do God’s bidding.
 And who, if you are obedient and good during your life, escort you to Heaven when you die.

In addition, to Angels, there were also Devils,
who opposed God and everything Good.

(It was they who were ultimately responsible for the evil in the World.)
And who, if you didn't believe, or failed to follow the rules,
take you at your death to a place of endless suffering.

Fundamental Church dogma completely devalued Earthly Existence.

Heaven was designated as our true home,
a place available to your eternal Soul, after death.
Creatures other than Human were declared to have no Soul.
Therefore, incapable of thinking / feeling / even experiencing pain.
Dogs, cats, parrots, horses...
"It just looks like it's hurting," is what was said.
All of Nature without Subjectivity. Without Personhood.

The Renaissance brought a bit of relief from this bleak picture,
at least for the upper classes.
Renewed appreciation of beauty, art, sensual pleasure, knowledge...
led progressively toward an awakening —
not only to Human capability, but also to the Possible.

Out of this context, philosophers such as Descartes would launch the "Age of Reason."
Yet, even as he was writing his famous, "Cogito,"
such work still remained subject to Ecclesiastical censorship.

The Inquisition had just forced Galileo to recant his published endorsement
of Copernicus' assertion that the Earth goes around the Sun.

Church authorities, of course, didn't like that doubting business.
But Descartes avoided getting into worse trouble,
not only by making several references to God,
but also by pronouncing Mind and Matter absolutely Separate.
Others had been burned at the stake for saying they're inextricable,
or that Nature has Subjectivity and is Sacred.
A heresy labeled, "Pantheism."

Elsewhere across society at this time,
there was no public education / very little education at all.
No trustworthy source for news or information.

No Science.

Superstition, tradition and rumor thrived.
Anything could be said to mean anything.
The educated few, however, increasingly recognized the need for useful knowledge.

Descartes' "*doubt everything*," proved irresistible.
 Doubting — along with other factors,
 such as Europeans coming in contact with other civilizations,
 becoming more literate,
 beginning to drink coffee and converse in cafés,
 contributed to an enormous Cultural Change.

Although radical for the 18th century,
 the Enlightenment brought forth notions that we presently take for granted.
 A central tenet was a sense that you could and should think for yourself;
 instead of simply believing whatever you heard or were told.
 "Dare to know," as philosopher Immanuel Kant put it.

Enlightenment thinkers advocated a commitment to logical Reasoning,
 believed in the newly emerging Science,
 and fostered the budding recognition of Human Rights —
 humane behavior as a moral imperative,
 challenging practices such as torture and slavery.

Women also fared somewhat better,
 at least those born to the upper classes.
 Although still treated as merchandise on the marriage market.
 Still considered inferior.
 Respected a bit more by Enlightened Men, however.
 For it was Women who hosted the salons where this new thinking,
 later named "Modernism," was nurtured / given a place to grow.

Seeded by the Enlightenment,
 the Age of Revolutions left us a legacy of Constitutional Democracies,
 Delivering Civil Liberties such as Freedom of Speech, Press, Assembly,
 Religion...
 Such "Liberal" ideas added to the attraction of the Cartesian Paradigm.

Truth was no longer a matter of believing this or that,
 or who said what —
 evidence based, logical reasoning had won the day.

By the close of the 19th century,
 applied Science,
 which had already enabled the Industrial Age,
 made ever more clear the usefulness of the Separate Mind over Matter idea —
 steam and electricity were opening previously unimagined possibilities.

While Descartes helped solidify the foundation for Science,
his Methodical Doubt played out differently for Philosophy.

— if all we can know for certain is our *thinking*,

then how do we know that the World exists outside our Minds?

We infer that our perceptions arise from outside — but do they?

— if the Mental exists apart from the Physical,

How could Mind ever interact with Matter?

How can material things get inside a Mind?

5 going back further

Even though Descartes' doubting
 provided the groundwork for profound scientific, social and political modernizing,
 he hadn't invented an entirely new approach to the World;
 but had rather distilled a fundamental Mindset
 that had been going on in European Culture for centuries.

We find the Mental-Physical split already prevalent in Ancient Greece,
 the oft cited cradle of Western Civilization.
 Although several Athenian philosophers proposed a single-substance World,
 (that all things are made up of water or fire, for instance)
 Personal Presence was never attributed to the underlying One-ness.

At core, the World was an Object.
 The Human quest that of Mind probing Nature — asking, 'What's it made of?'
 Greek Philosophers left no guidelines for engagement with Earth as a Subject Center.
 No elaborations of a Dialogue with the World.

Aristotle (who arguably still has an extremely important effect on our Culture)
 assumed an Object World.

To him, Greek society's rigid class structure,
 its slavery, extreme inequality between the sexes,
 war and territorial conquest,
 could only be just the way things are.
 The goal of knowledge wasn't to question that Reality —
 but rather to identify and fit the pieces into their appropriate categories.
 Explain why their essences make things like they are.

Nor do we find other Greek writers citing ethical concerns
 that Earth and Creatures invested with a Mind might have.
 Even a cursory look at early Greek History, however,
 suggests the Subject-Object interpretation of the World
 was not their invention.

Competition among Individuals for political Power was normal.
 Nation-states vying for dominance over territories widespread.
 It appears that Western Civilization had marginalized the idea
 of inter-personal Relationships with Nature from the start.

The origin of the Mind/World split goes back before the Greek Mindset,
 back before the hieroglyphs with their war chariots,
 before cuneiform tablets, before recorded history.

For when writing first appears, men are already playing roles of potentate,
 sitting atop social, political, military and economic hierarchies,
 established and enforced by violence.

Indicating that the Separate Self idea
 the Objectification of Others and the World,
 had already taken root / was already being enacted.

Regarding cultures before that, we have only fragments.
 Texts and artifacts with vague references to former times,
 archeological discoveries indicating burial practices,
 female figurines possibly pointing to fertility cults,
 traditions of Goddesses preserved in hieroglyphs,
 on temple walls / on Mount Olympus.

All of which has informed speculation that in an earlier time
 there might have been greater respect for Women;
 in light of their reproductive power,
 and that Matriarchal Societies may have preceded the Patriarchy.

Greek legends of Amazon warriors suggest, however,
 that if such Societies existed, they too may have objectified Others.
 Although it's certainly conceivable that if "the before" were woman-centered,
 People may have enjoyed a different and more rewarding Community Life.

A Matriarchy might not have meant women powering over men,
 but might have fostered equality between the sexes.
 A deeply felt connection with One Another / cooperation and sharing,
 a Personal engagement with Nature,
 as characterizes certain Indigenous Cultures today.

How the objectifying mentality and power hierarchies emerged
 must also remain speculative.

Perhaps with the elaboration of language,
 Minds fell into conceiving the World and Others
 in the way that words deliver them to our Minds,
 — as Objects.
 Able to be thought about, acted upon, however we choose.

Or perhaps in a crisis of some sort,
 with survival of the whole community at stake,
 fear and desperation might have driven one group
 to try overpowering a neighboring group.
 Take food from the Others by force, the most ferocious "winning" the fight.

Although it meant the breaking of Personal bonds,
viewing Others as Objects may have been contagious.
Imagine a group infected with the Mindset,
encountering an uncontaminated group.
The uninfected would likely be overrun, made subservient or killed off.

Or, if they tried to take up arms and fight,
they became like the infected anyway —
and if defeated,
those who survived may have seen the objectifying Mindset as more “successful.”
Their new overlords, the “winners,” celebrating taking more than a fair share,
reveling in the exercise of power.
However the Self-as-Separate identity first took hold,
it enabled our history of hierarchy enforced by violence.

By the time of Descartes,
after tens of thousands of years of discourse and practice —
alienation from Nature / powering over One Another,
the Subject-Object model had become embedded in the imaginary.
Its features dominant in the Cultural Mindscape.
Seeing the World through the lens of the Mind/Matter dualism
was already taken for granted.

Numerous fields of contemporary Science and Scholarship, however,
have begun to question the assumption that Matter has no Mind.

And although Science remains generally committed to the Cartesian notion,
Science also provides us with evidence for rethinking the idea.

6 modern science

More than any other factor,
the obvious benefits of modern Science
gave the Cartesian Paradigm its staying power.

Science became modern,
when individuals such as Galileo (Descartes' older contemporary)
began making real progress by relying on evidence;
working only with experience,
documenting how Nature actually behaves.

Observation / measurement / description —
foregoing what others might have said or were saying about it.
Even though Galileo was forced to recant by the Inquisition,
he'd taken important steps.

Freed from speculation (thanks in part to Descartes),
and with a specialized language (math) to carry out its reasoning,
Scientific knowledge made giant leaps.
Newton and his celebrated Laws of Gravity exemplified the new method:
a combination of strict logic and experimental evidence,
rendering unprecedented predictive power.

In a short 500 years,
Science has produced a World unthinkable
even to the kings and aristocrats of old —
indoor plumbing, central heating, electricity, cars, television,
jet travel, the internet, cell phones...
footprints on the Moon, images of the Universe as it was 13 Billion years ago.
Add to that, the wonders of modern medicine...

And the technology to obliterate all of civilization — several times over.
But not the Moral Mindset for rejecting that kind of development.

Most Scientists see the World as fundamentally mechanical.
In their view, neither Matter, nor the biological realm, nor animal Life,
actually have Consciousness / exercise Freedom.
(Although some do believe that we somehow have Freedom.)

Science does its work by identifying physically connected causes and effects,
discovering laws and principles underlying outcomes.

It aims for predictive power —

with the overarching purpose of controlling Nature,
harnessing Her forces.

Scientists trust only verifiable data. The measurable.

Insist on conclusions that others can replicate, test, build on.

They long ago rejected the idea of alternative facts.

They doubt / cross-check / count on one another to find errors, if any —
by strict adherence to the method.

They don't always agree. They debate and argue.

But by acknowledging only measurement and physical description,
while striving to keep their work free of all personal interest —

such as emotionally based motivations,
political or religious considerations.

They together make step-by-step progress,
crediting each other as they make their way.

Recognizing only what can be measured, however,
restricts Scientists to appearances.

No proposing that discoveries or laws carry any deeper Meaning.

No attributing purpose, goals or Spiritual significance to the observations.

The Reality of what things are (beyond measurement),
the intrinsic value of anything —

remains outside the Scientific realm / unacceptable discourse.

Although Scientists sometimes refer to the phenomena they study
and to their theories about it,

as “elegant” or “beautiful” —

for the most part, Scientists are true Cartesians.

For them, the Physical World is devoid of Subjectivity.

Even after Quantum Mechanics, most still believe the Universe is determined.

Several problems, however,

have recently begun pressing more than a few Scientists
to reconsider the Cartesian assumption.

Foremost among these issues:

Overwhelming evidence indicating that our physical-biological being evolved from Earth.
— but if we say there are no Mind-like qualities in the smallest units of Matter,
(from which our Complex World and we developed)

Where did our Consciousness come from?

How can there be Consciousness?

Clinging to Cartesianism, some Scientists propose,
(in an assertion that contradicts the logic of all known causal laws)
that Consciousness just emerges —
from not being there at all.
Just suddenly happens.

Subjectivity appears, they say,
when fields begin to oscillate in precisely the right way;
or subatomic Particles start performing certain operations;
or the right informational structure comes together at some molecular level.

According to others,
the Human Brain, after acquiring language, simply learns it.
Where there had been no trace of anything like it before,
Consciousness begins. Just comes about.

Biologist and anthropologist, Thomas Huxley, in an oft quoted observation,
noted that this sort of account for the appearance of Consciousness
is remarkably similar to Aladdin rubbing his lamp and the Djinn appearing.

Many Scientists avoid the issue.
Some bend over backward to explain it away;
go so far as to declare the whole phenomenon of Mental activity an illusion.
What we experience as our awareness is not actually real, they argue,
so the issue can be dismissed altogether.

We're left wondering how the Scientific endeavor itself can be real,
if mental activity is an illusion.

Philosopher William Seager observes —
'If Consciousness is an illusion, then it merely seems that it exists.
But if anything seems to exist, that seeming is a state of Consciousness;
therefore, Consciousness (states of Consciousness) exist.'

There are other problems with the Cartesian Paradigm, too,
even among those who consider Consciousness real.

If there is no Subjectivity outside our own —

Does that mean the animals are machines?

The flowers and plants photosynthetic factories?

And perhaps most important for our rethinking,
if the Universe is simply a mechanism,

and the shared Mental experience of being here a fantasy,
what purpose is there beyond our own immediate considerations?

what guidance on the evolutionary path?

7 mind side meaning

Several years before the first World War,
Wilhelm Dilthey was struggling with the problem of Meaning.

‘If Physics is correct that the Universe is mechanical, without Subjectivity —
where does meaning come from?’ he wanted to know.
‘What is the meaning of Meaning?’

Aiming to set the Social Sciences on equal footing with the Physical Sciences,
Dilthey reasoned that since mechanical cause and effect are not responsible
for Meaning —
the study of Human Life requires a different approach.

He believed that a topography of being Human
(something like geography’s multi-dimensional mapping)
could be produced and Meaning discovered —
by searching for embedded intentions in the lived experience of individuals.
And he thought such material could be accessed by interpreting personal histories,
documenting choices made, describing worldviews.

Edmund Husserl picked up on Dilthey’s search for meaning,
but took it in a different direction.
Focusing more on *how* things come to have their meaning.
To answer that,
Husserl devised his famous “Phenomenological Method.”

‘Take whatever object you wish,’ we might imagine him saying,
‘and bracket it off from the rest of the world for a moment...
Pretend you’ve never seen it before.
That you have no idea what it could be about.
What its purpose might be. What it might be for.
Would it tell you its meaning?’
No.

Making the point that we,
as Individuals and as participants in a Culture,
are assigning things their meaning.
For Husserl, our awareness of any given object,
even our ability to perceive it,
depends on what he called “intentionality” (Mental content).

This became an important step
toward Modern Philosophy's understanding of "Reality,"
and the part we play in creating it.

The effort to establish meaning in a Universe without Subjectivity
comes further into focus with Martin Heidegger.
He takes Husserl's Phenomenological Method to another level,
sees it as a way of revealing the Meaning of Being itself.

Heidegger prefers to call Human existence, "Being-there,"
and asks, 'What is Being-there all about?'
Using concepts such as being-with, care, mood, concern,
being-unto-death, temporalizing (placing events in a sequence) —
his descriptions open a new window for Philosophy.
Focusing less on abstract discourse about what can and can't be known,
turning instead to the lived Human Experience.
Deplorably, however, he failed the moral test of his historical moment
by not repudiating the Nazi party.

His work nonetheless contributed significantly to that of Jean-Paul Sartre,
a younger philosopher,
who powerfully articulated the lesson that Nazism
— the killing of millions of Jews and others in the Holocaust —
taught us: We're each inescapably responsible for our World.
Sartre wrote novels, plays, as well as heavy pedagogical works,
every time striking a strong chord for Human Freedom and Responsibility.

In the introduction to his book, *Being and Nothingness*,
Sartre demonstrates that Consciousness is pre-reflective.
Comes first,
and doesn't depend on anything we might say about it.

A key insight,
for if Awareness comes before anything we might be aware of,
then Consciousness doesn't depend on an Idea of Self —
in the case of Descartes, that we are a Separate 'thinking Substance,'
or in our case, some Cultural Idea of Ourselves.
Existence (Presence) precedes Essence (how we understand ourselves).

Sartre's thinking opened new horizons of Human Possibility, while at the same time contributing to a tremendous rupture in the prevalent traditional Scholastic Worldview — which assumes our Essence is pre-figured.

Either known from Eternity in the Mind of God,
or as paraphrased in, "Human Nature being what it is..."

No such excuses as an Eternal Essence or Human Nature in Sartre's view. Sartre himself, however, continued to view the World through the Cartesian lens, never attributing Mind or Consciousness to Matter.

Most important for our rethinking,
Philosophers such as Husserl, Heidegger and Sartre demonstrated that Reality is not something "out there,"
waiting for us to learn, accept and "face it" —
Who we are is not already written somewhere.
Reality is not at all like our Medieval model of it.
Not what our earlier understandings imagined.

At the core of Reality resides the set of overarching meanings, values, goals, assumptions, understandings...

(Conscious and Unconscious)

that frame our Lives.

An interpretation of experience which we and our Culture create and reproduce.

As such, Reality can be deconstructed and reconstructed.

We can *rethink* it.

Students of those earlier 20th century scholars would explore *how*.

8 the postmodern

Although Michel Foucault would do all he could to escape being categorized
 or associated with a Movement,
 his work played an important part in the intellectual revolution
 that came to be known as Postmodernism.

Foucault began with an interest in the construction of our Subject Selves.
 How do we come to think of Ourselves and One Another.

Act as we do.

How is it that we, in this Time, understand Ourselves.

His project led him to follow the historical paths that “power” took
 as it moved away from the display of raw force,
 (torture in the public square, public executions, whippings, etc.)
 to locate itself where it works more efficiently, as it does today —
 dispersed through the “microtheaters” of our World.

In our workplaces, schools, sports, churches, social circles, families...
 even in architecture.

Foucault saw that power has become interiorized within each of us,
 ensuring that we both perceive and pursue our Self-interest
 in ways that don't threaten the social order.

We keep ourselves in check.

Modern power operates, Foucault observed,
 as much by saying, “Yes.” As by saying, “No.”

