THE

# CENTERPATH

PAPERS

BY JIN NUA

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By Jin Nua

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# Contents

**Introduction.....6**

**I : The Center Ordering Principle.....9**

**II : Centers.....17**

**III : Centerpatterns.....27**

**IV : Centerevents.....38**

**V : The Universal Fractal.....46**

**VI : The Centering Organizing Principle of Holistic Systems.....52**

**VII : The Centering Organizing Principle of Language.....64**

**VIII : The Centering Organizing Principle of Mind.....71**

**Addendum to The Centerpath Papers.....92**

**The Laws of Creation.....93**

**The Laws of Creation (The Center Ordering Principle).....96**

**The Law of Harmony.....99**

**The Law of Love.....103**

# Introduction

*"The visible world is born of the invisible;*
*The world of forms is born of the formless*
*…How it comes into existence, is sustained*
*And once again dissolved is a mystery.*
*It is fathomless like the sea"*

*Lao Tzu*

## Introduction to Centerpath:

The Center Ordering Principle (or Centerpath for short) is about a new philosophical understanding of nature and life at its various layers of organization. When all's said and done, Centerpath's tenants encompass a wide variety of phenomena including the microscopic, molecular, biological, and cosmic realms but also in the human domains of higher cognitive functions, social systems, and our lives as individuals.

The Center Ordering Principle Papers describe the process of the universe's great creative process and its primary outputs and manifestations.

More specifically the Center Ordering Principle (or Centerpath) describes the creative process raising larger whole creations from the interaction of an agglomeration of parts about an organizing center.

It's based on a new description of 'reality' whose profound insights will influence not only mysticism and philosophy but also psychology, social policy, everyday life, and quite possibly might expand the range of current ethics. Indeed Centerpath's most significant contribution might be its bringing to light the deep connectivity we share with all things and the responsibility this understanding implies.

Similar to past 'models of reality', Centerpath spells out a qualitative means to describe the universe's seemingly ubiquitous urge to create –a tireless and inspired force squeezing order from chaos. Hence Centerpath's a shade of Sacred Geometry, Shiva's dance of creation and destruction, Taoism's 'The Way', modern Complexity Theory, and Buddha's Kong life cycle -but with one, very new dimension added.

Centerpath carves a fresh new avenue in the intellectual superhighway by identifying a key –and missing component in the universe's great force. This missing link? --simply centers. Powerful objects of matter and energy that go about the extraordinary work of raising their surroundings into a larger, more orderly, holistic device about them. Fantastic devices filling our planet and the cosmos –things spanning flowers to galaxies, atoms to universes, and individuals to societies.

Through the Centerpath, readers can increase their knowledge of the world as well as learn concrete steps towards living a wider, richer, and more meaningful experience. Visit Jin's blog at www.jinnuablog.com for additional details as well as to purchase additional Centerpath works, books, and products.

# Overview of “The Center Ordering Principle”

The Centering Ordering Principle describes the universal urge to center. It features the formation of powerful centers which, through the fields emanating from their surface (Centerfields) turn around and project a “center-oriented” configuration on the space in their surroundings. The net effect shaping and molding those things affected by the Centerfield into a larger center-oriented whole pattern. The prime embodiment of such phenomena being center-oriented geometric patterns (Centerpatterns) of circles, spheres, spirals, clusters, arterial branching systems, radials, amongst others. Their other prime manifestation being center-oriented events and processes across time (Centerevents), characterized by the inexplicable rhythm of events to pull toward a single and culminating moment in time.

# Overview of the Centerpath Paper Series:

The papers comprise an eight part series of papers describing the Center Ordering Principle and its various, primary manifestations as follows:

1. The Center Organizing Principle
2. Centers
3. Centerpatterns
4. Centerevents
5. The Universal Fractal
6. The Center Organizing Principle of Holistic Systems
7. The Center Organizing Principle of Language
8. The Center Organizing Principle of Mind

Addendum – The Laws of Creation

- The Law of Creation
- The Law of Harmony
- The Law of Love

The first four papers of the series spell out the Center Ordering Principle’s primary tenants. Papers 5-8 are generally arranged as specific applications of the Center Ordering Principle to existing bodies of knowledge.

The addendum presents Jin’s Laws of Creation which were formalized in 2020.

Readers might elect to read the papers in the order listed however one can just as easily read the papers in any order they choose. Feedback from early readers indicates the papers entitled Centers and Centerpatterns offer a relatively lighter

read while also doing a decent job towards explaining the basic tenets of the Center Ordering Principle.

# Bookkeeping Notes:

Throughout the paper series we'll generally default to the term "Centerpath" (or its acronym CP) in lieu of stating the terms "Center Ordering Principle," or the "Centering Principle".

# The Center Ordering Principle

*"The aspects of things that are most important to us are hidden because of their simplicity and familiarity."*

*Ludwig Wittgenstein*

When we peer out at our world, and consider how it assembles itself, interacts, and 'comes together' –a simple truism arises. For no matter where we look –at any distance or scale we find its extraordinary dance of space and time, matter and energy, being and the void; results in an astounding spectacle of order, balance, beauty, and form. Highly coherent and aesthetically pleasing arrangements whose exceedingly high levels of refinement easily lead one to suspect they'd been crafted by an all-perfecting 'watchmaker'.

And while we tend to take nature's burgeoning orderliness for granted -almost a matter of course --it surely didn't have to be this way. In fact this orderly state of affairs –a near impossibility in most schools of scientific thought, is far from guaranteed but nevertheless emerges in all corners of the universe. Indeed in spite of the chaotic disarray implied by cold science, our world finds itself hopelessly plagued with rampant symmetry, abounding regularity, and an omnipresent-like state of orderliness.

One thing is exceedingly clear –order's not the exception in the universe –it's the norm. All in the face the boilerplate theories banishing reality to what should be a world of chaos. Clearly, a large gap exists between our expectations and the actual condition –so what gives?

More than acknowledging the aesthetic appeal of a great creator, order's pervasiveness confirms it's not an anomaly or a simple result of chance –it's here for a reason and there's only one suitable explanation. Order must spring from a consistent set of underlying interrelationships. There must be a "ghost in the machine," otherwise chaos, and not the order we actually see, would thrive throughout the universe.

Indeed order's presence in the universe's myriad degrees of circumstances and scales suggests a universal ordering principle at work –a restless urge to create that while outside the bounds of science's charter; nevertheless provides the necessary fertile ground from which order could arise as conspicuously as it does.

But what's the nature of this force? Let's examine a centuries old debate into nature's true essence for clues.

# Shaping a Debate

> *"The vision of a poet is that of the convergence of every point, the end of the road. …The dizzying oblique vision that reveals the universe is not a succession…but as an assemblage of worlds in rotation."*
>
> *Octavio Paz*

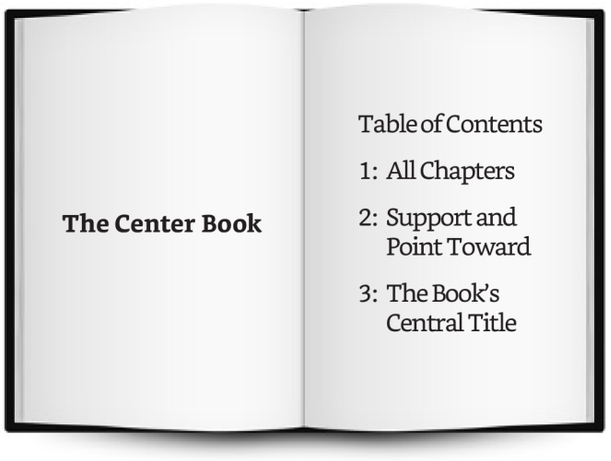
Octavio Paz's above quote nicely frames what's been at the heart of a Romanticists and classical scientists debate for centuries. Is the world –as Romanticists artists, sages, and poets believe; a larger interconnected sea of relationships? –an assemblage of worlds in rotation? Or is it –as scientists champion, a relatively closed in, local-causality based, cause and effect universe in succession?

And while each has its reasons for choosing its model of reality, how should we go about judging which is most appropriate? Does reality proceed in a linear, straight-line fashion as scientists support –and in many ways intuitively feels; or is reality a whirlwind of interactions and connections as Romanticists believe? Further if it's indeed comprised of worlds in rotation as suggested by Paz -a seemingly disorderly proposition to be sure, how could all the order abounding throughout the universe possibly arise? What possibly, could bring an agglomeration of rotating worlds together as one?

While such complex philosophical questions appear daunting at first luckily the issue's manageable when described in terms of a simple analogy. In fact one of man's most essential creations: a book; provides us the perfect platform from which to gain insights into being's essential nature. Not only do books often attempt to describe reality (science, biology, etc) –they're also a reflection of its most fantastic creation –the human mind –thus they might offer direct insights to its true nature. Plus, a book's seemingly linear, straight-line format appears to provide us with an early favorite: science. But of course, you can't always judge a book by its cover. We'll need to take a deeper look at a book's structure to ascertain its true nature and hopefully determine a winner in the process.

# You Can't Judge a Book by Its Cover but You Can By Its Title

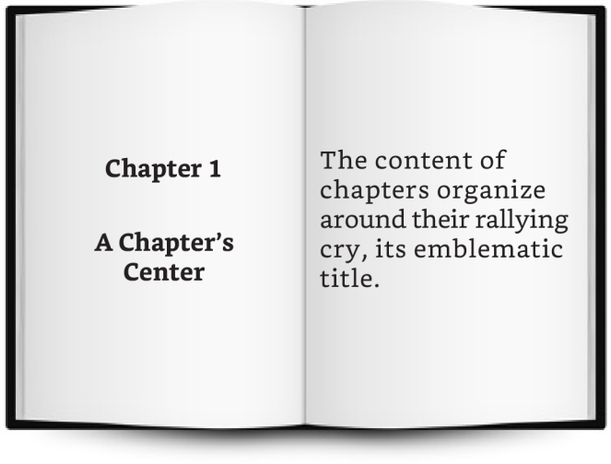
Octavio Paz's above quote nicely frames what's been at the heart of a Romanticists and classical scientists debate for centuries. Is the world –as Romanticists artists, sages, and poets believe; a larger interconnected sea of relationships? –an assemblage of worlds in rotation? Or is it –as scientists champion, a relatively closed in, local-causality based, cause and effect universe in succession?

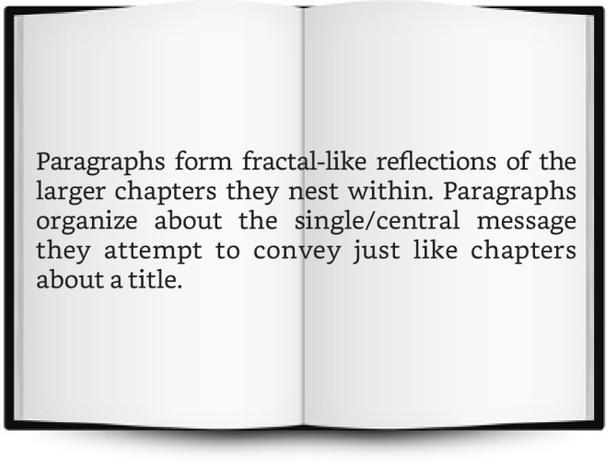



So perch yourself atop a book and ask yourself this question –what organizes a book and brings it together as one? Is it structured in a localized, causality-based structure as its strings of words and sentences seem to imply? Or is there a larger holism to it? Is there a single element –as Paz implies, unifying its various worlds in rotation into a larger cohesive whole?

Well if you think about it for a moment you'll come to realize there's only one possible solution –the book's title is the single point all other elements of the book share in common. It's the one point everything else –its words, sentences, paragraphs, and chapters –point towards, are associated with, and converge upon. From a holistic perspective, then, we might surmise the whole of a book forms a grand world in rotation about its central title.

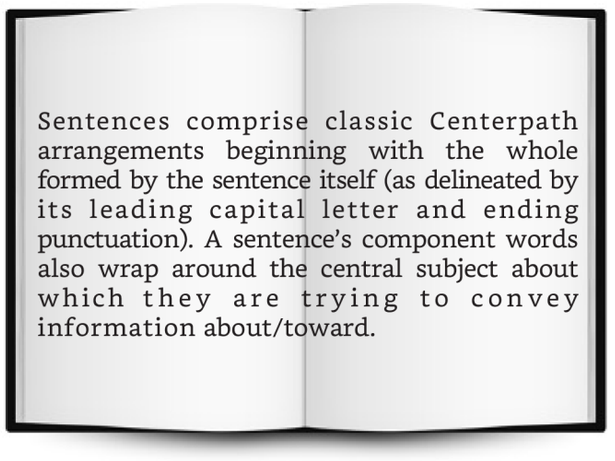
Let's look at a book's next smaller, subcomponent –its chapters. Here we find the same thing –chapters are organized in the center-oriented fashion as that of the overall book –the only difference being their relative scale. The centers of chapter's are their titles. All its contents point to it and reflect it. A book shares the same 'worlds in rotation' shape at two different scales of magnitude.




Dissecting a book further, we find yet another world in rotation lurking within the chapters we just examined – paragraphs. And even while paragraphs don't possess formal titles as do books and chapters, they do possess a very real, albeit, less visible center uniting them. This center? The paragraphs central message which deals with a single, and therefore central point in which all the paragraph's sentence are written to support.

Carrying on, it comes as little surprise finding the next smaller grammatical component of communication –the sentences nesting within paragraphs –are also forged in center-oriented structures. In fact sentences form quite neatly formed vortex-like shapes with their component predicates, nouns, and verbs each wrapping neatly around the subject at its center.




Communication's basic element –words highlight just how fundamental center-oriented designs are to communication. They also provide a window to how the mind functions and deals with the outside world. Words serve this role by boiling down a host of variables to a simple and singular label or meaning in the human mind. They are the center much larger things.

You can see this dynamic at work through a simple exercise. Picture a horse. You don't visualize the individual components such as hooves, tail, teeth, heart, and legs, but instead pictured the whole, singular meaning; we simply think of the singular concept of a horse. Our mind's use words to instantly encapsulate an infinite number of variables into a singular and summary meaning –just like the title of a book simply summarizes the thousands of words that go into making it up.

# Creating the World

A book takes on a whole new meaning when viewed from the framework provided by the Center Ordering Principle. We're no longer able to view it as endless strings of words and sentences but instead as an array of worlds in rotation that, while infinite in expression, always find their rooting through a central element uniting and binding them. The structure of books is a reflection of the world at large.

Each creation a center-oriented world in rotation. The parts comprising it swirling about their very own anchoring center.

Through the analogy of a book we can begin to phantom how the world's other magical-like creations might come about. How for instance swarms of subatomic particles might come together to form higher and higher agglomerations of atoms and molecules around centrally organized nuclear and electromagnetic forces. How cells might join in larger tissue agglomerations through the same central strand of DNA they share. How worlds of individuals might join in higher and higher groupings of neighborhoods, cities, states, and nations around central organizing symbols, institutions, and meanings. How millions of individual neurons could merge into greater and greater associations of images and meanings until they arrived at the remarkably wonderful conscious thought in your mind. We might even imagine

the greatest of all worlds in rotation –the entire universe itself bringing forth all things from a central well of divine creation at its core.

We're brought face-to-face with a profound, yet delightful, conclusion. Nature and life's seemingly static make-up is an illusion. Beneath the surface of the reality we experience exists a much larger and greatly interconnected sea of relationships. In fact we find no matter the condition or circumstance, wherever energy flows, change occurs, matter accumulates, dualistic counterparts collide, or parts merge to form wholes; the things of our world find themselves being irresistibly drawn into creative arrangements around powerful centers the process of which, we examine in the next section.

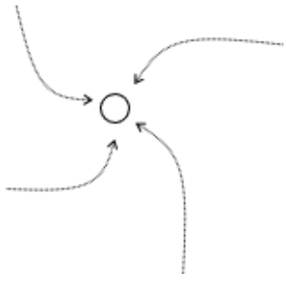
# The Process of the Center Ordering Principle

The Centering Ordering Principle describes the universe's great creative force –the great work of the great Creator. A grand design of universal proportions rooted in a delightful symbiotic dance of centers with their surroundings, the local with the non-local, and the one with the many. An infinitely inspired force that tirelessly wrestles order from chaos providing us worlds of rapturous order, harmony, and beauty spanning flowers to galaxies, atoms to universes, and individuals to societies.

It begins with a first act of creation --the spontaneous formation of a center. The circumstances surrounding the formation of such centers is little known but appears to be a basic condition of matter-space, time-energy, void-beings interaction especially related to change occurring, energy flowing, or whenever matter-energy accumulate. Such an event might be the formation of a gravitational center that ultimately becomes a planet or sun, a street performer raising his voice to draw attention in a crowd, an epiphany like experience that grows into an entire philosophy, or the originating spark of interest that united two lovers as one.

In nature, these all-important centers reveal themselves as massive concentrations of energy and matter such as we find at the heart of atoms, cells, and suns. In human experience, such centers express themselves as needs (such as food, shelter, family, kinship, and possessions) as well as in the 'higher' expressions of our wants, hopes, dreams, and desires.

At the same time, the center turns around and radiates invisible 'fields' (Centerfields) deeply into the space surrounding them. We're all familiar with Centerfields in nature. They're the 'force-fields' associated with gravitational, electrical, and magnetic forces. They also apply to human activities such as with the fields of sight, sound, smell, information, action, and love.



But no matter the type of field the outcome is always similarly the same. The field conditions the surrounding space –distorting and shaping it into a 3D well-shaped form about it which through their the vibration-like quality; in turn effects "like" things in its surroundings (electrons, entities, peoples, parts, etc.) causing them to stir, shake, move, react to, and align inward towards the object at the bottom of the well.

Overtime the overall process shaping a group of 'like' parts into a larger, coherent overall 'whole' form about its originating center (the overall shape of the whole in fact mimics the form of the invisible fields underlying them). Each and every such creation ultimately comprised of different composition and circumstances yet all sharing the same overall center skewed design about a single and central center –the place where they started and continue to grow and be perpetuated from.

In instances where the walls of a well are steep enough (see the paper entitled The Center Organizing Principle of Holistic Systems for details), the parts are impelled to fall inward and down toward the bottom of the well and contact the center. In its ultimate full-cycle expression, the universe's great creative force impels the whole it created to quite literally return to its source creator residing at its center!

You can see spontaneous acts of creation everywhere around you. You're part of it when waiting in line, when everyone turns their head toward crashing dishes in a restaurant, or rubbernecks an accident along a highway (in all instances everyone is pointing to the same spot). You see it when players in a sporting match continually organize around the ball at their center, or when a group of strangers rush inward and encircle a superstar. It's the moon spinning around our planet overhead and the yearly path our planet navigates around the sun. It's what draws scores of animals and insects into flocks around their shared identity, and what unites entire societies of peoples about shared identities and purposes.

Reasons why the world's been endowed with this basic design is far from clear. It could be due to the net outcome of how things interact/add up, nature's resistance to entropy's expansive and destructive tendencies, a remnant-like carryover from the highly condensed state of the big bang, or simply God's grace (the author's favorite). In the case of the latter, who's to say there isn't a great creator at the heart of the universe creating the same center-oriented design in all her creations!

# A Working Definition for the Center Ordering Principle

In a broad sense, the Centering Ordering Principle might be defined as:

> *The universe's preponderance to spontaneously form Centers which, in conjunction with the fields emanating from their surface, are endowed with the capability to organize a host of parts in their surroundings into larger, center-oriented whole creations.*

The processes associated with the Centering Ordering Principle naturally give rise to a host of center-oriented phenomena and outputs as noted below which we explore elsewhere in the remaining sections.

Visit Jin's blog at www.jinnuablog.com for more details.

# II
# Centers

*"In an infinite universe, all points can be considered the center."*

*Stephen Hawkins*

For all their wild assortment and variety, all of the world's fantastic creations –its planets, stars, cells, societies, critters, crawlers, peoples, and pineapples –in fact share something very essential in common. They all began from a minute, yet divinely significant, point of inception –an originating center.

Consider the key roles centers play in the universe's great creative process:

- Centers are the points of inception for practically all of the universe's creations.
- Through the fields emanating from their surface, centers mold their surroundings into larger holistic structures/creations –i.e. unassociated 'parts' organize into a larger cohesive 'wholes' because of centers and their centerfields.
- The dominant patterns streaming throughout the universe –both geometric and temporal, are center-oriented.

Centers are indeed the motor of nature's great creative force. They organize subatomic particles, atoms, molecules, cells, organs, organisms, flocks, memories, thoughts, relationships, religions, tribes, cities, societies, institutions, volcanoes, rivers, solar systems, and galaxies.

Centers also generate a host of definitive and influential traits which are the subject of the remainder of this paper.

# Where to Find Centers

Centers are the singular and centrally-situated objects residing at the heart of objects, things, entities, and places. They begin where change and fluctuation occur and where energy amasses. Paradoxically, centers are also where the opposite of matter/energy concentrates –i.e. emptiness and the "void" often thrive at centers.

In their idealized form, centers reside at the geometric center of physical objects, like hubs of wheels, fulcrums of seesaws, the bull's eye of a dartboard, and the nucleus of atoms. Though usually contained within a single point or a relatively small spherical locale, centers can also be distributed along a line as with the spin axis of a rotating body or continuously along the length of an ocean wave. Centers are at the heart of events across time. They are where events and processes come to an end. They are climaxes and finales.

