

Economic Theory, Value and the Structure of our Universe

Power of Spheres, Circles and Pi

Deep Structures of the Universe Drive the Economics of Value

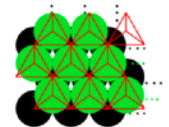
by [Bruce Camber](#)

Structures. Assume the key structure of the universe is an infinitesimal sphere, much, much smaller than [an atom or any known particle](#). It is first defined by pi, [the Planck base units](#), and [other dimensionless constants](#). This very-first infinitesimal sphere exhibits a primary quality of pi; it is never-ending, never-repeating numbers, *always the same and forever changing*. That quality is continuity. It creates order and numbers and is [the very nature of time](#).

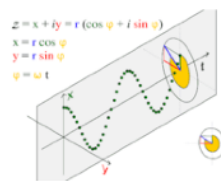
Now, to better visualize this event, know that the rate at which these spheres are manifesting is [defined by Planck Time](#); it computes to 53 tredecillion spheres per second at one PlanckSphere per PlanckSecond (5.391×10^{-44} seconds). One of the earliest studies of sphere-stacking was in 1611, by Johannes Kepler in order to maximize the stacking of [cannonballs on the deck of a ship](#). This is a whole new order of sphere stacking so to apply an ordering mechanism, we use the most simple, base-2. It creates groups of spheres, each uniquely defined by a doubling of the Planck base units.



The second quality of this most-infinitesimal sphere is its symmetries which [create relations which create space](#). There are college courses about the many [types of symmetries](#); however, for our purposes we will focus on cubic-close packing (ccp) and [the creation of lines, tetrahedrons and octahedrons](#).



And, a third quality of this primordial sphere is harmony which creates dynamics which creates a space-time moment defined by [the Planck base units](#). This image takes pi and spheres and makes them dynamic, extending through time. It is called [the Fourier Transform](#) and we are now researching five possible faces of it and the harmonic functions uniquely created.



Within these three images, space-time and mass-charge become the Janus face of each other. Here electromagnetism and gravity are likewise yoked. Continuity, symmetry, and harmony are extended throughout the 202 base-2 notations that encapsulate everything, everywhere for all time. Those three facets lay the foundations for the expansion of the universe, the very nature of value, and the beginnings of economic theory.

Continuity, Symmetry, Harmony. Think of gold and silver coins. Think of fine homes, fine cars, fine clothes, and fine food. The first quality and value of each is that these things are the instantiation of continuity. It establishes standards of quality, the best of what is. It is not unpredictable. It transcends time (as it creates time).

Continuity is the beginning of value.

Now think of the people involved with the making, selling, and maintaining of all these fine things. Here are symmetries of many relations over time. All circles and spheres, here are affirmations, texturing, and imparting continuity. Every relation establishes, sustains and increases the inherent values.

Symmetry brings balance and stability and knowingness to value.

Now think about how those fine things bring joy, pleasure, and moments of perfection. As all the finer things are used or consumed, life is enlivened. There is a sense of a deep harmony and joy. The values created are experienced and confirmed and life is good. These are valuations that we yearn and strive for and though seemingly illusive, they are everywhere, just a bit deeper within.

Harmony opens the richest dynamics of life.

Conclusions: The three primary facets of life — continuity, symmetry, and harmony — coming from deep within pi, are the definition of the essential structure of the sphere, which ultimately give rise to very structures of our little universe. These facets manifest the deep nature of the finite and the infinite.

[Footnotes & Endnotes](#)

[\[1\] An atom or any known particle](#). To grasp how small these spheres are, we apply base-2 notation to the Planck base units. The Planck units define these infinitesimal spheres. By applying base-2, we can account for all the spheres within natural groups. Most of it is quite straightforward, yet rather remarkable. It takes no less than 64 to 67 doublings to capture the neutrino and the elementary particles. The periodic table of elements ranges from about Notation-70 to Notation-80. Life comes alive between Notation-90 to Notation-103. The size of the earth and its environment come to manifest around Notation-144 where the Planck Time doubling has just passed one second. The size of our solar system manifests at about a light year within Notation-169. According to big bang cosmology, 150 million years was required to begin large structure formation. One million years manifests within Notation-189. One billion years manifests within Notation-199. Our current time is within Notation-202. To review these numbers, [please see our horizontally-scrolled chart that we developed in 2016](#). It is still being corrected! Notwithstanding, one can see that our infinitesimal sphere of Notation-1 is orders of magnitude smaller than a neutrino (and [trillions upon trillions of neutrinos pass through us every day](#)).

[\[2\] The Planck base units, Part I](#). These Planck base units become solid gold (after 69 notations). My hope is that you'll grasp their essence much faster than the academic-scientific community did. With few exceptions it took over 100 years to begin [to understand Max Planck's 1899 work](#). Here were units of time and space defined by four universal [physical constants](#) such

that it was inconceivable that a smaller or shorter unit of time could exist. It is well worth the time to engage the [Wikipedia accounts](#). My writing about these units has been [on the job learning](#) which will continue for my lifetime. There is that much to learn here.

[3] [Other dimensionless constants](#). If these constants are dimensionless, where do they exist? Do these numbers exist only within themselves? There is so much to learn about dimensionless constants. Coming in two flavors, [physical dimensionless constants](#) and [mathematical dimensionless constants](#), our all important Pi (π) is purely mathematical. Scholars work to define which constants are necessary for the [Standard Model of Particle Physics](#) (a)(b). Perhaps [31 is as good an answer as any](#) in 2012. However, I believe we all have a huge amount of work to do to reconcile not just the 31 constants, but also the 300+ constants defined by NIST and the all those defined by Simon Plouffe (over a billion). This work is just getting started!