Power gives permission —

It approves thought or speech about Each Other and Nature, for example.
 Says what's within the realms of acceptable ways of acting.

Foucault believed that coercive Power is so ubiquitous in our Society,
 so embedded in the everyday hierarchies and systems of Modern Life,
 he isn't certain we can ever fully break free.

He sees the Subject-Self as Aware of this structure and capable of Choosing,
 but...

Although Foucault describes us as entwined with Culture,
 helpfully spells out some of the ways Culture operates,
 and alerts us to the Reality that we are not so free as we might have believed;
 he doesn't write about Nature and Earth as endowed with Subjectivity.
 He remained on the Mind side of the Cartesian canyon.

Going deeper, one of Foucault's students, Jacques Derrida, aimed at deconstructing Language.

He observed that it's founded on binary oppositions.

(Subject-object, Self-world, Mind-body, Man-woman, White-Black, etc.)
and that, in every case, one term of the pair is considered superior to the other.
Calling attention to how Language imposes that structure on our thinking.

Words themselves invoke hierarchal relationships.
Subject and Object are never equal.
Objectification is an act of power over the Other.

Derrida built upon analyses of Language done earlier, including that by Ferdinand de Saussure, who pointed out that Language generates meaning by links between signs.

Words are defined by words defined by other words.
So that any meaning that language is going to deliver, rests scattered across chains of signifiers —
with no necessary connection with anything outside the sign system to which the words supposedly refer.

Language can be thoroughly out of touch with the Referent.
Which might help explain our problematic engagement with Nature, our often painful relationships with One Another.

Roland Barthes added to the picture with his observation that words are "sticky."
They associate with all the meanings they've ever had; and therefore, more than likely drag along old notions.
Beliefs we may have thought we'd rejected and left behind, such as racism and sexism.

Insights into how Language quietly provides the architecture for our every day engagement with the World, One Another and Ourselves, can help take our rethinking beyond the superficial,
toward deeper changes in understanding,
leading to more effective action.

Yet, some Postmodern thinkers doubt the possibility of Freedom, itself.
They note how each of us are dragging along prejudices we consciously disavow, while chained to a Language out of touch with the Referent,
so that we can't even imagine what liberation might look like.
Or come to know who we truly are.

Ironically, their insights and fears
could help us move beyond their pessimism.

For they've pointed out the power that Language and Cultural Systems
have on our ability to think, even to perceive.

Shown how easy it is to absorb failed meanings, reproduce and pass them on.
Unconsciously.

Leading us to conclude that though it would take constant effort,
we could take responsibility / realize our Possibility.

Up to this point, however, the keys to liberation that Postmodernist Theory offered,
remain, for the most part, caught up in academic circles.

Or categorized as nihilist dead ends.

If as a Society we had been made aware of some of their understandings,
we'd have been better prepared for our present situation.

We are right now in an updated replay of Social Conflict.

Versions of which characterize our Self-as-Separate History.

This time those who see Life as a competition in a zero sum game,

(A game in which there are winners and losers)

and who justify any means to be among the winners —

are using the media to spread misinformation,

Producing confusion regarding the news.

Persuading People to believe lies.

Propagating conspiracy theories.

Giving permission for crude and uncivil discourse, hate speech and behavior.

Ultimately, disparaging the Rule of Law, Democracy.

All this at a time when we need to work together.

This situation would never have developed,
without the conception of our World and Others as Objects.

Our Selves as Separate with Separate Self-interest.

All ramifications of the Mind and Matter split.

Life in a Universe without Meaning.

Luckily, that's not the only Storyline our Culture carries.

9 a less-taken path

πᾶν ψυχή —

pan: all, everything.

psyche: mind, breath, spirit, soul.

Panpsychism understands Mind and Matter as coequal,
mutually complementary.

It maintains that Matter possess some kind of Mind-like quality, a psychic dimension.

That some kind of Mentality is a fundamental feature of the Physical Universe.

That Consciousness or Subjectivity is omnipresent.

Although not the pathway that dominant civilizations took,
expressions of the Panpsychist understanding have long existed.

As Europeans conquered and colonized much of the globe,
they encountered People with very different Cultures.

Fortunately for Humanity and all other Creatures Living with us on the Planet,
some survived the brutal business of colonization.

Many Indigenous Peoples have documented and still give witness
to an attitude toward Nature as Sacred, Conscious loving Being.

Translating into a very different appreciation of One Another and the World.

Some weave everyday moments into a larger tapestry.

See events and occasions with Nature and Others as meaningful.

Evoking a trusting attitude toward Life and One's Community.

Motivating individuals, as some put it, to live "in a Sacred manner."

Nor has mainstream Culture itself remained without similar narratives.

In the 16th century,

Giordano Bruno advocated a version of Panpsychism,
attributing various degrees of Intelligence to Matter.

For that and for saying the Earth revolves around the Sun,
and that God is inseparable from the physical Universe —

he joined a long line of People murdered by Church and secular authorities
for expressing "wrong" beliefs.

Including more than 40,000 Women burned to death as Witches.

Not quite a century later,

with Philosophy deep into the Cartesian quagmire —

*'If thinking is one thing and the material World totally another,
how can we know anything exists outside our Minds?'*

Baruch Spinoza would reason his way to a solution.

Spinoza begins with definitions, progresses to axioms and propositions.
He starts by establishing that there can only be One Substance necessarily exists.

God.

Uncaused / eternal / unlimited / with infinite possible attributes.

Humans, Spinoza deduces, can know two of those attributes:

Thought (Mind) and Extension (Matter).

Thus Mind and Matter are not exclusive of one another —
they're two Attributes of the same One Substance.

And Nature is Divine.

Living in liberal Amsterdam, Spinoza fared better than he might have elsewhere
for proposing such a Pantheistic cosmology.

He did get expelled from his Synagogue and ostracized by the community,
but not burned at the stake.

Later, a radical Enlightenment movement in Amsterdam embraced his ideas.

And one of that era's best known writers, Diderot,

would playfully enfold the workings of fate that Spinoza's model implies

into his novel, *Jacques the Fatalist*,

in ways that suggest he found it somewhat persuasive.

In Spinoza's own time, writers and philosophers didn't show much enthusiasm,
although Gottfried Leibniz did travel to consult with him at least once.

Leibniz, a famed mathematician,

came up with his own answer to the Mind and Matter issue.

Mixing some older metaphysical explanations together with his own reasoning,

he put forward the idea that all things are assembled from small atom-like points.

"Monads," he called them.

Defining each as being endowed with perception, appetite

and capable of spontaneous activity.

although, "windowless," he noted.

Monads aren't able to see into each other.

Each their actions are their own.

When asked how all these individual simple substances manage to avoid chaos,
(since each monad is an independently minded force)

Leibniz answered that 'God pre-programmed them all, from the beginning.'

Because being all good, God would only create, "the best of all possible worlds."

An assessment that Voltaire's satire would later scathingly expose

for its seeming failure to notice the World's horrendous troubles.

Back to the historical thread that we're following.
 The 19th century came to be called the Golden Age of Panpsychism.
 A list of the contributors —

Includes Philosophers,
 Arthur Schopenhauer, Gustav Fechner, Josiah Royce, Charles Peirce...
 Each elaborating in their own way on various Mind as integral with Matter themes.

The Transcendentalists,
 Ralph Waldo Emerson, Henry David Thoreau, Walt Whitman, Margaret Fuller...
 who were certain, 'In Nature alone can we hope to find true traces of ourselves.'

William Blake exhorts us to conceive of our relationships as magical.
 He wants to hear the workers' songs / "no more mourning voices in the valley."
 He points to the stars.
 "...everything that lives is holy," he writes,
 "...every particle of dust breathes forth its joy."

Emily Dickinson invites us into Her Garden,
 where she serves up mystery tea.
 Wraps our visit in word brocades woven with eternity.
 A madness that infuses Earth with Heaven.

Gerard Manley Hopkins wants to immerse us in "inscapes."
 Draw us into the "this-ness" of individual beings.
 Have us experience the Spirit in Nature.

In more recent times, numerous Theologians, Philosophers and writers
 have also expressed Panpsychist leanings and perspectives.

Martin Buber taught that we become Ourselves
 only in Relationship characterized by full Subjectivity on both sides
 of what he called an I-Thou dialogue —
 with Another,
 with Nature,
 and with our deeper Selves in Solitude.

For Buber, these moments of Encounter represent lines radiating from a Center,
 the singular Absolute Thou (God),
 present in each of our Individual Lives.
 Although he describes such moments as fragile;
 easily reverting from I-Thou into I-It,
 as the Objectifying culture re-imposes itself.

Teilhard de Chardin takes up evidence unearthed by geology and paleontology.
 'If we have Consciousness, all of Matter must have it,' he asserts.
 He follows "grains" of awareness as they evolve, "complexify" —
 through the geosphere, the biosphere into the noosphere (Consciousness).

A theologian as well as paleontologist,
 de Chardin calls the evolutionary process, "Christogenesis."
 And envisions it reaching an Omega Point,
 where opposing political forces — progress versus regression,
 converge in an apocalyptic struggle.
 A Point when Life either collapses beneath the weight of planetary exhaustion,
 or blooms in Universal Love / Music / Beauty.

Mathematician and physicist turned philosopher,
 Alfred North Whitehead helped to pioneer "Process Philosophy."
 A school of thought developed in the 20th century,
 in light of the discoveries that Science was making,
 particularly in regard to Relativity Theory and Quantum Mechanics.

Process Philosophers suggest interpreting Matter as dynamic.
 (Reminiscent of the Greek Philosopher Heraclitus, 'Everything in flux.')

They propose replacing Particles (Objects) as the foundation of Reality,
 with the concept of Occasions, or Events.
 They believed describing entities as "droplets of experience,"
 better fit the direction that Science was headed.

Whitehead saw Change as the defining characteristic of the Universe,
 and believed that understanding inferred Panpsychism.
 'If we look at Reality as composed of events, rather than bits of matter,' he reasoned,
 'Matter with Mind at all levels could account for otherwise inexplicable phenomena.'

The paradigm Whitehead helped develop, features Subjectivity
 from subatomic to galactic.
 Self-determination of some kind throughout the Universe.
 Immanent and everywhere in Nature.
 A Power for Creativity that he sees as stemming from God,
 urging toward a destination.
 But given the unlimited possibility of a Cosmos laced with Freedom,
 the Endeavor comes with no guarantee.
 Process Philosophy offered a radically new conceptual model for Reality.

In our time,
 research and discoveries have pressed some scientists and academics
 to address what David Chalmers calls, the “hard problem” —
“What is the place of Consciousness in Nature?”

Philosophers, physicists, biologists, astronomers,
 scholars from every field are contributing answers.

In a distant echo of Spinoza,
 Priority Cosmopsychist Philosophers, such as Yujin Nagasawa,
 consider Consciousness a fundamental attribute of the Cosmos itself.

Freya Mathews begins by defining a Self
 as any entity so organized that it can maintain itself in Existence.
 Thus she concludes that the Cosmos is a Self — a Subject.
 She sees the Universe as an indivisible One, differentiated into a Many.

Given that maintaining Oneself in Existence depends on Meaning,
 each individual Subject Center becomes radically important to the Whole.

(An inference that pictures dialogue playing an essential role.)

And because outside the Universe there are no Selves with whom to communicate,
 Nature actively seeks “communicative engagement” with all who exist.

Mathews understands the World as “Ontopoetic.”

It can communicate with us in ways not restricted to Language alone.

Portraying our relationship with Nature as a gateway to novel meaning and experience,
 she sees the possibility that opening Ourselves to another Subjectivity,
 could lead to a new ecological responsibility.

A time when we might sing our brutally silenced World back to Life.

Philosopher Barbara Montero directly addresses “the Combination Problem.”

Among several ways of stating the issue:

When we think about what being a Subject Center means / what it’s like,
 we know at least this much about Ourselves —

We can introspect, look within, be aware of our Selves, how we feel...

but we can’t read One Another’s Minds.

We can empathize; but we can’t feel each other’s pain.

Given these features of what it means to be a Subject Center,
 How is Combination possible?

‘How is it conceivable that individual entities could be aware, Self-conscious,
 and yet get together to form a larger Life-form with a unified Mind?’

‘Such as the Cells in a living Body?’

Montero answers along both intuitive and evidential lines.
 She contends that Subject Centers may not need to fully share all perspectives
 in order to combine.

Combination might represent a kind of marriage.
 A radical bond achieved by sharing and exchanging energy with One Another;
 while each agent in the relationship retains a degree of their Individual Identity,
 in the on-going commitment of working together toward a common good,
 — they create a new reality.

She also points to the relation of parts to the whole observed in chemical bonding —
 atoms don't "pool" or dissolve into molecules,
 nor molecules lose themselves when they combine to form macromolecules.
 Montero sees a further analogy for how Combination might work
 in the complicated ways that individuals interacting can spontaneously generate
 what could be called the 'Spirit of an Age.'

When Panpsychism states that, "all things possess a mind-like quality,"
 it doesn't mean that rocks, fence posts, tables, chairs, machines...
 have the same kind of Consciousness as Persons.

Collectives of Particles can have Mind-like qualities,
 but not actively share information among themselves.

Such entities carry on Conscious activities, nonetheless,
 at least on some level — the molecular / atomic / subatomic...
 down to the smallest conceivable "Quantum," Particle-Wave.

Most Panpsychists distinguish between aggregates,
 composed of many loosely gathered bodies, each retaining their own identity;
 and free-acting integrated Subject Centers with Unified Consciousness,
 whether nucleons, atoms or biological forms.

Living Complex Adaptive Systems such as flowers, for example,
 emerge from free agents Self-organizing from the ground up.
 Unfolding patterns from the first moments of their pollination,
 according to the information scripted in their DNA,
 developed by way of their evolution,
 reaching back to the Beginning of Life on Earth.
 By choosing to identify with and labor for the common good,
 each molecule shares and benefits in the Life of the Whole Organism.
 A flower is more than the sum of its parts.

The integration of Panpsychism into the Scientific framework
 is not as impossible as it might seem.

David Skrbina, for instance, underwrites a Panpsychist explanation stemming from Quantum Theory.

A single Complex Mind might emerge from many simpler Ones, he suggests, in the way we understand how fields combine, sum up into larger, more complex fields.

Neuropsychologist Giulio Tononi and Research team,
recognizing Consciousness wherever information is processed,
search for the Physical structures that could account for it.

Panpsychism goes to the heart of the matter,
where it meets Science,
we find the start of a new pathway.

Part II — What

10 where to turn

All would agree that our species has a prowess for technology.

People in high income countries inhabit a world unimaginable to someone living in the early 1800's.

We take for granted the achievements of modern science.

Food, water, housing, medicine, transportation, communication, entertainment...

We also know that homelessness, malnutrition and hunger remain rampant;
that our present rate of consumption, waste and population growth are not sustainable;
And we're reminded almost weekly — we court unspeakable disaster,
if we continue down the pathway
of trying to solve Political and International conflict with violence.

Geologists studying the impact of Humans on the Planet call the epoch of our being here the "Anthropocene."

Accelerating since the Industrial Age and all too evident in our present World,
with its glass, steel and concrete megacities, pipe and power lines,
interstates, autobahns, shipping lanes, air traffic, satellites...

Machines of unprecedented scale mining for coal, minerals, metals,
dragging the oceans for fish. Clearcutting the forests.

The Anthropocene:

the reality that each day 150-200 of plant, insect, bird and mammal species
become extinct;

that our plastics pollute the seas, rivers, landfills;

and despite signs that a Climate Crisis is already upon us,

we continue to pump heat-trapping molecules into the atmosphere.

All this from a species with endless potential —

A Lifeform that could be known for Dialogue and Love.

Living together in diverse Pluralistic Egalitarian Societies,

where each Individual has the resources to meet their needs, aspirations...

Peacemakers endlessly growing in appreciation of the Joy of Being.

Gardeners caring for their Mother Planet.

Instead, we find ourselves divided along lines of class, race, nation, religion...

Manipulated by individuals consciously exploiting our difference-based prejudices,

in their rivalry to wield the most power / accumulate the greatest wealth,
in a mental landscape marred by scorn for morality.

Government bound up in gamesmanship is dangerous at any time,
and becomes more so,
as the time for fixing what's broken grows short.

The minimum we need to move beyond this impasse
is the acknowledgment that we face these problems together,
and only together can we solve them.

Stating the obvious, however, doesn't get us there.

To move beyond our divisions,
we need a shared Understanding of Ourselves —
at least a basic notion of what it means to be Human.
Something we can agree upon, regarding who we are.
So with common goals we can work together and succeed.

To get there, we need to move beyond words.

Beyond the exhortations to love One Another we find in every Holy Text.

Past the shelves of library books defending Selfishness and the like.

If we want a Story about Ourselves that all of us can trust —

We need to ask:

What does the evidence show?

There is only one source we can turn to when we need that kind of information.
So, what can Science tell us about Ourselves that can help?

Late 20th century developments in Science,
(Particularly discoveries made in the Quantum realm)
describe a paradigm shift in our conceptions of Matter, the Universe, Ourselves.

To understand some of these developments,
and how they contribute to a new and evolving picture of who we are,
we'll briefly recount the unexpected dramas that led to their discoveries.

11 it's elementary

In an early 19th century experiment,
 Thomas Young observed that light,
 passing through two closely cut parallel slits in an otherwise opaque barrier,
 cast a strange pattern on a screen beyond.
 Instead of two definitive bars,
 as one might expect from a beam of light split into two beams,
 Young saw a pattern of alternating dark and light bands.