While difficult to pinpoint their location in the realm of human cognition; centers nevertheless are quite real and indeed form the control centers of our lives. They are also where decisions, urges, meanings, truths, purposes, symbols, answers to riddles, and the crux of problems reside.

Centers can also be spread out across a large volume of space, as is the case with the earth's atmosphere or newspapers spread across a nation. These so-called "global centers" serve to unify a larger whole around a common condition.

In every case, centers are the location where all the parts of a larger whole point towards, align to, and converge upon.

# The Look of Centers

You can't help but notice centers and figuratively 'pick them out in a crowd'. Their often huge concentrations of mass and energy making them the brightest, hottest, most agitated in their vicinity –centers stick out like sore thumbs. In nature they are the fury of a tornado's funnel cloud, the perpetual nuclear fusion reaction (i.e. sun) at the heart of solar systems, and shine as brightly as a million stars in a supernovae explosion.

In the human realm of being centers often translate into being the most powerful and 'extreme'. Centers can be the biggest, tallest, richest, most colorful, most attractive, most active, loudest, most frantic, and most extraordinary. They are city centers, the heart of the matter, when people "blow up" in arguments, and the wild activity of rock singers on center stage at concerts.

## Silent Centers

But for all the sound and fury we associate with centers, centers also routinely display the opposite qualities of stillness, silence, and serenity.

We can see the calm side of centers in the eye of hurricanes, in the quiet moments marking remembrances, the greens of city centers, and in the grace marking the center of bows and curtseys. In extreme cases, centers aren't even visible! Such is the case with powerful "black holes" at the center of galaxies which can't even be 'seen', the invisible strike zone above baseball's central home plate, and the sun over head (which we can't view directly).

Centers also express the power of the void, emptiness, nothingness, and zero. They are the place where all things add up to zero –they are the 'null balance point' where all gravity vectors 'zero-out' at the center of planets and stars, where equal and opposite reactions interact with a net result of zero, and where opposite electrical charges are quantum mechanically extinguished.

## The Size of Centers

The size of centers can vary tremendously ranging from infinitesimal (at the nucleus of atoms) to enormous such as massive elliptical galaxies at the heart of celestial galactic groupings.

Their size tends to increase proportionally to the amount of concentrated energy, matter, or resources they gather –such as with suns, black holes, and bank vaults.

## Global Centers

Centers also arise when a common condition is spread across a larger area. Such is the case with oxygen being spread across the entire planet's surface –the common condition it provides is capable of connecting plants, animals, and humans on a very large scale.

Food is another such example of global centers –food is a prime center of each of our lives, however it doesn't all come from one spot, but is instead spread out across the face of the planet. Newspapers and television provide a similar global effect by delivering to each of us the same "condition" –information –which serves to unify our beliefs, thinking, and coordinated activities.

# Centers Are Beginnings

> *"All structures (whether atoms, cells, philosophies, or societies) begin from something that was without form or void. A nucleus of a definite structure somehow formed somewhere, and if its structure was more desirable than chaos, it then proceeded to grow at the expense of chaos…"*
>
> *Cyril Stanley Smith*

Things don't just suddenly materialize –they come from somewhere. In a Centerpath world, that somewhere is an originating center most often associated with an occurrence of change.

Thus if you traced an object backwards in time, meticulously peeled back all of its layers of growth and expansion to its starting point, what you would find at its core would be an occurrence of change, an interaction, a fluctuation, a seedling, a thought.

And while these moments of inception are mostly infinitesimal in size, what follows is of immense proportions and significance. The birth of a center sends out powerful shock waves in every direction. The fields emanating from their surface twisting, turning, and aligning their surroundings into something larger,

more coherent, and purposeful.

We see instances of change serving as the beginning of larger creations when for instance a single water molecule freezes and later becomes an intricately formed snowflake. It's when lava pokes through the surface of the earth's crust and sows the seeds of a new volcano, and when a new idea is born that eventually resonates throughout a society.

It's also how planets are conceived (from minute gravitational centers), where the towering tree in your backyard took hold and grew (from a minuscule-sized seed), where the city you live in began (the place where a roaming group of people decided to take root), and where the standing disagreements in your life can be traced from (an originating moment in the past).

And while we'll never know the ultimate reason why centers are spontaneously created across all the basic force field relationships, through field theory we're able to glean just how fundamental the process is. In the 1930's, field theory demonstrated the universe and its constituents are made up of the same basic stuff –a single and evenly-spread "field" substance. This means all space and things –both empty and non-empty places –are made up of a common 'field' substance.

How field empty spaces transform into 'filled spaces' sheds light on the universe's disposition to form centers. The default condition of the field is to be even and smooth. However, once change is introduced, the field is stirred until a point source condenses out from its surroundings into a higher concentration of itself. It is this crucial step that sheds light on universality of center formation and the essential nature of genesis itself.

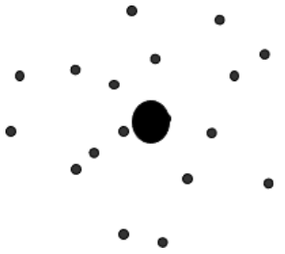
# A Center-Oriented Structure Provides the Perfect Universal Design

But how could so many seemingly disparate processes, shapes, and forms all come about under one primary influence?

## Occam's Razor – The Simplest Answer is Usually the Best

The beauty of center-oriented phenomena lies in their simplicity. They're able to span such a variety of forms and functions because they possess the simplest possible form –literally only requiring a center and something around it. What other way exists to easily and efficiently organize two or more things in the same locale other than by bringing them together around a common point?

Hence, simple arrangements such as a moon orbiting a planet, two person's discussing a subject, or fish circling a food source qualify as center-oriented phenomena.



You can see the wide-ranging and creative appeal such a design imbues. Such a template allows things in an infinite number of circumstances to fall into place by simply affixing to a single beacon. Such a simple, symmetric, and unencumbered design provides the basis from which a consistent and universal pattern could emerge. The possible number of combinations of directions and angles toward a single point in three-dimensional space is infinite!

Just how important is a central design? Let us ponder the alternatives to a universe in which its basic disposition was not a center-oriented design.

If there were no center, there would be no entity to bring form together in the first place. With no point of reference, unrelated things would remain just that. It's like arranging an evening out on the town with friends but not establishing a common meeting point. Instead of meeting and getting on with the evening's plans, each individual would instead wander about aimlessly, never meeting the others and never forming a larger group. Without a common center to connect and bring together divergent entities, it's not possible to raise larger coherent wholes.

But with a single and strong center, things can come together and form something larger and greater. This is why common goals are so important to couples, work groups, and nations. We can see how, through the simplicity of a single and central point, and its essential singular relationship with its surroundings, centers have such an essential role.

## Centers Unite and Build Larger Things

A naturally occurring result of centers being at the core of creation is they unite what would otherwise be a group of unassociated things or parts. By the sheer act of aligning a host of parts to a common point or theme, centers impart certain cooperativeness to the parts around a larger purpose. Centers promote larger collaborative holistic relationships.

This organizing effect can be observed in the dynamics of an orchestra where though individual musicians play their own part, they raise a larger and synchronized melody through the conductor at their center. If the conductor disappeared, the larger whole wouldn't exist.

We see these wonderful, collaborative driving impulse at every scale in the universe. Subatomic particles join to form the nucleons of atoms, which combine with

electrons to form atoms, which join to form molecules, which form macromolecules, amino acids, DNA, cells, tissues, organs, all the way to entire organisms such as you and me. It's also what brings nations of people together around common symbols, groups of stars together around a common gravitational center, and close friends together around mutual admiration and interest.

## Centers Endure

A subtle yet understated aspect of centers is the staying power of their originating nucleus. This means the place where things begin isn't just a one-off event that disappears into the history books of oblivion. Centers endure, continuing to reside at the heart of the expanding organism it as well as maintaining its domineering influence through the fields emanating from its surface.

Through their advantageous position at bottom of the Centerfield around it, centers often, over time, increase in size, and thereby influence, by sucking in more and more of their surrounding resources. It's this effect that sees a developing sun draw in more and more matter, the core idea of an entire philosophy continue to resonate and inspire its followers, and why banks get richer and richer.

## Centers Are Endings

Centers are both beginnings and endings. How could this seemingly contradictory condition occur? As you'll remember from The Center Ordering Principle, when a group of parts are subjected to the same well of attraction, and the walls of the well are steep enough, the parts will begin to fall in and downward and actually come into contact with the originating center at the bottom of the well. In fact as we saw in the paper Centerevents, events often come to an end when the center is achieved. You can see centers are also associated with endings!

You can best visualize this when considering a trip. The end point is the destination, but it's also the beginning, because that's where the idea for the journey originated.

## Centers Bring Higher Degrees of Order

Intuition leads us to suspect centers, where energy and matter gather, should be places of increasing chaos. However we instead find the opposite to be the case: Centers are places of higher plateaus of order.

In fact what we find is the incredible amounts of concentrated matter and energy at centers, shake things from their "normal" state and cause things to go to the 'next level', forming something entirely new and more organized. It's similar to the idea in Complexity Theory whereby when things or systems are pushed too "far from

equilibrium" they often spontaneously "bifurcate" into something more orderly and complex –such as when simmering water starts to boil or a horse breaks from a trot to a gallop.

## Making a Clean Break

The most basic expression of centers forming something different and more orderly is when, due to their increasing concentrations of energy, they literally break-off from their surroundings and become something entirely separate, new, and often times novel.

We can see this phenomenon on a fundamental level when the 'field' condenses out into an entity such as a point source electron. It's also what occurs during star formation when the developing star breaks off from the surrounding dust cloud (due to its hastening gravitational collapse). It's also why the best-dressed persons in public seem to 'stick out from the crowd'.

It's in fact precisely from this effect (i.e. centers breaking off from their surroundings) causing centers to often possess a surface (which we examine in more detail below in Section entitled "The Surface of Centers").

## Higher Degrees of Order

Centers can manifest as "higher degrees of order" in many ways –the essential quality being they possess a marked rise in organization relative to their surroundings – such as when a spherical planet forms from a formless dust cloud in space.

We can see the increasing of order at centers in the highly specialized reproductive organs at the heart of flowers, the emergence of a tighter funnel cloud from the more loosely formed wall storm cloud about it, the highly complex DNA at the center of a cell's nucleus, the higher centers of mind such as reasoning and planning, and why the "best of the best" usually rise to the top of their company.

We can also find higher degrees of order at centers nested within other centers. Like Russian dolls, centers can be found forming within another center –the inner center is not only smaller, it also includes a higher level of organization relative to the one it's nested within. We can see the Russian doll analogy evident in the multiple layers of galactic organization. The center of the center of the solar system –the core of the sun –is where ever larger and more complex atoms are generated. Highly organized spiral galaxies like our Milky Way lie at the heart of a much larger halo of relatively less-organized dark matter.

Human endeavors follow suit. A symphony hall sees its audience centered on the "higher ordered" symphony at its center. The symphony in turn is then situated on its most highly ordered member, the conductor. It's the same in corporations –

on its most highly ordered member, the conductor. It's the same in corporations – the CEO is at the core of the company's core, the board of directors.

# Centers Bring Higher Degrees of Order

The transformations of centers into something entirely new is a fascinating aspect of centers with loads of examples in nature and life; they're when moths turn into butterflies, a movie's main character becomes a better person, when heroes in ancient myths attain enlightenment or alternately die and become reborn.

Event's centers can also transform when they are achieved. For instance' what often follows all the energy going into building an event is its opposite –a transformation to stillness, such as when summiting a mountain.

## When One Thing Leads To Another

> *"Every ending brings with it a new beginning"*
>
> *Jin Nua*

Still another expression of centers transforming into something entirely new is when, after having achieved their central objective, they transform into something entirely new in the form of the next enduring phase of "being" or behavior.

The clearest example is when plants and animals produce seeds which then become the start of the next generation. It's also what happens when a personal dream transforms into a reality –for example, when you successfully graduate from college, your degree (the previous goal and center) forms the basis for the next center, your career.

# The Surface of Centers

When centers break off from their surroundings, a distinct boundary forms The walls at the surfaces of centers give rise to high rates of change across their boundaries. This is the case in physical objects, such as suns and temperatures and pressures) can be measured across the object's surface and is a natural result of the exceptional energy accumulated at centers relative to their surroundings.

By necessity such walls lead to the need to expend exceptional energy to pass and breach them –as bank robbers and invading armies well know.

The necessity for a sudden increase in activity through a wall interestingly mimics the rhythm of a Centerevent to a tee whereby a marked increase in activity accompanies the final lurch toward achieving the event's center. In many ways it's as though the center of a Centerevent has a wall around it just like a physical wall around a bank vault for instance. This required sudden lurch in activity can be experienced all around us –it's the quickening sound you experience when a spinning top, coin, or bottle slows. Its how a passing car or train sounds as it whooshes past us. Its how a wave suddenly leaps up before it crashes back down, and it's the cheetah's maximum stretch to seize its prey. It's the final sprint when runners approach the finish line, and it's the final push before a deadline at work.

## Dualism and Centers

Another truly phenomenal quality of centers is their tendency to exhibit elements of duality. Dualism is where equal yet complementary opposites exist in close range: sun and moon, night and day, waking and rest. We see duality in centers as well: the male and female counterparts at the heart of a flower and family, neutrons and protons at the heart of atoms, left and right halves of DNA helixes in the nucleus of cells, the win-lose outcome of two-party elections, and the two hemispheres of our minds at the heart of our central nervous system.

The centers of Centerevents are also peppered with dualistic-like conclusions and outcomes: yes or no, "life or death" situations, boy or girl. It's also evident in the surprise of a joke's punch line or a movie where unanticipated outcomes pack the biggest laughs or most lasting impressions. It's when an equal-and-opposite exchange occurs: a handshake, eye contact, swapping business cards, or exchanging money for goods at the checkout counter.

# III
# Centerpatterns

*"The aspects of things that are most important to us are hidden because of their simplicity and familiarity."*

*Ludwig Wittgenstein*

Nature and life are truly wonders to behold. Their seething diversity, mind-boggling complexity, and delicately balanced symbiotic relationships –all without a single trace of man's intervention –easily lead one to suspect its ultra-harmonious symphony of creation could only have emerged from the hand of a great watchmaker. Even science admits its theories fall far short of a complete explanation.

And while we'll never be able to fully comprehend the dynamics behind nature's grand design, we can speak of the paths it favored along the way. In fact even for its riotous diversity, nature only utilizes a few basic designs to produce its stunning array of creations.

> According to Hoagland and Dodson (Hoagland, Mahlon and Bert Dodson. The Way Life Works. New York: Three Rivers Press, 1995. Print), "when cells divide and grow, they do so in a mere handful of ways. New cells can form concentric rings, as they do in tree trunks and animal teeth. They can form spirals, as in snails' shells and rams' horns; radials, as in flowers and starfish; or branches, as in bushes, lungs, and blood vessels. Organisms may display several combinations of the growth patterns, and the scale may vary; but for all life's diversity, few other growth patterns exist."

What this means is the plethora of plants, creatures, cretins, critters, and crawlers roaming our planet all share but a few basic shapes –concentric circles, radials, spirals, and branches. To those familiar with Center Ordering Principle this comes as little surprise –all such forms are center-oriented –a nature result a universal creative process rooted in domineering centers. Like a great tree with tens of thousands of branches all stemming from the same source code at its trunk, life uses the same center-oriented design over-and-over to raise its robust and stunning life forms.

This paper examines the center-oriented geometric bias of nature and life's creations resulting from the center-oriented dynamics of the universe's great creative force.

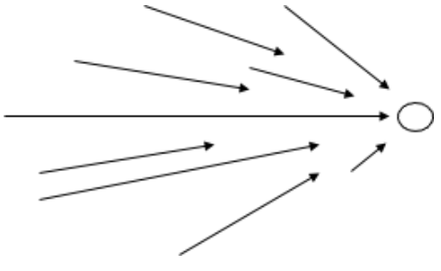
# The Root of Center-Oriented Form – Alignment Toward a Common Center

*"All the parts of a creation point to a common center."*

*Jin Nua*

The common quality of center-oriented forms is just that –they all share an overall inward flowing shape –a naturally result occurring of the center-oriented dynamics generated by the universe's great creative force.

Such alignment is incredibly adaptable extending far beyond the idealized center-oriented patterns of circles and spheres and deeply into larger and less-definable organizations. A good example comes from amphitheaters whose stages, while not located at the amphitheater's geometric center; are nevertheless the center because it's where all chairs and eyes are pointing to and aligned (i.e. "on center stage"). It's the same with geographic considerations such as the layout of a nation. In the United States for instance, the capital (Washington DC) is located on the east coast but it is nevertheless the nation's center because that's where all laws, power, and authority converge.



But to fully appreciate the unifying power of centers and their flexibility –and how deeply the concept of alignment can extend, consider just how mobile centers are in team sports such as football, soccer, rugby, basketball, ice hockey, volleyball, and more. For even while the playing ball (it's center) never remains in one spot, the 'shape' of the game always remains constant as the teams continually reorganize themselves about the ball at its center.

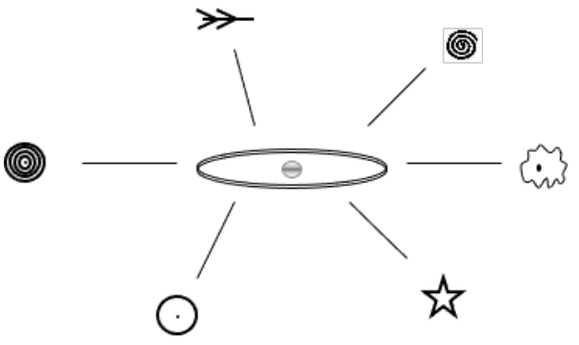
The concept of alignment also aids our understanding of difficult concepts such as purposes and meanings. For once we consider where groupings of thoughts, words, and actions are pointing toward and headed, we see they organize about central meanings and objectives; defining a group of activities (about a purpose or meaning) as center-oriented in shape.

# Sacred Geometry

With their sleek and gently inward-flowing curves and lines, one can't help but revel in the splendor, intrigue, poise, and beauty of nature's center-oriented patterns. Their simple and unencumbered designs solidify their position as robust providers of form and function in a world subject to vying influences.

Centerpatterns come in practically any size, shape, texture, form, and function. Their shape underlies things the size of atoms and universes. Their parts can be as directly connected as the spokes of a wheel to its hub, or as loosely connected as nations of people about shared feelings of national pride. Their form can be as tightly bound as the crystals of a snowflake, or as loosely formed as ants circling an ant hill. Their boundaries can be as sharply defined as a property line or as loosely defined as the extended volume of air converging on your lungs.

But in all instances, they are unified by their shared overall alignment to a common center – they share a center-oriented shape.



It's impossible to define a fixed set of categories encompassing all Centerpattern forms –after all, how many orientations, angles, and arrangements can "things" take around a central point? However, there are primary Centerpatterns favored throughout nature.

## Circles and Spheres

Centers and spheres hold a special place in myth and philosophy due to their flawless and 'perfect' forms. They also provide a sort of "ideal" definition of a Centerpattern, as the following Merriam-Webster definition attests: "A center is the point that is equally distant from every point on the circumference of a circle or sphere."

It's interesting to note a sort of ideal whole is formed by spheres with all the points on its surface (i.e. its parts) being exactly equal in distance to a common center (at the center of sphere). We see this Centerpattern in our sun, dinner plates, planets, balls, and wheels.

## The Sections of a Conical

Conical sections hold an exceptionally unique place in science and math. In fact their merging of math, geometry (space), and physical processes speak of the interconnectivity all things share. The fact their forms are fully center-oriented also lets us know just how deeply intertwined the tenets of the Centering Principle are ingrained into the very fabric of the universe.

From a Centering Principle perspective, we first note the overall shape of a conical section forms an exemplary center-oriented design with their head-to-head cones forming a perfectly arranged dualistic geometry. But this same 'crisp' center-oriented design is also found in all the various 'cuts' of a conical section (which as you'll remember from geometry, are generated by 'slicing' the cones with a planar section).

Conical sections not only include the evocative forms of circles we just examined, they also include the highly balanced and aesthetically pleasing center-oriented forms of ellipses, parabolas, and hyperbolas which are coincidently defined by and perpetuated by core foci.

More than idealized mathematical and geometric concepts, conical sections also match 'real' world functions including the patterns of planetary orbits, the shape of parabolic satellite dishes (used to 'capture' electromagnetic radiation), as well as the path of a ball traces as it flies overhead.

## Concentric Circles

Probably the first Centerpattern design we unwittingly marveled over as children where concentric circles. For me it was watching waves spread radially outward from rocks thrown into a pond. Later it was counting the rings of a tree's cross-section to ascertain its age and origin.

The pleasing natural symmetry of concentric circles and their Centerpattern claim to fame can be gleaned from their definition in the Merriam Webster Dictionary as "circles having a common center."

Other examples in nature and life include the growth pattern of teeth, various fruits and vegetables (like onions), Mandalas, the shape of B-Z reactions in metabolic processes, the rings of Saturn, and the arrangement of seating rows in sporting arenas such as football stadiums, as well as the shell-like arrangement of electrons orbiting an atom.

## Spirals

If nature elected a mascot it would surely be spirals. This because spirals reflect many of nature's most appealing structures. The proportions of their outwardly fanning segments also imitate a myriad of nature's interrelationships and growth patterns.

