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The Broken Chain
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1. Introduction

With the advent of modern science, the spiritual side of the premodern paradigm was cast aside. The cosmology of the great chain of being, our heritage of 5000 years from the ancient Egyptians and Greeks, was broken. The main advantage of the great chain is its vision of the interconnection of all things in the universe, and the intelligence manifest in the evolution and animation of all beings on the great stage of life. Cosmic harmony in the conscious experience of the cosmic movie is derived from this higher intelligence. The spiritual side of all premodern philosophic and religious traditions concurred in this vision.

From the seventeenth century to the present, the intelligence of the cosmic play has been relegated to the physical force fields -- electric and magnetic, gravitational, and more recently nuclear, which are all mathematical fictions -- together with their mathematical models such as Newton's law of motion. This is the *materialist* world view.

Today, as the modern view gives way to a new paradigm of *interspirituality*, the common spiritual aspect of all world traditions, many of us would like to recover what was lost, in some form. In this article I will propose a theory, in brief outline, for the demise of the world soul in the seventeenth century, in hopes that it may strengthen the interspiritual movement currently underway, and show the way back to an integral view of the world, a restored great chain of being. Our story focuses on one day in 1605, when Kepler corrected the manuscript for his book, *Astronomia Nova*, changing the word "soul" to the word "force".

In his classic study of the Italian Renaissance of 1860, the Swiss historian Jakob Christoph Burckhardt (1818-1897) introduced the notion of cultural plateaus punctuated by catastrophic shifts in the context of European cultural history.

A sociological model for these shifts was described by Polish physician and philosopher of science Ludwik Fleck (1896-1961) in 1935. He analyzed the beginning of the biological theory of disease in terms of the social dynamics of a community of medical scientists. Fleck's ideas on thought-collectives, thought-styles or paradigms, and paradigm shifts, have been popularized by Thomas Kuhn, in his classic on the sociology of science of 1962. In Kuhn's model, a paradigm is stable for a time, and as paradoxes accumulate (scientific observations in conflict with the paradigm) a tipping point is reached, and the old paradigm gives way to a new one. Fleck was careful to point out that certain ideas, foreign to a thought-style, may actually be invisible to the members of a thought-collective.

From the mathematical theories of chaos and complexity I have adopted the metaphor of bifurcation for these major cultural shifts. In 1994, in my book, *Chaos, Gaia, Eros*, I parsed world cultural history into three large chunks, the epochs of Chaos, Gaia, and Eros, demarcated by bifurcations of agriculture, the wheel, and our current chaos revolution. At the present moment we are grinding in the gears of a major shift.

Here I propose to return to the original context of Burckhardt's thesis, the Italian Renaissance, to analyze in some detail the replacement of the Neoplatonic cosmology of the World Soul by the modern cosmology of physical forces, around the year 1600. I will begin with thumbnail sketches of the relevant parts of the premodern and modern paradigms.

We will be concerned primarily with two conflicting threads of Western philosophy before the Renaissance. These are the parallel traditions of Plato and of Aristotle. The Neoplatonic cosmology was summarized in the early fifth century by Macrobius, an early Christian Neoplatonist, as follows.

> Since, from the Supreme God Mind arises, and from Mind, Soul, and since this in turn creates all subsequent things and fills them all with life, and since this single radiance illumines all and is reflected in each, as a single face might be reflected in many mirrors placed in a series; and since all things follow in continuous succession, degenerating in sequence to the very bottom of the series, the attentive observer will discover a

> connection of parts, from the Supreme God down to the last dregs of things, mutually linked together and without a break. And this is Homer's golden chain, which God, he says, bade hang down from heaven to earth.

According to American historian of ideas Arthur Lovejoy, this passage is one of the chief vehicles for transmission of the wisdom tradition from the ancient Greek to the Latin Middle Ages. Of course, the Good of Plato became the One of Plotinus, and then, the God of Macrobius, and of Christianity.

From the perspective of the year 1600, the Platonic cosmology was known in the form evolved by the Christian Neoplatonist Marsilio Ficino in mid 15th century Florence. Its chief features were:

* the One, or God,
* the Intellectual Sphere, or Mind
* the World Soul,
* the Spirit, and
* Nature.