Later physicists duplicating the double-slit experiment
 offered an explanation:
 when Light traveling as Waves meets the two slit barrier,
 some Waves get through —
 passing partly by way of the one slit,
 partly by way of the other,
 becoming independent Waves on the other side,
 which collide and merge.
 Where a crest meets a crest — the Wave is amplified.
 Where a crest meets a trough — the Wave is cancelled.

When the resulting new Waves arrive at the screen,
 they produce the dark and light bands called the “interference pattern.”
 The darker bands representing Waves that were amplified.
 The lighter bands, Waves that met with cancellations.

Fast forward to modern times,
 after Einstein had established that Light is made up of Particles (Photons),
 which raised serious questions regarding the previous explanation.
 How can Particles passing through the double-slit barrier
 be producing a Wave pattern on the far screen?
 To answer, Scientist reframed the question —
 Asked, ‘What would it look like if you sent only one Particle at a time?’

So Researchers slowed the stream of Photons way down,
 separating the single Particles of Light by long intervals of time.
 They expected the twist of solitary Photons passing through the double-slits
 to produce two strong bands on the screen.
 (Indicating which slit the single Particles had gone through)
 But instead — the interference pattern again appeared.

They then tried sending other kinds of Particles at the double-slit barrier:
 individual Protons, Atoms, Molecules...
 each separated by significant intervals of time,
 and watched as they arrived at the screen beyond,
 and one by one slowly building up — the interference pattern.

What could it mean, that instead of acting in a predictable manner,
 (two slits, therefore the Particles arriving at the screen in one of two places)
 the single Particles produced the pattern that Waves would be expected to make?
 How could material Particles do that?
 Does a Particle go through both slits at once?
 Was Matter not made up of Particles as previously thought?

To investigate,
 Researchers set out to determine which slit the individual Particles were actually using.
 So they placed sensors just beyond the double-slit barrier,
 watching each Particle as it passed through the one slit or the other;
 which produced another surprising result —
 it eliminated the interference pattern altogether.
 Under observation, the Waves behaved as Particles,
 producing just two bars on the screen.

Well into the 20th century,
 Researchers were still grappling with the double-slit experiment.
 This time, they added a layer between the sensors and the final screen,
 “erasing” any trace added to the Particles to learn through which slit they had passed.
 The interference pattern reappeared.
 which only raised more questions —

How can a Particle arriving at the slits be aware that it’s going to be measured,
 and so enter the one slit or the other?
 (Producing the two bands on the screen.)
 But then, when it recognizes that it is no longer being tracked,
 abandon that Particle behavior, take up the Wave Function, again?
 (Produce the interference pattern when the tag is erased.)
 Why should a Particle “care” that someone or a device is observing it, anyway?

Staying within the Cartesian Paradigm,
 Danish physicists Niels Bohr and Werner Heisenberg
 would interpret these results as illustrating an important new understanding:
 the “Principle of Complementarity.”
 ‘Matter shows both Wave and Particle behavior —
 although you can’t observe both aspects at the same time.’

They followed that revolutionary interpretation of the laboratory evidence, with the “Uncertainty Principle.”

‘If you know the location of a Particle,
you can’t at the same time know the momentum of its Wave.’

And conversely,

‘If you know the momentum of a Wave,
you can’t know its Particle location.’

‘The Particle moves as a Wave,’ they explained, ‘until it’s measured — at which moment the *Wave Function* “collapses,” and it appears as a Particle.’

In other words,

a Wave carries all the possibilities available to it as a Particle.

(The infinite pathways it’s capable of taking to the screen.)

It holds these Probabilities in a kind of suspension.

(For as long as it’s functioning as a Wave.)

If you look to see what’s happening, however, the Wave ceases to be a Wave.

You get to know its Particle location.

Observing makes all the difference.

Another takeaway, Bohr pointed out — is “Unpredictability.”

There’s only a Probability

that a Particle will land at any particular location on the screen.

(The darker bands representing greater Probability / the lighter bands less.)

As the laboratory value of the Bohr and Heisenberg insights became clear, “Probability Waves” displaced the former concept of reliable Particles.

Instead of Electrons portrayed as tiny planets orbiting a nucleus,
Physicists advanced the model of Electrons as clouds of Energy.

Erwin Schrödinger and Paul Dirac

developed equations that made accurate predictions,

enabling further exploration of how Matter behaves at the Quantum level.

Richard Feynman created a system to graphically depict what was happening,

but — *What was actually happening?*

How can a Wave (a Probability) transition into a Particle (something Real)?

What mechanism could (supposedly Mindless) Matter be using?

Why should the collapse of the Wave Function depend on Observation?

Incomprehensible in the Cartesian framework and frustrating —

as indicated by the oft cited quote among Physicists in response to the situation:

“Shut up and calculate.”

Because that's what Scientists do.
They know they don't have all the answers,
and that sometimes a new discovery calls for reworking what was once believed.

But contradicting Classical Physics basic understandings of Matter,
 raising questions regarding what's Real,
 setting boundaries on what can and can't be known,
 entangling the observer in the results of experiments...
Einstein objected.

Although only decades earlier he had upended the pillars of Western thought,
 (when he showed that Space and Time are Relative)
these new conclusions: Probability Waves, The Uncertainty Principle...
— he couldn't accept.

Einstein believed that the Quantum Mechanical model must be incomplete.
There must be something going on that we're not seeing.
If indeterminacy were correct, predictive power was lost.
 He feared Uncertainty would destroy the foundation of the Sciences.

Bohr and Einstein debated the issue for decades,
until an experiment put their dispute to rest.

12 free or determined

On the surface,
the famous Einstein and Bohr debate had to do with their disagreement
over how to interpret what both were seeing.

Bohr was certain that the experiments illustrated how Matter behaves.
Einstein was sure that something was missing.

On another level,
their debate was about the Cartesian Paradigm.
Is Matter predictable — determined, as we would assume an Object to be?
Or is Matter unpredictable — free, as we would associate with Subjectivity?

Einstein believed that whether you looked at a Particle or not, it had a fixed Reality.

It was what it was from its beginning.
Objects predictable. Determined.
“God doesn’t throw dice,” he famously said.

Bohr (although not bringing up the issue of the Cartesian Paradigm)
believed that until you measured a Particle, it was in a “Superposition.”

Holding all its Probabilities in a Wave state.
Not fixed. Unpredictable.

Only when you observed it, only then, a defined entity, a Particle.
“You shouldn’t tell God what he can or can’t do,” it’s said, he replied.

Years after both Einstein and Bohr had died,
ingenious logic together with advancements in technology
allowed Scientists to test the two points of view.

That story began in 1935,
when Albert Einstein, Boris Podolsky and Nathan Rosen (EPR) published a paper
claiming to demonstrate that Quantum Mechanics was ‘not a complete theory.’
— that it was missing something.

Their argument was based on a thought experiment:
‘Begin with two Particles that “correlate,”’ they proposed.
(Particles that correlate originate from being a single unit.)
(Like a pair of shoes — right and left.)

‘Next, separate these ‘entangled’ Particles,
moving them away from one another,
in opposite directions, at the same speeds.’

‘After some time has passed
 (and the two Particles are some distance apart),
 if you measure and learn the momentum and location of one of the Particles,
 you can correctly infer the momentum and position of the Other;
 even though you’re removed from it and you don’t measure it directly.’

It was in the explanation for how this can be true that the EPR Paper aimed to demonstrate the Quantum Mechanical Model was flawed.

The Uncertainty Principle states that a Particle’s location and momentum cannot be known, until it’s measured.

So in the case of the Separated Particle Pairs —

(Keeping in mind that the Pair are required to correlate.)

Because neither the location and momentum of First Particle,
 nor the location and momentum of the Second Particle,
 can be known until measured;

to know the location and momentum of the Second Particle,
 requires that the measurement done on the First Particle
 to become known to the Second;

so that it can take up the correct corresponding measurement
 and the Particles correlate.

Some kind of communication has to happen.

That the First Particle somehow tells the Second its measurement,
 so that when you measured the Second, it correlated —
 was the phenomenon Einstein called, “Spooky actions at a distance.”

And working from within the Cartesian Paradigm, he wanted no part of it.

‘How could an object over there, even care about an object over here?’ he asked.

The EPR Paper argued that Quantum Mechanics can’t be the full description.

Since you could conceivably separate the Particles to be measured
 by an immense distance —

requiring communication of the measured results
 to travel from the First Particle to the Second,

at speeds greater than the Speed of Light — which is impossible.

As Classical Physicists,
 the EPR team had a very different account.

You can know the location and momentum of the Second Particle, they explained,
 because each Particle has a Determined value,
 by virtue of a mechanism we haven’t yet discovered.

A “Hidden Variable.”

Measure a Particle, and you learn what those values are,
 and since the Particles are an entangled Pair;
 if you know about the First Particle, you can know about the Second.

In contrast to Quantum Mechanics, again,
 which stated that it's not until you measure a Particle,
 that its Wave Function collapses,
 and the Particle assumes a value which you get with your measurement.

While the EPR Paper was insisting that what you found had always been there.

So how could you tell,
 whether the Particle was Unpredictable, until measured?
 or if its value was Determined in advance of any measurement?

For decades, there was no way to test the two positions.
 The answer seemed to be which interpretation you preferred.
 The Hidden Variable, Determinist explanation became the more accepted,
 perhaps for being the easier and less scary of the two options,
 and fitting better with Western cultural assumptions.

The troubling questions that Quantum Mechanics were raising, however,
 issues associated with our basic understandings of the Universe,
 were not easily suppressed.

A subtle but important turn took place in 1951,
 when theoretical physicist David Bohm suggested substituting "spin,"
 for measuring the correlation between the entangled Particles.
 (Spin is among properties used by Physicists to describe fundamental Particles.)
 (Analogous to how the Earth is spinning.)

The reasoning goes like this —
 In a system made up of Particle Pairs,
 if the spin of one of the Particles is counterclockwise or "up,"
 the spin of the other Particle of the Pair will be clockwise or "down."
 Thus separated Particles that were originally part of a Pair, will not show the same spin.
 For if they did, they would no longer correlate.
 They would be identical with each other, a contradiction.
 (Like two right shoes)

Although scholars showed interest in Bohm's idea, it had little effect at first. You could still argue that the spin of one Particle "up," and the other "down," was already there before you measured it; or that it resulted only after measurement. The Free or Determined question remained unanswered.

Things began to change in 1964, when John Bell, a Researcher at the CERN laboratory in Switzerland, proposed an ingenious theorem by which measuring for spin could provide a means to bring the theoretical debate into the laboratory, where evidence might verify the one or the other description of the World.

Based on accepted mathematical theory, Bell calculated that if you made measurements for "up" and "down" spins, along three randomly chosen axes, the results would differ — depending on whether you used the Quantum or the Determinist approach.

Bell's math indicated that if the spins were assumed Determined, the Particle Pairs would correlate only 55.5% of the time. (The remaining Pairs end up like all right shoes or all left shoes.) In contrast, the Quantum model predicted the entangled Particles correlating 100% of the time.

To test Bell's Theorem, Physicists needed the ability to create reliable Particle Pairs, separate the entangled Partners a significant distance from each other, and figure out how to measure the Particles along three randomly chosen axes, then compare. Finally, run the experiment enough times to generate consensus forming data. It took several years to develop that kind of technology.

In the 1970's, Stuart Freedman and John Clauser at Berkeley, and in the early 1980's, Alain Aspect and colleagues in France, followed by a host of other Physicists and Researchers around the World, did the testing — the results were conclusive.

As Bell's theorem had predicted, the Determinist model failed to account for the required correlation; while the Quantum Mechanical model produced the correct results.

Measuring distantly separated Particles Pairs,
first the One Particle, then the other;
and measuring them in a time that didn't permit information to pass between them,
(Unless the information could travel faster than the Speed of Light)
the Particles correlated 100% of the time.

Although the Bell Experiments resolved the Free or Determined issue,
it wasn't really what Science since Descartes wanted to learn.

What had been thought "impossible," was now, somehow — Reality.
But what kind of Reality was this?

How can something over there, effect something over here,
without any observable linkage or means?
across any distance?
instantaneously?

How can something travel faster than the Speed of Light?

And perhaps most perplexing of all —
Is nothing Real until observed?

13 non-local and entangled

Almost immediately following the well-documented Bell Experiments Physicists launched research projects aimed at eliminating possible “loopholes.”

Looking for anything that could explain the findings differently.
They’ve meticulously closed and continue to close each one.
Other efforts to avoid having to rethink the results have also been sought.
Such as the idea of “Many Worlds” simultaneously existing.
Or a “Superdeterminism,” absolutely everything determined.

But despite the Problems that Quantum Mechanics raised regarding Reality, neither Scientists nor our 21st Century World can doubt Quantum Behavior. It’s in evidence all around us —

Computers, phones, WiFi, medical technology, entertainment, automobiles, the whole of space exploration, military weaponry...

Nor did Quantum Mechanics usher in the End of Predictability. Classical Physics takes place on the same scale as our every day Life, where the astronomical numbers of Particles involved lead to reliable Probabilities — making it unlikely that we will ever be able to walk through walls, and permitting Science to continue its practical work: such as documenting the Climate Crisis, tracking global temperature changes, computing trajectories, warning of consequences, suggesting needed changes...

Yet, in order to make sense of the results of the Bell Experiment, Physicists found it necessary to renounce a long standing and sacrosanct belief, the “Principle of Locality.”

Simply stated: if an event at one location is to be linked with an event at another location; something, a signal at least, has to travel between them. Some means of communication must connect the cause with the effect. And logically, the distance separating the one from the other could never require the cause to travel to the effect faster than the Speed of Light. Since the Speed of Light had been established as Absolute. (Nothing can go faster.)

After the Bell Experiments, however, Scientists recognized a new order of Reality, the “Principle of Non-locality.”

It states: connections exist between entangled entities, regardless of how much space appears to separate them, and even if there is no known means to connect them, and this entanglement takes place instantaneously / in a no-time.

The “Entanglement” Explanation
 not only saved Quantum Physics from contradicting Relativity Theory;
 (For there’s no need for information to travel faster than the Speed of Light,
 Particles are entangled with One Another.)
 it also carried a new view of the Cosmos.

Since the Universe, at the Beginning, (before expanding),
 would have been wholly in touch with itself;
 Every Particle of Matter remains forever entangled with every Other.
 Each Particle in the Universe is inextricable from an undivided Whole.

Stepping back for a moment —
 One might think that these discovered metaphysical Realities:
 Matter, the Universe, free and undetermined.
 Every Particle of Matter entangled with every other.
 might have had some influence on narratives we’re telling Ourselves
 about who we are / what we’re a part of.
 Such as calling into question our basic notion of Self-as-Separate.
 But for the most part, they haven’t.
 The understandings remain largely in academic realms.
 And most Scientists still refrain from addressing anything to do with Meaning.

Which brings us back to our earlier question:
‘How can Science help?’
 or must it fail when it comes to providing assistance
 with our most pressing need —
 the attitude shifts necessary for making a Change of Heart.

Suppose we suspend the Cartesian assumption for a moment.
 Begin with the premise that Nature is in some way Minded.
 Grant that the Universe is endowed with some kind of Consciousness.

But wait —
 Can we drop the Mind/Matter split without reverting to the Medieval?
 Few of us are interested in abandoning modern thinking;
 Going back to “anything can mean anything,”
 Believing what we’re told without supporting evidence,
 Submitting to the “might makes right” system of society.

Such concerns, however, may be unfounded;
 for Panpsychism involves serious scholarship.

In fact, recognizing that the basic Physical constituents of the Universe have some kind of Mental properties — doesn't distract from the progress Science has made; in most cases, it makes for a more intuitive, direct and beautiful explanation. As in the evolutionary drama recounted by Microbiology, for instance.

Most importantly,
a paradigm shift from thinking of the Universe as a Mindless Object,
(unaware of our Presence),
to admitting Subjectivity,
(in our relationships with One Another and the World)
could open us to a new Responsibility —
catalyze the Transition we as a Species need to make.
Help us rapidly evolve a sustainable relationship with Earth.
Find our place in the Universe.

A Panpsychist understanding, however,
is not yet how we commonly picture our World.

But those troublesome developments in science have kept nudging us in that direction.

14 space, strings and branes

When Quantum Physics moved from office chalkboards into the lecture halls where Relativity Theory held sway; and the ultimately small met the cosmically large, discord ensued.

And it wasn't just Quantum Physics' Unpredictability and Non-locality versus Classical Physics' Locality and Determinism — the theories disagreed over the meaning of Space itself.

We often see Space depicted as a grid-like pattern. A rubbery net of crisscrossing lines that warp and sink in response to the presence of Matter.

Our Existence, however, isn't happening in only two dimensions. Our World is not simple a floor-like plane.

The Universe is not like a sheet of graph paper. The Space we inhabit is three dimensional. You can reach your hand out into it.

The World, our Bodies, Physical Space as we know it extends left-right / forward-back / and also up-and-down. Longitude, latitude, and altitude. Objects have breadth, depth and height.

Space is fundamental. It's how we understand location. We can measure Space, divide it into smaller increments; but it doesn't derive from something other than itself. Space isn't like anything else. Space is foundational to the Western idea of the Universe.