Defined by Merriam-Webster as "winding around a center or pole and gradually receding from or approaching it", spirals are ubiquitous in nature as sunflowers, shells, galaxies, a ram's horn, crashing waves, the aerotora of the heart, and the ear's cholera. The power of spirals extends beyond just their geometric manifestations extending into philosophical considerations such as emotions, the rates of growth and decay systems, and the 'strange attractors' of chaotic system in the new science of Chaos. Their peculiar property of endlessly spiraling forever inward toward a center that's never attained also speaks of the intrigue and mystery surrounding centers.

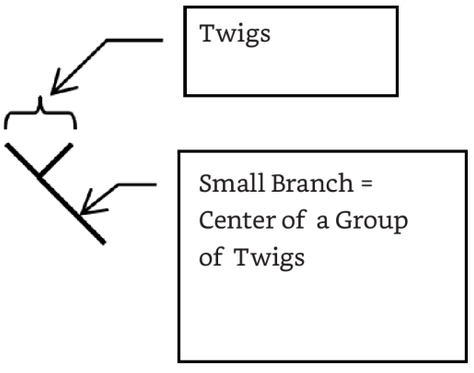
## Radials

Like the spokes of a bicycle wheel directly connected to a common hub, radials highlight the connectivity of a group of parts (of larger whole) to a common center. Radials are wonderfully abundant in nature. Botanists for instance consider that most of the 300,000 species of plants in existence have some degree of radial configuration. Other naturally occurring radial designs include roulette wheels, dartboards, the flow of goods from distribution hubs, innumerable jewelry designs, spider webs, flowers, starfish, and Internet connectivity diagrams.

## Branches

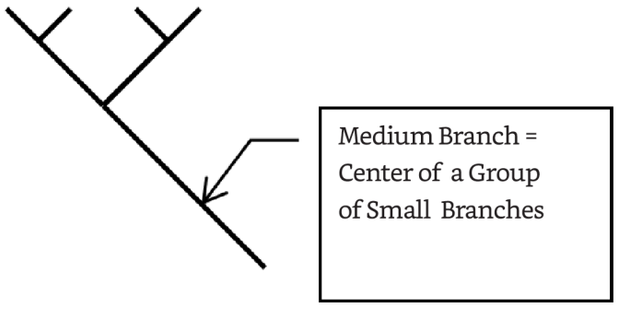
Nature, biology, and man's institutions are jam-packed with branching and arterial distribution systems. Trees, leaves, lungs, veins, arteries, skeletal systems, roots, rivers, family trees, organizational charts, parking lots, computer directory systems, and roads and highway systems –all fall within the definition of branching arterial systems.

However, possibly because of their popular representation as two-dimensional objects, branching systems are often not recognized as center-oriented patterns. This is an illusion –braches are actually center-oriented systems gone wild! In fact branching systems comprise a 'center-oriented-ness' at all their various degrees of scale all of which are tied together in an efficient hierarchal structure (i.e. reflect a fractal hierarchal structure). This structure and the internal interrelations it generates literally 'multiplies' efficiency and is likely the reason why arterial branching systems seem to be nature's design of choice in living systems.

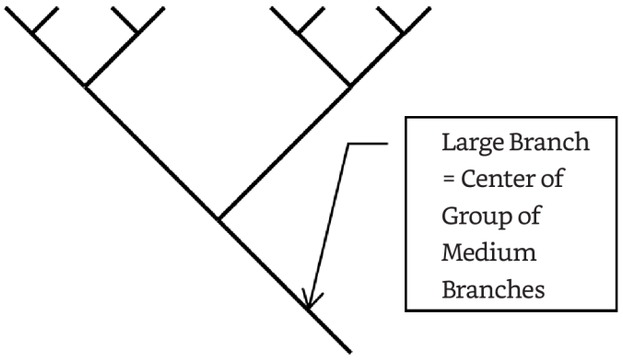



This fantastic fractal-like organization can be seen at all scales of branching systems. For instance if you look at the smallest part of a tree (it's twigs) you'll notice all its twigs attach to a common larger branch (we'll call it Small Branch). This common branch (Small Branch) is the center of a larger whole formed by the combination of all the twigs.

Now take the Small Branches we just examined and follow it to where it joins with other Small-Sized Branches. What you'll find is they meet at next larger sized branch (we'll call it the Medium Branch). Cumulatively the Small Branches form a whole about their common center (which in this case is the Medium Branch they all connect to).




By continuing this practice you eventually come to the entire tree with all its branches ultimately connected to its biggest center, which is the trunk of the tree.




Through this example you can begin to see how the parts reflect the whole (and indeed how the whole reflects the part). We can also begin to understand how fractal geometry 'works'.

## Clusters

Clusters are the catchall of natural systems. They capture things that don't fit neatly into other Centerpattern forms. Clusters fulfill this purpose because all that's needed to qualify as a cluster (from a Centering Principle perspective) is a center from which an agglomeration of parts are clustered about.

Such shapes are reflected in the heavens as beautiful globular star clusters and the bunching of stars near a galaxy's center. It's how we gather in spontaneous groups about street performers, the swarms of insects about sources of food or light, the grouping of players about a ball in team sports, the clustering of population densities near city centers, and how anti-bodies attack invading viruses and bacteria in our bodies.

## Pyramids

Pyramids form highly precise geometric Centerpatterns and also provide a good example of how more than one center can exist in the same object.

The peak of a pyramid (where each of its triangular sides converges) is its most obvious center. The mystery and intrigue of this point is well-known and is even included on the back of a US dollar as the "Eye of Providence".

In addition to their 'peak' center, pyramids also possess a complimentary

geometric center in their bosom whose alleged energy concentrating effects is an interest of both ancient Egyptians and modern 'pyramid power' enthusiasts alike.

## Distribution Curves

Nature's ubiquitous disposition to generate symmetry and balance never ceases to amaze. Bell curves (and their standard distributions) highlight the subtly of this quality and its center-oriented disposition.

The first clue distribution curves adhere to a center-oriented design comes from the pyramid-like shape formed by bell curves. Standard deviations bands also speak of center-oriented, equally spaced concentric circles about their central mean/medium. Finally data points amass near the center of the curve (i.e. they reflect the quality of center's to amass/concentrate). Bell curves apply to a broad range of natural and human attributes including size, weight, body temperature, shoe sizes, diameters of trees, and the results of IQ tests.

## When Energy Flows

When energy flows, it does so in center-oriented patterns. Be it a whirlpool flowing down your sink, the turbulence of smoke and flames, money circulating through a society, food through an ecosystem, or the energy pulse of a wave crashing on the shore --each invariably wraps itself into center-oriented balls of form and function.

**Energy Flows - Vortices**
Vortices are funnel-shaped similar in design to spirals. Often associated with magic or access to other dimensions, vortices conjure images of dizzying rides and windows to the 'other side'. In reality, vortices organize around a "low" at their core, such as a low pressure zone or gravitational sink that serves to perpetuate the larger system. Examples include whirlpools, tornados, dust devils, the drainage of water down a bathtub sink, and emotional whirlwinds.

**Energy Flows -Turbulence**
Even turbulence, a quirky property of liquids and vapors where orderly flow suddenly transforms into a chaotic mess, display spiral-like, center-oriented patterns. Such patterns are everywhere around us –creamer swirling in coffee, cigarette smoke floating upward, heat glimmering above hot pavement, and in the clouds reforming constantly overhead.

**Energy Flows – Life's Structures and Ecosystems**
The use of energy is essential to every element of life. And because we've seen flows of energy form center-oriented structures and arrangements –it's little surprise finding all of life's structures –cells, DNA, neurons, organs, bones, blood, arteries and veins also adopt the center-oriented shapes of branches, clusters, and spirals.

Amazingly the center-oriented-ness of life's forms also applies to larger, interdependent living systems such as ecosystems whose members find themselves interconnected by the flow of food (i.e. energy) through their community.

Having studied predator/prey populations such as pikes and trout's over generations, scientist found their population totals tended to oscillate about a 'combined' central population number. When plotted, it adopted a spiral form as at right. This condition applied no matter the starting populations and no matter if the balance was upset by either dumping excess trout into the lake or if disease killed off much of the trout –eventually the population levels still restored themselves to the same centralized population level! Such dynamics even apply when a third 'variable' such as an angler fish were added to the lake.

**Energy Flows – Wave Propagation**

It's no wonder we like being at the beach and watching waves roll in –they speak abundantly to life and nature's many mysteries. Through ocean waves we can also glean the true nature of wave propagation. For whereas physics tend to depict wave propagation as an oscillating phenomena (via its sine wave diagrams) they are actually center-oriented packets of energy moving through time and space.

Consider water waves for a moment. What they truly are, are pulses of energy moving through the water not much unlike boxcars of a train (think of each of a wave as an individual boxcar). In fact when standing in the ocean, the push and pull you feel is the effect of successive energy waves (i.e. waves) passing you one-by-one. Prove it for yourself –next time you're at the ocean pick a wave 30-50 yards from shore and keep your eye steadily on the wave crest. What do you see? If your patient enough you'll see the wave crest doesn't drop back down into a trough (as a sine wave depictions lead us to believe) –the wave crest remains at a steady height as it moves toward the shore.

What does this tell us? It says waves moving towards the shore are condensed packets of energy, each bunched up about a predominate center just as we have come to expect with other energy flows. This is in fact how sound waves are also transmitted through air –they are pulses of energy moving through the air with the distance between pulses corresponding to the frequency we hear.

The propagation of energy via light waves provides an even more direct description of the true, pulse-like, center-oriented structure of wave motion. Since the early 1900's physicists have described light waves as "packets of light particles". Thus all light waves (indeed any type of electromagnetic radiation like radio, gamma, or microwaves) can be visualized as a stream of steadily spaced, and highly condensed energy packets. The difference between different kinds of electromagnetic radiation is only the spacing (and energy level) between successive pulses of energy. Think of it like a fighting fire in a Keystone cops movie. Instead of light particles steadily streaming from a fire hose, they are instead a series of successive, equally-spaced pails of water being tossed at a fire.

## The Shape of Purpose

Everything we do, we do for a reason. Indeed we don't go about our lives in a wily nilly fashion –we undertake activities to accomplish some purposeful goal, task, or objective. We brush our teeth to clean our teeth, keep our gums healthy, and avoid the dentist. We shop, store, prepare, and cook food for the purpose of eating. We sweep, mop, and do dishes to maintain a clean house in the service of ultimate aim of promoting our well-being.

Purposes than serve to organize a host of activities leading up to achieving the originating purpose. Purpose is the center of a larger organism –the parts are the associated activities in service of the purpose. Another way of saying this is the all the activities leading up to achieving a purpose are aligned to their purpose. All the activities associated with a purpose are center-oriented via their common purpose!

## The Shape of Products

> *"Simplicity requires a correspondence in structure between meaning and tangible pattern."*
>
> *Rudolf Arnheim*

> *"A product's form and function organize about its central human need."*
>
> *Jin Nua*

While possibly difficult to 'see' at first, the myriad products we've created all share a center-oriented design. Products were built for a purpose –a primary function or center from which the remainder of the device works to support. Consider for instance the center of a bicycle. Its purpose (a purpose-center) is to provide locomotion to its rider. The remainder of the bicycle –its pedals, chains, sprockets, tires, handles, seat, etc all support its larger purpose to get its rider person from point A to point B.

You can now readily see how this template applies to practically anything in our home. A blender blends, a hammer hammers, a microwave heats, and a phone communicates. All different mechanisms with hosts of parts and assemblages but each sharing the common pattern of wrapping up around and in support of the central purpose uniting the product as one.

# The Shape of Meaning

Borrowing from the paper The Center Organizing Principle of Language, we're able to quickly glean the underlying structure of meaning.

> *"…written communication's elemental unit –words –brings the central role of meaning in communication full circle when considering how words can alone encapsulate something much larger. Words boil down a host of variables to a simple label or meaning in the human mind.*
>
> *You can see this dynamic at work with this simple exercise. Picture a horse. You didn't visualize the individual components, such as hooves, tail, teeth, heart, and legs, but instead pictured the whole, singular meaning; we simply think of the singular concept of a horse. Words are basic, singular meaning units formed by both a combination of letters and our mind's seemingly magical ability to instantly encapsulate an infinite number of variables into a singular and summary meaning –just like the title of a book simply summarizes the thousands of words that go into making it up."*

Similar to purposes meaning centers serve to tie together a host of variables into a large cohesive whole.

Meaning also holds an even deeper level of importance in our lives and how it relates to the "purposes" we just discussed earlier. In fact meanings –as in 'what it means to our lives', are what ties together a group of purposes in a larger and more deeply interwoven connectivity. What it means to us and our well-being are what stitches together all the mini-purposes and mini-routines of our lives. Thus we brush our teeth for the direct purpose of cleaning our teeth, but the functions larger meaning is to avoid pain and look good. We shop, store, prepare, and cook food for the purpose of eating however this serves the larger meaning of our need for sustenance and well-being. We also are driven to see family members and participate in family functions because of the deeper meaning family brings to our lives serving to both root us and from the true well-being we gain from their genuine care and feelings toward us.

# IV
# Centerevents

> *"Masters of the first rank reveal themselves by showing that they know how to find the end in major and minor matters in a perfect way, whether it be the end of a melody or of a thought, be it the fifth act of a tragedy or a political action."*
>
> *Friedrich Nietzsche*

It seems all of life is patterned like 'the calm after the storm'. For like finding shining pots at the end of rainbows, knowing it'll get worse before it gets better, and awaiting the fat lady to sing; the pattern of nature and life's events feature a crescendo-like rise followed by a dramatic reversal once the event's climax is achieved. We all recognize and share a deep intuitive sense of this pattern –and one masters of the first rank use to its fullest effect.

But what's the nature of this universal rhythm and what drives it?

# An Essential Rhythm

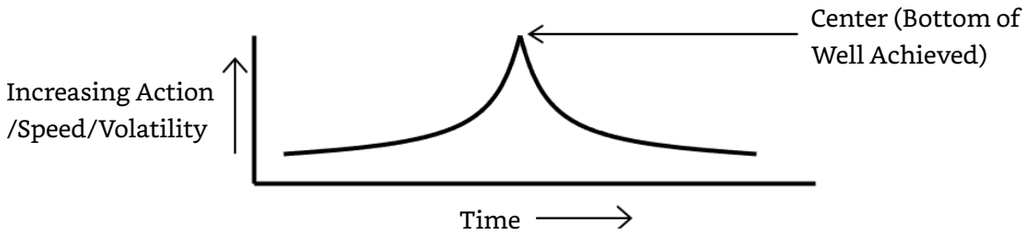
In the paper The Center Organizing Principle, we found nature's great creative force was rooted in a process driven by dominating centers and the fields emanating from their surface.

We also learned these fields possessed a well-like shape with the two qualities of special interest to this paper. They are:

1) When the walls of a well are steep enough, the parts affected by the well can actually fall inward and down toward the center (at the bottom of the well).
2) The walls of wells are shaped at an increasingly steeper angle.

Taken together, this means once a "part" or group of parts begins falling down a well, their speed will increase progressively as the center is approached, until such time as the center was achieved. After which the system would quickly return to rest or become something entirely new in the next phase of the process.

Plotting this activity across time we see the overall shape of the event or process features a hastening or quickening, followed by a sharp reversal after a key moment in time:




Note to Graph: While the left and right portions of the graph are depicted as relatively symmetric (i.e. equal in time), in reality the left side of the graph is often much longer in time than the right side of the graph. The essential point is the 'whole' of the event is keyed to and wraps up around a central moment in time.

From this discussion we can say "Centerevents" are characterized by the rise and fall of activities around a key moment in time, a "Timecenter."

In fact we find a whole range of nature and life's events unfold in this general rise-and-fall sequence: the crashing of waves, the birth of a star, the firing of neurons, the stock market's boom-and-bust cycles. It's also the shape of our urges, impulses, reflexes, and emotions witness the common rise and fall rhythm of confrontations and arguments as well as sneezes and yawns for instance.

# Dissecting Events

Centerevents describe the overall rise and fall profile of nature and life's processes and events. Centerevents begin when a seed-like center comes into existence. It might be the formation of a common gravitational center in a cloud of space gas and dust, an earthquake that sparks a tsunami, a hunger pain which sets a hunter into motion, or the establishment of a goal.

With various parts caught in the grips of the well formed by their originating center, they begin to move inward toward the originating center in an increasingly purposeful and coordinated fashion. In the examples above, matter surrounding a dust cloud in space begins to move increasingly inward, the hunter begins to move ever closer toward its prey, and we contemplate how to attain the goal.

As we close in on the defining moment of the event, the pace often quickens as excitement swells and deadlines are approached. Such is the case with runners approaching a finish line, the hurried rush of finishing touches just prior to serving dinner guests, or the sudden increase in intensity of a yawn.

Having had so much energy and activity focused on it, once the center is achieved (i.e. all the surrounding parts have converged upon their originating center) there's nothing left to do other than unleash the full creative potential of the unfolding event.

The energy levels of centers means they're not hard to spot. They occur at the height of events and feature the release of relatively high levels of energy in short periods of time. The sudden expenditure of high levels of energy (across short periods of time) means the energy levels of centers are much greater than proceeding elements of the event. They are where "achoos!", emotional eruptions, grand finales, and the maximum point of a good stretch occur.

Having achieved the center, Centerevents undergo sudden reversals and often dramatic changes of character. The resolution of Centerevents as sudden reversals results from the release of the substantial energies pumped into the system along the way; the system can't help but drop away from the lofty heights achieved on the way up. Hence ends of events often feature the unwinding of a system's energy back to a state of rest, often in dramatic fashion. It's the tidying up of unresolved loose ends at the conclusion of movies and novels, the bows on a stage at the end of a play, and the unwinding of runners as they cross the finish line.

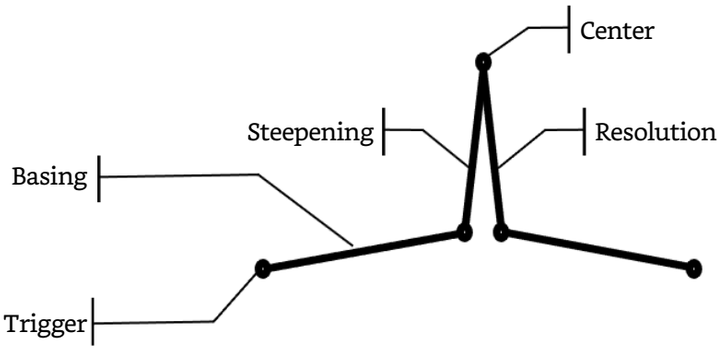
The other primary manifestation resulting from the achievement of centers is the change of character associated with realizing the Centerevent's purpose and/or creative output/quotient. In essence the achievement of the Centerevent's central goal brings with it a transformation into the next phase of activity or the production of a product for instance. At this moment, the Centerevent comes to its fruition. The simplest examples are Centerevents associated with preparing and eating a meal. For once the center is achieved (i.e. the meal is prepared), the next phase transforms into eating the meal. It's the same things as the next generation seedling forming (i.e. when a tree blossoms) as well as the production of products (i.e. the gathering or raw materials and their manufacturer which when complete, are transformed into a product we can utilize).

# Working Definition for Centerevents

From our discussions, we establish a working definition of Centerevents as "the characteristic rise-and-fall pattern of events across time around a common and central moment in time."

And though Centerevents can vary dramatically in terms of their time scale and degree of symmetry, they do share the following key events and phases.

1) A triggering event (the formation of a center)
2) A basing period
3) A steepening period (a sudden rise in activity)
4) The attainment of a center
5) A resolution or “letting down” phase




# Transformations at Centers – Becoming the Next

Possibly the most mysterious and profound aspect of Centerevents is their peculiar tendency to transform from one thing into something entirely new once the center is achieved.

The most classical example comes from caterpillars transforming into butterflies but it’s also when children transform into adults and a movie’s protagonist transforms into a better person. It’s what happens when a personal dream transforms into a reality. For example –when you successfully graduate from college, your degree (the previous goal and center) forms the basis for the next center, your career.

Such transformative experiences also lay at the heart of spiritual quests whereby, through an inward journey to one’s pure core the seeker achieves a higher level of awareness. Such journeys being part of ‘mainstream’ Western and Eastern mysticism for some time but also in less known places such as Tarot cards. Through the experience of an Alchemist we find it’s most tantalizing and accessible example. For in the world of the alchemist, the physical pursuit of transforming base elements into the purity of gold was paralleled by a desire to transmute oneself into a pure spiritual state obtained through the “Great Work” –the taking of an inner journey toward self discovery and to knowing nature and its operations –and make use of this knowledge to reach the creator.

Besides transformations into something else, the attainment of centers often leads to transforming into a quality opposite their usual high energy –i.e. stillness. Such occurs when obtaining the heart of a labyrinth, the peak of a mountain, or the satisfying peace that comes when achieving a goal or an accomplishment. It’s also what causes our hearts to change overnight from fits of intense emotion to a calmer, more rational state in the morning.

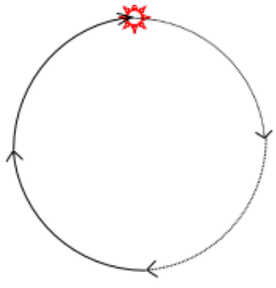
# Centerevents Explain Nature's Most Profound Cycles

The cycle of Centerevents describe some of nature's and life's most confounding and compelling mysteries.

