

Fenske's space/time pixel.-

This theory expands on Einstein's premise that space expands and that gravity is a symptom caused from the warping of space. - [Gary Fenske](#)

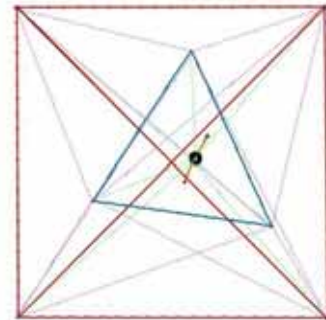


It all started after I spent a few weeks trying to imagine what Einstein saw when he first envisioned the fabric of space. If it is a fabric that can be warped, it must have an underlying structure.

One morning, in March of 2010, I woke up with a shape for the smallest planck unit pulsing through my head. I don't know why or how but the fabric of space finally made sense.

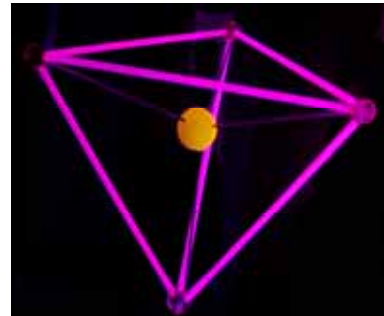
Worried that I would forget, I immediately went to my computer and drew the shape. Taking the sketch, of what looked like a square, I ran the image past my brothers who both love to brainstorm theoretical sciences. Dale presided as the Chairman of the NW Astronomical League and David is an inventor and president of VinylDoc LLC.

Together we built a working model from my sketch. To my amazement, the 'square' turned out to be a tetrahedron. The drawing was an illusion created from depicting a 3 dimensional object on a 2 dimensional surface.



I have been asked how I came up with a tetrahedron. All I can say is, it was an epiphany I had on awakening from sleep. And, yes I know. That goes against all tenants of empirical reasoning. Yet somehow, after a full battery of questionings, it seems to hold together.

It all stemmed from Einstein's vision of space being an elastic fabric that can stretch and contract. Since empty space does not exist, our three dimensional world is shaped by energy fields that permeate its entire fabric. What is the smallest unit that stretches the fabric of space into three dimensions?



I call it a space/time pixel. Because of the nature of three dimensional space, each pixel must contain four outer points. Each point consists of a non-dimension concentration of energy. The points create fields that repulse each other, thus stretching the fabric of space and create dimensions.

Later I connected this repulsive force to the elusive dark energy we have all been searching for. "Could gravity and dark energy be one and the same?" I still wonder.

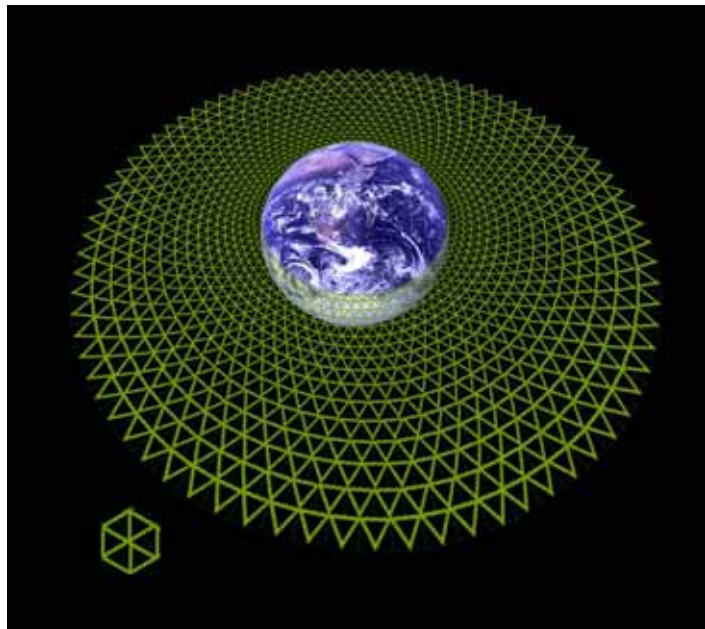
How do dimensions form? To create one dimension, place two points next to each other. Then, pull them apart. The interacting forces stretch the space between them and a one dimensional line forms. Add a third point, and do the same, for 2 dimensions. With a fourth point, the fabric of space is pulled apart creating all 3 dimensions.

This led to the question, if quantum pixels repel each other what prevents them from flying apart? Something must hold them together else the initial expansion from the big bang would have continued forever.