[4] [Always the same and forever changing](#). The pure number and dimensionless constant, Pi (π), deserves its own day. Making pies and demonstrations are fun, yet this day should become a day that we all return to our foundations. It is here we can begin to grasp a bit of [the perfection](#) that is ours. How can something always be the same and be forever changing? That is the Great Enigma! We are all participating within it all the time. Life is a profound mystery that can actually be banal! It is everywhere within everything through all time.

[5] [The very nature of time](#). For many years now, our leading scholars and scientists have been telling us that [time is an illusion](#). We laughed at them. “Hardly true. Just take a look at *my* arrow of time. I look terrible, I’m 50 years beyond my prime. It’s only a fool who makes such statements.” And then, I joined them. But my take on it is quite different. “I have 201 notations that are complete and symmetric and the current notation— that is Notation-202 — is directional. It is not an illusion; here time is directional, but only until you sleep. During sleep, all your uniqueness is recompiled into the universe. It is like throughout your waking hours, you are out mining gold — perfections of continuity, symmetry and harmony. And while you sleep, you make either a positive impact or a negative impact on the universe. [It is a a rather novel, rough concept](#), but it is all that I have so far. Time provides part of the labeling of everything you do, think, believe, and process. I believe that is its most basic purpose. You uniquely label everything you do, think, believe, and process. Nothing is exempt.

[6] [Unbelievably high](#). Six postings and [this overview](#) make for too much reading, however, if we are going to [join the crowd debunking the infinitely-hot big bang](#), you’ve got to circle round the wagons and look at the issue from many perspectives. Of course, there will be some who will say that [53 tredecillion spheres per second](#) is a big bang! It could be argued because that expansion would be about the size contained within the current orbit of the International Space Station around the earth. But this expansion, it would be rather quiet, like the falling tree in the

forest story with nobody to hear. These spheres will become the constituents that eventually will create sound but it is still a long ways away. Plus, most importantly, most of this expansion was superconductingly cold, not infinitely-hot.

[7] Cannonballs on the deck of a ship. The best-known person to engage cubic-close packing of equal sphere is [Johannes Kepler](#). We need to know his work and that of [Thomas Harriot](#) and a dozen others on the way to [Thomas Hales](#) in our day. Much more fundamental than the CCP that China proclaims, this [ccp \[1\]\[2\]](#) is a deep, fundamental process that evolves out of [sphere stacking](#). It doesn't get any more basic. And, with 53 tredecillion spheres expanding our universe every second, it is an image that our very finest cinematographic minds have not yet imagined.

[8] Creating relations which create space. The relation, a ratio also known as a formula, with continuity (time) is what is fundamentally real. Everything else is derivative. Creating relations with balance or love is the purest form. Those whose hearts bleeding the most for others, those who want everything for everybody, feel this fact even if they can not elucidate a deeper concept around it. The problem is creating value to give to others takes away the possibility of that person creating their own unique value. I'll come back to this footnote often; it needs to become a major discussion.

[9] Types of symmetries. Every symmetry is a key. We are just scratching the surface. Some geometers have been at it for decades; they know remarkable things about pi and symmetry. Yet when I ask them about the interiority of the octahedron and they can not tell me about those four hexagonal plates within, too much that is fundamental has been missed. We all need to be celebrating every honey bee in the world. Somehow they are in harmony with those hexagonal plates and everything that comes out of them has a deep hexagonality. We all need to know and experience every natural symmetry.

[10] Lines, tetrahedrons and octahedrons. Our earliest work was with points, lines, tetrahedrons and octahedrons. Even though we knew the sphere was important, we didn't know what to do with it. It seemed rather removed from our basic building blocks. Then, [cubic close packing of equal spheres](#) showed up in a search. There is [lattice generation](#). It changed everything. Yet, it still takes awhile to absorb; and to this day, there is still a lot to absorb.

[11] The Planck base units, Part II. We are all [in search of an essential universe](#). Religious people are world are often more stridently in search of what is essential. And, many are sure that they have what is most essential. Yet, until we understand more about the parts-whole relations, our talk is barely textured. We paint with such broad brushes, we often miss fine details that add

to the majesty, the miracle, and the mystery of belief. All the dimensionless constants, both mathematical and physical, are the fine and extra-fine paint brushes. Until we know them, we don't naturally use them. We can't use them effectively. We may well use them unwittingly, but there is an art form, a perfection, within each of them. Here [transformations](#) may open new dynamics that have not even been imagined except for the most loving of our science fiction writers. Perhaps a new generation of artists-scholar-scientists can open ways to these dynamics and lead the way.

[12] The Fourier Transform. There are no less than six dynamics that naturally come with spheres. All can be applied to the Planck scale and to each notation thereafter.

- [Cubic-close packing of equal spheres](#): Though lifted up [within this website first](#) (2016), this image naturally builds on the next five dynamic images.
- [Sine-Cosine-Waves: We'll all learn about the wave's fundamental relationship to the circle.](#)
- [Focus on Sine: We're all going to learn a little trigonometry and calculus, too.](#)
- [An all-natural polarization: An open metaphor and analogical construction.](#)
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References & Resources

[A More Simple Model](#): Six top postings, a [summary overview](#)

- [Worldviews to UniverseView](#): Engage a Planck-scale Defined Universe.
- [The three](#): Continuity-Symmetry-Harmony will take time to incubate.
- [History: Change the Metaphor – Rewrite the History.](#)
- [Expansion](#): One plancksphere/plancksecond, a natural-but-unorthodox expansion
- [First Instant](#): Remember Pi, a primordial, constant, ever-changing, always the same
- [Consciousness](#): Who am I? Who are you?

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