## The Cycle of Life (and Returning to the Source)

*"All things come full circle through centers."*

*Jin Nua*



Being a student of nature and life, I recall the sheer joy accompanying the many little discoveries of just how much my life was intricately linked with nature's grand designs. One such stirring discovery was realizing just how deeply nature's tendency to "return all things to their source" was embedded in the various patterns of my life.

Thus when I found just how much my life approximated nature's --for example how the very same forces driving plants to produce new seed, proteins to return to their originating DNA, salmon to journey thousands of miles to their spawning grounds, and stars to collapse back to the same gravitational center where they began; were also the same forces at work in my life (e.g. rituals unfolded toward an originating purpose, conflicts were only resolved when the instigating event was confronted, and why we're so irresistibly drawn to be buried in our hometowns) –I gained great solace seeing how my life fit in to the larger cosmic jigsaw of the universe.

Nature's means to accomplish this is once again linked to its great creative process, specifically the relationship of the parts to their originating center. You'll remember the fields emanating from a center produce a well shape around it causing those things caught in its grip (and of similar makeup) to be somehow affected by it –i.e. either turned, moved, or aligned toward the center.

In the case where the walls of the well are steep enough, the parts can fall downward and even come into contact with the originating center at the bottom of the well. In the full cycle expression of the universe's great creative force, the parts of a larger whole will actually return to the originating center that brought them into existence –in other words, they will return to their source!

In a kind of perfect cosmic harmony, nature keeps all things honest to their origins by forever linking them to and ultimately drawing them back toward their source –all things ultimately do return to their source to re-meet their maker. In our lives, it keeps us accountable for everything we do.

## Nature's Circle

The water cycle is a fantastic example of Centercycles spontaneously merging across vast stretches of space and circumstance. It begins from the ocean, which, powered by solar energy, evaporates and enters the atmosphere, where it's spread across the planet. Eventually, through precipitation, the water vapor condenses back to water and drops to the land which then carries the water back to the ocean –where it began.

In Centerpath context we would say the ocean is the center of this monster-sized cycle because it forms the massive energy source where all water ultimately flows and because it's where the cycle begins and ends.

Other examples of Centercycles include the cycle of night and day (around high noon and midnight), the moon cycle (around the full moon), when stars collapse at their death (into the same center where they began), and how waves crash on shore in the same spiral pattern as the turbulent wind patterns that birthed them far out at sea.

## Biology's Cycle

Biology capitalizes on the 'returning to the source' rhythm to ensure the success of its vital processes. For example, when proteins return to a cell's nucleus they are returning to the place where their secret codes are stored and ultimately used to resurrect themselves (i.e. the protein). The pleasure associated with reproduction ensures animals frequently return to the act that brought them into being in the first place.

The life cycle of salmon also provides a great example. After spending its life thousands of miles away from where it was hatched, a salmon will swim upstream for months in an effort to locate their original hatching spot to mate and then dramatically die.

## Of Origins and Ends in the Realm of Human

You might be surprised to find just how deeply the rhythm of Centercycles permeates the day-to-day rituals of our lives and cognitive functions. Practically all the things we do each day –tasks, chores, objectives, assignments, errands –are designed to lead a group of activities toward completing an originating purpose that set the whole series of activities into motion in the first place.

Let's revisit our earlier example of a meal. The routine of meal preparation involves several interrelated activities, each ultimately revolving around its larger culminating purpose, which of course is consuming the meal to satisfy the original need to eat. Cooking begins by planning the meal (establishing the center) –to achieve the center, we purchase the ingredients, store the food, marinate and chop it, then finally cook and arrange the food. All the while, the steps are being performed with increasing urgency (to keep it hot, fresh, and because we're hungry!) as well as building an increasingly orderly creation, until viola, the parts and activities are transformed into a meal we can enjoy.

We observe this same pattern repeatedly executed in all of life's little task-oriented missions of shopping, visiting the doctor, showering, and praying. In each, the sub-activities of each event are drawn to a unifying productive end which of course was also place where the whole event began (i.e. its originating purpose). Thus we go to the doctor to be cured, shower to look good and maintain hygiene, and give thanks to receive blessings in return.

Hollywood capitalizes on this rhythm with great impact in its formal screenwriting technique of cue-delay-payoff. When the scene changes from a ticking bomb to another scene or a commercial break, the break is intended to create anticipation through creating a tension by our need for resolution.

Centercycles are also deeply ingrained in our collective psyche. The greatest example coming from our constant need to resolve the unresolved interactions of our lives. In fact the tension we feel emanating from life's unresolved events is a force field generated by our minds to return the unresolved events to their source. The tension remaining in place until we address or confront the originating offense/occurrence (the center of the event to be sure). Thus we seek resolution and settling the score (revenge in extreme cases) in our interactions and relationships until the center is achieved and the balance restored.

# V
# The Universal Fractal

Take a walk in nature and become immersed in its kaleidoscopes of pattern, order, and beauty. Trees, plants, rocks, clouds, nests, blades of grass, lichen, animals, crystals, snowflakes, the sun –each a precisely forged geometric pattern gleaming with an air of coherence, and organization.

Our universe is indeed an enchanted and exquisite wonder to behold, a virtual wonderland of infinitely dazzling patterns displaying remarkable degrees of regularity, orderliness, harmony, balance, and beauty hinting at the divine and touching our very souls.

The question naturally arises: How could so much order exist throughout the universe unless all its creations shared a common underlying design? How, without a consistent set of processes, could all of nature's creations end up being so well-formed, splendid, and beautiful? It is this and universality of form, this paper hopes to shed light. More specifically –the Universal Fractal proposes a common center-oriented pattern underlay most things. Not only –but because this pattern is present at all scales of being this pattern (i.e. Centerpatterns) qualifies as the Universal Fractal.

# Fractals

Fractal science identified nature's tendency to produce creations whose internal structures share the same geometric pattern as the creation's overall geometric form (Mandelbrot, Benoit. The Fractal Geometry of Nature. New York: W.H. Freeman and Company, 1983. Print). A fractal entity sees the biggest and smallest –as well as all scales between, sharing the same shape. Merriam-Webster defines a fractal as "a rough or fragmented geometric shape that can be sub-divided in parts, each of which is a reduced copy of the whole. Fractals are generally self-similar and independent of scale."

Fractal relationships can be readily gleaned in the form of a tree. When you look at the largest branches of a tree, you'll see their geometric shape is similar to the shape of the next smaller sized branches. Even the smallest twigs share this shape. It's the same as a river. No matter how closely you look, all its brooks, streams, and tributaries; share the same basic shape.

In summary --fractals exhibit the following two main properties. They are, first, self-similar: The smallest components of fractal creations are similar in form to all its larger scale structures. Second, fractals are independent of scale –i.e. you can find the same self-similar pattern at all scales of magnitude.

Do center-oriented patterns qualify as the Universal Fractal? I.e. are Centerpatterns are self-similar and universal (i.e. present at all scales of existence)? Let's take a closer look.

# A Self-Similar Pattern

If you traced nature's creations backwards in time to their origin, what you'd find –just before it disappeared –would be its most essential element: its center; the place from which the creation began and from which it grew outward and expanded.

Thus it's no coincidence the overall pattern of nature's creations is shaped in center-oriented patterns –they grew symmetrically outward from their point of origin. In fact, when you view any of nature's creations holistically, you will see its overall organization has a general inward flow –a natural result of all its subcomponents aligning and being connected to the single point from which it began and grew outward.

Such center-oriented forms fill nature and man's worlds. They comprise the relentless inward curves of a spiral's arms, the pleasing symmetry of concentric circles, the spoke-like form of radials, the converging lines of arterial branching systems, and the swirls of vortices and whirlwinds. Self-similar patterns united through the common, center-oriented pattern they share.

If the reader is having difficulty visualizing the center oriented-ness of these geometries, the following Merriam Webster definitions shed additional light on their center-oriented disposition:

1. Circle and spheres: "…a center is the point that is equally distant from every point on the circumference of a circle or sphere."
2. Ellipses: "…the locus of points for which the sum of the distances from each point to two fixed points (i.e. a center ) is equal."
3. Concentric circles: "…circles having a common center."
4. Spirals: "…winding around a center or pole and gradually receding from or approaching it."
5. Radials: "…characterized by divergence from a center."
6. Arterial branching system: "…a natural subdivision of a plant stem; especially a secondary shoot or stem (as a bough) arising from a main or center axis."
7. Vortex: "…a mass of fluid (as a liquid) with a whirling or circular motion that tends to form a cavity or vacuum in the center of the circle and to draw toward this cavity or vacuum bodies subject to its action."

In summary, we see through their common, center-oriented shape; Centerpatterns meet the fractal Quality of being "self-similar."

# Universality

The following table demonstrates the presence of Centerpatterns at all the universe's various scales of being.

| Device/Creation Description/Scale | Center-Oriented Shape | Center |
|---|---|---|
| Super-Universe (groups of universes) | Arterial branching system (Linde, Andrei. "The Self-Reproducing Inflationary Universe." Scientific American November 1994: 48-55. Print.) | Unknown (likely a main or originating branch or a Super-Sized Big Bang) |
| Universe | Spherical/cluster/radials | Big Bang |
| Superclusters | "Filamentary" sheets (arterial branching system) | Often a large cluster |
| Cluster groupings | "Lacy" and "filamentary" sheets (arterial branching system) | Domineering central mass |
| Clusters (groupings of galactic groupings) | Spherical/cluster | Gravitational center (often huge elliptical galaxies) |
| Galactic groupings | Spherical/cluster | Central galaxy |
| Galaxies | Spiral/elliptical/clusters | Black holes |
| Star clusters | Spherical/cluster | Gravitational center (often huge ancient stars) |
| Solar system | Spherical/elliptical | Star |
| Star/sun | Spherical | Gravitational center |
| Planet/moon and ringed planets | Spherical/elliptical | Gravitational center |
| Planet | Spherical | Gravitational center |
| Within planet<br>Jet stream<br>Water-vapor cycle<br>Hurricanes<br>Thunderstorm<br>Cloud<br>Tornados<br>Lightning<br>Mountains<br>Volcanoes<br>Trees and plants<br>Waves | <br>Vortex<br>Loose cluster<br>Spirals<br>Well<br>Spherical/cluster<br>Spirals<br>Arterial branching system<br>Pyramidal<br>Pyramidal<br>Arterial branching system<br>Clusters and spirals | <br>Low pressure zone<br>Ocean<br>Low pressure zone<br>Low pressure zone<br>Updraft<br>Low pressure zone<br>Low voltage potential<br>Peak<br>Central lava flow<br>Trunk<br>Energy packet |

| Device/Creation Description/Scale | Center-Oriented Shape | Center |
|---|---|---|
| Human division of land | | |
| International | Cluster | UN |
| Groups of nations | Cluster | EU and NATO type alliances |
| Country/nation | Cluster | Nation's capital |
| State | Cluster | State capital |
| County | Cluster | County seat |
| City | Cluster | Capitol Hall |
| Human social structure | | |
| Groupings | Cluster | Leader |
| Rituals | Cluster | Central purpose |
| Institutions | Cluster/arterial branching system | Central leader/purpose/ meaning |
| Infrastructure | Arterial branching system | Main hub/branch |
| Products | Cluster | Central purpose/function |
| Functioning of mind | See the separate paper entitled The Center Orienting Principle of Mind for details | |
| Language | | |
| Books | Cluster/whirlwind | Title |
| Chapters | Cluster/whirlwind | Chapter title |
| Paragraphs | Cluster/whirlwind | Main point |
| Sentence | Cluster/whirlwind | Subject |
| Words | Cluster/whirlwind | Meaning |
| Letters | Cluster/whirlwind | Tone |
| Life forms | | |
| Organism | Spherical/cluster | Procreate |
| Skeleton | Arterial branching system | To move/locomotion |
| Digestive system | Cluster/whirlwind | Stomach |
| Veins/arteries | Arterial branching system | Heart/lungs |
| Nervous system | Arterial branching system | Mind |
| Mind | Spherical/cluster | Consciousness |
| Organs | Arterial branching system | Main trunk |
| Eyes | Spherical | Fovea |
| Tissue | Cluster | Common section of DNA |
| Cells | Cluster/spherical | Nucleus |
| DNA | Helix | Cluster/whirlwind |
| Molecules | Cluster/rings/helix | "Electrical charge concentrated quantum mechanically between atoms" (Feynman, Hellman; Feynman-Hellman Theorem of Molecular Bonding.) |
| Atoms | Spherical/cluster | Nucleus |
| Subatomic particles | Spherical/cluster | Void |

From the above table we can say center-oriented forms are present at all scales of structure in the universe –Centerpatterns are universal.

# The Universal Fractal

The self-similarity of Centerpatterns combined with their universality demonstrates Centerpatterns qualify as the Universal Fractal. Indeed;

- The Universal Fractal is geometrically self-similar (i.e. nature and man's creations share a similar center-oriented pattern)
- The Universal Fractal is evident at all scales of magnitude (i.e. is universal)

The proposed Universal Fractal than satisfies the requirements of its title.

The presence of a center-oriented Universal Fractal (essentially a common pattern throughout the universe) reflects and thereby supports the findings presented in the paper entitled "The Center Organizing Principle". In other words, the presence of a common center-oriented pattern throughout the universe validates the existence of a universal center-oriented process since such a process is a necessary precursor to producing such center-oriented patterns.

# VI
# The Centering Organizing Principle of Holistic Systems

*"The whole is more than the sum of its parts."*

*Aristotle*

*"Centers are the key means by which an assemblage of parts are organized into a larger, greater, and cohesive whole."*

*Jin Nua*

The roots of more than one scientific revolution lie in new realizations of how 'wholes', and their component 'parts' interact. Such was the inspiration in quantum mechanics when finding protons and neutrons were not indivisible entities as had been predicted, but instead were comprised of swarms of constituent particles.

Likewise, Gestalt's greatest triumph was discovering our minds actually see "the forest over the trees". Our minds don't care for the messy details/individual parts – they'd rather roll them into larger, more manageable wholes instead.

Following on from these traditions modern complexity theory places part-whole phenomena at the heart of its field. Consider the following definition;

> "The behavior of macroscopic collections of (many basic but interacting) units that are endowed with the potential to evolve in time" (Highfield, Roger and Peter Coveney. Frontiers of Complexity: The Search for Order in a Chaotic World. New York: Balletine Books, 1995. Print.)

From these examples, we can glean whole/part relationships play an integral role in the sciences and indeed how much of the world works. But what's the essential nature of these baffling unions? What brings together, and ultimately sustains agglomerations of parts into larger cohesive wholes?

# Defining a Whole

Classic depictions of holistic systems tend to rely on mysterious forces impelling parts to evolve constructively over time (i.e. into a larger whole). However how and why this occurs –and the nature of whole/part relationships, remains largely unknown. Take for instance the following diverse definitions which while extremely meaningful, include degrees of abstraction science normally can't accept:

> J.C. Smuts writes, "the tendency in nature to form wholes that are greater than the sum of the parts through creative evolution." (Smuts, J. C. Holism and Evolution. Gouldsboro: The Gestalt Journal Press, 1986. Print.)

> A basic definition found on Wikipedia; "Holism (a Greek word meaning all, entire, total) is the idea that all the properties of a given system (biological, chemical, social, economic, mental, linguistic, etc.) cannot be determined or explained by the sum of its component parts alone. Instead, the system as a whole determines in an important way how the parts behave." ("Holism" Wikipedia, The Free Encyclopedia. Wikimedia Foundation, Inc. 22 June 2013. Web. 25 June 2013.)
>
> Set of concepts that attempts to explain complex phenomenon not explainable by traditional (mechanistic) theories. It integrates ideas derived from chaos theory, cognitive psychology, computer science, evolutionary biology, general systems theory, fuzzy logic, information theory, and other related fields to deal with the natural and artificial systems as they are, and not by simplifying them (breaking them down into their constituent parts). It recognizes that complex behavior emerges from a few simple rules, and that all complex systems are networks of many interdependent parts which interact according to those rules." ("Complexity Theory." Businessdictionary.com. WebFinace Inc, 2013. Web. 2013.)

In addition to these part/whole descriptions, still others discuss the importance of boundaries especially as they relate to organisms and life. And while wholes do possess an assortment of key traits and attributes including the deeply mysterious (some of which we'll examine below), from a Centering Ordering Principle perspective we believe much of the uncertainty surrounding the whole/part enigma can be resolved by simply adding centers to the 'parts and whole' equation.

Indeed in a host of natural, biological, and social systems we find the common element unifying groups of unassociated parts into larger wholes is simply a shared, centrally located object. In fact there's no easier way to organize parts into a whole than through the central and unifying effect of centers and the wells (fields) surrounding them. Centers providing the energy concentrations necessary to fuel creation. The fields surrounding them providing the reach and geometrically beneficial relationship necessary to organize a host of objects and entities into something larger and greater.

Hence in the examples above, we begin to make sense of whole/part interrelationships through how parts interact with centers. For instance we can see how groups of subatomic particles can form larger wholes (protons and neutrons) through their common connection to a 'particle-void' basin of attraction. We can also see how our minds might create larger Gestalt wholes about unifying focal points and meanings.

Indeed in hosts of examples, centers serve as the main attraction organizing hosts of peoples (i.e. parts) into larger audiences (i.e. wholes). For example the cores of cells (DNA) organize hosts of cellular proteins and metabolical processes. Societies organize groups of people about common symbols and beliefs. Conscious thoughts organize hosts of sub-routine thoughts. Even our entire universe –its one hundred billion galaxies are all tied to the same moment in time some fourteen billion years ago –the Big Bang. It's also the organizing force behind our lives –a kaleidoscope of

images, words, interactions, relationships, and experiences wrapped up into a tightly formed whirlwind about you at its core.

## Working Definition of Holistic Systems

From these discussions, we're able to establish a working definition of Centersystem holistic systems as "those things/parts sharing a common center". A representative equation might be;

$$\text{A Whole} = (\text{Part}_1 + \text{Part}_2 + \text{Part}_3 + \text{Part}_N \ldots + \text{Part}_{oo}) \longleftrightarrow \text{A Center}^*$$

* - The symbol " $\longleftrightarrow$ " denotes "Connected to"

Having established centers at the heart of the parts and whole equation, we'll examine classic portrayals of holistic systems and some of their essential components to gain further insights into the Center-Ordering Principle of Holistic Systems, and how it might supplement current notions of holistic systems.

# Of Emergent Properties and How Wholes Behave

A key property of wholes are their so-called "emergent properties". In fact some schools of scientific thought identify emergent properties the defining feature of holistic systems as the following description attests.

> Emergent properties are "the behavior of a larger organism that is independent of the behavior of its individual component parts". (University of Alabama. (2008) Environmental Modeling Lecture 3: Retrieved from http://bama.ua.edu/~brown/lecture3.ppt. Web 25 June 2013)

We see such phenomena firsthand when flocks of birds move together as one and when individuals become gripped by "mob mentality."

But whereas complexity theory largely attributes emergent behavior to a kind of ingrained attribute of chaotic systems, Centerpath proposes a simpler explanation –the coordinated behavior of wholes arises primarily from the coordinated movement, or behavior of parts about a shared center.

An illustrative example comes from ant colonies. When looking at groups of ants up close, we see each acting relatively autonomously. Each either cleaning, feeding, transferring foods, guarding, or gathering food.

When we look at the ant colony from a distance, however, we see ants streaming to and from the colony in what appears a coordinated activity –i.e. as though the colony were a larger organism in and of itself. And indeed that's what we find. Each of the ants' activity is centered on and ultimately in service of the queen. It is she

–the center of the colony, that brings about the colony's coordinated behavior. Her penultimate significance toward anchoring the colony readily apparent from events following major disruptions to colonies. If for example a large predator disrupts a colony's physical structure, the colony will 'automatically' reorganize itself around the queen's new location.

Other examples of centers directing a whole's emergent behaviors includes team-building exercises –i.e. teams are given goals to increase cooperation and indeed promote common thoughts/actions/behaviors. Teams on playing fields cause entire stadiums of people to release common (i.e. emergent) cheers or groans. Centers – locations of energy, matter, resources, need, want, purpose, meaning, or desire –bind larger organisms through having their parts undertake coordinated behaviors.

# Do Wholes Have Boundaries?

Boundaries play an important role in wholes and especially living organisms. Some schools of thought actually define organisms by their boundaries as succinctly related by David Cohen;

> Boundaries "separate the 'entity' from the 'non-entity.' … the boundary does more than just prevent the organism from spilling out; it is also where the organism meets the environment, where useful substances are taken in and toxic ones expelled". (Cohen, D. (1996) The Secret Language of the Mind. Chronicle Books. 1996. Print.)

But with our new Centerpath perspective we can describe boundaries and their relationship with the whole in a new light. We begin doing so by first considering where boundaries truly begin and end. For instance how to define the boundary of a solar system, city, or flock of birds? Even living organisms extend beyond their obvious boundary and deeply into the surroundings for which their survival so sorely depends.

Consider for instance where your boundaries begin and end. Would you point to your skin? Your personal space? Your home? What about the air you breathe? The air you breathe comes from a vast volume of space? What about your food? As you can see elements of your boundary (and the boundaries of other systems) extend indefinitely and are therefore not fully definable.