Space hosts Being — from the smallest Quantum Wavelength, to massive Stars, Galaxies and Black Holes. Endless and infinite some Scientists believe. It's where this is happening.

Newton and Einstein

to some extent shared a common notion about Space.

For them, like our own intuition of it, Space is where things can be located.

They also believed (as common sense might)

that there could be empty Space.

Where there isn't anything, not even air or other particles.

— a vacuum.

That understanding, however, proved incompatible with Quantum Mechanics.

The Uncertainty Principle states:

'You cannot know the Wave state and the Particle,
at the same time.'

But for a Space to be a vacuum would mean that the value of both states
would be known — zero.

(No wave / No particle)

Holding to the Uncertainty Principle,

(That it's not possible to know the status of both at once.)

Quantum Physicists reasoned,

'There can be no such thing as a vacuum.'

The inference, however, immediately gave rise to an obvious problem.

Some Space shows no evidence of either a Wave or a Particle being there.
thus —

to say, "There is no such thing as a vacuum," was either wrong;
or implied something further.

Rather than throw out the evolving understandings of Quantum behavior,
carefully built up from evidence,

Physicists opted to stay the course, proposed a further explanation —

'No detectable Particles and no measurable Waves,
means the Particle-Waves are canceling themselves out.'

Quantum Physics staked its credibility

on the assertion that "empty" Space was not empty at all —
but in a state of constant fluctuation.

A Sea of Particles appearing / meeting their Antiparticles and disappearing.

Matter and Anti-matter Waves constantly canceling each other out.

When the explanation solved other previously intractable problems,
it gained adherence.

Physicists gave this understanding of Space the confusing name, “Quantum Vacuum” or “Vacuum Field.”

Also known as the “Quantum Fluctuation Requirement,” it states: ‘Space is everywhere filled with Particle Pairs coming-in and going-out of being.’

Quantum Physics made real progress with the Vacuum Field explanation.

Years later it would lead to microchip technology.

But it made integration of Quantum Physics and Relativity Theory that much more difficult.

Space in the Quantum World is understood as foaming and frothing.

Virtual Particle Pairs are constantly emerging and disappearing, making the Vacuum Field “jittery.”

While Space in the Relativity model remained reliably smooth and quiet.

A place for material bodies to accelerate or come to rest.

Following Laws. Far from chaotic.

And when the Quantum and Relativity Worlds were mathematically brought together, in the hopes of creating a Theory of Everything

(from the infinitesimally small to the cosmically large)

Each of their maths fell into the other’s infinity.

The effort to unify the laws of physics had hit a snag.

It took several decades for “String Theory” to bridge the two worlds.

It did so by conceiving every smallest Quantum thing as a “String.”

Tiny, tiny Strings.

For every Particle — a String.

For every Wave — a String.

Every Force, including Gravity — a String.

Physicists imagined Strings to be either a length with two open ends, or closed in a loop.

They defined Strings as one dimensional and able to vibrate.

Their particular form and vibration expressing their identity.

With every Particle and every snippet of Energy represented as a vibrating String —

the Force Particles (like Photons and Gravitons)

could all be treated similarly to Particles with Mass.

A major step toward integrating gravity into the picture, unifying the smallest with the largest.

String Theory made mathematical sense,
 fit with laboratory experiments,
 and promised a pathway to further progress.
 But there was a problem —

In order for String Theory to be consistent with established laws,
 the Universe would need a total of nine spatial dimensions.

(An additional six to the known three.)

These extra dimensions could be either extremely large and extended,
 or extremely small and curled up.

(A million billion times smaller than technology presently permits us to see.)

Because the math and the evidence supported it,
 most Scientists made the adaptation.

But then another problem emerged;

 this time with the Strings themselves.

Physicists realized that the Strings with open-ends had no boundaries.

They weren't defined as being a part of any particular place.

Without borders, they didn't belong anywhere, so to speak.

It was imaginable that Strings without end-points could go anywhere.

 Matter could, theoretically, just drift off. The World disappear.

(Not likely, of course, since we certainly don't see that happening.)

Obviously, the Strings must be located somewhere;

and Mathematicians understood the required landscape.

Whatever their World,

it would need to accommodate at least two different kind of Strings.

Those Strings representing Particles with Mass,

 that stay in one place, (unless moved),

 such as compose our Bodies and the Physical things we see all around us;

and those Strings that that would represent Waves,

 that can travel through walls and to the farthest reaches of the Universe,

 including Electromagnetic Waves (radio, Wi-Fi, television, Bluetooth...)

The behavior of a membrane came to mind

so they named the place, a "brane."

The first Brane was conceived as a dynamic object that extended into Space.

Named the "d-brane" (as in "demarcation")

 It satisfied the need for a place for the Strings to exist.

 A single dimension Brane for a single dimensional String to stick to.

But since Strings representing the Particles that go together to make up our World occupy at least 3 dimensions —
the theoretical Brane Concept had to be expanded.

So the Branes were updated.

a 2-brane would extend into two dimensional space;
a 3-brane could host a three dimensional World;
p-branes could provide for any number of dimensions.

String Theorists suggest that we likely reside in a 9-Brane
10 dimensional Space —

Three extended dimensions / six curled up dimensions / plus Time.
(Scientists refer to dimensions as “degrees of freedom.”)

The World that contemporary Science is describing,
a picture based on the evidence that modern technology has made available,
far surpasses the Medieval Cosmology repeated in our assumptions,
and based on our every day, limited fields of perception.

If we grant Branes Mindfulness,
as Panpsychism would suggest —
a model of the Universe emerges

Self-similar to the understandings we’ve developed
regarding the Organelles within a Living Cell.

Galaxies, Stars, Particles, every Creature...
each in their own way held in the Mind of the Universe,
engaged in a dialogical relationship with the Whole.

15 what's time got to do with it?

Whether providing a means to coordinate activities,
meet up, work together, join an event...

Time has proven so useful, we've made it a ubiquitous feature of our lives.

We wear it on our wrists.

It hangs on walls. Waits in our phones. Towers over cities.

Time frames our days, plans, years, lives.

We often think of it as an amount of something.

A quantity we can save, buy, sell, waste, have some remaining.

Most agree that Time moves in a forward direction.

We know that broken glass doesn't reassemble itself.

We watch the seasons change.

Our Bodies don't grow younger.

We know we someday die.

Time appears an integral part of what we're about.

Writing about Time goes back to when writing began.

We find it carved in bones, marked on cave walls, inscribed in stone,
recorded in cuneiform and hieroglyphs.

History records references to it long before we had clocks.

Aristotle taught that Time is a kind of order,
a number we add to an observation of change.

(The countable instants coming before, or following the observed event.)

For Aristotle, Time depends on change and someone who can count.

18th century Enlightenment thinker Immanuel Kant
saw Time as a Subjective Intuition.

A structure that the Mind imposes on the World.

A kind of separator helping us make sense of the raw data of our perception;
enabling the awareness of individual things.

In the much-changed world of the early the 20th century,
Henri Bergson took a deep descriptive approach to Time.

He observed that mental states are forever melting into one another.

Whether talking to ourselves, feeling an emotion, imagining, perceiving...
all entwine.

Seconds overlap, intermingle, flow together.

Making it impossible to isolate a distinct moment from the larger stream.

Every minute blends with the minutes that came before,
 prefigures those that might follow.
 Time, Bergson contended, is not measurable.

Jean-Paul Sartre, consistent with his emphasis on Human Freedom,
 viewed the temporal structures of the World,
 (Past, Present and Future)
 as an order which could only be attributed to Consciousness;
 making the Human Mind proprietor of Time.
 Not the point of view of most Scientists.

For Science,
 Time has less to do with the Mind / everything to do with being a part the World.
 As a factor in math, Time delivers measurable results.
 From figuring out how long a two thousand mile trip will take driving at 70 mph,
 to calculating the rocketry required to rendezvous with Saturn and beyond.
 As far as Classical Physics is concerned,
 and our common experience with it,
 — Time is out there.

Consider Light traveling across Space, for example.
 Light is not instantaneous.
 So even at its difficult to imagine speed of 186,282 miles per second,
 Light needs Time to traverse even the shortest distance.
 (The greater the distance the more Time it takes.)

Light from the Moon takes 1.3 seconds to reach us.
 When we look at the Sun, we see what happened 8 minutes ago.
 Light from the nearest star traveled 4.2 years before arriving on Earth.
 The more distant the Star, the farther back in Time we're seeing.

In 1887, scientists discovered that the Speed of Light is unchanging.
 (You can't add to or subtract from the Speed of Light.)
 In order to make sense of that,
 Einstein created Relativity Theory.
 Revising the two most basic concepts of Physics,
 as he drew the conclusion that "spacetime" can contract or expand.

Although Time was no longer absolute,
 (as the founder of Classical Physics, Isaac Newton, had supposed)
 it remained where it had been — out there.

The idea of Time being “Out there,” however,
carries serious implications.

For if Time is out there —
wouldn't that mean that all of it,
from beginning to end, has to be out there.

Some Physicists see Time as a “block.”

Others have portrayed Time as a baguette.

“Now” moments conceived as thin slices taken off the Spacetime loaf;
an image used to visualize how in such a world,
one person's now can be another person's later.

The occasionally admitted and extremely troubling consequence,
if the future is out there / if it already exists...

our Freedom to create the World is moot.

What's going to happen has already happened.

What difference can anything make?

How can what we choose matter?

Fortunately, not all Philosophers, Theologians and Scholars
agree with the ‘Time as Out-there’ explanation —
not even all Scientists.

Kurt Gödel, a brilliant mathematician and friend of Einstein at Princeton,
observed that in a Universe where Time is Relative,
there can be no Clock with which to set any other clock.

So Time itself, he was convinced, has no grounding.

Does not really exist.

His work making a case for that received little support.

For reasons of their own,

Quantum Physicists also doubt that Time exists.

They point out that until a Wave (with all its Probabilities) is measured,
Time is suspended —

only when the Wave Function collapses,
does a Particle appear with a before and an after.

Additionally, there's Quantum Physics' understanding of Space.

Particles emerging and immediately meeting with their Anti-particles,
precludes a temporal sequence.

Moreover, in the diagrams used to visualize Quantum interactions,
Particle and Energy exchanges go back and forth / move both ways;
while Time, commonly understood, goes only in one direction.

Some Physicists theorize that the Principle of Non-locality,
(Instantaneous action at a distance.)
implies a Non-temporal Universe, as well.
A World without Time.

Which brings our rethinking back into focus.

Given the range of speculation regarding Time —
Whether it exists or not.
Whether a forward moving dimension or category of Mind.
Something out there which we live inside.
Or translated as the unexpected Gift,
of a never before and never again.
And we don't really know what happens when we die.

We can say this about Time —
how we understand it,
plays a significant role in how we understand Ourselves.

Making a strong recommendation for exploring Time further.
Easily begun by transposing our earlier question.
Instead of asking: "What's Time got to do with it?"
ask: Where did Time come from?
What is it?
How did it start?

16 in the beginning

Although Scientists recognize the indisputability of Quantum behavior, many would disagree with the conclusion that it rules out Time. Among those who believe that Time does exist, there's uncertainty as to how it began.

Most Physicists believe some mechanical cause must have started it.
(Which is to say, something preceded.)

They attribute its beginning to a random chance coinciding with a fortunate happenstance —
in a multiverse perhaps,
or in a World bouncing back and forth between contraction and expansion,
or in a collision between Brane structures that String Theory proposes.
Objects, all. Mind is not involved.

For most in the Scientific community,
“Before the Beginning,”
when there is no place to locate anything.
No frame of reference with which to measure or observe.
No moment a first can follow.
No before from which a “once upon a time” can start.
can only mean Chaos — and they leave it alone.

Scientists do agree, however,
by virtue of the countless measurements made,
plus library shelves of the proofs, laws and deductions,
the Universe had some kind of Beginning.
A Birth. (Astrophysicists often refer to as the “Big Bang.”)

As we earlier noted,
Researchers feel confident that our most powerful Particle accelerators approach the energy levels of those primordial conditions.
And what they see happening is the emergence of Particle Pairs.

Initially, relationship between the “Quark” Pairs lasts for only the smallest conceivable moments.
Before they fall apart and each of the Pair decays,
cascading into smaller Waves,
back into the Vacuum Field Sea.

It's an open question as to why these first efforts at connection fail.
 Is it because of the gross inequality between Top and Bottom Quarks?
 The less but still significant inequity between Strange and Charmed?
 Or is it due to other factors —
 The ambient Energies just too high.
 Temperatures too hot for creating any kind of bond.

In any case,
 we know that stable Quarks don't appear
 until the "Up Quark" and "Down Quark" Particles
 have become nearly equal in size —
 and are found entwined in sets of three, sharing Energy.
 A giving and receiving activity that enables them to hold on to Each Other.
 Creating a duration — Time.
 A dimension that hadn't happened before.

Initially, the Up Quarks are turning into Downs. Downs becoming Ups.
 But as they continue to pass around the "Gluon" Particle or Wave
 the triune Unities stabilize.

 Two Up Quarks with a Down, we've named "Protons."
 Two Down Quarks with an Up, "Neutrons."
 Within minutes, they come together to form the nuclei of all atoms.
 (Which reside at center of all of things in the Physical World.)

Attributing Consciousness to the Cosmos,
 (And so to all possible pre-existing conditions before the Universe began)
 enables a question that the Cartesian Paradigm cannot ask —
 "Why?"
 "Why should the Quarks have wanted to behave as they did?"
 And a possible answer.

If we grant the "Before" of Time and Space,
 as Being without boundaries —
 No time, no space; therefore, an undifferentiated Infinity.
 Absolute Being and Nothing else.
 Only "To Be."
 Then any emergence from this Cosmic Sea,
 (Every assertion of being some separate Thing)
 must meet with, "Not-being that."
 For there is Being only — Oneness.

But without beings, there can be no dialogue or communication.

No information, either. Everything is possible.

So how could Being come to know Itself?

Conceive what's Real —

Choose. "Yes. This... This is what is."

from its infinite Possibilities?

The Quarks answer —

but to do so they change Everything.

Instead of acting as Separate Entities,

(Trying to exist as unlike / not-being like the rest of Being.)

the Quarks emerge engaged in Relationship with One Another.

Sharing Energy.

Recognizing and holding on to each other.

Immersed in Belonging. Not Separation.

The Quark Trinities endure by way of Intersubjectivity.

(Their existence Self-similar to the One undifferentiated Subjectivity
from which they came.)

Giving expression to the Meaning of Being itself.

Sharing / Love

Although it's getting a little ahead of Ourselves,

we will see that with every evolutionary iteration of the pattern —

Electron clouds and nuclei sharing Photons,

Atoms sharing and exchanging Electrons,

The altruism of the Organelles,

the Universe blooms.

17 complexity

In the late 1880s,
 mathematician Henri Poincaré
 demonstrated that adding a third, fourth or fifth body into the Laws of Motion,
 (that Newton had formulated using just two bodies)
 resulted in too many solutions.
 Despite widespread recognition
 that Poincaré's conclusion undermined the stable Newtonian picture,
 (theoretically suggesting that the solar system itself could hurtle into chaos)
 Scientists set the issue aside,
 preferring to explore what were then seen as more promising fields of study.

In 1961, however, the troubling theme once more came to light.
 Edward Lorenz, an assistant professor at MIT,
 using computer technology to improve weather forecasting,
 found that introducing even a small variation into his simulated world,
 (tantamount to the quiver of a butterfly's wing)
 could effect profound change thousands of miles away.
 Non-linear complex systems like the weather, he concluded,
 are so "sensitive to initial conditions" — they're unpredictable.

Only a few years later,
 mathematician and physicist, Mitchell Feigenbaum,
 doing research at the Santa Fe Institute,
 uncovered a route that some systems take as they transit into chaos.
 When his model proved helpful for making predictions across a wide range of fields —
 from species population collapse and stock market crashes,
 to cardiac arrest and mental breakdowns, possibly even earthquakes,
 Studies in Complexity Theory multiplied.

During that same period of discovery,
 Benoit Mandelbrot pointed out that the simple spatial dimensions,
 which the ancient Greek geometer Euclid had assumed,
 failed to take into account the way things actually are.
 What looks like a smooth plane from a distance,
 (The wall, the floor tile, the computer screen, for instance.)
 up close is a rugged irregularity. Swooping fields, valleys, lumps, pits...

Mandelbrot's dream was to formulate a mathematics that could capture this spontaneity that he referred to as the "roughness of the world."

How mountains aren't perfect cones.

How rivers meander, shorelines shift, lightning bolts run jagged.

He proposed we conceive space as "fractal."

Every dimension fractionally a part of another.

(Width has height. The finest line breadth.)

Mandelbrot saw the randomness integrated into a larger unified picture, by a central feature of the World he called, "Self-similarity."

'At whatever scale of observation, there will be smaller nested copies of the larger pattern.'

From lightning bolts to blood veins, leaves of trees, branches, roots...

Neurons to neural networks...

Sea shells to spiral galaxies...

As computer technology enabled visualization of complex systems, Complexity Theory expanded.

Opening new ways of seeing things within numerous disciplines:

Sociologists found it worked for studying group behavior.

Biologists acquired new vocabulary for evolutionary processes.

Clinical medicine added to their approaches to healthcare.

Psychologists devised workplace strategies for human resource administrators.

The Theory was also given more sinister applications.