The many kinds of angels were aspects of the world soul, as were the individual souls of all living things, rocks, planets, etc. Note that Ficino has placed Spirit between the Soul and Nature. This is a field of emanation, facilitating the interconnect between Soul and Nature. For an individual human, it intermediates between the individual soul and the body. For Kepler, the Neoplatonic cosmology was compressed into the Christian Trinity visualized as a three-dimensional ball: God at the center, Christ at the bounding sphere, and the Holy Spirit in between. The world soul and the souls of the planets played crucial roles in Kepler's astronomy.

Aristotle's writings were canonized during the Middle Ages, while Plato's were lost in temporary oblivion. Thus by the time of Kepler's birth in 1571, we had the following dogmas carved in stone (among others):

* celestial matter moves in circles
* the planetary orbs are hard or soft physical shells
* there is nothing but God outside the celestial sphere
* everything outside the lunar sphere is changeless

In the Western mind (by now global) the entire Neoplatonic cosmology of Ficino has vanished, save God and Nature, leaving a rent in the fabric of the cosmos. The Great Chain of Being was broken.

2. Cracks in the cosmic egg

We are going to describe the preparation for the big shift in terms of a few smaller ones.

One aspect of paradigm is dogmatic blindness. In this section we present a stellar example.

Recently I heard on the radio that when Christopher Columbus came to the Caribbean on his first voyage in 1492, at his first landing in the Bahamas, the natives could not see his ships because large sailing ships did not exist in their reality. The way I first heard this story, it was Captain Cook's first landing at the Hawaiian Islands, in 1778. The popularity of these myths shows the appeal of an idea with merit, true or not. But here is a version that we may fully document.

Cassiopeia is a constellation of stars in the north polar region of our galaxy, the Milky Way. Shaped like the letter M or W, it is one of the oldest and popularly best known figures in the sky. Hipparchus, who cataloged 1022 stars, listed 68 stars in Cassiopeia. That was the situation until 1572, when Tycho Brahe saw a new star, or nova, appear in Cassiopeia. Then there were 69. Shortly after this, Kepler observed a nova in the tail of the Serpent constellation, and another in Cygnus. Suddenly there were new stars everywhere. New stars, that appear irregularly throughout all times, suddenly became visible. Perhaps, astronomers and lay people were blinded, like the natives that could not see a large sailing ship, by their faith in the theory of Aristotle that the heavens where changeless.

Modern astronomers have learned that a nova is a burst of light from the explosion of an existing star. There are two sorts of novas: ordinary novas (mild stellar explosions), and supernovas (cataclysmic stellar explosions). An ordinary nova is seen as an increase of brightness by a factor of 50,000 or more in just a few days. The peak lasts just a few hours, then gradually fades over a period of four or five months. There are about 100 novas per year in the Milky Way. A supernova is about 100,000 time brighter than a nova. The brightness develops rapidly, and declines little over a period of several weeks. Only six are known to have occurred in recorded history in the Milky Way. Comets are also a sort of new star, but very badly behaved. Aristotle believed they were in the Earth's

atmosphere.

Table 1 shows the well established supernova events of the Milky Way in two categories: those observed in Europe, and those observed in the East.

TABLE 1. Observed Super Novas

Year,	Europe,	Asia	
369,	--	x	
386,	--	x	
393,	--	x	
1006,	--	x	
1054,	--	x	
1181,	--	x	
1572,	x	x	Tycho
1604,	x	x	Kepler

Six brilliant new stars, visible from everywhere in the Northern Hemisphere from the year one up until 1200 CE. Score: Asia, 6; Europe, 0. We have to conclude that the astronomers of medieval Europe were effectively blinded by their faith in Aristotelean dogma.

We can understand that the dogma of Aristotle blinded the astronomers of the European Middle Ages. But what we need to understand is this: how did it come about that finally a European astronomer, Tycho Brahe, was able to see a super nova in 1572? The paradigm shift model of Ludwik Fleck and Thomas Kuhn proposes a gradual weakening of the grip of a paradigm as paradoxes accumulate. In the mathematical theory of bifurcation, this is but one type of bifurcation, called a subtle bifurcation. (Abraham, 2005) The other two categories of bifurcation are called explosions and catastrophes. The event of 1572 seems to fit better the catastrophic model. Even though no paradoxes (new stars) were observed in the European Middle Ages, the hold of Aristotelean dogma on the Western Mind weakened during the Renaissance.