However what we can say about boundaries is this –the boundaries of a whole or organism are the outer limits of those things connected to a common center. In other words we might say organisms/wholes can be defined by the sum of things (matter, energy, resources, activity, etc) connected to a common center or point of convergence.

# Playing a Part

Parts are the components making up larger wholes and can be just about anything we consider. They can be energy, particles, matter, atoms, molecules, cells, peoples, thoughts, celestial bodies, etc. The parts can range in number from one to an infinite number. Significantly, parts tend to bunch in groups of like parts.

## The Likeness of the Parts

As we learned in The Center Organizing Principle, centers;

1) Centers generate fields
2) Fields vibrate in a frequency specific to the frequency of the originating center, and
3) The field only interacts with things in its surroundings (i.e. parts), that share this same frequency

One consequence resulting from these relationships is the parts joining into a developing whole share the same makeup and character.

Just how much alike can parts be? The orbiting parts of atoms (electrons) are basically identical. 'Sameness' is a defining factor of flocks, in fact in some species of geese; the geese will peck to death another goose that looks too differently. In planetary systems, there are immense differences in specifics between its parts (i.e. planets, meteors, comets, moons, etc.) –but all share the same essential composition, being made of matter.

Human formed groups reflect this quality as well. For instance nuclear families bind tightly together about shared looks and disposition (generated by a highly similar source code, i.e. their genes). From here, the likeness to whole forming phenomena in human groupings continues up to and including our species however with a progressive 'dilution' in likeness. After nuclear families, next to form are extended blood families whom bond largely about shared looks and disposition.

Tribes where the same. They banded together due to likenesses of looks/disposition which later began to break-off from one another for what were perceived as no longer sharing enough in common (i.e. looks/disposition). In fact these bifurcating ethnic groups became what are now regional and national borders.

Even outside nationals borders we still band together as a single species. If you can't appreciate how real these feelings are just watch how strongly the world bands together (across borders) during natural disasters and through our shared abhorrence of aliens in Hollywood movies.

Of course the sense of likeness is quite adaptive in humans extending far beyond simply similarities of looks where we find all sorts of persons accumulating about similarities of beliefs, thoughts, interests, and even hobbies.

# How Centers Build Wholes

As we learned in The Center Organizing Principle, wholes are built through the interaction of centers (and their fields) with the parts in their surroundings. We will briefly recap that discussion, focusing now on the role of fields in the whole-building process.

**Building a Whole – The Great Partnership of Centers and Fields**
In the 1930's, field theory caused quite a stir when it postulated the entirety of the universe is made up of the same basic stuff. For in a world appearing to be filled with wildly diverse and seemingly unrelated things, field theory actually showed everything shared a common underlying quantity –a steady and unwavering 'field' substance.

This was all and well however it created a dilemma –our world's not even. It's filled with wildly varied creations. An evenly formed field needed a mechanism to transform evenness to unevenness. The field needed a means to clump things together.

The necessity to clump comes from the capability of the field to spontaneously precipitate into a point source such as occurring when the field experiences a fluctuation, too much change, or it becomes too much of itself (i.e. too concentrated). In fact the things we're familiar with –particles, bodies, entities, and people are just places where the field became too much of itself and condensed into a higher concentration of itself.

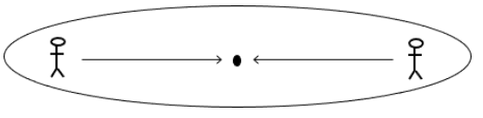
This key transformation (from an even background field to a point source) brings with it further, significant 'knock-on' effects. For once a point source condenses from the even background field it also creates a force-field extending beyond its surface which both shapes and affects its local environment into a consistent, flattened, vortex shape. A 'well' shaped geometry with the condensed entity (the center of the larger whole formed by these relationships) at its bottom. Picture dropping a bowling ball on a trampoline: the bowling ball 'point source' stretches and weakens the trampoline 'field', causing the ball to become depressed into the rubber sheet, forming a well.

Wells have a profound influence on things in their surroundings. Their well-like shape forming a basin of attraction causing things to turn and possibly even move inward. If the walls of the well are steep enough, the parts can even be drawn inward and toward the bottom of the well. The persistence of these wells is like old sailors' tales of being pulled into a whirlpool and never being able to escape because of its ever-increasing steepness.

You can see the relationship between a center and the well-shaped field it generates forms the a basic framework from which 1) a consistent process and, 2) an associated

consistent geometric form could emerge across all scales of being, as 'parts' draw about, warp around, and twist inward toward a common center. One can also begin to see how fundamental elements of matter might be shaped (in fact gravity, electricity, magnetism and nuclear force-fields operate in this way) but also how such well-like affects might be projected into the realm of human interactions. In fact one can say the energy fields keeping electrons orbiting about atoms and planets about suns are functionally equivalent to those causing individuals to 'orbit' about needs such as food and shelter as well as desires of wealth and fame. They also cause whole nations of people to organize as one about central meanings and symbols that unite them.

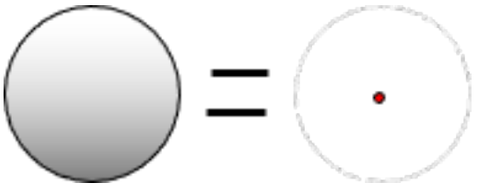
# Varieties of Whole Building



Wholes are built around centers in simple ways –koi fish bunching around a morsel of food, people cueing in line for the same thing, and a group of strangers encircling a superstar. They are also built in complex ways –like millions of stars about the center of the Milky Way galaxy.

But no matter their simplicity or complexity, all such phenomenon share a common design –a process that sees groups of parts organize about centers. In fact it's only through the common, 'language' center-oriented designs provide, could seemingly unrelated phenomena such as gravity, duality, the 'parts' and the 'whole', feedback systems, and phase locking become related.

**Gravity – The Great Collaborator**



Just how equipped is the universe to build larger wholes? You might be surprised. Through the natural center generating qualities of gravity, the universe's capable of creating virtually unlimited whole combinations at countless degrees of scales and circumstances. Let's see how.

All matter possesses a "center of gravity." What this means is all objects in the universe –no matter their shape, size, or content –can be replaced by an infinitely small point corresponding to the location of the object's center of gravity with the same effect and full impact of the original body (as depicted at right).

Fantastically enough, this quality applies to more than individual bodies –a common center of gravity also forms spontaneously between two bodes no matter the number of objects under consideration. This is to say any number of bodies –from two to an infinite number of bodies; create and share a unique center of gravity between them. Gravity forms centers –and therefore larger wholes everywhere and in every combination. Gravity also allows us to see how all things are interconnected –both uniquely and with all other things.

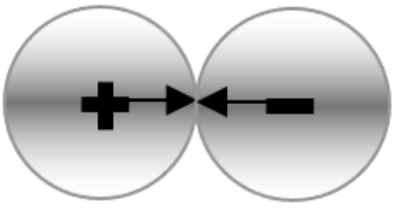
**Dualistic Structures – Nature's Most Efficient Whole Building Process**

The interaction of dualistic counterparts across common centers provides nature and life with their most efficient means to generate beneficial, recurring structures and processes.

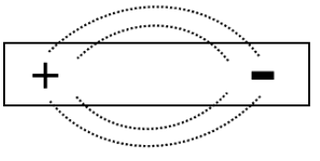
Dualistic counterparts are comprised of pairs of 'equal and opposite' quantities. This means dualistic objects are arranged in opposite orientations across a common point. In essence, they lean on each other across a common center that serves to unite and physically connect the two.

This connectivity and equilibrium balance around a common center –and the attraction to this center is a key factor helping ensure nature's creations come together –and stay together, in highly balanced and complementary arrangements. For example consider the overriding significance of the following dualistic relationships;

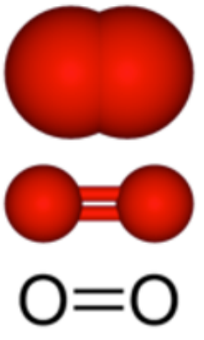
- Particles and anti-particles join to create the countless elements filling our universe;
- Positive and negative electrical charges draw atoms and molecules together in ever higher constructive combinations because their "nuclei are drawn toward an electrical charge concentrated quantum mechanically between them" (Feynman, Hellman; Feynman-Hellman Theorem of Molecular Bonding.);



- Positive and negative magnetic poles (centers) cause magnetically charged particles to be attract to one another;




- The highly constructive combinations of oxygen and carbon –so important to life, largely result from their dualistically arranged pairings;
- The formation of base pairs in a dualistically arranged spiral formation forms the code of life (DNA);

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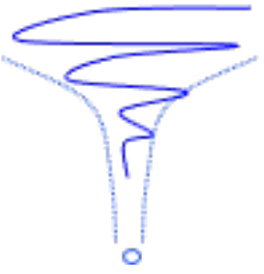
- Our bodies are formed in equal and opposite halves allowing effective balance and locomotion;
- Most species are structured across complimentary male and female counterparts each contributing symbiotically and beneficially for the good of the species.

**Invisible to the Visible**

A basic feature of whole building is the formation of invisible wells around centers. We also know surrounding parts will fall into these wells when the walls of the well are steep enough, essentially filling them.



This arrangement forms a kind of 'hand in glove' arrangement. A dance of the invisible with the visible. The inside of a glove forms the well; the hand represents the parts falling into the well. A simple example of this two-fold process occurs when you move your hand through air or water. The volume of air (or water) displaced by your hand creates a vacuum (i.e. a well) causing adjacent air (or water) to rush into and fill the void created by the 'vacuum well'.

It's the same process at work in the following phenomena;

- Our products are designed as an empty space waiting to be filled –cups, pots, shoes, purses.
- When a baby is hungry, its cries (i.e. it forms a field) which as any parent knows, initiates a host of frantic activities until food is delivered and the "well" of hunger filled.
- It's the process surrounding how much of our minds appear to work. Who hasn't felt the psychic pain associated when a memory is on the tip of our tongue? What's occurring is the question creates a sort of uncertainty well whose tension remains until it pulls certainty in and fills the gap, and indeed restores the balance. This same 'pattern' also applies to feelings arising from being prevented from doing something we want. It creates a mental vacuum of sorts that's maintained (via a slight headache) until we gain what we seek and the tension dissipates.
- The process also describes how and where consciousness might arise –i.e. it could be the place where the 'lowest potential' (i.e. greatest vacuum) exists such that it might draw in any mental subroutine it so chooses.

**Locking Phases**

Physicists have long marveled over the phenomena known as phase locking whereby the cycles of things sharing close quarters tend to lock into and synchronize to the same 'beat'. It's what causes thousands of individual neurons to beat as a single larger heartbeat, hundreds of lightning bugs to synchronize and flash as one, and the menstruation cycles of woman living in close quarters to tend toward the same date.

Why this happens is events and processes, like their physical counterparts, tend to organize around single, and central objects. In the case of events, the central 'object' is a moment in time. Thus, the synchronization of many parts to a common, repeating moment in time is essentially no different than so many of nature's other phenomena culminating at and around key moments in time; such as crashing waves, thunderstorm

downpours, jokes, and concerts.

Other examples of such 'blinking' centers (phase locking) includes public clapping, TV broadcasts, and the collective firing of millions of neurons at the same gamma ray frequency to produce strings of "single meaning units" in our minds we ultimately recognize as words, memories, and symbols.

**Feedback – The Means to Maintain Stability**

Feedback systems, both natural and manmade, generate create 'wholes' with the expressed intent of producing like units (i.e. like parts) around a common set point or center. These systems are defined as processes "whereby some proportion of the output signal of a system is passed (fed back) to the input. This is often used to control the dynamic behavior of the system." ("Complexity Theory." Businessdictionary.com. WebFinace Inc, 2013. Web. 2013.)

From a Centerpath perspective it interesting to note that by feeding the output (the outcome) to the input (the source) links beginnings to ends like a snake eating its tail. This is of course a key aspect of Centersystems whereby parts are returned to their source.

How do feedback systems create center-oriented wholes? In the case of negative feedback systems it simply features the conditioning of many like units about a centrally controlling variable or component, by controlling the flow of energy into the system.

The inherent stabilizing effects (and whole generating ability) of negative feedback systems is gleaned from air conditioning systems. At its heart lies a controlling thermostat (indeed this is the system's center) which controls the flow of energy into the system to maintain a uniform, set point temperature throughout your house – essentially forming a larger whole of like units (same temperature air molecules) about the thermostat which controls them.

It's the same principle used to control hosts of variables in manufacturing and process plants such as maintaining constant levels, temperatures, or pressures. It's how a governor works on a steam engine (to maintain constant speed). It's also the way our bodies regulate temperature and hormone levels as with the endocrine and endothermic systems as well as how the planet's atmospheric temperature is maintained via the increase or decrease of the amount of cloud cover.

**The Wholes of Purposes**

Purposes reveal just how clever, and expansive, the whole building capabilities of the universe are. Purposes define the ultimate aim of the things we do and undertake. They are the center of something larger, and organize a host of "like" activities toward the intended ultimate outcome.

In the realm of human inventions for example we find all the components of a product are designed about its ultimate purpose. Thus all the components of a car for instance are designed about its larger central purpose of transporting a person from point A to point B (i.e. for locomotion). All its subcomponents were designed to support this

purpose. For instance its fuel system feeds the engine which powers the transmission which turns the wheels to get a person to where they want to go.

One can imagine just how interconnected these workings can become when considering for instance how bird's behave related to nesting and caring for their young. In fact while all the various activities of birds (including nest building, gaining food, feeding, incubation, distracting predators, and teaching their young) might seem unrelated – each and every action is ultimately part of a larger pattern centered on the singular purpose of ensuring the successful procreation of the species.

Our lives are no different. We undertake all sorts of activities to accomplish some purposeful goal, task, or objective. We brush our teeth, clean the house, shop, prepare food, etc in the service of ultimate aim of promoting our well-being.

**Raising a Flock – Global Centers and the Micro in the Macro**

Breathtaking is the sight of flamingos rising into the air at once, thousands of tightly bound minnows drifting at sea, or herds of buffalo rumbling across an open plain. All such phenomena –generally referred to as flocking –is the ingrained urge of animals to bunch as one. But what keeps flocks banded together?

The answer is simply their shared facial image, which while appearing somewhat obvious at first in fact sheds valuable light on the ingenious means by which centers can unify larger wholes. In this case the image of the species (which is coincidently likely located at the root of their mind) causes birds to seek out things matching this image –a kind of returning to the source causing 'birds of a feather' to seek out each other. The ultimate result causing groups of like animals to join in tightly bound flock 'wholes' about a common, central, and unifying image.

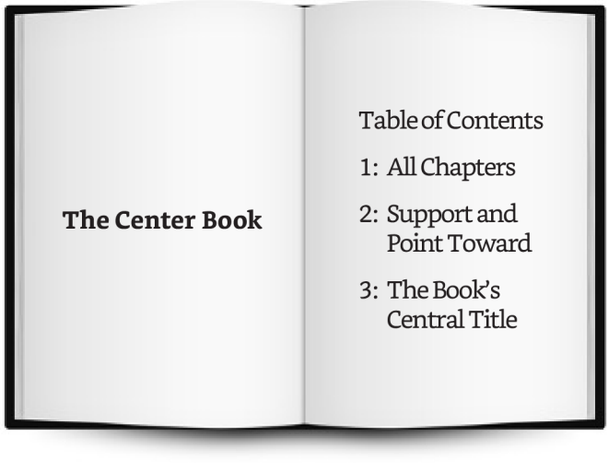
# VII
# The Centering Organizing Principle of Language

This paper proposes language –both written and spoken are structured in center-oriented patterns about single and central meanings. Since there's no better way to introduce a new idea than by means of an analogy we present the case for a center-oriented theory of language through examining the various structures populating books.

# The Shape of a Written Communication

> *"The vision of a poet is that of the convergence of every point, the end of the road. ...The dizzying oblique vision that reveals the universe is not a succession ... but as an assemblage of worlds in rotation."*
>
> *Octavio Paz*

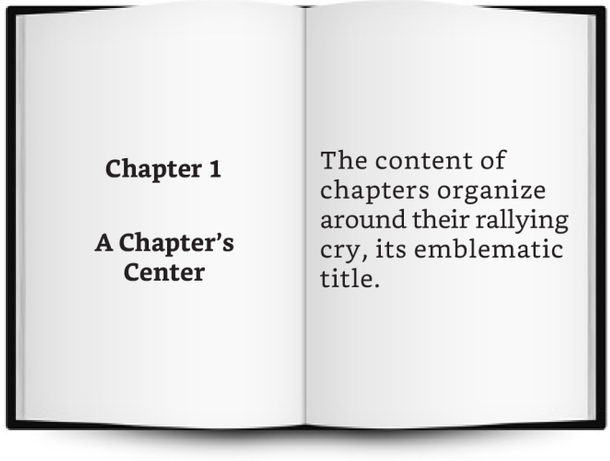
Our approach to examining a book's structure adopts a top-down approach. We'll first examine its largest structures (the entire book itself) and then progressively consider the smaller structures making it up.

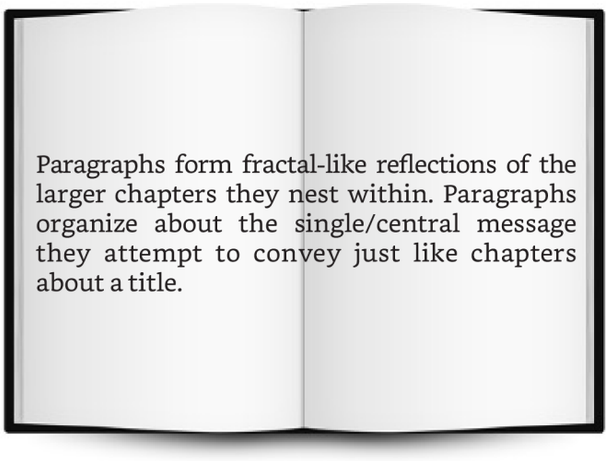



So perch yourself atop a book and ask yourself this question –what organizes a book and brings it together as one? Is it structured in a localized, causality-based structure as its strings of words and sentences seem to imply? Or is there a larger holism to it? Is there a single element –as Paz implies, unifying its various worlds in rotation into a larger cohesive whole?

There's only one possible solution –the book's title is the single point all other elements of the book share. It's the one point everything else —its words, sentences, paragraphs, and chapters –point towards, are associated with, and converge upon. From a holistic perspective, then, we might surmise the whole of a book forms a grand world in rotation about its central title.

Let's look at a book's next smaller, subcomponent –its chapters. Here we find the same thing –chapters are organized in the center-oriented fashion as that of the overall book –the only difference being their relative scale. The centers of chapter's are their titles. All its contents point to it and reflect it. A book shares the same 'worlds in rotation' shape at two different scales of magnitude.

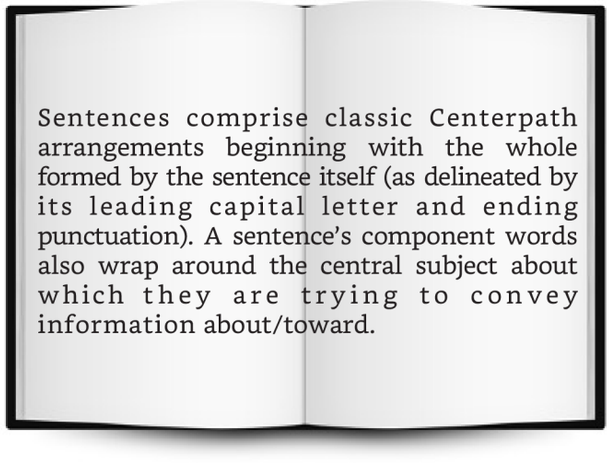





Dissecting a book further, we find yet another world in rotation lurking within the chapters we just examined –paragraphs. And even while

paragraphs don't possess formal titles as do books and chapters, they do possess a very real, albeit, less visible center uniting them. This center? The paragraphs central message which deals with a single, and therefore central point in which all the paragraph's sentence are written to support.

Carrying on, it comes as little surprise finding the next smaller grammatical component of communication –the sentences nesting within paragraphs –are also forged in center-oriented structures. In fact sentences form quite neatly formed vortex-like shapes with their component predicates, nouns, and verbs each wrapping neatly around the subject at its center.




Finally, written communication's elemental unit –words –brings the central role of meaning in communication full circle when considering how they can alone encapsulate something much larger. Words boil down a host of variables to a simple label or meaning in the human mind.

You can see this dynamic at work with this simple exercise. Picture a horse. You didn't visualize the individual components, such as hooves, tail, teeth, heart, and legs, but instead pictured the whole, singular meaning; we simply think of the singular concept of a horse. Our minds use words to instantly encapsulate an infinite number of variables into singular and summary meanings –just like the title of a book summarizes the thousands of words that go into making it up.

A book takes on a whole new meaning when viewed from a Center Ordering Principle perspective. No longer can we view it as endless strings of words and sentences, instead forced to see it as arrays of worlds in rotation, each rooted about a central and uniting meaning binding them.

From this discussion we see the structure of written communication's various elements (words, sentences, paragraphs, chapters, and entire books) all share the same center-oriented shape (which also means they exhibit characteristics of fractals). Thus we make an interim supposition communication adopts a center-oriented structure in its various manifestations and at all its various scales of organization.

# The Shape of Speech

Since spoken and written communication are two sides of the same coin, we have early reason to suspect speech is also organized in a center-oriented fashion.