Military and political strategists found it useful for information warfare:

The repetition of falsehoods can make them come to seem believable.

By introducing noise, uncertainty, confusion, distrust...

You can destabilize a system.

Like other scientific discoveries, Complexity Theory works for better or for worse.

Complexity Research connects with our rethinking in several ways.

Particularly in what it has to tell us about Complex Adaptive Systems.

Systems in which the Whole is greater than the sum of the parts, capable of responding to their environments.

Including Living Biological Systems, as well as Societies.

Researchers identified “self-organization” as fundamental to such Networks.
 Drawing attention to the role individual agents play in creating the overall pattern.
 (Rather than it being imposed from above or from the outside).
 Optimized Networks include the input of all of their agents.
 A strategy that proves the most successful for adaptation and survival.
 (And points toward the efficacy of democratic processes.)

Moreover, Complexity Theory pointed out that Networks are not guaranteed survival.
 If a Network fails to adapt to the inevitable changing conditions,
 both internally and in the surrounding systems,
 a Network can fail. Fall into chaos.

Complexity Theory produced an array of new concepts and tools,
 while absorbing and adopting terms already part of the scientific lexicon.
 Among them, one that proves extremely helpful for our rethinking.
 “Phase Transition” refers to a system making a dramatic transformation,
 from one state to another — often at the edge of chaos.
 Change that can appear a complete break from the past.

Phase Transitions surround us.
 Some can be predicted.
 At zero degrees centigrade liquid water turns to solid ice.
 Other Phase Transitions can never be predicted.
 Such as those that are only explicable with Subjectivity,
 as when someone falls in love.

While minor Phase Transitions are happening all around us, all the time,
 (Adding cream to your coffee, for example)
 Scientists recognize three exceptionally Great Phase Transitions:
 the first was the Beginning of the Universe.

18 a long story short

We can only imagine what the Beginning of Time might have looked like.

How the Birth of the Universe —
 when the Up and Down Triune Quarks emerged
 sharing energy with Each Other,
 Creating a duration,
 would have rippled through all of Being.

When Astrophysicists look at that Beginning,
 and ask, “What was likely happening?”
 Many agree with the proposal that an enormous Wave of Energy,
 may have swept through the pre-existing Vacuum Field Sea,
 and in its wake — Space began expanding.

But before we go on,
 we need to acknowledge an issue with our Storytelling.
 We’re referring to these earliest moments of Creation,
 using ideas of Time with which we’re familiar.

 But Time can’t have been anything like what we presently associate with it.
 Some Scholars question the logic of locating what was happening
 in any timeframe.

Nonetheless, the Scientific narrative,
 (Available at numerous University sites for us to read about and learn.)

 Based on laboratory results and Real World observation.
 And subject to constant peer review.

Represents the most reliable account of the successful pathways
 that our Ancestors took for us to be here.

Back to that Story.

Before the first second has passed, the initial Expansion slows.
 And in response to the changing environment,
 the remnant Energy condenses into various Wavelengths
 and an array of Particles (some stable / some not) fall out.

Those Particles or Waves, like the Quarks,
 (which Physicists refer to as having Mass)
 entangle with a kind of “stickiness” associated with Space,
 (named the Higgs Field)
 and exhibit resistance to movement.
 (which in relation to Gravity is called Weight)

The Mass-bearing Protons and Neutrons, in turn,
 behaving in ways Self-similar to their Quark constituents,
 begin attracting Each Other.
 And with their own plus ambient energy,
 Bond and fuse.
 Creating the first nuclei.

Physicists believe this epoch, called “Nucleosynthesis,”
 lasts for a short 20 minutes.
 Only long enough for the first two types of nuclei to form.
 One Proton with one Neutron — a Hydrogen nucleus.
 Two Protons and two Neutrons — a Helium nucleus.
 The more complex naturally occurring nuclei that constitute our World
 (Nuclei with dozens and dozens of Neutrons and Protons)
 will not develop until there are Stars.

The pathway to those Stars, however, has already begun.
 Clouds of negatively charged Electrons,
 attracted to the positively charged Protons in the Nuclei,
 wrap their Energy around them, forming the first atoms and molecules.
 (Hydrogen and Helium.)

With Electrons bonding with Nuclei,
 Space becomes less congested with Particles,
 which allows the ambient Light carrying Photon Particles
 to ripple out into Space, creating an eternal afterglow.

For the next 100 million years and more,
 clouds of gaseous Hydrogen and Helium draw themselves together;
 closer and closer / tighter and tighter,
 until their nuclei fuse — turning stellar.

Stars gravitate into Galaxies / Galaxies into clusters.
 all the while “Dark Energy”
 (Energy we know must exist, but don’t know what it is.)
 urges the Galaxies outward / onward,
 expanding and accelerating the Universe.

According to Astrophysicists,
 our Planetary story begins some 4.6 billion years ago.
 About 9 billion years after the Beginning of the Universe.

At the edge of a spiral arm of the Milky Way Galaxy,
a wave sent out from a nearby Star going supernova,
stirs a slowly rotating glowing cloud of interstellar gas and dust,
causing the cloud's motions, temperatures and pressures to change.

As Gravity and a strong Magnetic Field pull the cloud together,
each Particle contributes its rotating momentum to the whole.
The cloud continues to spin.

And like a ballet dancer — the tighter the cloud pulls in,
the faster it spins.

After almost a million years, the gases at the center fuse,
become a Star, our Sun.

In the dense regions closest to the new Star,
dust particles and bits of matter that can withstand the solar wind and heat
gather together / grow into clumps.

Become the inner planets — Mercury, Venus, Earth and Mars.
Farther out, where temperatures are much colder,
the gas giants, Jupiter and Saturn form.
Farther still, the ice giants, Uranus and Neptune. And little Pluto.

Early Earth is molten,
still glowing with traces of the nuclear reactions,
that took place in the nebular womb from whence she came.
Her outer surface is subject to searing asteroids, comet tails, and such.

When the planet-sized sphere, Theia,
glances off the infant Gaia,
the impact splashes some of Earth's mantle into space.
Ultimately adding to the body of the unexpected, now orbiting guest.
Earth's Moon.

As lava on the Earth's surface slowly cools, sheets of crust develop.
Which slip beneath the still hot liquid.
Over and over again.
Eventually, these layers build up into plates and land masses.

When the fall of asteroids finally tapers off
and Gaia's temperature drops below the boiling point of water,
moisture in the atmosphere condenses and falls as rain.

For millions of years — it rains.

Water that Earth may have carried within her rocks from the time of her birth.

Water that may have been delivered from falling Stars, Comets and the like.

Water that Scientists are not sure where it came from.

Until water runs in rivers on the land, gathers in lakes, forms oceans.

Earth turns a wet warm steaming.

By about 3.5 billion years ago,

our Mother Planet has a solid core, land masses, oceans,

a Magnetosphere shielding her from the Solar Winds,

an atmosphere filled with volcanic gases.

Ammonia, Nitrogen, Water Vapor, Carbon Dioxide...

For Cartesians, neither the Beginning of the Universe,
nor the formation of Earth —

Her “Goldilocks” location.

Her fortunate geological evolution.

tell them anything.

Nor does the Paradigm provide a space for imagining the next great Phase Transition.

How the emergence of Life could have transpired,

without Matter having some kind of Mentality,

for Subjectivity seems present from the start.

19 stepping into life

The best Scientific estimates suggest that Life on Earth begins around 3.5 to 4 billion years ago, though exactly where is uncertain.

Life may have started in a soft wet clay, along a river's edge, or among a lakeside's boulders.

Or maybe near volcanic vents beneath the oceans.

Perhaps in oily droplets serving as protective domes, sheltering the delicate possibilities within from the turbulence outside.

There's certainly no need to look beyond Gaia's warm steamy waters, then steeping with complex atoms and free floating mega-molecules, most being the product of Supernovas, delivered from outer space by Meteorites, Comets, Dust...

Scientists postulate that Life began with the "Long Chain Polymers." Highly evolved complex Molecules that had developed a unique set of skills, not only the ability to recognize and acknowledge One Another; but also to play a kind of game together. Pass a Molecule back and forth. (Self-similar to the activity of the Quarks, their ancestral constituents.)

Not everyone can play, however, to perform the little trick, a chain needs the requisite information Strings. (Particular sets of Molecules)

At some point, the Long Chain Polymers add something new to the game. They begin supplying the missing Strings to those in need, so that they, too, can participate.

A simple act — yet one that changes everything. 'Providing energy or information to initiate or sustain activity' defines metabolism, the Hallmark of Life.

In prioritizing the potentiality of Others, the Long Chain Polymers step beyond the earlier sphere of sharing activity, into doing something entirely for the benefit of Another.

Without thought of reward. Though perhaps, for the mutual pleasure of playing together.

Whatever might be said regarding their motivation,
their altruism provides a new basis for Belonging.
An unprecedented pathway to Relationship.

The Doing-for-Others Bond,
although more fragile and delicate than the Chemical,
enables an exponential increase in the number of Molecules that can link up.

 Become something greater together.

Opening a whole new category of Being.

 Astounding horizons of form and function.

 Beauty / Intelligence / Possibility.

The Life Bond, however, is not a simple additive process.

 Not an algorithm easily reproduced.

Wherever it might arise, it will always be about the Choice to care about Someone.

Life is more analogous to a gift.

 One that, once opened, can be passed on to One's Off-spring.

All who are living today, trace their lives to the same Beginning.

Scientists recognize this evolutionary step,
from the Chemical World into the Biosphere,
as the second Great Phase Transition.

Placed in a Panpsychist framework,
we can ask what these Proto-life forms might have been feeling.
Were they anticipating the Possibility that playing together might bring?
 Experiencing some kind of excitement with Each Other?

Back then,
as the recipients of the giving choose to repeat the gesture,
the activity takes off.
Metabolic activity cascades.

20 the unexpected

At the outset of (what even Cartesian Scientists sometimes refer to as) “the miracle,”
the waters are rich with unattached macro-molecules.

Opportunities and possibilities abound.

On invitation into Relationship by the Metabolizers,
free Strings readily respond —

Find themselves cared-for by Others / choose to care-for Others in return.

Link into living. Becoming something greater than anything previously imagined.

Join in joyous celebrations of Serving One Another.

Proto-organisms are soon engaging with an ever widening range of molecular Strings.
Gathering together in immense numbers.

Bringing together diverse information sets.

Developing repertoires inconceivable by the earlier Chemical Bonding.

After hundreds of millions of years or more, however,
the teeming supply of available molecular Strings,

(The free floating unattached complex molecules.)

that once filled the pristine waters begins to dwindle.

Earth’s Living are facing extinction.

Cartesians can’t ask, but Panpsychists can —

Do the Metabolizers somehow recognize where the molecular Strings have gone?

And that none can give up the now living pieces of themselves without dying?

Plus a larger question,

Are the Metabolizers aware that to take the needed segments from Another,

to deny Life to Someone else in order to sustain One’s own,

reverses the sharing / altruistic course

that the Quarks took from the Vacuum-Field Sea,

and the Atoms followed to the Stars and Complex Molecules to Life?

Whatever inspired the solution,

the Metabolizers alive when the food first ran out,

choose a pathway characterized by reciprocity.

At the same time as they turn to eating,

they themselves become food for One Another,

or live to serve the larger Network in some other way.

Preserving the continuity of who they are / where they came from.

A decision that moves the Planet beyond the crisis.

Enables Life to continue evolving.

Whether from the Cartesian point of view or the Panpsychist,
the solution appears a strange paradox —
unexpected.

That Life would make a place for death.
Nature weave Herself with internal conflict.

For every Proto-organism alive then,
and any healthy Creature living now,
or that has ever, or will ever live —
being a part of what the Living Bond is about
wants to go on Living.

The death and life / prey and predator / “struggle for survival” that ensues
gives Life and Evolution a violent side.

Which will later be used by those who argue for “might-makes-right.”
Citing this “tooth and claw” side of Nature as evidence
that we were Separate Selves over-and-against each other from the start.

Our history of wars inevitable.

Hierarchies of privilege “only natural.”

An easy argument to make — too easy, it turns out.

Not long ago,

Biologists themselves tended to reduce “survival of the fittest” to “competition.”

Believing domination the signature mandate of evolution.

A narrative both derived from and bolstering the idea
that our own competitive behavior represents Nature’s ways.

More recently, however, researchers are finding that powering-over
isn’t always the best answer for survival.

Cooperation sometimes proves the effective strategy.

Both within species / as well as across species.

Warning one another about predators, dangers.

Mutually helping to find food and water.

Getting back to the story we’re telling here, however —
as we move toward the third Great Phase Transition,
we’re still billions of years in the past.

21 from there to here

As the Proto-Life forms eat and are eaten,
 their intermingling greatly accelerates evolution.
 Several groups find ways to get food and shelter without injuring others.
 Symbiotic parasites help preserve the Life of their host,
 even prove themselves indispensable,
 providing a variety of services — repair, transportation, communication, sanitation...

Not all of the early adapters follow the reciprocity formula, though.
 Viruses commandeer others' lives solely for the purposes of their own reproduction.
 Often destroying their host and apparently giving nothing in return.
 But they also lack basic Metabolic behavior,
 so not all Microbiologists even recognize them as a Life form.

Among “guests” positively contributing to their hosts,
 and who greatly accelerate the evolutionary direction,
 the Mitochondria family devise a way to convert food into ATP,
 an energy packet for powering activities.
 Able to be stored for later use.

Another molecular Chain learns how to catalyze,
 enhance interactions without being changed by them.
 Yet another, the RNA group, specializes in memorizing molecular sequences,
 making accurate reproduction possible.

RNA comes up with valuable innovations such as a cell wall.
 A membrane enclosure for the “Organelles.”
 (Individual entities that perform the essential work activities of a cell.)
 Protecting them from dangers on the outside, yet allowing needed food to enter.
 Once walled cells appear — recognizable Bacteria take the stage.

Within the protective cell walls, RNA modifies its own structure,
 reinventing itself into the double-helix form,
 becoming DNA — the matured catalyst and pattern carrier.

Like its RNA predecessor,
 DNA determines the functions and forms cells take.
 It instructs how the proteins are to be assembled.

Becoming double-stranded, rather than a single strand,
 DNA shows greater stability,
 Carries out more complicated processes,
 Proves more capable of correcting mistakes,
 Responds more quickly to in-coming information.
 Resulting in better-fitting adaptations for ever-changing environments.

One group of Bacteria creates an unexpected method for obtaining food.
 Instead of eating others,
 these Cells begin producing their own nourishment.

With stunning ingenuity,
 the Photosynthesizers learn to use Sunlight for Energy —
 and with it, split Carbon Dioxide (CO₂) from the air into Carbon and Oxygen,
 and break apart water (H₂O) to obtain Hydrogen.
 Having obtained the essential atomic building blocks,
 they then assemble the carbohydrate food molecules from the ground up.
 (Photosynthesis will eventually serve as the foundation for all of terrestrial Life.)

About 2 billion years ago,
 Earth's Life-forms consist of a wide variety of single-celled Bacteria.
 These "Prokaryotes" (Cells without a nucleus) flourish.
 They blanket the seas, swarm the continents, cover mountainsides,
 in an astonishing diversity of color, form and skill.
 Among them, the Photosynthetic Microbes are proving extremely successful.

About a billion years or so later, however,
 an unanticipated problem has developed.
 The use of water in Photosynthesis produces the by-product of free Oxygen (O₂).
 Iron laying along Earth's surface had long been absorbing that Oxygen,
 but when the Iron became saturated, it started going into the air.

Oxygen accumulating in the higher atmosphere,
 interacting with the Sun was transforming into an ozone layer.
 Building-up into a shielding for Earth from ultra-violet radiation.
 (Which will later prove a good thing for Life.)

It's a different story down below.
 Oxygen was lethal to almost all existent Life forms at that time.
 As the Oxygen levels mount, masses of Cells are dying off.
 The once fecund hillsides turning bleak and desolate.
 One of the greatest Extinction Events in the history of Earth is underway.
 Gaia's fragile Network of Life at a pathway's end.

Luckily — for all of us,
 two unique forms of Bacteria happen to meet up.
 One of them, tail-wiggling Spirochetes,
 skilled in mobility with an innovative method of reproduction.

The other, an eccentric group of Purple Bacteria.
 Perhaps avoided by most other bacterial forms,
 due to their dangerous habit of toying with the poisonous Oxygen.
 But after millions of years playing around with it,
 they no longer die from it. They've learned to breathe it.

In their initial encounter,
 the two groups may have perceived one another as potential food.
 But the Purple Oxygen Breathers
 may also have recognized that the Spirochetes' mobility
 gave them a power to find food.
 (Important, since their local resources were, no doubt, rapidly diminishing.)

While the Spirochetes, in turn, may have understood
 that odd as the Purple Bacteria's breathing of the Oxygen might be,
 it represented a kind of salvation —
 for they appeared immune to the death happening all around them.

Even if they grasped the advantages each had to offer, however,
 they faced seemingly insurmountable obstacles for sharing those resources.
 Both are Prokaryotes,
 small single-celled individuals,
 with rigid walls and simple structure,
 not inclined to cooperate with others.

As improbable as real Stories are known to be,
 the Spirochetes and Purple Oxygen Breathers create a solution together.
 Leaving their Bacterial Selves behind,
 they emerge a single Creature.