In my view there were three crucial factors. First was the reintroduction of

the Neoplatonic corpus by Ficino in 1482 in Florence, restoring the classical balance of Platonic and Aristotelean ideas.

Second was the development of a new paradigm in the field of medical science, associated with Paracelsus' use of metallic medicines, around 1520 or so. In addition, Paracelsus rejected the classical medicine of Galen.

And third, of course, the Copernican model of the solar system, published in 1543. Although this publication did not immediately precipitate a catastrophic bifurcation, we may regard it as an exemplary subtle bifurcation. The associated gradual paradigm shift became apparent later, after the works of Kepler and Galileo.

So Tycho was able not only to see the new star, but also, because of his revolutionary observational instruments and skill, to establish that it was outside the lunar orb. Tycho believed the new star was really new, that is, formed by the condensation of matter from the Milky Way.

All three were paradigm shifts, or bifurcations. But Aristotle's dogma was finally broken by the publication of Tycho's book, *De Stella Nova*, in 1573: Crack #1.

3. The epiphanies of Kepler

In the preceding section, we have seen that the paradigm shift of Tycho Brahe, in observing the new star of 1572, was prepared by earlier shifts associated with Ficino, Paracelsus, and Copernicus. The larger paradigm shift of Johann Kepler, in turn, was prepared by the shifts of Tycho, Bruno, and Gilbert. We are going to tell the story of Kepler's shift by following a sequence of four epiphanies in Kepler's life.

3.1 The Great Comet of 1577, Kepler's first epiphany

Kepler was born December 27, 1571, in Weil, a small town southwest of Stuttgart. At the time of the new star of 1572, seen in the late autumn, Kepler had not yet celebrated his first birthday. However, a huge comet spread its tail over the skies of Europe from November 1577 to January 1578. Around Kepler's sixth birthday, his mother, Katharina, took him by the hand to the top of a hill outside of Leonberg to see this fabulous

spectacle. Kepler retained a pleasant memory of this special moment.

FIGURE 1, The Great Comet (Conner, 2004; p. 22)

Aristotle, in his *Meteorologico* of 350 BCE, opined that comets and meteors were atmospheric phenomena, and thus within the corruptible sublunary world. But Tycho was able to measure the parallax of the comet of 1577, and thus establish that it was superlunary, that is, above the orb of the moon. In his book *De Mundi Aetherei* of 1588, Tycho gave the evidence, and his opinion that the comet moved in the superlunary realm between the Moon and Venus. This was a crack #2 in Aristotle's dogma. This appeared 15 years after crack #1, the new star, in Tycho's book *De Stella Nova* of 1573.

FIGURE 2, The Tychonic System (eg, Fig. 9.1 from Ferguson p. 142)

In Tycho's solar system model, the orbs (spherical shells) of the Sun, Moon, and stars were centered in the Earth, while the five planetary orbs had centers in the Sun. The radius of the lunar orb is about 0.4 million kilometers, while the modern distance between the lunar orb and that of Venus about 42 million kilometers. So Tycho had placed the Great Comet of 1577 in a thick superlunary shell. In addition, Tycho concluded that, because of the motion of the comet, it must pierce the orbs of Mars, Jupiter, an Saturn. Thus the orbs disappeared into the cosmic fluid: crack #3 in the Aristotle's cosmic egg. This work was published in 1588.

So #1: a new star outside the moon appeared in 1572; #2, a comet appeared outside the moon in 1577; and #3, the orbs are not solid. Kepler, now studying with Maestlin at Tubingen, came to understand that Aristotle had erred in thinking the superlunary cosmos was unchangeable, and that the orbs were real structures.

We go on now to consider Kepler's three books: the *Mysterium Cosmographicum*, the *Astronomia Nova*, and the *Harmonice Mundi*. We may refer to these with the codes: MC, AN, and HM.

3.2 At the Graz gymnasium in 1595, Kepler's second epiphany

Medicine and astronomy/astrology comprised a substantial part of medieval science, and for most of the Renaissance as well. Tycho Brahe

was employed in Prague as Imperial Mathematician, or court astrologer, to Rudolph the Second of Bohemia, Holy Roman Emperor. Kepler eventually succeeded Tycho in this position. But in his college years in Tubingen, Kepler aspired to be a Lutheran minister. Kepler was a devoted Lutheran, but could not accept the official Lutheran doctrine on the Communion.