Astoundingly enough we find speech is not only organized in the same structural, center-oriented structures as we just examined –but speech is also formed in a center-oriented pattern in its delivery across time. In fact we find all elements of speech share the same center-oriented structure formed about central climax-points and stress-points (i.e. a single/key moments in time) giving speech is characteristic rise and fall pattern.

The following examines the center-oriented structure of speech at its various scales of delivery.

## The Shape of Large-Scale Narrative Structure

> *"Let's begin with the story. Human beings are storytelling animals. We domesticate our world by narrative; by myths... We are hungry for a story that will dramatize some meaning we can hold to. The need for a myth that begins 'Once upon a time,' and ends with 'The hero finally triumphed after many trials and returned home,' still sleeps in our substance."*
>
> *Sam Keen*

Beginning with the largest scale structures of speech (i.e. story telling) we find it (classical narrative) forged in clear rise-and-fall formats around central and often climatic outcomes. These climaxes are unifying and all-encompassing 'morals of the story', final acts, and 'hooks', as the following description of screenplay writing describes.

> "Classic structure moved audiences in ancient Greece, and it is still an effective model of the dramatic story. Story structure doesn't simply pattern the narrative – as important as that is, it also structures our experience throughout the story. Classic dramatic structure contains a beginning-middle-end pattern usually represented by a rising (then slightly falling) curve that graphs the increasingly intense and suspenseful development.
> It begins with a conflict or commitment to a goal, progress to the climax in which the conflict is resolved, and finishes with a denouement or "letting-down time" in which loose ends are tied up. The curve rises overall as events accelerate, building in intensity as we approach the climax. The graph line isn't so much smooth as saw-toothed (in order to represent the rising and falling action as the story moves through a series of high and low moments). A crisis occurs and is solved, only to be

> replaced by another crisis, then another, and so on until the climax." (McManus, Barbara. The Structure of Greek Theatre. 1999. http://www2.cnr.edu/home/bmcmanus/tragedy_theater.html. Web 28 June 2013.)

From this description we glean the fractal-like nature of storytelling with its numerous mini-crises building to a final maxi-crisis or climax, each taking us on a familiar and oft-traveled path through a familiar center-oriented terrain. In fact since all forms of narrative are story telling it means plays, operas, movies, TV shows, speeches, and even songs all adopt a center-oriented structure.

## Sentence Stress

The formal theory of sentence stress describes the center-oriented delivery of sentences across time. In sentence stress, one or two words serve as the anchor point (i.e. the center) from which the remainder of the sentence is keyed. According to the English Club website ("sentence stress". EnglishClub.com. English Club, 2013. Web 28 June 2013.);

> Sentence stress is the music of spoken English. Like word stress [see below], sentence stress can help you to understand spoken English, especially when spoken fast. Sentence stress is what gives English its rhythm or "beat." … Word stress is accent on one syllable within a word. Sentence stress is accent on certain words within a sentence.

The rise-and-fall tempo of sentences around a central word is indicative of center-oriented mechanisms at work. Such a structure assisting the mind anchor and key to the sentence's core meaning.

## Word Stress

Through their emphasis on one syllable, words also include a center-oriented rhythm in their delivery. Borrowing again from English Club ("word stress". EnglishClub.com. English Club, 2013. Web 28 June 2013.):

> In English, we do not say each syllable with the same force or strength. In one word, we accentuate ONE syllable. We say one syllable very loudly (big, strong, important) and all the other syllables very quietly.
>
> Let's take 3 words: photograph, photographer and photographic. Do they sound the same when spoken? No. Because we accentuate (stress) ONE syllable in each word. And it is not always the same syllable. So the shape of each word is different.

| | Shape | Total syllables | Stressed syllable |
|---|---|---|---|
| PHOTOGRAPH |  | 3 | #1 |
| PHOTOGRAPHER |  | 4 | #2 |
| PHOTOGRAPHIC |  | 4 | #3 |

> This happens in ALL words with 2 or more syllables: TEACHer, JaPAN, CHINa, aBOVE, converSAtion, INteresting, imPORtant, deMAND, etCETera, etCETera, etCETera. The syllables that are not stressed are "weak" or "small" or "quiet." Native speakers of English listen for the STRESSED syllables, not the weak syllables. If you use word stress in your speech, you will instantly and automatically improve your pronunciation and your comprehension.

Through the emphasis on a single syllable, words too possess a single and anchoring moment in time (its time-center) assisting listeners to 'key to' and more easily comprehend words.

## The Center of Letters

Phonemes are the elementary sounds associated with each letter of the alphabet. Each letter possesses its own phoneme and therefore single sound or pitch. Phonemes form the basic units of speech.

From a Center Organizing Principle perspective, we surmise each letter forms a whole around its single (i.e. central) phoneme pitch. Since we're inborn with phonemes we might speculate each phoneme has its very own center-oriented well in the speech regions of our minds. Such an organization might explain why rhyming words come to mind so quickly –i.e. they are clustered in and about/ connected to the same phoneme-well.

## Summary of Speech's Shape

The zeroing in on the single climaxes, words, syllables, and pitches in narratives, sentence, word, and letter structures (respectively) is again indicative of center-oriented mechanisms at work in the structure of communication. Such a design, like its written counterpart, providing the common platform from which our minds can piece together, formulate, comprehend, and deliver language so efficiently.

# The Shape of Other Forms Communication Formats

Similar to the written and spoken formats we just considered, still other forms of communication adopt a center-oriented structure about key elements and/or moments in time. In fact just like subjects serve to anchor sentences, we find practically all other forms of communication include 'headlines' and key moments in time from which the remainder of the narrative can anchor itself. Consider the following examples:

| Description of Event | Center |
|---|---|
| Letter or E-mail | Subject |
| Newspaper Article | Headline |
| Newspaper | Feature Headline |
| Magazine | Feature Article |
| Article | Title |
| Joke | Punch line |
| Speech | Outcome/Conclusion |
| Song | Climax/High Point |
| Argument/Debate | Outcome/Conclusion |
| Mathematical Equation | Solution |
| Children's Story | Moral of the Story |
| Movie | Climax/Ending |
| TV show | Climax/Ending |

# A Center Ordering Principle of Language

Based on the preponderance of center-oriented structures in all types of communication and at its many scales, this paper proposes language, and likely the shape of associated cognitive facilities, are formed in center-oriented structures around single and central elements.

# VIII
# The Centering Organizing Principle of Mind

# The Enchanted Loom

Our minds are potentially the universe's most sophisticated creation –in many ways its prized gem. Consider the full import of the phenomena occurring in our minds –the space barely the size of two fists.

1. Our minds continually process myriad stimuli –light, sound, touch, smell, direction.
2. Our minds effortlessly perform the fine-tuned functions of pattern recognition, movement, speech, and memory retrieval.
3. Our minds perform the highly sophisticated functions of planning, conceptualizing, reasoning, reading, writing, feelings, emotions, and being creative.

Even today's greatest computers are capable of only mere fractions of what our minds routinely undertake continuously.

But even for all these mind-boggling features, our minds are still a product of the universe and therefore reflect its creative force. Thus like all other creations, the mind's functions and structures are also center-oriented. Indeed as we find herein the mind's exceeding preponderance of center-oriented structures and corresponding processes leads us to surmise the following outline for the Center Organizing Principle of Mind;

> The Center Organizing Principle of Mind proposes the mind's structures, functions, and processes are center-oriented (in the context of the Center Ordering Principle).

Henceforth labeled the Center Organizing Principle of Mind (COPM), COPM proposes the mind accomplishes its various physiological, sensory, perceptual, and cognitive feats utilizing the same, efficiently-arranged center-oriented design –the universe's design of choice.

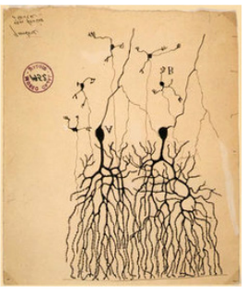
# Part 1 – Center-Oriented Neural Structures

## Structure

The following examines the center-oriented bias of brain structure.

### Neural Roots and Branches

The center-oriented bias of the nervous system begins with its basic building blocks –neurons. Neurons are comprised of a main cell body from which axoms branch outwards. These field-like neurons spread the information contained in the nucleus into other areas of the body and to up to 10,000 other neurons! Taken together, a neuron's cell body and axons resemble a center-oriented branching structure.



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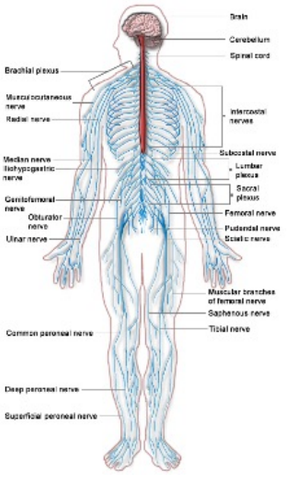
### Central Nervous System

The overall form of the central nervous system comprises a well-defined center-oriented shape. Its form also shares a striking similarity with its basic, neural building blocks. In a macrocosm reflection of its individual microcosm neurons, the overall shape of the CNS features a main core, the brain, from which dendrite-like spinal and neural packets spread throughout our bodies.

The brain also possesses the center-like qualities of high concentrations (1,000,000,000,000 neurons) and dualistic counterparts (left and right hemispheres) so often associated with centers.

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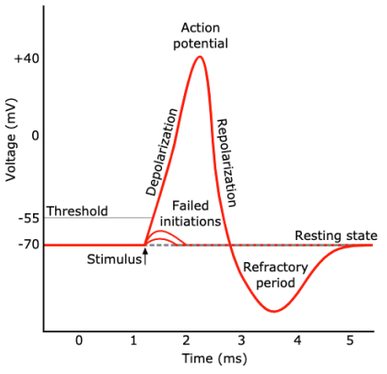
## Firing Phenomena – How Neurons Behave

The fractal-like micro/macro relationships of the neurological structures we just examined also extends to how neuron's group and function.

## Neural Firing – Where Form and Function Meet

The center-oriented structure of neuron's also extends to how it functions. As the accompanying graph attests, the spike of electrical charge in a neuron's membrane during a firing event mimics the spiked peak of a Centerevent complete with a building phase followed by a sudden surge and equally sudden collapse.

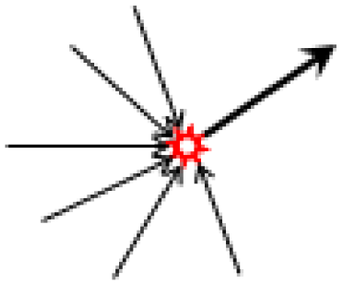



## To Be or Not to Be – The Rhythm of Basic Neural Decisions

How neurons decide to fire, or not to fire, forms legendary Centerpath stuff. For no matter how many neurons connect to an individual neuron, it is a single and essentially central neuron deciding whether a signal is sent forward or not. This "make or break" type decision, where a host of variables boils down to a single and center-oriented output is described by Douglas Fields in Scientific American:

> "A neuron is like a microprocessor chip in that it receives thousands of signals through its dendrites and constantly integrates all the input it receives from these connections. But unlike a microprocessor that has many output wires, a neuron only has one, its axon. Thus a neuron can respond to inputs in only one way: it can either decide to send a signal onto the next neuron in the circuit by firing an impulse through its axon, or not." (Fields, Douglas. Scientific American February 2005: Volume 292, Number 2. Print).

Many Inputs……..One Output

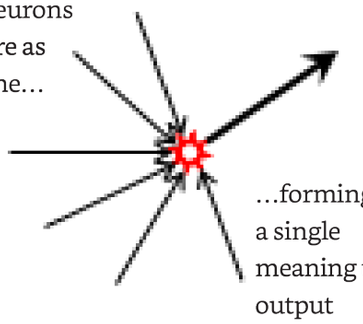


## Groups of Neurons "Think" the Same Way

The firing of neurons in groups also reflects a center-oriented bias. Consider the following description from Scientific American, where from the synchronized firing of groups of neurons, a "single meaning unit" (center) arises.

> "In this way, the nerve cells from specific sections of the networks temporarily share the same state of excitement. For instance, when the brain is trying to recognize one object among many objects or trying to comprehend the meaning of a sentence, a group of nerve cells temporarily forms a single meaning unit." (Roth, Gerald. Scientific American 2003: Volume 14, Number 1. Print).

Groups of neurons fire as one…



…forming a single meaning unit output

The firing of clusters of neurons in a cohesive group, forming a “single meaning unit,” again reflects higher workings of the mind, such as when we apply a single title or theme to something with numerous components such as an experience, story, book, or event.

# Part 2 – Perception is Center-Oriented

## Building Up a World – The Shape of Sensory Systems

The process of perception is our mind’s first attempt to interface with the outside world –to read, interpret, and organize it into a format that’s both understandable and useable by our higher cognitive functions. The first stage of building up this perception begins at our external sensory organs –eyes, ears, skin, noses, and tongues. They interface with sound, light, temperature, taste, and odors of the outside world and convert them into signals useful to other portions of the mind.

Here again we find sensory systems organizing in center-oriented arrangements, featuring an amazing capability to funnel outside stimuli to a single collection point, where the signal is then converted (i.e. transformed) into neural-type signals for use elsewhere in the mind.

### Hearing

The process of hearing provides a great example of a sensory organs’ ability to focus stimuli, and convert it to a useful neural signal. The process begins at our outer ear. It’s concentric-like shape serving to effectively direct sound waves inward toward the ear canal. Passing through the ear canal, the signal is amplified by the eardrum, which in turn delivers the pulsating sound wave to the shell-shaped cochlea in the center of the ear. Consisting of three parallel, liquid-filled, and spiral-shaped chambers, the cochlea passes sound waves back and forth in its outer two chambers until they are converted to neuronal impulses in its inner chamber. Our hearing system forms an exemplanary center-oriented system complete with a cochlea at the center of a well-shaped ear transforming a sound signal to a neural signal.

### Sight

The process of seeing is similar to hearing in it mimics the ears’ funneling of sensory stimuli to a central core and subsequently transforms the signal into neuronal impulses.

Like our outer ear, the eye's lens serves as the point of interface with signals from the outside world focusing light waves to a concentrated point, the fovea, on the backside of our eyeballs. Analogous to the ear's central cochlea, the eye's central fovea is where the light wave signal is converted into a useful neural signal, ultimately making conscious/color vision possible.

## Touch

Hints our systems of touch adopt a center-oriented disposition comes from an article by neurophysiologist Dr. Robert Thatcher who notes individual nerve cells (associated with touch) band together in ever higher levels of "receptive fields" in our arms, legs, and fingers which "wrap around these (skin) surfaces in spiral bands, similar to the sandals of a Roman solider".

Wikimedia.org

## Smell

Smell begins when molecules in the air begin to funnel toward smell receptor neurons in our noses. These neurons are arranged in a center-oriented hierarchal structure, progressively funneling the sensations of the four main types of taste –bitter, sweet, sour, and salty –ultimately into a single experience of smell and taste in our minds.

# Perception – Of Gestalts and Vanishing Points

> *"A closed area appears more formed, more stable, than one which is open and without boundaries."*
>
> *Gyorgy Kepes*

How the mind reconstructs the extreme variability of the outside world into a highly orderly world in our mind is one of the universe's most profound mysteries. In this section, we examine how the mind's primary facilities of perception capitalize on center-oriented processes to perform this feat.

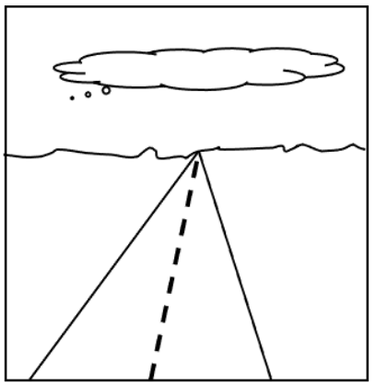
## Seeing the Forest Over the Trees – Whole Building Through Gestalt

The adage "we can't see the forest through the trees" conveys the fact we often miss the big picture because we get lost in the details. And while this is often the condition,

for instance when considering complex issues, it's opposite the case when considering the mind's basic functions of perception. In fact, Gestalt and his pioneering studies demonstrate our mind's perceptive facilities actually "see the forest in spite of the trees."

Gestalt's work describes the mind's automatic function to generate wholes from a collection of separate sensations ("Gestalt Theory." Wikipedia, The Free Encyclopedia. Wikimedia Foundation, Inc. 9 June 2013. Web. 31 July. 2013). This means when we're presented with collections of separate sensations, especially visual, our mind doesn't try to view the individual parts, but instead fits them into a single experience –a tidy and meaningful whole.

For instance, when you view the words on this page, you don't perceive the individual letters but instead the whole words. The same goes for the image at right –when you first view the image, you perceive the overall image of a roadway disappearing into a cloudy landscape, not the separate images of road, horizon, and cloud, much less the individual lines that make them up.

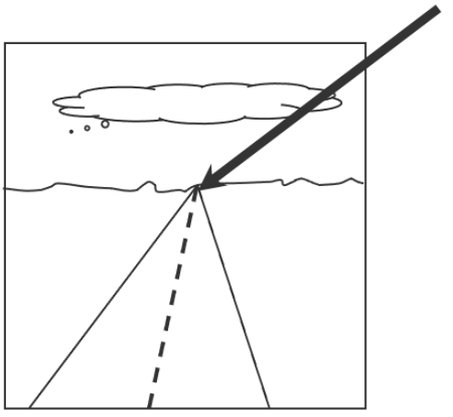


Gestalt's cognitive process, whereby wholes are spontaneously generated from groups of component parts, provides a first clue that our mechanisms of perception seek to place the world in the context of a larger, center-oriented whole patterns (i.e. Centerpatterns). We now only need a center to complete a Centerpath portrait.

## Vanishing Into the Center

The formal technique of portraying depth in a painting, whereby painters trick the viewer into thinking he is seeing three dimensions on a two-dimensional canvas, is less than 600 years old. Known as linear perspective, it capitalizes on our facilities of perception which portray distance objects as converging to a single or vanishing point. In technical terms linear perspective is described as 'how parallel lines and planes appear to meet at an infinitely distant point as they recede away from the observer'.

Artists immediately embraced the aesthetic appeal of the new technique leading viewers to comfortable resting places in the distance. But art's formal recognition of linear perspective just brought landscape and large-scale paintings on par with what portrait and group setting paintings knew for some time –people like a single focal point to rest upon such as eyes in a portrait or leaders in a group. In a real sense, artists always knew our minds fancied single, vanishing points to affix and rest upon.



Modern day photographers also capitalize on the soothing aspect of a single focal or vanishing point in their full range of photographs. For whether in portraits, group shots, landscapes, or cityscapes; most such photo's include a predominate vanishing point or a single predominate feature which our eyes instantly affix to. Take another look at the landscape photo above. Where did your eye first 'go to'? If you can't remember, ask a friend to point to where their eye affixed. Almost without exception, our minds first find the center of a drawing or photo and then move out from there. If one example isn't enough, pick up a 'Best of the Year' photography magazine (such as Life Magazines') with a friend and take turns pointing to where your eye first settled. In nearly all instances, each will choose the same location in the photo.

What does this mean? Our minds are looking for a place to affix itself. So in addition to our minds forming wholes spontaneously as we just saw from Gestalt, our facilities of perception are also seeking out a central point from which to anchor itself.

## A CP Portrait for Perception

Perception = Gestalt Wholes + Centers (i.e. Focal Points)

Of course a Centerpath worldview sees a happy union forged between the whole-generating feature of Gestalt perception with the eye's happiness with focal or vanishing points –quite literally forming a whole wrapped around an anchoring center.

And in fact what other way could it be? How else to spontaneously organize the outside world of extreme variability but through a center-oriented template that simultaneously constructs a 'whole' about a focal 'center' no matter the scale or content of what it encounters.

# Part 3 – Center Seeking Brains

In Part 3, we focus on the center seeking aspects of the mind.

## Magic and Selective Attention

Our minds tend to focus on one thing at a time –i.e. a center. It's why we're able to focus on one voice at a time in a crowded room. Magicians capitalize on this 'limitation' during magic tricks by directing our attention toward one thing while executing the trick outside our then current focus of attention. Tunnel vision (the inextricable feeling we are standing in a tunnel because of a narrow and single focus) describes the same effect.

## The Mind Looks for Center-Like Intensity

Further confirmation of the center-oriented disposition of our perceptive functions comes from the psychological phenomena known as the orienting reflex. Discovered by Pavlov in 1927, the orienting reflex describes our response to novelty. It's our minds preponderance to stop what we're doing and "turn our sensors to the source of stimulation" whenever a novel event occurs such as meeting a person or sudden loud noise. This mechanism "of turning our sensors toward" the stuff of novelty provides a powerful and direct insight to the 'center' orienting response of our minds.

In fact From a Centerpath perspective novelty describes the various manifestations of centers both as new beginnings (meeting someone for instance), center-like intensities and concentrations (such as loud noises), and encountering something unexpected (i.e. a transformation).

