

Quantum Theology – Yom Kippur 5766
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16 and a half million people
share the same birthday as you.

Your creation day.

The story you were told of your birth
Is matched by 16 and a half million other personal creation myths.

In every culture
There's a creation myth
For how the world began...

Mother Earth and Father Sky
Bore Cyclopes and Titans...

A sky serpent formed the hills with giant coils,
Shed his skin into the sun
And married a rainbow...

Aliens rode a snowy comet
And powdered our planet with extraterrestrial fertilizer...

The Gregorian year is 2005,
The Jewish year is 5766,
The Muslim year is 1424,
The Buddhist year is 2546,
The Chinese year is 4703...ⁱ

The movement to teach Creationism
Or 'Intelligent Design'
Alongside evolution in science class
Is as absurd as teaching harp in woodshop.

Not only is it absurd,
It's dangerous.
There are thousands of creation stories.
To choose one and authenticate it
By writing it into textbooks
So that in the index students will find God
In between Galileo and Gravity,
Falsifies any other creation story,
Turning the beauty and soul-truths of all other ancient myths
Into underdeveloped fables and lies...

If we did teach Creationism alongside science,
Instead of trying to understand
That which unifies all things,
Young scientists would start contemplating
That which separates – believers from non-believers,
Those who know and those who refuse to know,
Not too different from German scientists
Studying genetic superiority.
Science becomes the breeding ground
Not for the kind of germs
That led to penicillin,
But to racism,
And even genocide.
The holocaust began in the science room,
The development of the theory of the superior race
And the invention of proofs that Jews and Gypsies were parasitic
Led to the development of the Zyklon-B gas used to kill them.
Putting Creationism in the science room
Is the Christian Right's way
Of excommunicating Darwin again
In favor of supernatural selection.

Maimonides,
The great Jewish philosopher,
and physician
In the twelfth century
Said we are obligated
To interpret Torah in a way
Compatible with science.
He also wrote that if science proved a point,
Torah should be reinterpreted accordingly.
In the nineteenth century
Rabbi Abraham Isaac Kook (1865-1935)
Said that scientific ideas
Which seem to contradict to the Torah
Are not to be opposed,
But really are an invitation to us
To delve more deeply into the Torah
To find richer and truer meaning.ⁱⁱ

There are a few Ultra Orthodox groups who feel
Dinosaur bones were put there to test us
But the vast majority of Jews from all movements
Embrace science
As an essential path
In the pursuit of wisdom.

Creation stories should not be taught in science class,

But we are not in science class...

Ten days ago,
Along with 16 and a half million of her residents,
We celebrated the birthday of the world.

And it's time we look closely
At our creation story.

Genesis 1:1-5

When God began to create heaven and earth – the earth being unformed and void, with darkness over the surface of the deep and a wind from God sweeping over the water – God said “Let there be light”; and there was light. God saw that the light was good, and God separated the light from the darkness. God called the light Day, and the darkness He called night. And there was evening, and there was morning, a first day.ⁱⁱⁱ

What you have is a relatively new translation of Torah,
Changing the first verse from “In the beginning...”
To “When God began to create...”

The first verse is grammatically problematic...
The first word, *Breishit*, literally means
“In the beginning of...”
It is the ‘of’ which is a problem
Since it is not followed by a noun.
In some translations they leave a blank...
“In the beginning of...
God created heaven and earth...”

Personally I love the blank,
In the beginning of *what*,
What is this,
Who are we,
Where are we going...
I would prefer to keep the mystery in
Than massage the text and force it to click.

There is something more remarkable
About the word “In the beginning of...”
Outside of its mysterious grammar.
The question of whether the universe
Had a beginning in time
Was been debated for centuries.

Aristotle believed that the world existed forever.
Immanuel Kant believed time continued backwards forever.
For over four thousand years
Torah has opened with the radical word, *Breishit*,
“In the beginning of...”

In 1929, Edwin Hubble
Discovered that everywhere we observe
Galaxies are moving away from us,
That the universe is expanding.
This meant that at some earlier time everything
Would have been closer together,
And ten or twenty thousand million years ago
They would have all been at exactly the same place...
When everything was one,
Infinitesimally small,
and infinitely dense.
Hubble replaced the Stable State Theory
Which said that the universe was infinite,
With the Big Bang theory
Where time and space have a beginning.