 Not only moving Life beyond the Oxygen Crisis.
 Their decision will so profoundly impact the future appearance Life on Earth,
 Scholars consider this moment the Third Great Phase Transition.
 Comparable to the Beginning of the Universe,
 and the Emergence of Life.

The new Cell which they create is the radically different “Eukaryote.”
 Instead of everything that makes them up
 floating indiscriminately in the liquid within their walls,
 (as will remain the practice of Prokaryotes)
 the Eukaryotes create an orderly internal network.
 Organizing their activities around an innovative central nucleus.
 Where the DNA is stored.

They change Life’s landscape.
 Their DNA, now within its own inner envelope, optimizes its abilities.
 Their Oxygen breathing method of metabolism results in greater energy efficiency.
 They develop a more complicated reproductive method.
 Multiplying the opportunities for diversification and adaptation.

The Eukaryotes Self-organize into a Cell of such Complexity,
 descendants will be able to retain their individual identities
 while becoming integral agents of larger living systems.
 Multi-cellular organisms, in turn, will lead to multi-organelled creatures.
 (Bodies with bones, skin, a heart, lungs, eyes, digestive and neuro-systems...)
 the future of Life on Earth.

— but that comes much later

Immediately after crossing the nucleated threshold,
 the Eukaryotes enter a relatively quiet period.
 Perhaps solving problems associated with different kinds of Cells linking up.
 The fossil records show flotillas of differently structured cell types
 coming in contact with one another,
 coordinating their skills, mutually dividing labors,
 developing specialized abilities, adapting their shapes and functions.

Until a great deep freeze occurs.
 One of several ice ages
 that have caused massive extinction events on Earth.

Fortunately, when mild weather returns,
 neither Eukaryotes nor Prokaryotes have been wiped out.
 Multi-cellular creatures, in fact, have developed unexpected skills.
 Some can perceive light and shadow, for example.
 Plants, stationary organisms, have also begun to appear.

On the way,
 the Eukaryotes have solved a significant problem facing the Network.
 They had inherited an exceedingly long life span.
 Their Prokaryotic ancestors were potentially immortal.
 They could starve, die of thirst, get crushed or eaten,
 so probably didn't actually live forever.
 Yet their longevity, living on and on,
 severely restricted the rate at which adaptation could happen.

The Eukaryotes' answer — forgo individual immortality.
 Encode aging and death into their DNA.
 Create themselves and their progeny as beings-unto-death.
 A solution that stands in stark contrast to our Culture's idea of Separate Self-interest.

Yet a Choice that not only opened the way for evolution,
 but also, in a distant future,
 (Cells dying so that others can take their place.)
 will enable embryonic and fetal growth,
 as well as complex nervous systems such as our own.
 We wouldn't be here were it not for that decision.

But back about 540 million years ago,
 diverse cell groups are only beginning to live together as unified Organisms,
 re-configuring and re-building their structures,
 in response to cues from their environment and One Another.
 When a group learns to make use of Calcium,
 hard body parts like shells and bones appear.
 Larger forms with an array of specialized adaptations emerge.
 Life blooms.

To reach the appearance of Humans,
 we need to overleap hundreds of millions of years,
 past important moments,
 like the migration from the water onto the land,
 the 165 million years of Dinosaurs and their extinction,
 past the emergence of Mammals and then Primates.

To about 3 million years ago,
 when our most famous common ancestor, Lucy,
 was living with others like herself in present day Ethiopia.
 She and her community are tool-makers.
 They gather plants, scavenge, hunt and fish together.
 After another million years or so, there's evidence of befriending fire.

Some of these early Humans will migrate out of Africa to Asia and Europe.
 Some cross the Bering Land Bridge,
 move down through what Europeans will later call the Americas.

About 100,000 years ago, we're burying our Dead.
 Soon after, creating unprecedented forms of Art,
 beautiful cave wall paintings, jewelry, decorative beads, stone work,
 antler carvings, statuettes that may be Goddess figures.
 Eventually groups begin farming land and domesticating animals,
 their communities grow.

A short five thousand years ago,
 rivers and river valleys cradle the first cities.
 We're making tools from metals. Navigating by the Stars, Moon, and Sun.
 Using systems of letters and writing.

Already by then, however,
 we were Objectifying One Another.
 The first known civilizations so typically feature hierarchies
 of privilege and power,
 that some Anthropologists define "civilization"
 by the presence of stratified societies.

From then, 'til now —
 we've told and enacted a Story of the Separate Self.
 A narrative that normalizes competition / celebrates power.
 Honors the unlimited accumulation of individual wealth.
 Denies Consciousness to Nature.

Yet the pathways our Ancestors took
 for us to get here —
 the Quarks sharing Energy;
 the Altruism of the Long Chain Polymers;
 the Self Sacrifice of the Spirochetes and Purple Oxygen Breathers;
 remind us of the strong evidence against that narrative.

Could this be why we stubbornly persist in doing good?
 Why kindness, making someone happy gives us such joy?
 Why we can't seem to live without Love?
 Why our World is so deeply troubled?

Part III — How

22 or who

Were it not for our Culture's historical decision
to base what qualifies as knowledge on evidence,
to believe in measurable descriptions,
 (Rather than speculation, tradition, pronouncements...)
there would be no such thing as Science.
No modern medicine. No technology. No electricity.

Were it not that we began to weigh our Personal Experience,
use our own reasoning, accept responsibility for our actions —
 set our own goals,
 make our own moral choices,
 decide for ourselves what we want to do with our lives,
we would not yet be capable of behaving as responsible adults.
There would be no such thing as Democracy.

There is a truth to Matter — it behaves in certain ways.
There are truths about Biological Life.
 (If the Organelles within a cell cease working together — it dies.)
Likewise there are truths about Ourselves.

Given the enormity of the dangers we face,
 plus our common desire for a better World,
one would think that it would already have been enough,
to unite us in uncovering and correcting what we're doing wrong.

Instead, we find Ourselves standing at the canyon's edge,
peering into the chasm —
 not yet hammering our swords into plowshares,
 not quickly enough changing over to a sustainable relationship with our Planet,
 not yet altering our economies so that not one child goes hungry,
not yet an egalitarian World / a safe place for women.

If asked,
None of us would respond that we're choosing to stand in the way.
Each of us, in fact, might answer that we're already doing all that we can.

If our intent is to move beyond this Pathway's End,
we need to look more closely at the workings of the Mindset that brought us here.

23 in the mirror

Whether viewing our World,
 through the lens of contemporary Science and Scholarship;
 or informed by the various media, networks, news sources;
 or storied in pictures drawn from personal experience;
 it doesn't appear that we're treating One Another as we would wish to be treated.

Nations aren't disarming. On the contrary —
 And we know there are People starving. Homeless. Without hope.
 Many others scrambling to make ends meet.
 While a small group live in mansions and opulence.
 Hundreds of species are disappearing every day.
 While fossil fuel industry billionaires continue making enormous profits.

The World looks more like we're relating to Each Other,
 Nature and Earth as Objects.
 One another as Competitors.
 Nature a resource to be exploited.
 That the Universe is like the Cartesian Paradigm says it is.
 Mechanical / not Personal.
 We act as though our Presence could mean nothing to the Cosmos.
 That our World is missing Subjectivity.

Yet, were we to introspect,
 reflect on some of our Mind's activities —
 How we choose what to think and say.
 How we dislike being told what to do, unless agreed upon beforehand.
 Or how to do something, unless asked.
 How much we appreciate literature, dance, music, art...
 The wonder friends can mean to us.
 Our moments of commune with Nature.
 We celebrate Individual Will.
 We deeply cherish and identify with everything Subjectivity represents.

It would seem that which is closest to us,
 is at the same time, farthest away.

A paradox we encountered earlier, (although more veiled),
 when we observed how 20th Century Scholars
 grappling with the problem of how there could be Meaning
 in a Mindless Universe.

It was in that context,
 that Jean-Paul Sartre offered an approach to Subjectivity,
 based on a formula he attributes to Edmund Husserl,
“Consciousness is Consciousness of something.”

Sartre elaborated how he understood the line,
 by describing the Mind as both Fundamental and Spontaneous.

Neither reducible to / Nor dependent on anything else.

Consciousness comes first. It's Pre-reflective.

An understanding that precludes any ideas of an operator at a control panel,
 or someone reporting on that operator... in an infinite regress.

You can think there are such characters; but they rely on Consciousness.

They don't precede or independently inhabit our Minds.

Consciousness is “No-thingness,” Sartre explained.

Absolutely not an “it.” Not an Object. Not a thing.

An Openness. Always being not what it is.

Empty — except for the moment's contents.

But neither is it a container / nor can it be contained.

A Flux. A Flowing. Bound only by itself.

“The wind,” Sartre called it.

Defining Consciousness as radically Free,

and operating with complete Independence,

it followed that Consciousness must be Self-organizing.

Each Self gives meaning, creates values, makes and retrieves memory...
 for themselves.

And individuation happens by virtue of those choices.

Each of us inescapably responsible for Ourselves.

Sartre's thinking translated into a new shorthand for being Human —

Existence precedes Essence.

(Consciousness comes before anything we tell Ourselves about Ourselves).

Rather than the other way around,

as would be the case if the Universe were determined;

or Who-we-are the expression of some kind of a fixed Human Nature.

For Sartre and other like-minded Psychologists, Scholars, Scientists,
 individuals...

Phenomenology — that is, describing experience, foregoing traditional explanations,
 delivered a newfound freedom of Mind.

Minimally, it led to a profound questioning of assumptions.
The Existentialists were seeing us as bearing a new responsibility.
This Time for Reality itself.
They were certain of this much, at least —
To be Human is to live Possibility.

The Identity produced by our Self-as-Separate Culture, however,
represents our Mental landscape differently.

24 what's holding us back

Freud, who is commonly credited with the foundation of Modern Psychology, placed the Idea of the Ego at the center of his model
 for how our Minds work;
 and subsequently, for Who we are.

According to Freud, the Ego (Latin for "I"), results from the person's Super Ego (Conscience), negotiating and keeping in check the Id (unbridled desires).

In its historical context, Freudianism
 pointing out that things might be going on unconsciously,
 and possible ways of healing those processes,
 contributed toward a more humane response to mental illness.
 Modern Psychology has evolved over the decades,
 and Freud is no longer considered that relevant.
 Yet traces of his model remain in the narrative field.

One such thread is that the Ego
 is generally understood as a Configuration of the Culture.
 In our case —
 given our Self-as-Separate Culture,
 the Ego Identity will consist of Socially transmitted concepts and narratives,
 (Explanations about Ourselves and the World)
 that result in Objectifying One Another and Nature.

Neither Freudianism nor modern Psychology, of course,
 invented the perspective that we are Separate Selves with Separate-Self interest.
 (As we've seen, that identity has been a part of Western Civilization
 from the beginnings of the Patriarchy.)
 Modern Psychology simply gave the Identity a name — the Ego.

To be clear, what we mean by the Ego Identity, then,
 is not the Individuation made in childhood,
 as we come to recognize our unique Personal Presence and that of Others.
 Nor do we simply mean, "Selfishness."
 For our purposes, Ego Identity will refer to the notion of Self-as-Separate.
 Separate from Others, Nature and the World.
 With wholly Separable Self-interests.

What does this look like?

In our Culture, the Identity of Self-as-Separate appears early in our lives.
 It begins in childhood with the gender differences we learn to produce in Ourselves.
 Biological Males are taught the gender codes associated with Masculinity.
 Females programmed to be Feminine.

Although there is a growing movement to jettison
 some of the more rigid stereotyping associated with these codes;
 in general, our World still reflects and we assume and perform,
 according to our roles in our Culture's gender system, a hierarchy.

Girls get the message that fulfillment comes from pleasing others,
 especially men.

Becoming the Object of desire. The Caretaker.

Girls learn their society's notions of female beauty:

body shape and language, dress, make-up, speech patterns...

Girls are educated in domesticity, service.

They're taught to be attentive, yielding.

Boys learn an entirely different set of values.

Beginning with the lesson that they must not show their feelings.

Excitement, anger, determination and enthusiasm are okay;
 but not emotions that display personal vulnerability.

Men are supposed to be powerful, in control in every situation.

Never vulnerable. Dominant, at least in some way, at all times.

Impossible, of course,

for neither Nature nor Women nor other Men are controllable.

So the entire edifice of Masculinity is anxiety-producing.

The more so since boys are commonly gender programmed more punitively than girls.

But at least Males get to tell themselves they're better than Females.

A narrative some Men cling to even into adulthood,
 as they seek but never find relief from the anxiety.

Boys' and Men's "locker room talk" further instills disrespect for Women.

What results —

Domestic violence, widespread sexual assault and harassment,
 as an international "Me, too" movement recently revealed.

Sexism, a primary modality of the Ego Identity, plagues every continent.

It's even worse in Cultures that make no pretense of liberating Women.

(Genital mutilations, honor killings, child marriages, and more.)

Ours is not a woman-safe world.

A more generalized aspect of the Ego Identity also begins in early childhood.
 A message implicit in language and learned from the performance of Others,
 at home with our families and neighbors,
 at school, in sports,
 what we see in the media.

Telling us that hierarchy and competition is what Life is about.

A message reinforced in the actual games children learn to play,
 with siblings, friends, classmates...

Games where there's the winner and a loser.

 Many of which you're more likely to win if you're bigger, physically stronger.
 And no one wants to be a loser.

Building on the "better than" idea underlying such competition,
 the classism modality of the Ego Narrative
 tells us, "If you have more, you're worth more."

This hollow notion of personal value produces a craving that can never be satisfied.

 Inducing us to feel that whatever we have, it's never enough.

Driving us to overlook the desperate needs of less fortunate Others.

Focus instead on a competition, on proud display.

 From positions in the Forbes rivalry,
 to tickets for rides into outer space.

The classism modality of the Ego Identity defines "success"
 as having taken much more than your share;
 even though grabbing all you can get is on some levels frowned upon.

At a dinner party, for instance,

 you'd never take eight pieces of a cake cut into ten
 — leaving just two for the other nine guests.

Yet, classism normalizes the top 10% of Society controlling 85% of the Wealth,
 while many of the other 90% of the People
 don't have enough to meet basic needs.

The Ego Identity accepts, indeed applauds, economic disparity.

 Works at retaining it.

We cherish the ideal of equal opportunity —

even if we're aware of the advantages certain children enjoy,

 in access to education, connections, career prospects, economic support.

We believe in democracy —

but the Ego Narrative permits money to overrun our political process.

And we accept without question the authoritarianism operative in our workplaces,
 where owners of businesses exercise absolute power over employees.

Thinking of the World and Others as Objects
 can so encroach on People's Minds,
 individuals can end up justifying any means to protect their advantage over Others.
 As in the Wealthy class continuing to perpetuate,
 (although now more covert than in the past)
 the longstanding message meant to keep the White Working Class from revolting —
 that although they may not be paid enough to feel well off,
 at least they can think of themselves as superior to People with skin of a different color.

Racism has produced some of the Ego Narrative's worst manifestations.
 It programs Whites to believe they're superior to Blacks, to People of Color.
 Above anyone whose physical appearance or Culture can be made into "Other."

Outright racists consciously hold the opinion that the color of their skin,
 their genetic makeup, religion, national heritage...
 marks them off as better than People who are different.
 And so excuses them of any responsibility for personal
 or institutionalized abuse Others might experience or feel.

Few individuals now openly proclaim racist attitudes,
 in part due to the hard-learned lesson of Nazism —
 when Hitler's White Supremacist antisemitism narrative
 dragged the whole World into a nightmare.
 And in part because society has, to some extent, acknowledged the evils
 of slavery, segregation, lynching and KKK rallies.
 Yet, our Language and Culture
 remain saturated with racist ideas that reach back to the era
 when slave traders and slaveholders used them to justify their hideous business.

Nevertheless, attitudes in Society and Culture change and evolve.
 Outmoded narrative is regularly discarded.
 Expressions of the Ego Idea that may have been acceptable at one time,
 can turn unacceptable, later.
 (Only allowing Men to vote, for instance.)
 And vice-versa. What was once considered unacceptable,
 can later be seen as constituting normal and healthy choices.
 (Same-sex marriage, bisexuality, gender fluidity, for example.)

Sexism, Classism, Racism and such...
 Bar us from appreciating our diversity.
 Keep us from the wonder of a pluralistic society.
 And much more.

We may not feel that we're caught up in these modalities of the Ego Narrative
 because they operate largely on the unconscious level.
 And People generally don't want to think of themselves as Racist or Sexist anymore.
 Indeed, most who still harbor such attitudes sincerely believe they don't.

Denying the problem, however,
 makes it that much more difficult to address the unfairness —
 in everyday behavior, educational and economic opportunities,
 the criminal justice system, housing, healthcare...
 While making it easier for power-hungry political gamers to manipulate the situation.

The Problem is —
 the Ego Narrative saturates our Language.
 From the Words we use to formulate our thoughts and register what we perceive,
 to the layers of assumptions that our Culture teaches us to make.
 When we think of One Another.
 When we see each other in public.
 In how we understand the news.

To begin to liberate Ourselves,
 we need to recognize that no matter how we were raised,
 or what we might think our attitudes are,
 because the Modalities of the Ego Identity are embedded in our Culture
 they necessarily affect us.

The first step is to recognize it —
 only then can we effectively begin working at noticing and countering them,
 in our thoughts and behavior.
 Minute by minute.