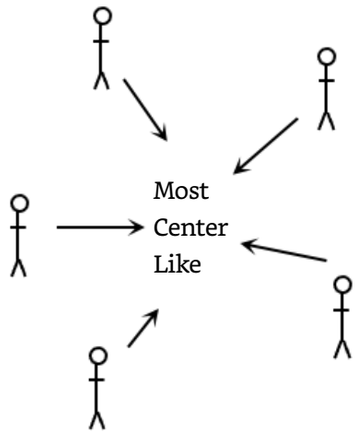
Another indicator our minds seeks out those things with center-like intensity comes from the outstanding or memorable principle, or the unique selling point in the marketing industry. Discovered in the early part of the 20th century through a series of experiments by Dr. Von Restorff, this principle showed that most people tend to remember things, peoples, and places that we consider outstandingly different. (Anderson, Andrea. Scientific American July/August 2011: Volume 22, Number 3. Print).

Another study indicates our minds actually make the objects of our attention look larger than they actually are (relative to other objects). Dubbed 'action specific perception' it describes why successful batters often report the baseball looked huge just before hitting a home run.

## Groups Seek Centers

In crowd situations, we tend to group in Centerpatterns about the biggest, brightest, loudest, or most unusual object. Instead of seeking out each and every face (each face is novel), our minds tend to turn toward the most extreme of the group. It may be the most brightly dressed, largest, most attractive, or loudest –the point being our minds seek out a single person or stimuli with the most extreme and therefore center-like qualities. Even the mundane formation of group of strangers about the event of dishes

falling in a restaurant unwittingly, through our shared orienting response forms a larger Centerpattern about the embarrassed waiter at its center.




Like the orienting response we discussed earlier, our ability to pick centers out of the crowd further highlights our mind's disposition to seek out, and organize about objects with the greatest center-like intensity.

# PART 4 – Sleep and Memory

In Part 4 we examine the center-oriented bias of sleep and memory.

## Basic Cognitive Functions

### Sleep and REM

Each night our minds traverse a roller coaster-like landscape falling in and out of the REM (Rapid Eye Movement) sleep cycle every 90 minutes. From a Centerpath perspective, it's instructive finding how closely this cycle mimics the rhythm of Centerevents complete with an overall center-oriented shape (a well) and a most spectacular transformation at its center.

The cycle proceeds through four, deepening phases of sleep during which our brain's activity progressively slows –like falling down a well. What occurs during the fifth stage of the cycle is quite unexpected. Instead of going into even deeper sleep, at the bottom of the sleep cycle the activity level of our minds instead spikes and our eyes begin to flutter rapidly as sleep transforms into its central REM stage –at the center of the sleep cycle our brain's activity transforms.

Not only that, most psychologists believe short-term memories are transferred to long-term storage during REM sleep –another indication of a transformative occurrence at the center of the cycle.

It's worth noting the duration of the sleep cycle (ninety minutes) also closely approximates the duration of hosts of social events. For instance the typical length of movies, sporting events, and even the effective attention spans of learners is approximately ninety minutes. Just as significantly –each features a climatic outcome at their conclusion just as we find with the grand finale of REM in the sleep cycle. Ninety minutes appears to be a key duration in various processes of the mind.

When combining this notion with the transfer of memories during REM sleep calls

into question the tantalizing possibly that one aim of REM sleep is to attain resolution of life experiences by placing them into neat Centerpattern wholes. This hunch is supported by the recurrent frustration of dreamers in not being able to find someone, obtain a destination, or gain resolution. Does the transfer of short-term memories to long-term memories during REM proceed against a center-oriented mental landscape urging and pushing life's experiences into a neat Centerpath arrangement about core meanings and resolutions?

## Memories

What's the first thing coming to mind when you think of your last vacation? A view from the balcony of your hotel, a quiet sunset, or a walk on the beach? What do you remember from your first year in school? An image of your classroom, your teacher, or your best friend?

Whatever the specific memory, what you likely saw was a single mental image that encapsulated the entire event (in this case an entire vacation and school year). Memories are truly like the mementos we carry home from vacations. They serve to divide whole chunks of experiences and relationships into a single, center-oriented and mostly visual impression. This description is what's also meant by the term "picture perfect memory" (it is in fact the sharpness of mental snapshots that allows a picture perfect memory to recall so much).

## Retrieving Memories

Retrieving a memory capitalizes on the full-cycle, returning to the source processes of the Center Ordering Principle. Consider this –memories originated where our consciousness thought first perceived it (i.e. when we first saw, heard, or thought it –it was created). Later when this same conscious mind sends out a signal to find and retrieve that memory back into our conscious –it is truly exercising the "return all things to their source" rhythm of the universe in a most splendid way. In fact the tension we you feel when we can't recall a memory is a confirmation of this phenomena –it's a buildup of physic energy that won't be released until the memory is returned to its source (and the psychic energy is figuratively 'extinguished').

> Footnote: It's interesting what this says about the nature of the neural signal generated to locate such memories. It's as though our conscious mind sends out a light wave packet of energy whose primary wavelength finds the right major highway to get us in the 'right area'. But packets of energy also include other 'finer' wavelengths which serve to narrow the focus until it finds the target memory, activates it (likely resonates with it), and returns the matching signal to our conscious thought! It harkens millions of tuning forks (i.e. neurons) residing in our minds that once struck by the right frequency, they resonate and send an amplified signal back to the source of the originating ping!

## The Importance of First and Last

*"Always Make a Strong First Impression"*

*Anonymous*

*"Always Leave on Good Terms"*

*Anonymous*

Further evidence memory is structured in a center-oriented design comes from the importance our mind's place on first (and last) impressions. In essence first impressions form the enduring imprint from which all subsequent interactions are shaped. For instance, if the first meeting was positive and pleasant, we will think of them positively and begin subsequent interactions on their right foot.

From a structural perspective we see it's functionally mirrors how a tree grows. By analogy a seedling forms upon the first meeting. This seed is imprinted with an RNA-like source code just like a real seed –the developing tree (i.e. subsequent memories and interactions) will be built into a reflection of the source code.

You can also see how a last impression fits into this arrangement for it acts like the outer most extremity of a growing tree –i.e. its newest growth (a leaf or flower) which in the world of neurologists means it now forms the most current and therefore strongest neural pathway. Hence when a memory is called up, it first passes through the trunk of the tree on the way to it's the last impression only to retrieve it and once again pass through the trunk on its way back to our conscious thought. You can see than how first and last impressions maintain their prominence being naturally in the 'center' of the path of neural signals. So always remember to greet people mindfully if you want to leave a good and lasting impression!

## Associative Memory

Associative memory is the ability of our minds to build extended connections/ relationships between things or experiences due to their similarities or shared proximity in space or time. It's the reason why we recall certain things not necessarily directly associated with the source memory as when a certain song conjures up a certain place or person in our life at the time we first heard the song. It's also why crossword puzzles and the game Pictionary are so universally accessible and popular.

The clustering about a core memory produces a center-oriented structure as highlighted by Tony Buzan's Mind Maps$^{T}$ (Buzan, Tony. Tony Buzan; Inventor of Mind Mapping, 2011. Web. 31 July 2013). Mind Maps$^{T}$ are generated by writing out words associated with a key word. The resulting pattern branches outward in all directions (from the keyword) generating an organic pattern not unlike the shape of neurons which produced it.

The fact Mind Maps™ are used to memory, learning, planning, and creativity demonstrates how center-oriented patterns are used interchangeably across differing areas and functions of the mind.

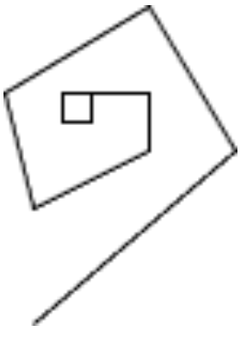
# PART 5 – Emotions and Learning

## Emotional Whirlwinds

What do cravings, fits of impatience, and panic attacks share in common? For that matter what do urges and emotional spirals share in common with suspense, excitement, and even obsessions?

What they all share is a common center-oriented design that serves to organize the urges and uncertainty into orderly patterns instead. Centerevent-like processes complete with an originating trigger (a center) that pushes and pulls things into and about its well of influence until such time as it returns its aim or desire back to and in contact with its originating center.

To further illuminate the process, let's examine how an emotional spiral event unfolds. An emotional spiral usually begins when someone or something grabs our attention with sufficient force to unearth a well of emotion, which becomes the mind's primary object of attention. Whether the spark is a memory, image, smell, song, or insult; each ultimately forms a whirlpool-like well in our minds with the triggering event residing at its bottom. The well's steepness and therefore its power to influence, depends on the relative stakes and the weight of the issue.

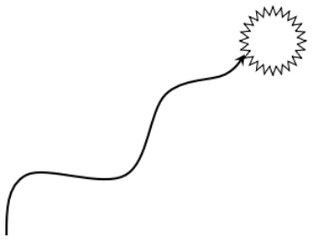


The whirlpool starts to spin. Overtime we fall deeper into the well, it becomes more difficult to escape its tightening grip. We become more focused, irritable, and anxious. In the extreme, we can lose our grounding and perspective, and may even feel physically dizzy or out of control. We fall deeper and just when it feels like we can't take anymore, we hit rock bottom and arrive at the center. Upon arriving comes the necessary transformation –perhaps an apology produces resolution or a good cry leads to calm.

We see the same spiral or whirlpool pattern –intensification followed by release –in other urges as well. Consider the sequence of events leading up to satisfying a simple craving for ice cream. Through a discussion, advertisement, or sudden memory; a center is created in our minds. Having established the craving, our subsequent thoughts, plans, and actions move toward satisfying the craving. We think about ice cream until we are compelled to take action by getting in a car and driving to an ice cream shop to extinguish the urge.

## Learning

B. F. Skinner's groundbreaking behavioral learning theories describe a Centerevent to a tee. The key steps include defining a goal then positively reinforcing each step along the way in the desired direction while ignoring other behavior. Thus a center is created (the goal) of which all other activities are aligned via the behavioral field generated by trainer



## Ah-ha Moments and Centers

The center-oriented bias of learning's structure is further reflected in the epiphany-like learning process known as insight learning theory or cognitive learning. To highlight the use of the mind's natural intuition in learning new things, Wolfgang Kohler conducted a series of problem solving experiments with chimps. For instance, he left bamboo sticks outside their cages and a banana out of reach. Overtime and using trial and error methods, the chimps suddenly had a spontaneous understanding of the situation, and suddenly used the sticks to elongate their reach to the banana. Kohler called this insight otherwise known as the "ah-ha!" phenomenon ("Insight." Wikipedia, The Free Encyclopedia. Wikimedia Foundation, Inc. 12 July 2013. Web. 31 July. 2013).

From http://www.merriam-webster.com/dictionary for epiphany;

3 a (1) : a usually sudden manifestation or perception of the essential nature or meaning of something (2) : an intuitive grasp of reality through something (as an event) usually simple and striking (3) : an illuminating discovery b : a revealing scene or moment

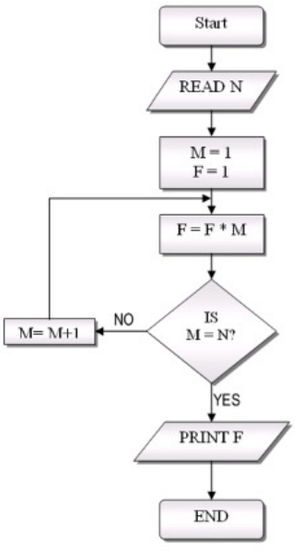
This phenomenon shows us that the mind not only places great importance on obtaining central goals, but also on discovering the essential meaning of tasks –which, in the Centerpath view, translates to uncovering or obtaining a center (which in this case is the realization of a meaningful purpose). Our minds spontaneously recognize the significance of a group of unrelated activities being united by centers of purpose.

# Part 6 – Higher Yet – Complex Cognitive Functions

## Complex Cognitive Functions

### The Pattern of Decisions, Choices, and Problem Solving

Though we tend to segregate problem solving, reasoning, and decision making as separate cognitive functions, each actually shares the same design: a whirlpool like process whereby we whittle down a host of facts, variables, and arguments to a single outcome, conclusion, or choice. In fact the shape of all "processes of elimination" invariably lead to a single outcome which all preceding deliberations head towards –i.e. they generate a common center-oriented design.



Wikimedia.org

A good example of reductionist, decision making comes from the process of choosing a car for example. We usually begin by taking into account a large number of variables –we talk with friends, review magazines, check Internet sources, and contemplate past experiences. After some time, we usually narrow down our choices to a final few candidates. We continue to narrow our focus further by looking at ads, visiting dealerships, and taking test drives, until we arrive at our final decision.

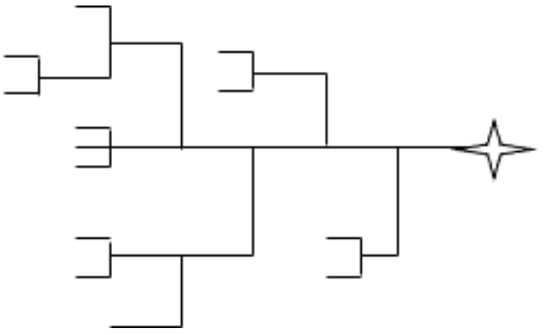
At the same time, this process reflects the Centerevents cycle, with the intensity of the effort and emotion peaking just before the final decision is made. At the moment of decision, the center is obtained. The center-oriented bias of decision making's counterpart –problem solving can be readily gleaned by considering a typical technical troubleshooting guide or mathematical solution such as at right (on the previous page).

### Planning

Our greatest cognitive capability might be planning. In a real sense it allows us to see and make our future. Through its visual representation in the formal practice of scheduling, we can readily glean it's true center-oriented nature.

Scheduling is a highly sophisticated and integral tool of modern project work. It is used to efficiently plan, coordinate, and execute a huge number of activities through the various stages of a project. It's used to organize building airplanes, filming movies, producing an advertising campaign, and going on vacation.

Schedules are driven by milestones. Milestones define the larger objective of groups of activities –they are the point where hosts of activities are flowing. Once a milestone is achieved, it signifies the completion of one phase of a larger set of activities.



From a Centerpath perspective, milestones are centers. They align all the parts (work activities) to them and in the process form a larger center-oriented structure (an arterial branch shape). Because milestones are the idea or objective that spawned the proceeding activities, once the milestone is achieved in a real sense all the proceeding activities have returned to their source.

Once you tie all the various milestones together into larger and larger objectives, a schedule's shape forms a fractal, arterial branching-like structure, with all activities (parts) flowing toward their unifying overall final milestone.

## Creativity

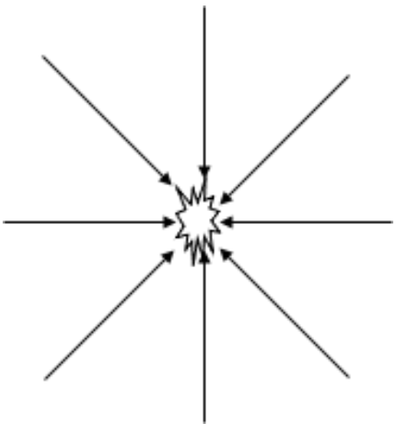
> *"A hummingbird flies forwards, backwards, sideways, or suspends itself like a helicopter as it soars, swoops, and plays all forms of artistic acrobatics in mid-air."*
>
> *Tan Swie Hian*

All the greatest human accomplishments –whether in art, literature, philosophy, science, or math; where accomplished by those with incredibly creative minds. How they're able to accomplish these staggering feats is, as Tan Swie Hian notes; largely because of the artist's ability to freely roam at subjects from any angle. They enjoy the benefit of a full spectrum perspective, allowing more things to flow inward to their object of contemplation. Such a holistic and symmetric center-oriented arrangement also facilitating interconnection of related ideas.

Why most aren't able to achieve this same freedom is, and confoundingly enough, because our minds are structured in relatively rigid center-oriented patterns. As a matter of efficiency (and to increase the likelihood of success) our minds use direct center-oriented pathways (instead of swirling types we just discussed) to get what they want. Let me explain.

As we've seen, our minds are task-oriented, center-oriented, devices. We move efficiently and directly towards objectives of our desire in a linear fashion (i.e. directly 'at' the object we are pursuing as depicted at right). This aids us to efficiently and more quickly secure the things we want and need to survive.

Creative types are not bound by this –they instead rotate around a subject from any angle, as the diagram at right implies. For instance while most of us would say the answer to "What is half of 11?" is 5.5 (i.e. a direct solution), creative minds are able to break through our mind's natural center-oriented nature, might answer 1 and 1 (1  1), three (half of eleven's six letters), or even X and I (half of the Roman numeral XI).



## All the Mind's a Center-Oriented Pattern

Consider the following activities –storytelling, egocentric behavior, the allure of betting, tunnel vision, obsessions, the thrill of watching sporting events, and our goal- and task-oriented disposition. Are they related?

The answer is yes –through the common center-oriented structure they share. A structure guaranteed by the common center-oriented cognitive structures underlying them. Storytelling revolves around a central climax. Tasks organize a larger group of activities about a central goal. Sporting events draw us to single, climatic outcomes. Egocentric behavior is driven by our desire to be the center of attention. Betting relies on powerful motivations leading us to believe our next bet will be the one transforming us into being rich. Tunnel vision aligns us toward a central focal point. And obsessions are the pursuit of a single idea, object, or desire around which all thoughts, words, and actions are aligned and focused.

## The Ultimate Archetype

From the numerous examples in the preceding discussions, we have real reason to suspect our minds possess a common center-oriented archetype. In fact a core observation of the father of archetypical thinking (Carl Jung) was his patients spontaneously generated Mandala-like drawings during therapy (of course Mandalas form center-oriented patterns with an anchoring center to which the remainder of the pattern aligns).

The fact we tend to place our lives in center-oriented contexts supports this notion. Children begin with an ingrained "center of the universe" complex in which they place themselves at the center of all existence (in their minds at least). Later in life we become centers of a family. We also find ourselves increasingly attracted to a central calling in life and finding our destiny. Many want to be the boss whether it be at the office or at home. This general archetype also drives us toward positioning ourselves as being the best or winner (i.e. the center) in nearly everything we undertake whether it be sports, arguments, social status, careers, or relationships.

# PART 7 – Identity

At all levels of our minds, from the physical structure of basic neurons to perception to higher cognitive functions such as problem solving, planning, and learning, we see distinct center-oriented patterns. Is it any wonder to find that identity and beliefs are formed in the same pattern?

## Space Control

In the mid-1950's, anthropologist E. T. Hall developed a concept how people unconsciously structure the distance between them during daily activity. Hall defined and measured four interpersonal zones: intimate (0 to 18 inches), personal (18 inches to 4 feet), social (4 feet to 12 feet), and public (12 feet and beyond) ("Personal Space." Wikipedia, The Free Encyclopedia. Wikimedia Foundation, Inc. 19 July 2013. Web. 31 July. 2013).

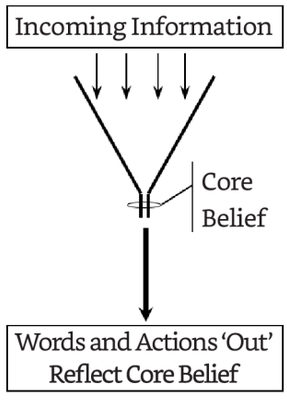
Essentially, we each produce a ring of circles around ourselves; the radius of these circles, our personal space, varies in accordance with those surrounding us. Our minds subconsciously generate a Centerpattern with us at its center, others acting as the "parts" and the overall environment created as the "whole."

This concentric ring-like shape extends into other arrangements in our lives –like how children have a "center of the universe" complex, and adults talk about their "circle of influence."

## Beliefs

Beliefs are fundamental to defining who we are. They form the basis for how we perceive and project ourselves. They also provide us with most of the opinions we hold.

But for all their significance, there's little agreement in the scientific community as to how our minds hold and express beliefs; some say beliefs are represented in the mind as sentence-like constructs, while others argue there is no consistent or coherent mental representation that underlies our common use of belief concepts.




Yet from a Centerpath perspective we can state something sure about beliefs –they form a center-oriented configuration. Think about it. Beliefs form a center-oriented funnel, focusing stimuli and information to the most powerful center of belief, where it's transformed to align with that belief.

We see this mechanism at work for example when considering what it means to be a member of a political party. A member of the Republican party will speak and act in ways which reflect the beliefs of their affiliated party; the same is true for Democrats, Libertarians, or any other political party. Thus, different members of the same political party, who share the same core belief, will reflect that core belief. The same is true with tastes in food or music, religion, ethnic or national identity, and scientific beliefs.

## Personalities, Associations, and Career

Like beliefs; our personalities, associations, and careers reflect a center-oriented disposition about a core theme. In fact every time we 'dress the part', we form a large whole by wrapping up a host of parts (i.e. clothing, hairstyle, style/fashion, vehicle type, and demeanor) about the then dominate theme of who we are.

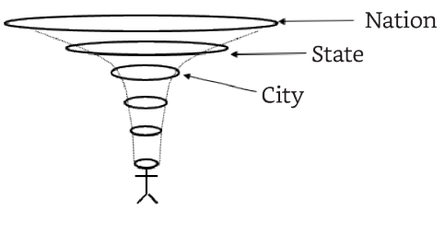
## Where We Come From

What's the first thing strangers ask each other when they meet on a plane? Nine out of 10 times the question invariably is, "where're you from?"

It's not coincidental. Where we're from speaks volumes to who we are, giving others immediate clues to our style, status, disposition, general income, beliefs, and political stance.