What was before the beginning?^{iv}

“Rabbi Jonah said in Rabbi Levi’s name:
Why was the world created with a letter *Beit*?
The *Beit* is closed at the sides
But open in the front,
Preventing you from investigating
What is above and below,
What is before and behind.” (Midrash Rabba)^v

Steven Hawkings suggested an answer
To people who asked what was before the beginning:
“Hell was being prepared for people who ask such questions.”

It is no accident that most of us were taught
And perhaps still believe
That the Torah says God created the world out of nothing.
Just like the DaVinci Code’s
Claim that there was a conspiracy to suppress Mary,
One could argue that there was a similar conspiracy
To suppress chaos.

Verse two.
The earth was unformed and void,

Hayita tohu vavohu,

Also translated as the earth was chaos.
There was not *nothing* in the beginning,
There was chaos,
And not only was there chaos,
There was water...
Nowhere does it say that God created water,
Only that a wind from God swept over it.
There was chaos,
There was water,
And there was wind,
All of which were very uncomfortable
for the early Rabbis and Christians,
Because it limited God's omnipotent power.
A God who creates out of nothing
Seems far more powerful
Than a God who has a palate
Of water, wind and raw mixed up chaos,
To work from.^{vi}

Perhaps...
But it depends how you define God.
Personally,
Whenever I see a good person suffering,
I see a limit to God's power.
God isn't about power for me.
God is about sanctifying what is.
God is about shedding light
Where there is darkness.

Chaos existed in the beginning,
And it seems,
Chaos has never quite been completely mastered.
Hurricanes,
Earthquakes,
Tsunamis,
Are all remnants of that original chaos,
The chaos in darkness, before there was light.^{vii}

On the fourth day, verses 14-15:

God said, "Let there be lights in the expanse of the sky to separate day from night; they shall serve as signs for the set times – the days and the years; and they shall serve as lights in the expanse of the sky to shine upon the earth." And it was so.
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If the light of the sun, the moon and the stars
Was created on the fourth day,

What was the light created on the first day?^{viii}

Some say the first light was the light of ideas,
Like the light bulb above one's head.

The Zohar says that the light God created
At the very beginning
Was the light of the eye. (Zohar I, 31b-32a)
In other words,
The flash of brilliance,
The spark of love,
The enlightenment of thought.

The foremost commentator
Rashi, (1040-1105)
Noticed that in verse 4
God separated the light from the darkness.
He reads the verse,
“God saw that the light was *goodness*.”
He comments:
“God saw that the wicked were unworthy of using the light.
God therefore *separated* it for the righteous in the World to Come.”
It is the light of the messianic age,
The dawn of the perfect world.^{ix}

In our prayers we say,
“*Yotzer or u'vorei choshech,
Oseh shalom u'vorei et ha'kol.*”
Which means,
“I form light and create darkness,
I make peace and create everything...”
It's based on a verse from Isaiah which reads
“I form light and create darkness,
I make peace and create evil...
I *Adonai* do all these things.” (45:7)

(You can see why the Reform movement changed it
from 'evil' to 'everything'.)

How could God create evil?
In verse two we see that God didn't form darkness,
God only separated it from the light.
Darkness and evil are the after-effect of creation.
God forms light, and shadows are cast.
God makes peace, and evil is a byproduct.^x

Notice
That immediately after God creates light,
It is written, “God saw...”
In quantum physics,
An electron is every place at once,
Until it is observed,
At which point it chooses a path.
Until it is observed,
It is everywhere,
Can go anywhere,
But once it is seen,
Its singular destiny is set into motion.

God saw...
And suddenly,
A path was created,
Once God sees,
The world is no longer
Infinitely dense
Where everything is everywhere at once.
Suddenly the universe is observed
And so its destiny is set into motion.

Light turned the chaotic quantum foam
Into an observed and therefore ordered universe.