The Ego Narrative underlies the worst moments in our history —
 War, colonization, slavery, genocide, rape...
 the unspeakable enormity of the Holocaust...
 It keeps many of us from doing absolutely everything we can
 to end our dependence on fossil fuels,
 create a new responsibility for One Another and our Planet.
 It impedes a recognition of our inextricable engagement with the Cosmos,
 our Personal Relationship with Each Other, Nature, the Universe.

Knowing where we don't want to go, however,
 doesn't get us closer to where we'd like to be.
 Yet, it does suggest a direction —

If not the Ego, if not an Object World,
What deeper order to the Universe might there be?
What would a Subject Centered World mean?

Putting Human history, together with our present Crisis situation,
could leave us thinking that we've never had any other Picture of the World,
no Guidance toward another path —
but we did.

All along.

25 guidance

We've known for a long time
that the Ego Identity doesn't take us where we want to go.
In part, thanks to Religion.

Anthropologists agree that Religion, broadly defined,
has been present in all Human societies.

Although questions remain —

is it about explaining the Cosmos?

is it what a Society holds Sacred?

is it what binds its members together?

Does it refer to beliefs? Rituals? Moral codes?

As Scientists, Anthropologists insist on evidence.

Restrict themselves to measurement and description.

Drawings, artifacts, pictures, words, sculptures, performance...

What things mean or may have meant, less welcome to the discussion,
because meaning is subjective.

And who can tell what something meant or means to someone else.

Yet Anthropology does study belief and practice reaching far into our past,
from the Stones at Carnac to the Teocalli temples.

Seeming references to the Sacred.

(Exactly what kind of Sacred we don't know.)

We do know that, at some point,
some of our ancestors began personifying the Divine.

Associating experiences of being cared-for, for instance,
with a larger Personal Presence.

Creating Stories of Gods and Goddesses.

Often crediting the Deities with the Creation of the Cosmos itself.

Some gave these Divinities Human or Animal likenesses.

Supernatural abilities. Even foibles.

Others conceived of and worshipped only one God —

Omnipotent, Omniscient, Ubiquitous... responsible for all of Existence.

So indescribable and revered by some, that His Name must never be spoken.

And then there's the numerous Wisdom Traditions

Some based on non-Western metaphysical models.

Different cultures, each their own expression.

All have one thing in common,
they call for harmonizing our behavior.

Even the Religions and Traditions associated with hierarchicalized Civilizations
have consistently discredited the Ego Narrative.

At least in its simplest manifestations as selfishness and greed.
And virtually all have celebrated the ideal of doing good.

Buddhism with its emphasis on Compassion, for example.

Judaism with its commitment to Community.
Its long line of prophets.

Urging us to provide for those in need.

Foretelling a day when we will 'hammer our swords into plowshares.'

Islam whose prophet Muhammad said,

"He is not a believer whose stomach is filled
while the neighbor to his side goes hungry."

And Christianity, based on the life and teachings of Jesus Christ,
who unequivocally asserted, "Love One Another."

"Feed the hungry." "Put away your weapons."

Urging the wealthy man to "sell all you have and give to the poor."

A message that never entirely disappeared.

Although it was mostly explained away, made secondary;
as men institutionalized the Religion that took His name.

Brought to us and passed on by Human beings caught up in Ego Cultures,
Religions haven't fully and consistently pointed us in a better direction.
Many have taught that theirs is the One and Only True Religion, for example.
Believing this gave them license to burn "Heretics."

Murder non-believers,
even members of a different sect of the same religion.

Numerous Religions give full permission to Objectify and devalue Nature.

Promising our true Home waits us in an Afterlife.

Much Religious discourse works to excuse us

of having to interrogate our Economic and Cultural systems;
or critique the powering-over and violence that the Ego Narrative normalizes.

Nonetheless, Religions and Spiritual Traditions,

alongside contemporary Spiritual Writers and Leaders,
continue to encourage us to look to a larger Reality.

As does Art, Music, Literature and Philosophy — each in their own way.

Another source for an alternative understanding to the Ego Narrative came after Psychology's emergence as a Scientific area of study.

Not so much from Sigmund Freud,
but from Carl Jung, whom Freud had mentored.

Jung agreed with the basic Freudian insight,
that in addition to our Conscious thinking, we have an Unconscious.
Among its functions, archiving past memories and experiences.

But if we repress a stored episode —
especially if it carries an intense emotional charge,
(Something that we don't want to think about,
because it's too painful or confusing, for instance.)
the repressed memory can stifle our ability to think rationally.

Cause us to make unhealthy choices.
Impinge on our lives without our being aware that it's even happening.

Derived from Freud's approach,
Jung's service to his patients was being Someone you could speak with.
Someone you could trust. Help bring the secret out.
Leading to freedom from any such limitation and to greater Possibility.

Working from there, Jung came to realize that there was still more to it.
He discovered that patients' narratives and dreams
sometimes connected with motifs, stories, myths, images, patterns...
that repeat across societies and throughout Human history.
He saw these shared "Archetypes" as evidence for a "Collective Unconscious;"
A deeper layer beneath the individual Unconscious.
A reservoir of shared Human experience and knowledge.
A resource that plays a significant role in our individual psychology.

Although Jung worked as a Psychologist,
Physicists have noted that his concept of a "Collective Unconscious,"
resonates with the understanding of Space as a unified Vacuum-Field Sea.
Everywhere frothing with Possibility.

And his term, "synchronicity,"
aptly describes possible events in a Universe that is Non-local.
Happenings irreducible to mechanical explanation.
Such as moments when a thought, a wish, a word coincides with an event.
Or a dream slips into wakefulness.
For Jung, significance can instantaneously infuse a random moment,
as if by "magic."

Like the way the I-Ching works.

The "*I-Ching*" or "*Book of Changes*" is a compendium of ancient Chinese wisdom, that links the random toss of coins or movement of sticks, with a mathematical formula that generates a set of broken or unbroken lines, called Hexagrams.

The Hexagrams, in turn, are associated with images drawn from Nature, and given further elaboration through poetic explanations. (Words from a distant past, but sometimes remarkably to the point.)

The process seems to enable a dialogue between the Questioner and the Subjectivity of the Universe —

Sometimes describing the Landscape of one's own Mind.

Sometimes offering an altogether larger point of view.

Sometimes prefiguring what might unfold from a particular course of action, or given state of affairs.

In any case,

always encouraging goodness / intelligent behavior / Personal responsibility.

Numerous passages explicitly discredit the Ego Idea.

Another tradition that provides guidance is the idea that the Stars, the arrangement of the Solar System at the moment of birth, describe a dimension of Personality.

An idea that makes sense,

(even considered independently of a Panpsychist perspective)

given that Life evolved for billions of years in this unique Cosmic environment.

Sun, Moon and Earth's sibling Planets,

bathed in the rhythms of the Seasons.

Moreover, if the Principle of Non-locality is to be taken seriously, a mechanical connection between the moment of birth and the Solar System need not exist.

(The lack of a measurable link had long represented a problem for Science.)

Many people find Astrological natal descriptions accurate and valuable.

Able to articulate things about themselves and others they may already know.

But the Astrological picture is complicated.

Beginning with the category of knowledge itself.

Some of the descriptions are so vague as to be universally applicable.

Plus there's the Mind's inclination to see what it might like to believe.

Add to that Astrology's long and undisciplined tradition.

Then there's the even larger issue associated with the Astrological endeavor — Personality, the Human Psyche, can never be contained in words, or concepts.

The Mind creates these.

And whatever the Stars can say about us, they're not the whole picture.

We grow up in a particular family.

And that environment itself is located in a larger Cultural context.

We've different influences, opportunities and experience.

And most importantly, Consciousness is radically Free.

We can, and do choose.

We can develop skills and interest that the Stars may not reflect.

We can forego, even suppress, the inclinations they suggest.

Yet, if we find the descriptions ring true...

you have to judge for yourself.

Certainly, an Identity that includes our Mother Earth,

as well as her larger Solar and Lunar Planetary Nest,

provides us with an expanded notion of Self.

And insofar as the Astrological configuration consists of elements common to us all, yet expressed in different ways —

the Stars deliver a unique sense of Self,

while providing incontrovertible evidence of our connection with One Another.

Far exceeding the Ego Narrative's arenas of Separation, Comparison, Competition.

Understanding Oneself as part of a larger picture, engaged with a Subject-centered Universe,

beginning with birth and continuing through every moment of our Existence, doesn't mean that anything can mean anything, however.

Attaching significance to the random,

finding personal resonance in what we hear, read, see, encounter...

discovering synchronicity,

noticing coincidence,

extracting meaning from a dream,

like reading lines of poetry —

involves the same risk we learned about in childhood.

The danger of mistaking the imagined for the Real;

seeing only what we're looking for,

spinning facts to suit our wishes,

letting our imagination run away with us,

courts disaster —

and can leave us totally out of touch with Reality.

Carefully widening the scope of our vision, however,
 making room for Subjectivity in our World,
 doesn't require us going back to the way things were before the Age of Reason.

The intuition that we're entangled —
 a part of something greater than Ourselves,
 that each of us matter to the Cosmos,
 that our lives offer a dialogical engagement with the Universe,
 may not be that difficult for our Minds to wrap around.
 It might help us get out of this mess.

As the year 2000 dawned,
 our networked planet welcomed the new Millennium.
 People around the globe participated in unprecedented celebration with One Another,
 in music, show and spectacle,
 dance, words and pyrotechnic display.
 Bob Marley singing, "One Love,"
 cut across time zones / political boundaries.

A moment filled with hope and promise.
 Some likely had in mind that we were finally leaving the 20th century,
 100 years of painful memory.
 Nightmare never to forget.
 Others were welcoming more than a new decade,
 more than a turn of century.
 2000 was the start of the third thousand years.
 Although itself only a calendar event,
 perhaps heralding the fulfillment of unforgotten prophecies.
 Tears ran down many cheeks that night.

But even with what felt like the whole globe technologically linked,
 merely aspiring for the same dream, doesn't make it happen.
 Two decades later, that New Year's moment remains a winsome reminder;
 a passing apparition of what Everyone wishes could be.

Imagine Human identity metamorphosing from Separate-Self interest
 to solidarity, mutualism, altruism...
 Turning to One Another and Nature with loving eyes —
 Freely dispersing accumulated fortunes.
 Paying debts owed for colonization, exploitation, usurpation of lands.
 Correcting our mistakes / forgiving each other / putting away our weapons.
 Inventing a whole new economic system.

To seriously conceive of Everyone working together,
ending poverty,
creating a global community,
arriving at a sustainable relationship with our Planet...
seems almost impossible.

Yet seeming “impossible”
fits one of the key descriptive elements of a Phase Transition.
And such transformations have happened before.

26 a change of heart

Evidence tells us that the Ego Identity is not inborn,
not inevitable.

Its modalities are Cultural constructions.

The Separate-Self Narrative lays atop our Physical / Biological being.
Once we become aware of that, we can begin to do something about it.

When we consider our History, include our present Crisis,
and add in the trajectory we're on,
we have to question —

How close are we from the edge?
Will we correct our course in time?

We certainly have the Guidance to make the necessary decisions,
to move beyond this impasse —
but if caught up in the Ego Narrative,
we're unable to use that knowledge in the way we choose to see things.
Creating a Change of Heart has not proven to be easy.

According to Complexity Theory, the individual Agents of a System
carry and produce the overall pattern.

Whether a murmuration of Starlings or a change in the weather.
And the smallest fluctuation (a whisper of wind from a butterfly's wing)
if met with resonance — Reiterated. Repeated.

Can cascade upward. Alter the pattern of the larger System.
In other words, small individual acts
can bring about major change.

Given that our intent is to free Ourselves and World of the Ego Narrative,
Complexity Theory suggests the place to start,
would be within each of us at the Individual level.

As for a first step,
it's obvious that we will need to become aware of the Ego Narrative's hold on us,
before we can do anything about it.

So this means that we'll each have to learn to be constantly on the alert for it.
Ready to identify it. Drop it.

Replace it with a more constructive Narrative.
Something we may find that we're already doing. Or not.

For we may not always be paying that much attention to our thoughts.

The feelings we carry around.

Our responses to stories, images, One Another.

Our motivations for impulses...

We're not taught about introspection, meditation...

How to exercise our Will Power.

So we may have to develop and use mental muscles we've not exercised before.

Taking control of our Mind.

Rather than letting ourselves be swept along by failed understandings of the past.

The new Stories that Modern Science is telling us

being evidence based,

bear a certain psychic strength.

Can provide help to cut through the Ego Narrative chains constraining us.

Simply keeping in Mind, for instance,

that at the Heart of our Physical being

(At the Quantum scale of Matter)

we find triune Quarks sharing Energy.

Or remembering that within each of the 100 trillion Cells that make up our Bodies,
altruistic Organelles labor to keep them alive.

can bring ourselves back in touch with Who we are.

Aid us in recognizing the larger Picture.

Each doing our part.

Leaving aside the Mystery of how any one of us happened to come to be,
we find ourselves together, at a critical Planetary juncture —

able to engage in dialogue with One Another and Nature.

able to change things when something's not right.

Part IV — Actualities

27 saving the world

We know this much about where we are,
 according to Biologists,
 we are in the midst of the sixth major mass extinction event in the History of the Earth.

This one happening because of Human activity.

Already a tragedy for thousands of species never to be seen again;
 threatening death and difficulty far surpassing the Covid 19 pandemic.

Considering this and the other dangers we're facing,
 we've all the signs needed to tell us that we've arrived at a Pathway's End.
 While it's abundantly clear that the Ego Narrative brought to this point,
 we also know this about Love —
 nothing means more to us.

Helping One Another resonates deeply with Who We Are.
 Few things make us happier than being kind, making Someone else happy.

It gives us joy to even imagine a World free of the Ego Idea.

Where no one would want to harm someone else.

Or take more — leaving others deprived.

A Planet with not one Child hungry / not one Person homeless.

A Woman-safe World.

Where Humans have become the Planet's beloved Gardeners.

And Nations have abandoned their weapons of war.

Peace on Earth.

We could do that / be that.

In a true Democracy,
 People can choose how their World will look.

All the People are considered equal;
 wholly different in skills, interests, choices, inclinations...

but each with an equal voice.

Each with an equal say in determining the laws, institutions, ways of doing things
 that will effect them.

Each with equal rights; equally subject to the laws agreed upon.

Together creating Community.

Doing the things that need to be done.

True democratic power-sharing means that the majority sets the rules,
creates the larger order —

Decides how resources are to be shared.

Defines the role of government.

Rather than a small empowered minority or a centralized authoritarian state.

When individuals know and feel they belong,
because their needs and interests are being met,
and their input matters,
the Network at large benefits.

Securing a higher probability of success.

A Society striving for the greatest input from all its Citizens,
will stand a greater chance that Human well-being and happiness will be served.
Resonant with Complexity Theory,
Democratic systems are better able to adapt to changing conditions, grow and evolve.
Widen and deepen their Horizons of Possibility.

In a Democracy, decisions are made by Voting.
A Right that hundreds of thousands of people struggled, labored and died for.
Democracy is a repudiation of might makes right.
A rejection of the idea of violence and coercive power over others.
Within limits defined by the Law, the Principles of Civility,
and a genuine wish not to hurt Others,
People can make their own choices.

Democracy opens us to the Subjectivity of One Another.
Carries intuitive notions of Human dignity.
Nurtures Self-respect; and respect for One Another.
Democracy calls to us.
Without it a Pluralistic Society is not conceivable.

Democracy enshrines Freedom —
the Freedom of speech, press, assembly, religion, travel, commerce, art...
Freedom is important to us,
because Freedom makes Love possible.

28 given to our care

Each Generation is given the care of their historic period.
 What's entrusted to us though, isn't something we get to choose.
 Neither individually. Nor collectively.

Living in a high income nation in the early 21st Century,
 we depend on Networks for food, transportation, water, sanitation,
 communication, healthcare, energy...
 We rely on Each Other's labors to get by.
 While we enjoy a Standard of Living filled with comforts, appliances, devices,
 education, travel and entertainment opportunities...
 unimaginable to our grandparents,
 we're far from how we wish the World would be.

We face unprecedented perils —
 the climate crisis, sea and forest degradation;
 nuclear armaments, high-tech weaponry, cyber and information warfare;
 global suffering resulting from centuries of colonization;
 and on-going gross economic and social inequity.

Problems we need to solve — for the children's sake.
 Problems we can solve; but only by working together.
 Everyone minded in the same direction.
 Working toward the same goal.
 A requirement, however, that we are sorely lacking.

Acknowledging our limitations,
 we've been focusing on what's happening here in the United States;
 on lands taken from People who had been living here for at least 15,000 years,
 and who have yet to be compensated for that enormity.
 But if the story that follows could happen here,
 it could happen anywhere.
 And the hour is getting late.

In the United States, in the year 2023,
 a crater as deep and wide as the Grand Canyon divides us.

On one side —
 Conservatives who don't like the changes wrought by Feminism, Civil Rights activism,
 and the Sixties youth movements.
 Some of them believe that People are lazy and greedy by Nature.

They don't think that government should provide a basic social safety net,
or regulate business, promote infrastructure, protect Civil Rights.

Those on the Right of the political spectrum work at slashing taxes,
shrinking government.

They promote the continued use of fossil fuels,
obstruct efforts to address the Climate Crisis.