The profound importance of where we come from has been documented well in "place attachment" theory:

> "…the emotional connection formed by an individual to a physical location due to the meaning given to the site as a function of its role as a setting for experience. A range of thoughts, beliefs, attitudes, and behavior as well as feelings are evoked through attachment to place. Thus, place attachment involves an elaborate interplay of emotion, cognition, and behavior in reference to place. (Ponzetti, James. Journal of Rural Community Psychology. Spring 2003. Volume E6, Number 1. Electronic)."




Not only does where we're from help us form a larger coherent whole around the center of "who we are," it also raises the question of how the mind internally organizes the various hierarchical scales of where we're from such as neighborhoods, townships, cities, counties, states, regions, and nations. It is easy to visualize this as a concentric, center-oriented, whirlpool pattern with oneself residing at the bottom of the well.

# PART 8 – Possibilities

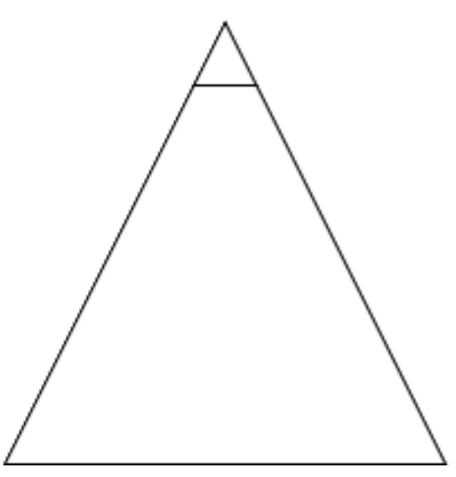
## Consciousness

To this day scientists, psychiatrists, and neurobiologists openly admit they're fundamentally no closer to solving the consciousness puzzle than Descartes' mind versus matter arguments hundreds of years ago.

And the disparity is staggering. Not only don't we have a clear understanding of how consciousness functions, we don't even know where it resides. It's true –the wonderfully coherent thought in the middle of your mind doesn't even appear on the radar screen when scientists subject our minds to powerful MRI and PET scans!

From a Centerpath perspective, this is intriguing but not concerning. Consciousness is one of the most highly sophisticated devices in the universe –but like its component neurons, central nervous system, and all the other center-oriented mechanisms whirling about in our heads, it is also center-oriented. Consciousness likely resides in a single, efficient convergence zone where myriad signals could merge and from which specific requests and instructions might be seamlessly issued.

The first clue indicating consciousness rests at the center of the mind comes from the transformative message conveyed by Descartes' longstanding mind versus matter debate. The idea of a non-physical mind arising from the physical brain speaks of the transformative property of centers, whereby a distinctly different and more organized entity spontaneously emerges at the heart of Centerpatterns. One tantalizing possibility related to this transformative effect is that consciousness could transform into another, yet-to-be-detected dimension, for instance from the 'void' from where anti-matter emerges.



We find additional evidence of a Centerpattern arrangement when considering the relationship between our conscious and subconscious minds, with our conscious mind sitting atop a massive subconscious that operates just beneath the surface of our accessible conscious thought. The Center Ordering Principle's alignment shows us how urges, impulses, desires, and information flow "inward" from the subconscious mind to the conscious mind. Even the idea of a barrier –a Centerpattern wall –between the subconscious and conscious comes to mind when we consider that not only can the conscious mind not access the subconscious mind directly, but only those subconscious thoughts with sufficient energy are able to breach the wall surrounding our mind to become conscious thought!

Once we fully utilize the Center Ordering Principle's concept of "alignment" in the search for consciousness, we find strong clues to consciousness' elusive location.

Sandwiched between the lower “reptilian” brain and our advanced cerebral cortex resides the limbic system, known as the midbrain. At the heart of this group of very important mental and emotional components, we find the thalamus. Its central location is the crossroad where all senses converge. Does consciousness reside at or near the thalamus?

The seeming necessity for consciousness to reside at a central location to effectively and efficiently operate is accentuated by what’s known in neurology as the Binding Problem. The Binding Problem describes the mind’s ability to produce an orderly and unified experience from what is a myriad of signals of varying quality and context (“Binding Problem.” Wikipedia, The Free Encyclopedia. Wikimedia Foundation, Inc. 24 July 2013. Web. 31 July. 2013). Thus, the simple act of viewing a flower isn’t so simple after all –your mind has to reproduce and combine all the attributes of the flower including form, shading, color, texture, and three-dimensional perspective! Such a phenomenon could only be possible if it occurs in a very closed-in volume of space where such signals naturally converge –which is given this opportunity at the thalamus.

Equally important, the thalamus is also the “switching” location where many lower-level processing centers are routed and connected to higher cognitive functions in the cerebral cortex –another indication of its central and connecting role in the mind. Finally, it’s where the two dualistic halves of the mind converge, providing yet another indication the thalamus is a key center of the mind –if not even the location where consciousness resides.

# Addendum to
# The Centerpath Papers

# The Laws of Creation

By Jin Nua

January 2021

# The Laws of Creation

This free paper is linked to Centerpath and Centerlife's various papers, publications, and websites.

The Laws of Creation include the following three papers.

- The Law of Creation (The Center Ordering Principle)
- The Law of Harmony
- The Law of Love

Please visit **www.centerlife.center** for more details.

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# The Law of Creation
# (The Center Ordering Principle)

*"The visible world is born of the invisible;*
*The world of forms is born of the formless*
*...How it comes into existence, is sustained and once again dissolved is a mystery. It is fathomless like the sea."*

*Lao Tzu*

# The Law of Creation

The universe's steadfast drive to produce orderly designs is a result of a great creative process rooted in originating and domineering centers.

> In a Nutshell
> "Nature generates orderly creations through a universally acting, creative process rooted in organizing centers."

All of nature's powerhouses—atoms, cells, societies, hurricanes, rivers, colonies of ants, solar systems, galaxies, the entire universe, etc.; each and all find themselves wonderfully organized about a controlling central object. Consider the following.

- Electrons organize about nucleons.
- Metabolic activities swirl around a cell's core DNA.
- Societies rally about common, central symbols, rituals, and institutions.
- Hurricanes rotate about a low-pressure eye.
- Rivers feed to a single mouth.
- Ants order themselves about a queen.
- Planets revolve about an anchoring star.
- Galaxies circulate about massive black holes.
- The entire universe started at the big bang.

To raise her copiously streaming order, nature employees a simple yet ingenious center-oriented process. The process includes three main steps summarized as follows (see the Jun Nua's Centerpath Papers or visit Jin's site at this link for more details).

1. A seedling-like center spontaneously forms.
2. The center emits a field that shapes its surroundings into a halo-like geometry.
3. The field interacts with items of like makeup in their surroundings, causing them to align  toward, gather about, coalesce, move toward, and form about the originating center.

The ultimate outcome of the process is to form a center-oriented, halo shaped geometry about the originating center. It is little surprise than that the universe is brimming with spheres, spirals, radials, ellipses, clusters, and branching forms—each's center-configured shape reflects the underlying center-oriented process driving it into being.

The Law of Creation (also referred to as the Centering Ordering Principle) is than defined as:

> *The universe's preponderance to spontaneously form Centers which, in conjunction with the fields emanating from their surface, are endowed with the capability to organize a host of parts in their surroundings into larger, center-oriented whole creations.*

# The Law of Harmony

*"The famous balance of nature is the most extraordinary of all cybernetic systems. Left to itself, it is always self-regulated."*

*Joseph Wood Krutch*

*"The divine is there for all of us to see, reflected in the world's beauty, like clouds in the stillness of a lake."*

*Jonathan Borges*

# Introduction to The Law of Harmony

Nature's thriving beauty and balance do not occur by chance—they happen for a reason—and it's because a harmony generating design is built into her very DNA. Incredibly, the very same center-oriented process raising the universe's many orderly creations we just examined (see The Law of Creation) is also responsible for generating the harmony we see streaming throughout the universe.

In a Nutshell
"The universe's creative process spontaneously generates the qualities of symmetry, beauty, balance, holism, and collaboration."

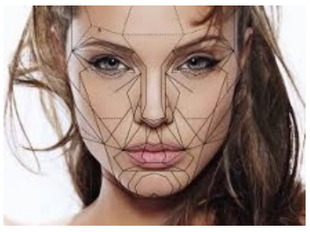
Nature's flourishing beauty and equilibrium are not by chance; they happen for a reason, and it's because a harmony-generating design is built into her DNA.

Nature raises her wonderful spectacle of accord through the very structural and geometric interrelationships generated by nature's Law of Creation. The results of which spontaneously raise the beneficial qualities of symmetry, beauty, balance, holism, and collaboration (and ultimately love as we explore in the Law of Love below).

# Halos = Perfection and Holiness

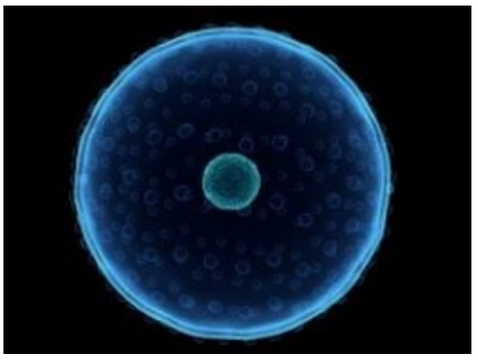
The quickest means to first visualize how centers spontaneously generate beneficial qualities is considering the historical and spiritual significance of halos and spheres. For instance, spheres have long been recognized as the universe's ideal form due to their flawlessness, beauty, and perfection. Of course, these qualities lend themselves to the notions of perfection—a necessary quality to even begin being considered holy, thus the use of halos in the art of mysticism and religion throughout time.

# Centers, Symmetry, and Beauty



Artists have long recognized the inherent beauty of spherical shapes, and science has caught up to this fact. Psychologists have found that people considered the most beautiful are those with the most symmetric face. Beauty is indeed synonymous with symmetry and spherical shapes are their most idealized form.

# Centers Generate Holism



The three-hundred-and-sixty-degree symmetry generated by center-oriented designs also imparts the qualities of balance and holism to nature's creations. In fact, through the natural equilibrium generated by center-oriented designs; nature finds the organizational compactness, and stability it requires for its creations to sustain and endure themselves.

It's no wonder the primary forms of the universe are spheres, spirals, radials, clusters, and branching systems. Their center-oriented configuration provides the firm foundation from which nature's steadfast creations of atoms, cells, solar systems, galaxies, and societies can survive and, indeed, thrive as they do.

Speaking to the conducive effects of symmetry and its contribution to holistic systems, Daniel Amen has amassed the largest SPECT brain imaging database related to behavior (for reference, SPECT is a nuclear medicine study that looks at the blood flow and activity, it looks at how your brain works). His findings show "that healthy brain scans show full, even, and symmetrical activity. The colors of the scans are not important, it's the shape that matters."

# Centers Generate Holism

Center-oriented dynamics also generate collaborative-type relationships. Through the simple act of bringing together sets of disassociated 'parts' about a common point, centers naturally cause things to join in larger, cooperative arrangements about a common point and/or purpose. Replace the phrase 'common center' with the words meaning, belief, or symbol and one can see the very bedrocks from which something like a ritual or a society could emerge.

We see this mechanism directly at work in our lives as well. For instance, it's no surprise we enjoy working towards positive, common goals whether at home or in the office. It is because we intuitively recognize such collaborative type practices build stronger and more enduring relationships.

## The Law of Harmony

The Law of Harmony is than defined as:

> *The universe's preponderance to spontaneously generate the beneficial qualities of symmetry, beauty, balance, holism, and collaboration as a result of the geometric and structural interrelationships produced by nature's center-oriented creative process (the Law of Creation).*

# The Law of Love

*"Listen to me when I say that love isn't something we invented, it's observable and powerful, it has to mean something...maybe it means something more, something we can't yet understand. Maybe it's some evidence, some artifact of a higher dimension that we can't consciously perceive. Love is the one thing we're capable of perceiving that transcends dimensions of time and space."*

*Dr. Brand, Interstellar*

# The Binding Power of Love

Like their counterparts in nature, pure and strong centers at the core of human lives generate similarly well-formed, symmetric, and balanced relationships. These type of centers span a host of human qualities including truth, virtue, kindness, compassion, fairness, peacefulness, and love.

In a Nutshell
"The Law of Love describes how pure centers and hearts naturally raise larger symmetric, balanced, and beneficial relationships in human lives."

Of all however, it is love's intrinsic purity that forms the most powerful and meaningful human characteristic trait of all. In fact, as the driving force guiding us to pursue the higher order manifestations of human expressions, love encompasses all others. For instance, it is love that motivates us to be thoughtful, empathetic, accepting, honest, supportive, and act selflessly—i.e., it is love that compels us to be truthful, virtuous, kind, compassionate, fair, and at peace.

Prior to articulating the Law of Love, we will first examine several examples of how pure centers generate symmetric and balanced relationships in human lives to acclimate ourselves to this astonishing set of ideas.

# Symmetry in Human Lives (Generated by Pure Centers)

Besides intuitively recognizing that pure centers generate positive and lasting outcomes in human lives, we find tangible evidence of this phenomena by examining the form of the fields radiating from a range of pure-like and constructive human centers.

**A Silenced Mind = A Symmetric Mind**
We start by examining the structure of the fields surrounding the minds of sages and monks in deep states of meditation. Throughout the millennia sages and monks have described deep meditation as reuniting with, and emanating from a pure and powerful presence at the core of our being. Similar to their counterparts in nature, we should than expect to find an even symmetry formed about this pure-like cognitive center. Let's take a closer look.

A silenced mind in deep meditation doesn't apply prejudice or preconceived notions to what is being observing or considered—it just experiences. All stimuli flows inward freely and in straight lines having not been redirected, altered, or rerouted by a busy and judgmental mind. An even, undistorted symmetry emerges.

In addition, those who have achieved a silenced mind have described the experience as being fully in the here and now. By not worrying about the future or fretting over the past, what emerges is a near perfect geometry with the past and the future balanced about, and flowing evenly across the 'now' center of their experience.

In essence the smooth and undistorted lines of information flowing undisturbed inward and outwardly about a silent mental core forms a symmetric set of interrelationships about it.

Finding evidence of symmetry about a silenced mind also lends credence to sages and monks when they describe the core of being as pure and powerful. Do such high degrees of purity, energy, and symmetry explain why sages and monks attain amplified levels of clarity, insight, holistic thinking, creativity, and bliss?

**Generating Well-Being at the Mouth of the River – The Vagus Nerve**

The preceding results find an interesting parallel in science. In an interview in Scientific America, scientists led by Dacher Keltner, director of the Social Interaction Laboratory at the University of California, Berkeley "have found the vagus nerve, a bundle of nerves that originates in the top of the spinal cord, that when active, is likely to produce feelings of warm expansion in the chest—for example, when we are moved by someone's goodness or when we appreciate a beautiful piece of music. Very new science suggests that it may also be closely connected to receptor networks for oxytocin, a neurotransmitter involved in trust and maternal bonding." Thus, located at the center of our nervous system (i.e., where the brain and spinal cord meet), is a bundle of nerves generating larger sets of feelings associated with beauty, wellbeing, and love!

**A Proportionate Family**

Interestingly these same set of principles apply to classic family structure. For just like a star and spider forming symmetric creations about them (i.e., a symmetric solar system and bug filled web formed by gravitational and web fields emanating from each center respectively), a mother's incredible organizing skills about and toward the child, forms a stunning and highly meaningful symmetric formation.

In this instance the child forms the center, the mother-figure constitutes the field (i.e., she or he defines the agenda which is tightly aligned to the needs of the child), and the father-figure completes the larger structure through the act of bringing resources back to the home.

thoughts, actions, and resources aren't aligned to the needs of the family. Mothers naturally recognize this condition and will challenge activities that do not directly contribute to the care of the child.

In essence she will redirect any thoughts and actions that are not pointing inward and toward the child. The reigning female principle of love than engenders a geometry aligned to and about the child ensuring that the child, the family, and ultimately the species are healthy, robust, and persevere.

**Truth, Justice, and the Symmetric Way**

It's easy to see how the purity of truthfulness and honesty at the core of interactions, generates evenly flowing and symmetric relationships. Take for instance with people are not being truthful. In essence through creating distortions, they break apart the evenly flowing lines of communication and thought that trust engenders. Who hasn't told a lie and felt the effects of this break in symmetry firsthand? When people lose trust in another, they become defensive, put up walls, and reroute future behaviors through the filters created by the offending event. All such effects serving to reroute and distort the flow of experience between two persons.

However, when individuals are truthful to one another, they interact without holding back or restraint. They create pure and evenly flowing lines of interaction and experience. Is the word 'trust' just a way of describing the direct and evenly flowing symmetry emanating from the pure centers of truthfulness and honesty?

The powerful organizing effects of truth and virtue can be gleaned at yet another scale of human association when considering the 'structure' of how people adhere to religious and spiritual traditions. In this instance, the virtue emanating from pure, principled, and truthful ideologies often proves irresistible to the masses and in this case, leading them to completely align their thoughts and actions with their devotion. Of course, such a deep and aligned dedication perfectly describes an evenly flowing symmetry about a pure and powerful center.

**A Symmetric Populace**

> *"Governing a large country is like frying a small fish. You spoil it with too much poking. Center your country in the Tao and evil will have no power. Not that it isn't there, but you'll be able to step out of its way. Give evil nothing to oppose and it will disappear by itself."*
>
> *Lao Zhu*

As an extension of the previous section, you can also see this mechanism directly at work in the relationship between leaders and the populace. When leaders are corrupt and unprincipled, the masses are similarly misaligned, adversarial, and counterproductive—i.e., they do not believe in, and therefore do not ally to a non-virtuous core. However, if leaders place the guiding principles of truth, fairness, and balance at the core of a society, its inhabitants will gladly align their thoughts, intentions, and commitments. They will act in harmony being happily united to the same well-intentioned goals at their society's center. Society will naturally flourish accordingly.

## The Law of Love

Now that we have acclimated ourselves to how pure-like centers naturally form larger, symmetric relationships in our lives, we are now prepared to formulate a theorem for the symmetry-forging power of love.

Consider for a moment the geometry created by unconditional love. When one accepts another without expectation or attempting to change them, signals flow between the two in direct lines not having been rerouted through criticism, calculatedness, or by extracting demands. But through supportive affirmations and body language via listening, patience, encouragement, trust, and accepting that true love engenders; we produce sets of direct and undistorted flows of information and connectivity.

Reinforced by the pure-like qualities of truth, virtue, kindness, compassion, fairness, and peacefulness which love stimulates; a pure heart filled with love forms a larger, similarly arranged, highly meaningful, and symmetrically arranged life about oneself filled with evermore symmetry, beauty, balance, holism, and collaboration.

Love as an immensely pure and powerful center providing what might be the most stunning example of the universe's steadfast drive to forge perfectly arranged, beneficial, symmetric, halo-like forms.

## The Law of Love

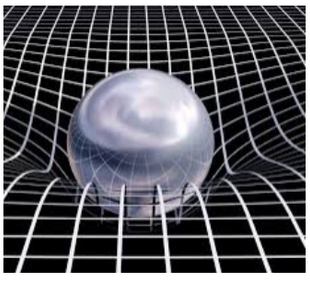
The Law of Love is than defined as:

> *The Law of Love identifies love as the ultimate expression of purity in the realm of human experience. And just like the effects of pure centers in nature, the purity of love at the core of human relations produces symmetric, balanced, holistic, collaborative, mutually beneficial, and enduring relationships in human endeavors.*

Friendships, families, corporations, and nations could all benefit from the favorable outcomes pure centers promote. By placing the qualities of integrity, truth, fairness, and love at the core of their principles and mission statements; all such groupings will naturally reap the benefits of symmetric, balanced, holistic, and collaborative relationships that pure centers engender.

# Appendix A - Why Symmetry?

How the universe generates symmetric relationships is through generating centers that are relatively pure and absent of imperfection. In nature, this is largely achieved by ensuring that the starting places of her creations are as homogeneously formed and evenly distributed as possible which, through the correspondingly fields radiating evenly from them, largely guarantees an evenness and balance to the larger wholes forming about them. Much more than their less impure counterparts which would have uneven and non-symmetric fields surrounding them, the wholes generated from pure centers are broader, fuller, and more well-formed.

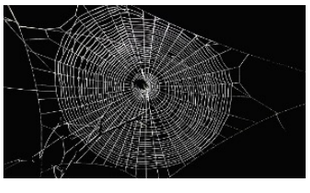


In essence, the evenly radiating fields from centers shape their surroundings into a well-like shape akin to a bowling ball sitting on a trampoline.

While providing a readymade visual depiction of how fields shape their surroundings, the 2D trampoline analogy oversimplifies the actual 3D reality. In fact, when the trampoline analogy is applied to its true representation in the 3D world in which we live, the outcome is a full circle, halo-like form as depicted in the next image.

Fields than interact with things in their surroundings, causing them to align inward, affix to, and congeal about their originating center. In the end forming a halo-shaped creation that mimics the halo-shaped, often invisible field underlying it.

You can readily visualize the underlying configuration of fields, and how they structure the 'creation' forming about them, via the following image. Here a magnet's field is exposed by the metal filings positioned about the central magnet.



A spider web forms a field around its center (the spider).
The bugs sticking to the web form the larger, extended creation.

Halo forms are also readily visible in the heavens. For instance, planets and suns form spherical halos around the gravitational centers at their core. Halos can also be seen in globular cluster formations as well as the shape of invisible dark matter that encircles galaxies.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