Aha! That explains the center point in my sketch. It is an attraction force that holds the pixel together. This phi point seems to complete the lattice of the fabric of space.

Everyone assumes that gravity is the great attraction force of the universe. Conversely, Einstein describes it as the warping of space. Quantum pixels side with Einstein. As pixels get close to matter, they warp and compress from the mass of the object. As they compress, the repulsive field within the pixels grows exponentially giving the illusion of gravity. They create a langrangian point where matter can exist.

It made me laugh because when I suddenly realized that gravity does not exist, all my questions about gravity became a mute point. Why is gravity so weak, where is the graviton and so on?



Note how the space/time pixel grid differs from the standard space/time grid. The pixel grid is made up of equilateral triangles; not squares. Warped and compressed by mass, the triangles become smaller and smaller as they approach a planet or star.

Inside the pixel it really gets very interesting. Outside 4 points stretch our 3 dimensional universe into shape. But, inside it is a very different universe. Each point distorts space, creating weird inverted dimensions decompressing until they finally revert back to a non-dimensional point at the center of the pixel.

With Einstein's space/time only 4 outside points and 1 inside center point is needed. If string theory wins out then the additional dimensions must be inside the pixel. The sketch on the previous page shows what a 9 or 10 dimensional pixel in string theory could look like.

Imagine looking to the right and see the world expanding into 3 dimensions; then to the left, everything shrinks down to 2 dimensions. Continuing until one dimension disappears into a singularity. A very weird world inside the pixel.

Is there evidence to this hypothesis? After I came up with this theory, I ran across a controversial article published by [Dr. Jeffrey Weeks](#) in the journal Nature stating that our universe was shaped like a soccer ball. His conclusion was that "our Universe seems like an endlessly repeating set of dodecahedrons".

"Of course", I said, "He was right."

If a space/time pixel is a tetrahedron, our universe must be shaped like an icosahedron, one of the strongest geometric shapes known to man. The amazing thing is that if Weeks was right then the overall shape of our universe will ultimately be determined by the shape of its smallest part.

Fenske's space/time pixel theory was first published in the book, "[The Secret World of Invisible Art](#)" by Gary Fenske, April of 2012. <http://www.fenskeart.com>

Addendum 2/21/2013

I feel that the genius of the future will come from the collective talents of a social network. Together they will accomplish what Einstein had to do by himself. To date, my experience with social networks has been, as one person put it, mob rule. If it can be channeled, there is great potential. Even with the abundance of misinformation flowing freely, there is a brainstorming going on that causes the creative juices to flow. So, in an experiment, I appealed the Quantum Physics group on Facebook to help complete my quantum pixel theory. My biggest concern was that nogs (negative bloggers) would suppress real brainstorming. I did get some positive input that allowed me to make further refinements.

Regarding the tetrahedron shape of the pixel, Zachary Amsden commented:

“Unfortunately, a regular tetrahedron cannot tessellate the 3 dimensional plane, so if you assume pixels represent a quantization of space, you must also assume either pixels are not tetrahedrons, the tetrahedrons are non-regular, or that quantized space is not completely tessellated. Since you define them in terms of balanced attractive and repulsive forces, this is not a good argument for them being non-regular...”

Of course he was right, so:

1. Could it be a different shape? Several shapes have been suggested but I have not been able to rationalize a different shape that would explain 3 dimensions. If each point warps space, it takes 4 point to warp space into 3 dimensions. 4 points creates a tetrahedron. Basic geometry.

2. Could it be a non-regular tetrahedron? If it were a non-regular tetrahedron, we should be able to observe the effect in the real world. But, height, width and depth appear to be consistent in every direction no matter how far back in time we look.

Therefore I felt this refinement to the quantum pixel theory was necessary.

1. Each pixel, unless warped by mass, is a tetrahedron in quantized space that is not tessellated. Each point in a pixel is enveloped by a negative repulsive field. As a result, the pixels never touch. The fields fill the non-tessellated space between them. Since the space between pixels is not a fixed distance but does need to fill Euclidean space. Thus, there must be a variable distance between each pixel.

2. So what happens when pixels try to fill non-tessellated space?

Very likely they vibrate while trying to adjust equilibrium. This may explain why strings, of string theory, vibrate at different frequencies. If true, then the whole fabric of space is in constant vibration. The ultimate symphony.

Then Kel Van Der Meel commented: “Sounds like you're talking about virtual particles.”