Thomas Aquinas held the doctrine of transubstantiation: the substance of the bread and wine are transformed during the Mass into the the Body and Blood of Christ. Luther held the doctrine of ubiquity: the substance of the bread and wine are not changed, but that the Body and Blood of Christ were ubiquitous and everywhere. Calvin held that the bread and wine are not changed, but that Christ in heaven visits the communicant during Communion. Kepler preferred the Calvinist doctrine. Perhaps because of this heretical view, ministry was denied him, and at age 22, he was dispatched instead to Graz, near Vienna, to teach mathematics in the Lutheran Stiftschule, or gymnasium, in 1594.

Towards the end of his first year of teaching, on July 19, 1595, while lecturing on the Great Conjunctions of Saturn and Jupiter, a geometric diagram of succesive conjunctions suggested to him a mathematical blueprint for the solar system. This was a diagram of Euclidean plane geometry, which he later discarded. But this epiphany inspired his idea that God was a geometer, and led to his three-dimensional model for the solar system, which was the essence of his first book, the MC, of 1596.

FIGURE 3, The Cosmic Clock (frontis, MC2)

3.3 From the Holy Spirit to the cosmic clock in 1605, Kepler's third epiphany

Our story of Kepler's third epiphany spans the period from 1600 to 1609. In 1600 we have:

* Giordano Bruno burned at the stake by the Inquisition for his heretical views,
* Kepler's expulsion from Graz for a flaw in his Lutheran faith, and
* the publication of William Gilbert's book on magnetism.

In this year, Kepler and his family moved to Prague, where Kepler worked with Tycho. Then in 1601, Tycho died of an abdominal problem,

exacerbated by an overdose of medicinal mercury. Kepler inherited Tycho's position as imperial mathematician, and also his observational data. Kepler's war with Mars began, and ended with the publication of the AN in 1609, including the first and second laws: planetary orbits are ellipses with the Sun at one focus, and equal areas are swept in equal times by the vector from the Sun to the planet. The second law, so called, was the first to be derived by Kepler, and is one of the first ordinary differential equations in the history of mathematics. It marked the beginning of celestial mechanics, and also dynamical systems theory, also know as chaos theory today. It models the speeding up of a planet at perihelion (closest to the Sun) and slowing down at aphelion (farthest from the Sun).

The third epiphany occurred in the middle of this period, after the derivation of the second law and en route the discovery of the first law, in the context of Kepler's struggle to understand the trajectory of Mars. Coming to grips with Tycho's data on Mars, Kepler concluded that the orbit is an oval. Already this clashed with the circular dogma, and Kepler invented a new model for understanding the movement of the planet along the oval: the librational theory. This model pictures the planet guided along a circle, while at the same time librating -- moving linearly to and fro along the line connecting the planet to the Sun -- so as to remain on its oval path. (Letter to Maestlin of March 5, 1605, Kozhamthadam, 1994; p. 227) For these two movements, circular and linear, Kepler felt the need for physical causes of the motions.

FIGURE 4, Kepler's row boat (Donahue)

Kepler proposed (in a letter to Fabricius in 1603, another on August 1, 1607, and also in chapter 33 of AN) an immaterial field, the *solar species*, emanating from the Sun, and functioning like a circular river, carrying the planet around a circle. In this radical proposal he was probably inspired by the Neoplatonic Soul, the Holy Spirit of the Christian Trinity, by light, and by Gilbert's recently published theory of the magnetic field of forces. This latter is strongly suggestive of the solar species idea, as Gilbert's experiments and many illustrations support the idea of an immaterial field causing physical forces at a distance, and also, described the magnetic field of the planet Earth.

At the same time, Kepler proposed a smaller force, magnetic virtue, or

individual mover, from within the planet, providing the linear motion. The solar species and the internal planetary force combined to maintain the oval trajectory, that is, the oval orbit or path, and also the timing of the motion according to Kepler's differential equation, the second law.