(The creation of light
Followed by God seeing
Is one of the reasons we cover our eyes
When we bless the Sabbath candles,
And then open them and see.^{xi})

Another question.
If it says in verse 14
“Let there be lights in the expanse of the sky to separate day from night;
they shall serve as signs for the set times – the days and the years...”
what was measuring time on the first three days?

In verse five
It says
And there was evening
And there was morning,
A first day.

(That evening is listed before morning
Is why in Judaism our holidays begin at night.)

The Hebrew at the end of that verse
Is *yom echad*
Which literally,
As the footnotes says,
Means “one day.”
I don’t like when it is translated as “first,”
It isn’t accurate,
First day would be in Hebrew
Yom rishon.

Rabbi Judah b. R. Simon taught
That the ‘one’ in ‘one day’
Implies uniqueness,
That in the beginning God created one unique day,
And he goes on to say that this unique day is Yom Kippur,
For it is the Day of Atonement,
The day we atone,
The day we become at-one,
When we return to the beginning
And recreate ourselves anew. (Midrash rabah)

‘One day’ is more logical
than ‘first day.’
How can there be a first *anything*
Until there is a second?
Before there is a second,
There is no sequence.
It only becomes first day after the second day is created,
Before that it is one day.
It is one.
Outside of time.
Infinitely dense and eternally one.^{xii}

Light is created there,
Outside of time,
Which makes sense,
Because light never dies,
Light moves as fast as time.
It is not science fiction to say
That if we moved fast as light,
We would not age.

All of us, at every moment
Are moving at the same speed,
At the speed of light,

Because we are moving both through time and space.
The guy sitting on his couch watching CSI
And the guy on an airplane
Are moving at the same speed,
One a little faster through space,
One a little faster through time.
But it all evens up to the speed of light.
It's all relative.

We move mostly through time,
But if we could move through space
At the speed of light
We would no longer move through time.
Time would stand still.

The earthquake in Indonesia

Which caused the tsunami
Redistributed the mass of our planet
So that its rotation is faster,
Like a ballerina pulling in her arms
When she spins,
And since then
The day has been shortened
Less than three millionths of a second.
Just, a twinkling of the eye.
We lost tens of thousands of lives,
A constellation of souls went dark,
And one split second slipped away...

We live in a space-time continuum
Which from our perspective seems smooth and regular,
But when we zoom in,
We find discontinuous particles,
And, as Manny Katz taught me,
'a subatomic world weirder than Alice in Wonderland,'
Where there is chaos and violence,
And potential rips in space time,
Wormholes to the past and the future.
Yom Kippur is essentially a rip in space time,
Through which we attempt to mend the past
And redeem the future
As time for *one day* stands still.

Day two.
Day two is proof that God also hates Mondays.
If Shabbat is the seventh day,

Sunday is the first
And Monday is the second,
And the second day is the only day
Upon which God does not say, it was good.

Genesis 1:6

God said, "Let there be an expanse in the midst of the water, that it may separate water from water."

All of creation is this meiosis of separations,
Heaven from earth,
Light from darkness,
Land from sea,
Woman from man.
But it is all a separation of opposites,
Except on the second day,
Which is the separation of water,
Where a unity is broken.
Some water comes down to form the sea
And some goes up to make the stratosphere.
God just makes the space in between,
The necessary nothing,
In the beginning of...blank.^{xiii}

Perhaps that is the true meaning of
"Creation out of nothing..."
Before the beginning, the world lacked any contrast,
Any space between things,
The separateness that allows for shapes and forms
To emerge from and interact with each other.
In *Kabbalah* this is the movement from *chochma* to *bina*.
From unadulterated wisdom to discernment.
When we die,
We lose that separateness perhaps,
Like a glass of water being poured back into a pool,
We become one.^{xiv}

On the third day
God created plants and trees.
I won't read the verses
Because time is fast-moving,
But when you study on your own,
Notice the emphasis on seeds,
Everything is seed-bearing.
And just as every plant God created was seed-bearing,
Every person is sown

With the ability to renew herself through repentance.^{xv}

We talked a little about the fourth day so we'll skip to the fifth.