I lean toward a pixel being made from virtual particles simply because it is theorized that quantum space creates virtual particles. As particles instantly come in and out of existence, so do the pixels. Like a never ending tub of bubbles, it would create a dynamic but quasi-stable environment. A virtual pixel. A Schrödinger's cat.

This addendum does not complete the experiment. I am looking forward to further refinements.

NOTE: *Comments from the Facebook group do not indicate acceptance of the theory.*

My questions on points to explore:

What is the nature of a photon:

When an electron of an atom drops to a lower energy level and orbit, it releases the excess energy in the form of a photon at 186,000 mps. Experiments show that the photon acts as both a wave and a particle. This leaves the question, what is the nature of that release.

MY VIEW:

A photon starts as a shock wave created when a mini nuclear explosion, caused by an electron dropping to a lower energy state, releases pure energy into the fabric of space.

Warping the fabric of space as it leaves the atom, the shock wave travels in the same direction at the same speed as the electron. A photon particle has not yet formed. Depending on the energy level of the electron, the length and size of the shock wave can vary greatly giving us the whole electromagnetic spectrum.

The wave travels through the super fluid of energy we call space unabated until it interacts with fields in matter. The collision at the speed of light, $E=MC^2$, creates great turbulence in the fabric of space. That turbulence becomes a photon particle but only at the end when the wave hits the shore so to speak. In essence photons are all virtual particles.

This may explain why space is black and not filled with fireworks or lit up like the 4th of July and why it acts like both a particle and a wave. Imagine the quantum turmoil and bubbling of every point in space with thousands if not millions of waves continuously crossing paths every nanosecond.

Question: . Some photons can be thousands of miles long. Therefore, is the shock wave 2D wave like the surface of water? If 3d what is its 3d shape? Circular like a ball? A long bubble? Spiral helix like DNA? Cone shaped? I lean toward the Helix because leaving the atom it still has spin from the electron.

-- The Big Bang creates dimensions. To transition from a single point to a 3 dimensional world requires the creation of dimensions. Therefore, the first step in the expansion of the universe was to create dimensions into which space could expand. Did each dimension form apart from each other or was it simultaneous? The expansion happened at very rapidly pace. If the initial point which spawned our universe split into 2 points they would immediate repel and form a line. If now, along that line more points developed they would again stretch space into 2 dimensions. From 2 dimensions more points formed and gave the universe depth. Question; Would there be any telltale signs, in either the Doppler or MW background images, that could inform us which path the Big Bang took?

-- The quantum pixel is the smallest 3D size possible; a Planck length. Exploring beyond that size takes us out of 3 dimensional space and into quantum mechanics.

-- It takes 5 points to create a quantum pixel. There are theoretically 5 Higgs Bosons in MSSM (supersymmetry). Are the 5 quantum points and Higgs Bosons one and the same? If so a quantum pixel, comes out of the Higgs field and the virtual bosons create the structure of the fabric of space.

--It also appears that the creation of virtual particles is being caused from the expansion of space itself. Since space can expand faster than light, FTL would cause many anomalies that would be hard to explain in real time observation, such as a particle being two places at the same time and other QM oddities.

FTL expansion would cause a cooling thermal dynamic event inside the expansion bubble. Where space bubbles touch each other, one dimensional string like particles form from the heat of the collision. Collapse of the expansion eliminates particles. Space regain equilibrium and starts expanding again. Thus we have a boiling of space at the quantum level.

Relativity of dimensions. While the quantum pixel appears to have more than one dimension, measured from our perspective, relative to each point in space there is only one dimension. That dimension is out, away from the point.

--What is the correlation between dark energy and gravity? Are they the same? If space is pushing down on black holes, can we calculate how much expansion force would be needed to keeping the shape of their galaxies in tact? Will that calculation equal the force of gravity? Seems it must. Armed with that data, does that match the expansion rate of the universe? What happens to galaxies if the expansion force weakens?

-- Why is a point not referred to as a dimension? Seems like non-dimensional must refer to a state of stagnant energy where a point would be dimension 1.

-- Is light being absorbed by each pixel then reemitted? This would make light behave as both a wave and a particle. It would act much like newton's cradle. That would also explain why light has a speed limit. It is limited to the wave transfer from pixel to pixel. The photon particle itself would act according to quantum mechanics.

-- Is the quantum pixel a bridge between relativity and string theory?

-- Did the universe start with the quantum shape of a soccer ball and expand? If so the shape of the universe would remain like a soccer ball. Or, did quantum tetrahedron shapes multiply as the universe expanded. Then, the universe would appear circular.