Kepler's theory of the solar species and its corollary force presaged the universal gravitational field of Newton, and Kepler interpreted this first as a manifestation of the Neoplatonic Soul of the Sun. Later he demoted the solar species to a purely physical field. In the Introduction to the AN, probably written in 1609 at the end of his quest, he writes:

> ... the body of the sun is the source of the power that drives the planets around ... the sun, although it stays in one place, rotates as if on a lathe, and out of itself sends into the space of the world an immaterial species of its body, analogous to the immaterial species of its light ... (transl. of William H. Donahue, quoted from Voelkel, 2001; p. 230)

The Stoic idea that a planet is impelled along by its own intelligence or spirit (mens) had been reinforced by the Italian scholar J. C. Scaliger in 1557. But regarding the individual planetary movers of the reciprocal motion along the straight line, originally aspects of the planetary soul, intelligence, or spirit, Kepler wrote in the Introduction to the AN:

> ... it is in the order of things for such a reciprocation to be the result of a magnetic corporal faculty ... properties of the planetary bodies themselves, like the magnet's property of seeking the pole and catching up iron ... (Voelkel, 2001; p. 231)

Both solar and planetary fields or forces became secularized, desacralized, or physicalized, by 1609. For the full title of the AN is, "New Astronomy, dealt with aetiologically, or Celestial Physics". Etiology: the science of causes. Indeed, Kepler's writes in 1609 in his Introduction to the AN, that the circular motion of a planet is due to the solar species, not the solar Soul, and the linear motion is due to a magnetic field, not the Soul of the planet.

In a letter to Herwart on February 10, 1605 Kepler wrote:

> My aim in this is to show that the celestial machine is to be likened not to a divine organism but rather to a clockwork ..., insofar as nearly all of the manifold movements are carried out by means of a single, quite simple magnetic force, as in the case of a clockwork all motions [are caused] by a simple weight. (Holton, 1973; p. 72)

And in the second edition of the MC, 1621, he wrote:

> If the word soul (*anima*) is replaced by force (*vis*), we have the very principle on which the celestial physics in the Mars-commentaries (i.e. the AN) is based ... Formerly I believed that the cause of the planetary motion is a soul, fascinated as I was by the teachings of J. C. Scaliger on the motory intelligences. But when I realized that these motive causes attenuate with the distance from the sun, I came to the conclusion that this force is something corporeal, if not so properly, at least in a certain sense. (Jammer, 1957; p. 90. Also, Duiksterhuis, 1961; p. 310. Kozhamthadam, 1994; p. 93)

The original word, *anima,* is Latin for soul, as in Aristotle's book, *De anima*. The replacing word, *vis*, is Latin for strength, or force. In sum, Kepler's epiphany of the oval, ellipse, and the librational model led to a mechanization, or modernization, of the solar system model of Copernicus. While Kepler still had faith in the Holy Spirit, its work load and job description had been reduced to a supervisory role. New fields -- immaterial and inanimate -- were now to carry the burden of maintaining the universe.

3.4 Reading Vincenzo in the carriage in 1617, Kepler's fourth epiphany

In the years 1615 to1629, thirty-eight women were burned as witches in Kepler's birthplace, Weil-der-Stadt. Six were burned in Leonberg nearby, where Kepler's mother, Katharina, was living. In 1616 she was accused of witchcraft. She fled to Linz, where Kepler was then living, and then on to her daughter in Heumaden. At this time, in 1617, Kepler left Linz for Leonburg to try to resolve the case against his mother. He choose to travel via Regensberg, to visit his step-daughter, Regina. There he discovered that she had died. Finally he arrived in Leonberg on October 30.

It was on this dreadful journey, with the thirty-years war in its early stages, that Kepler was reading a book by Galileo's father, Vincenzo, on musical harmony. This reinforced his idea of God as a cosmic harmonizer as well as a geometer, and the cosmos as a manifestation of numerical harmony similar to musical harmony. His work on this idea, published as his third cosmological treatise, the HM of 1618, contained his third law of planetary motion, the period-distance relation, and is regarded by some as his best work.