Genesis 1:20-23

God said, "Let the waters bring forth swarms of living creatures, and birds that fly above the earth across the expanse of the sky." (to verse 22) God blessed them, saying, "Be fertile and increase, fill the waters in the seas, and let the birds increase on the earth."

On the fifth day,
God *invites* the waters to create living creatures.
The water is God's partner in creation
And has been since the beginning.

You'll notice that fish and birds are created
On an entirely different day than mammals and people.
They are somewhere between vegetable and animal,
Lower on the food chain.^{xvi}

Notice however,
That the very first blessing in the world
Is given to the fish and the birds.
God blessed them and spoke to them.
They have their own covenant with God
Which is important when we think of our treatment
Of all creatures, great and small.

On the sixth day,

Genesis 1:24-28

God said, "Let the earth bring forth every kind of living creature... (to verse 26) And God said, "Let us make man in our image, after our likeness. They shall rule the fish of the sea, the birds of the sky, the cattle, the whole earth, and all the creeping things that creep on earth." And God created man in His image, in the image of God He created him, male and female he created them. God blessed them and God said to them, "Be fertile and increase, fill the earth and master it; and rule the fish of the sea, the birds of the sky, and all the living things that creep on earth."^{xvii}

Why does God say, "Let us make man in our image..."
Who is this us?

Some rabbis say God took counsel with the angels,
Who argued whether man should be created at all,
And while they argued, God created him anyway,
Declaring "Enough! Man has already been made."

Some rabbis use this as a text on humility,
That even God, Most High,
Took counsel with lesser beings
During creation,
And so too should we learn not to be haughty.

Rabbi Ammi said God took counsel with God's own heart
The way a builder consults with an architect.
God's heart is the architect of the world.

Rabbi Berekhiah said:
When the Holy One was about to create Adam,
God said: If I create him, wicked men will issue from him;
If I do not create him, how will the righteous be born?
What did the Holy One do?
God partnered with the quality of mercy saying to her,
'Let us make man in our image.'

Some say God was partnering with the earth,
Just as God had said in verse 24
"Let the earth bring forth every kind of living creature..."
God now says, "Let us, earth, you and I, make man in our image,
You give the clay, I'll give the breath,"
Making our very lives the kiss between heaven and earth,
Bodies of clay,
Breathed into life,
So that we are truly
B'nai adamah,
Children of the land.

Verse 27,
We were made in the image of God,
We haven't the time to explore all that means...
Does it mean how we look,
Or does it mean how we act,
Does it refer to our power of speech,
For God created the whole universe through speech,
And perhaps we too,
Whispering to each other
In darkness,
Create universes,
The way we talk to each other
Builds heavens,
Destroys unities,
Makes peace and light,
Creates evil.

Perhaps it teaches us something about God,
When it says "In the image of God he created them,
male and female he created them,"
Perhaps it is teaching us
That God is both male and female,
or transcends gender.
Perhaps it comes to teach us
To take care of ourselves and each other,
The same way an idol-worshipper
Tends to his idol,
For our God has no idol,
The symbol of God's presence,
The image of God, is us, is our very bodies.
Perhaps it teaches us that we are God's mirror,
Reflecting the brightest heavens,
And its remnant of chaos as well.

The sixth day continues:

Genesis 1:29-31

God said, "See I give you every seed-bearing plant that is upon all the earth, and every tree that has seed bearing fruit; they shall be yours for food. And to all the animals on land, to all the birds of the sky, and to everything that creeps on earth, in which there is the breath of life, I give all the green plants for food." And it was so. And God saw all that He had made, and found it very good.

The first creatures were vegetarian,
Not only man,
But all creatures,
Everything was an herbivore,
The lion lay with the lamb.
Many wonder
What went so terribly wrong
That God sent the flood in Noah's time
To kill not only all the people,
But all the animals as well,
And one response to that is
That desire for flesh,
That people and animals turned carnivorous,
Slaughtering those with whom God had spoken,
And blessed.

On the verse

"And God saw all that He had made and found it very good,"
Rabbi Abbahu reads it,
"And God saw all that He had made
and found *this* very good..."

meaning that God created many, many worlds before this one,
not a universe,
but a multiverse,
stratified with parallel worlds,
and this is the one that pleased him the most.