Many Conservatives seek to impose their religious beliefs on Others.
As their actions and rhetoric against the LGBTQ+ Community,
and their opposition to a Woman's Right over her own Body demonstrate.

On the other side of the chasm —

You have those labeled Liberals, Progressives.

or Socialists, Communists, Bleeding Hearts, Radicals...

(And in the interest of full disclosure, this includes the author and editor.)

Those on this Left side of the divide believe in Science and Education.

Some carry on the long struggle against racism and for Peace and Social Justice.

Most of them hold the opinion that Government has a role in making our lives better:
protecting the environment,

providing emergency assistance in times of disaster,

creating and maintaining infrastructure,

helping the disadvantaged...

and they advocate programs aimed at doing so — paid for with taxes.

Of course, the actual People associated with the one side or the other
are much more complicated than these categories would suggest.

Affected as we all are by the Ego Narrative.

Liberals too, may see Human life as a competition.

And they're certainly not all free of corruption or prejudice.

Nor are Conservatives necessarily mean and uncaring.

Intentions, motivations and activities overlap.

Kindness and intelligence are found on both sides.

Nonetheless, the Polarization we see in American Society today is real.

It has torn families apart. Broken friendships. Weakened us as a People.

It continues to test the strength of our Democracy.

For a two party system cannot function,

if either Party becomes dishonest / gives itself over to gamesmanship.

When Donald Trump assumed power over the Republican Party,
what had been a fissure between the Left and Right of the political spectrum,
ruptured into the much deeper chasm we have now.

Some scholars suggest that our situation may have begun in 2017,
when evidence pressed the Justice Department to ask,
“Did Putin and Russia play a role in Trump’s election?”

The follow-up investigation did indeed find Russian involvement.

And despite limits imposed by a Trump-appointed Attorney General,
the commission pointedly did not exonerate him.

Some observers see this as a key turning point,
for it’s here the Republican Party failed the People.

The GOP ignored the glaring results and swept the issue under the rug.
Echoing Trump’s falsehoods that there was no collusion.
The Republican Party was now doing his bidding.

The situation took a more sinister turn,
when Trump called the Covid 19 Pandemic a political hoax.

Downplaying a dangerously contagious disease,
that was already taking hundreds of thousands of lives.

And Republicans fell in line.

Nor did they object as he demeaned and avoided masking.

Suggested things like drinking or injecting disinfectants.

Pushed aside Science, and our best Medical Experts.

Some Republicans even went along when Trump’s followers
propagated conspiracy theories about Covid and vaccines,

Party leaders did balk — at first.

When Trump declined to accept the outcome of the 2020 election.

But the Republican Party quickly changed course,
refusing to join in investigating what we now know were pre-planned efforts
to overturn the election results.

Culminating in the organized January 6 Insurrection.

A direct attack on our democracy,
fully embraced by his minions and followers.

None of this emerged out of nowhere, however.

29 a strange setting

Most Historians see the roots of our Polarization reaching back to the Founding Fathers.
For although they declared, “all men are created equal...” they were caught up in a racist Mindset that lingers with us still.

Their “all” didn’t really mean *all*.
Some, like Thomas Jefferson, did at least recognize that slavery was wrong, even as he continued holding slaves himself.
Thus they failed to address the problem that they themselves were a part of.

They wrote and ratified a Constitution that permitted slavery to continue, creating a situation that ultimately led to the Civil War.
That War began in 1860, when Southern States, led by an elite class who stood to lose wealth from the abolition of slavery, declared all men *not* created equal, and seceded from the Union.

The carnage ended in 1865, having taken 750,000 lives.
Leaving the South both physically and psychologically in ruins.

During the period of Reconstruction, the occupying Northern Army couldn’t force White Southerners to accept the results of the conflict.
Or to change racial attitudes.
Nor could they prevent the Ku Klux Klan from emerging and killing tens of thousands of People, mostly Blacks, by the time the Northern troops withdrew.

Without their overseers, Southern legislators began passing Jim Crow Laws.
Segregation, as in separate water fountains, restrooms...
“Whites Only” lunch counters, race determining where you could sit on the bus...
Segregated schools, libraries, etc.
Voting restrictions and intimidation effecting near total disenfranchisement.
And lynchings. Thousands of them, most, but not all, in the South.

It took until the 1950s and ‘60s, and individuals willing to risk and lose their lives, endure beatings, police dogs, tear gas, water cannons, jail... before Democrats finally passed Federal Laws, securing Everyone their Civil Rights.
guaranteeing Everyone the Right to Vote.

“Whites Only” signs were coming down.
 The “New South” rising. A new day dawning.
 Some, however, saw the situation as an opportunity for exploitation.

Almost immediately after the signing of the Civil and Voting Rights Bills,
 the Republican Party launched what it called its “Southern Strategy.”
 The scheme: Manipulate those clinging to the old White Southern Culture.
 Warn them that their way of life was going to disappear.
 Tell them how the GOP is on their side.

Ronald Reagan energetically embraced and used that “Strategy,”
 beginning with his Presidential campaign.
 Making his first stop at Philadelphia Mississippi.
 (Place of the infamous murders of three Civil Rights activists.)
 Where he delivered a speech praising the “Old South.”
 The region that had long avoided the Party of Lincoln,
 (The Republican responsible for the Emancipation Proclamation.)
 was now on its way to becoming a Republican stronghold.

The “Strategy” worked.
 By stirring up and reinvigorating racist attitudes —
 in the South, as well as in the North,
 (Where racism had different manifestations, but was just as ingrained.)
 The Right had found a way to extend its Political Power.

In the ensuing years,
 the Conservative movement elaborated on this theme —
 Translating Women’s Liberation as an “attack on male identity.”
 Declaring any empowerment of People of Color as “racism in reverse.”
 Disparaging LGBTQ+ People as endangering “family values.”
 Spinning the Sixties Cultural Revolution as a threat to religion, morality.
 Leveraging any “Us vs Them” narrative that could be contrived.
 (While always positioning the Republican Party on the fighting for you side.)
 Cultivating a voter base driven by fear and prejudice.

Courting that base,
 with a mix of crude behavior, permission-giving racist statements,
 and misogynist performance;
 plus help from the Russian government,
 Donald Trump managed to get elected in 2016.

Four years later, however,
 despite decades of Republican gerrymandering and efforts to suppress the Vote,
 a significant majority, more than 7 million People,
 rejected the corruption that Trump represented.
 Voted him out.

But if the loser in a Democracy refuses to accept the result of the election,
 the system is undermined.
 And this is what ensued.
 It began with Donald Trump, the loser, claiming — without evidence,
 that the election had been stolen from him.

A fabrication found to be groundless,
 and thrown out in at least sixty courtrooms.
 Many of them presided over by Republican, even Trump-appointed judges.
 Losing all the way up to the Supreme Court.

Trump then thought he could overturn the election results from within,
 by appointing a new Attorney General.
 But he backed off that plan when confronted with the threat of mass resignation
 by individuals in the Justice Department
 Who chose to remain true to the Constitution.

So then Trump turned to Republican State Legislatures,
 urging them to send in “alternative election results.”
 Which some proved willing to do.
 At the same time, he began pressuring his Vice-president,
 to overstep the boundaries of his role in counting the votes,
 to certifying and de-certifying the results submitted by the States.
 Pence, on the advice of legal scholars, refused.

Trump had one last card – carefully prepared in advance.
 And played it.
 He had summoned and now incited a violent crowd,
 which stormed the Capitol.
 Trump watched the assault on television; did nothing to stop it.
 His violent coup attempt also failed.

Without admitting defeat, Trump left office.
 Only to commandeer the Republican Party —
 by threatening to create his own Party, unless they stood behind him.

The Leadership and the Majority of the GOP submitted.
Blatantly so in their refusal to fully cooperate with the investigation
into the January 6 Attack.

Violence that brought death and injury to the police who were protecting them.
Long minutes when the Legislators own lives were threatened.
The erection of a gallows outside the building.

As a Party, the Republicans have yet to completely and unequivocally disavow
the falsehood that the election was stolen.
Indeed, some are still promoting it.

If this public undermining of Truth weren't enough,
under the guise of that same Election Theft Lie,
(That there was fraud, when there was none; and they know it.)
Republican State Legislatures pushed ever harder at changing Voting Laws,
Some undercutting independent electoral commissions.
All making it more difficult, rather than more easy to vote.

As observed earlier,
the other side, the Democrats, have not been saints.
To cite just one example...
They've used their position to enrich themselves, much as Republicans have done.
But in this situation, the Republican Party has gone well beyond that.

Our setting raises questions —
What do we risk by not taking this situation seriously?
Does History have any lessons for us that could apply?
Can we wait on addressing the Climate Crisis and other pressing issues,
until this drama works itself out?

What can be done?

30 dreams deferred

In an historic period that's come to be called the "Sixties,"
 profound Intellectual, Cultural and Social Change
 swept across numerous countries, including the United States.
 Most Scholars agree that the beginnings of the phenomenon
 are found in the 1950's,
 and its reverberations extend well into the 1970's.

In what is often referred to as an "Awakening,"
 a mix of mostly White middle-class young People, though certainly not all of them,
 some from highly privileged backgrounds,
 took up questioning the Social behaviors and values that had long been in place.
 (Regarding Sexuality, Race, Religious Beliefs, Spirituality...)
 And found them wanting —
 'For all the niceties that Modern Life was delivering,
 being a cog in a wheel was not proving all that desirable.'
 Something was missing.

The phenomenon was widespread.
 College students and teens defied the racist barriers and gender norms.
 Men growing their hair long. Wearing beads and earrings.
 Women choosing styles and hemlines for themselves.
 From small beginnings, the rebellion grew into an open questioning of authority.
 Opposition to The War in Vietnam. The draft.
 Exploring psychedelics. Sexual freedom.
 Turning off the TV set / tuning into music.
 People wanted more Freedom.
 And folk music, rock and roll, blues, jazz, gospel, dance, theater, cinema, literature,
 every art form was giving expression to that desire.

African Americans marched and demonstrated for an end to segregation,
 recognition of their Right to Vote.
 Women demanded and claimed full and equal citizenship with Men.
 People were delving into alternative Spiritualities.
 Some turning with a new attention to Nature.
 Individuality and creativity acquired a new stature.

If you can imagine not being allowed to think what you might like to do with your hair,
 to suddenly realizing, you can do whatever you want with your hair —
 you get the idea.

Signs of something happening filled the air. Like Spring.
 Many responded by more than rejecting the dominant Culture,
 they worked at creating an alternative to it.

Communes. Food Coops. Newspapers. Music...

Of course, their Idealism had its limitations.

The Sixties were happening midst an Ego Culture.

And by individuals who, though perhaps wishing otherwise,
 weren't fully disembedded from that same Culture.

Then there were those who chose to cling to the mainstream Culture.

And those individuals who watched with a degree of interest,

but limited by commitments and priorities, remained on the sidelines.

But Something *was happening* —

and it wasn't confined to a few million young People.

The questioning and new ways of thinking

both changed the face of Society
 and reverberated through Academia.

Revolutionary points of view were emerging in every field of study.

Anthropology, History, Sociology...

College and University faculty re-designed their modes of teaching.

Curriculum and major fields were revised.

Theologians were articulating fresh paradigms for the meaning of the Divine.

Writing about Personhood / Courage-to-be / Encounter / Community...

Conservatives, however, pushed back.

It looked to them like an all-out attack on their Worldview.

Church leaders, the Political Right and the Wealthy

were far from believing that the Culture needed an upgrade.

And not understanding what was happening made them all the more fearful.

Before all this, White men's position in the Patriarchy was assumed.

Their power over Others in the Social hierarchies went unquestioned.

Now the entire system was being turned inside out and scrutinized.

Conservatives doubled down on traditional definitions of marriage,
 sexuality, gender and power relations.

Ironic, that a moment in Human History that celebrated Music and Art,

opened up a place for Humankind to imagine a Future of Peace on Earth,

gave Youth to believe in a possible World of Love and Happiness,

and left so much progress in Human Rights, Individuality and Freedom in its wake,
 should have become Ground Zero for the so-called "Culture Wars."

31 a place for one another

We don't want a dictatorship for our Society.

It's abhorrent to think that one man should exercise the power
of Life and Death over others.

We don't want authoritarianism.

A minority ruling over the majority precludes equality among us.
Prevents us from realizing our Dreams.

We want a World that has a place for One Another.

A place beyond our present Polarization.

A place where we can enjoy Community together.

Regardless Skin Color or ethnicity.

Whether Muslim, Christian, Jew... Whatever Religion.

Man or Woman. LGBTQ+...

Everyone. Every Nation.

A place reconciled with Nature.

The World that's been given to our care is not just a little bit Broken.

People have already begun migrating from regions made uninhabitable
by Climate Change.

Authoritarian Regimes tyrannize over numerous nations.

Waging unprovoked War. Threatening other Countries.

While governments of all kinds update and stockpile their weaponry.

And some, like the Taliban, remain stuck in rebellion against the culture of the colonizer.

Hunger everywhere.

The good news is —

we have an idea of what we can do.

If our re-thinking has shown us anything,

it's that the Ego Narrative is failing us.

We can't begin to fix what's Broken,

without leaving behind the Self-as-Separate Identity.

On one level, as we noted, what we need to fix is Cultural.

On another level, however,

given the Climate Crisis, the on-going wars, the gross economic inequity,
the unnecessary suffering...

The present trajectory History is on.

All compounded by political corruption —

We can't fix what's Broken without also addressing the Physical.

Among things we know for certain about the Actual,
Everyone wants to Love and be Loved.
The goodness of anyone of us can never be entirely obscured.
We can be misled by persuasive political argumentation.
 We can be deceived.
 And we can become sick.
But the inherent goodness of our Being is Self-evident.
It's something that can't be denied.

We earlier learned that Complex Adaptive Systems (such as Societies),
evolve to meet their changing needs,
by way of the Self-organizing activities of their individual Agents (such as Ourselves).
 Change is not driven from outside the System.
 Change results from the free choice of members making up the System.

Taking these insights into consideration,
The Physical World we want to see can only begin with Each of us.

How in our own unique and individual way,
we choose to respond to the times entrusted to us.

32 getting real

We need to revisit the role that Voting plays.

Voting —

Maybe you haven't seen the point in bothering with it.

Maybe you feel that it's just not worth the hassle.

They're over there. Listening to their moneyed lobbyists.

We're over here...

Maybe you skipped it last time around.

Because you're not so enthusiastic about the Democrats, either.

(They do leave something to be desired.)

Or perhaps you just don't believe that your single vote matters anyway.

To be clear,

this historical moment changes everything.

The future hinges on it.

The Republican agenda is exactly the opposite of what's needed.

We need to deal with the Climate Crisis.

We need to secure Everyone's Voting Rights.

We need to ensure a Woman's Right over her own Body.

We need to address the long standing inequity stemming from slavery.

Create a humane immigration system.

Sane gun laws and efforts to heal our obsession with violence.

More education. More truth about our History. Not less.

Things that the Democrats aim to do.

(They have such laws ready to pass; but cannot, without a large enough majority.)

Voting has always been about sending a message.

Not only saying how we would like our Legislation to look.

But also as a way to tell One Another what and how things matter to us.

And because of that potential,

voting represents a way we might begin to step beyond our present Polarization.

We could Vote.

Send Ourselves the simple message —

that we still trust One Another.

that we still believe in Democracy.

and that we can work together to create a better World for the Children.

It would also, of course, send a message to the whole World.

To the People of China, Russia, India, the Middle East...
Not only saying how much Democracy means to us,
but also showing that it can work.

When things go wrong — we can correct them.

And we know, all the World knows,
Things have gone terribly wrong with the Republican Party.
It's clear that the Party needs a "time out."

Acknowledging this state of affairs,

and aware that the hour for fixing our Broken World is getting late.

A straight-forward and logical a response to our situation
is to focus on the 2024 National Elections,

when we can provide the Republican Party with the opportunity for Self-reflection.

The pause it needs to find its Moral bearings.

Put the Democrats fully in charge, across the board.

At least for the moment.

If enough new and traditional Democratic Voters were to cast their ballots,
and enough traditionally Republican Voters were to cross over —
the result could be tremendous.

It could spark a renewal in our faith in One Another.

Strengthen our resolve to deal with the Actual Problems we're facing.

And equally important, it would give the Republican Party the opportunity
to its renew its vision.

A scenario like that could happen.

It's conceivable that a Spirit of the People could quietly stir.

A landslide unfold without any central leadership or organization.

It could come about by individuals grasping the historic significance of this moment,
and responding in whatever way they choose.

Not only by Voting.

But also by doing whatever they can to support and encourage others to Vote.

Both within and without organizations.

This is what a government of the People, by the People,
and for the People is about.

Legislation and Culture exist in a feedback loop relationship.

Legislation effects Culture.

Culture in turn effects Legislation.

We stand at an inflection point.

The choices we make set the direction for the future.

Open or close its Possibility.

The Children are aware of the World they're inheriting.

They're already dealing with weather events, active shooter drills,
book banning, attacks on teaching history...

All the insecurities that an Ego Culture produces.

Ojala,

that the People of Voting age and Younger,
would realize the Power that Democracy places in our hands.

The sooner that Dawn comes,

the closer Humans will be to creating a Phase Transition,

as profound as the Beginning of the Universe,

the Appearance of Life on Earth,

the Miracle of the Eukaryotes.

Transforming the World we've got,

into the World of Love.

We can do it.

We're capable.