4. Conclusion

Now comes the hard part. So far, outside of a small quibble with the paradigm shift scenario of Fleck and Kuhn -- I prefer catastrophic to subtle bifurcations as models for paradigm shifts -- I have done nothing but make a collage of fragments from the history of science. Now I claim that the crux of the shift from the premodern to the modern paradigm is none other than this microscopic event in the great work of Kepler, the change of a single word from soul to force. You may ask, are you serious? Well, as a bifurcation theorist, yes. And others, natives of the history of science thought-collective, may agree. For example:

> Kepler, then, replaced *soul* by *force*. Does this really involve a considerable change? In one sense of course it does not. Soul is an unknown agens, the existence of which is assumed in order to explain a particular behaviour of animate bodies. Force is an unknown agens, the existence of which is assumed in order to explain a particular behaviour of inanimate bodies. The only thing which is established with certainty in both cases is the behavior. One does not gain a deeper understanding if one gives a name to the unknown cause of this behavior.
>
> In another sense the change is very great indeed. When one proceeds to attribute the motions of the planets to a force instead of to a soul, this implies that one wishes to consider them as inanimate bodies, so that they are subject to the laws of mechanics which apply to such bodies. (Duiksterhuis, 1961; p. 312)

So which is it, a large or small change? And here is where mathematics comes to our rescue. For a catastrophic bifurcation is characterized by this: an infinitesimal cause may trigger a very rapid, major transformation. This is counterintuitive, our normal intuition being based on subtle bifurcations, or processes of gradual change.

In fact, the new paradigm of physical forces and inanimate bodies, was compatible with the cosmology of the old paradigm, with the Soul and the Holy Ghost. Nevertheless, unintentionally, the baby (soul) was thrown out with the bathwater (motive virtues) of astronomy, and eventually, the whole world view. Kepler himself maintained his Neoplatonic world view until the end of his life, as we may see in his publication of the second edition of the MC in 1621, nine years before his death. It seems that soul and force could have coexisted indefinitely, and yet, they did not. Why not? This is a crucial question, with a long answer.

A brilliant account of the slide from Kepler to the secular science of today has been given by Eric Voegelin in an essay entitled, *The origins of scientism*. Here he identifies scientism as a creed with three main dogmas, in which the soul and spirit are denied existence, and science claims hegemony over all. The recovery of philosophy and paradigm from this creed is the goal or the interspiritual movement, and our path to a sustainable, spiritual, and worthwhile future.

In addition, E. A. Burtt, in his magisterial essay, *The Metaphysical Foundations of Modern Science*, of 1927, traces the paradigm shift through five stages: Copernicus and Kepler, Galileo, Descartes, Gilbert and Boyle, and Newton. It was Rene Descartes (1595 - 1650) who delivered the fatal blow to the world soul. Of the triple soul of Aristotle (vegetative, animal, and rational) Descartes threw out all except that of the individual human. Based on his famous dream of November 10, 1619. For humans, he withdrew the first two kinds of soul, and diminished the third to the size of a pea, contained in a corner of the brain. (Sheldrake, 1996; p. 67) The flavor of Descartes' place of the soul in the scheme of things shows here in his own words:

> Thus this self -- that is, the soul by which I am what I am -- is completely distinct from the body and is even easier to know than it, and even if the body did not exist the soul would still be everything that it is. (Descartes, 1637/1999; p. 25)

From the perspective of bifurcation theory, this is a second catastrophic bifurcation, First came the change from soul to force in 1605, published in Kepler's *Astronomia Nova* in 1609, and second, the demotion of soul in 1619, published in Descartes' *Discourse on Method* in 1637. Before 1605 there was just one paradigm, the premodern. From 1609 to 1637, there were two attractors (paradigms) in competition, the premodern and the modern, with a gradual shift in weight from the earlier to the later. And after 1637, only one attractor (the modern paradigm) remained. In bifurcation theory, this scenario is known as the double fold catastrophe.

We may summarize our story of paradigm shift in these three steps:

* preparation: three cracks in the cosmic egg (Tycho Brahe, 1573, 1588)
* beginning of the regime of two paradigms (Kepler, 1605)
* the end of the dual paradigm regime (Descartes, 1637)

And thus the Great Chain of Being was broken.

The great appeal of the great chain is the interconnection of all existing things, in an abstract animation of enormous intelligence and harmony. After Pythagoras, Kepler was the greatest champion of this cosmic vision. With its demise in the seventeenth century, the spacetime play of events became atomised, the divine harmony replaced by the force fields of modern physics.

To regain the integrity of the premodern world view, we might imagine playing our story of paradigm shift in reverse. Already, in the intrusion of Eastern metaphysical views into the Western mind from the East and Middle East (yoga, taoism, buddhism, sufism, and so on) since 1800 or so, we have the onset of a two-paradigm regime. What we may wish, then, is a gradual shift of weight from the modern to the postmodern paradigm, until a tipping point is reached, and comic integrity prevails.