Genesis 2:3

And God blessed the seventh day and declared it holy, because on it God ceased from all the work of creation that He had done.

God blessed the seventh day and called it holy...
The very first thing to be called holy
Is time itself...
The creation of the week,
The order of our days,
The spin of the planet,
The speed of light.

Rabbi Abraham Joshua Heschel wrote:

The meaning of the Sabbath is to celebrate time rather than space. Six days a week we live under the tyranny of things of space; on the Sabbath we try to become attuned to *holiness in time*. It is a day on which we are called upon to share in what is eternal in time, to turn from the results of creation to the mystery of creation; from the world of creation to the creation of the world.

I don't read Genesis 2:1-4 as history,
I read them as prophecy.
I believe we are still in the sixth day,
All our kinks still being ironed out.
I believe we are somewhere stuck in verse 27,
And haven't quite made it to 28
Where we are blessed.

But one day...
One day.

Genesis 2:4

Such is the story of heaven and earth when they were created.

The world's birthday.

I imagine a cake for the universe,
Infinitesimally small,
Infinitely dense and eternally one,
Studded with as many unlit candles

As there are uninhabited planets,
And then suddenly,
God makes a wish...

Let there be light.

ⁱ The Jewish shtetl was behind the large clock tower in Prague, looking at the hands ticking backwards through the glass. The residents of the shtetl painted Hebrew on the back of the clock, so they could tell time *backwards*...It seems as if we are all living on different sides of the clock tower, all standing around a mysterious monolith. We are all busy studying the outside faces of the clock, while scientists are inside studying the gears and how it all works.

ⁱⁱ Many rabbis, like Nachmanides (13th century), a medieval commentator and mystic said that the whole account of Creation should only be read as symbolic of spiritual concepts.

ⁱⁱⁱ The mystical text *Tikkune ha-Zohar* offers seventy interpretations just on these first five verses of Genesis.

^v The Torah begins with the second letter of the alphabet, the first is the silent *aleph*, indicating that anything before the beginning is eternally mysterious to us.

^{vi} A certain philosopher asked R. Gamaliel, saying to him: 'Your God was indeed a great artist, but surely He found good materials which assisted Him...chaos, darkness, water, wind and the deep.' He exclaimed, "Woe to that man!"

^{vii} I am not suggesting a dualism, that chaos is separate from God, Judaism is monotheistic, everything is one. Perhaps there is an element of God which is chaos.

^{viii} There are different kinds of light. Consider: The lamp is too bright/You have bright ideas. The fireworks were brilliant/Your essay is brilliant. Candles light up the cave/Your smile lights up the room. The fire was radiant/The performance was radiant.

^{ix} The seed of redemption planted at the start, created right in the beginning.

^x Entropy is the measure of unavailable energy in the universe. The more evolved we become, the more we use up energy. The more we create, the less available energy there is in the world. Whenever God creates, Darkness and evil are the vacuums of divine energy.

^{xi} Rabbi Zeiram the son of Rabbi Abbahu said whence do we know that you must not recite a blessing over a lamp unless you can enjoy its light.

^{xii} According to scientists, visible light didn't escape right after the big bang. It was too dense. This complies with Genesis, light is formed, but is not visible until the fourth day.

^{xiii} The waters were split again in the creation of the people Israel at the Sea of Reeds.

^{xiv} Rabbi Tabyomi pointed out that if God does not say 'it is good' for a division designed for greater orderliness in the world, how much more so should we be careful then how much the more should this apply when we create divisions which lead to its confusion. (Midrash Rabba)

^{xv} Perhaps the light created on the first day is in a way also a seed for our future...

^{xvi} In the kosher laws, you cannot eat meat with dairy, but you can have fish with dairy, and you should be able to have chicken with dairy but the rabbis feared it looked too much like meat.

^{xvii} Two different rabbis respond to the question of why man was created last. One said, “So that if we become too proud, we can remember that even the gnat came before us.” Another says, “God was like the king who built a palace, decorated it, and made arrangements for a banquet so that all would be ready when the guests arrived.” In one we are the crown of creation, and in the other we are the humblest.