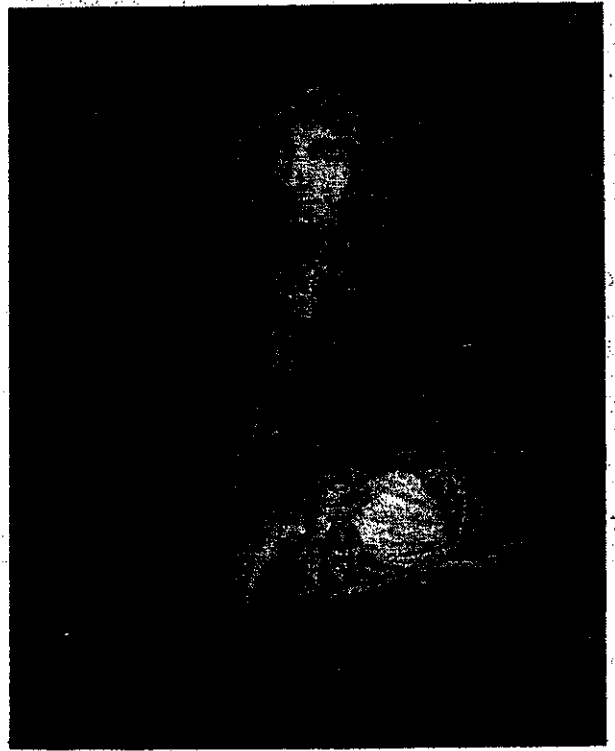
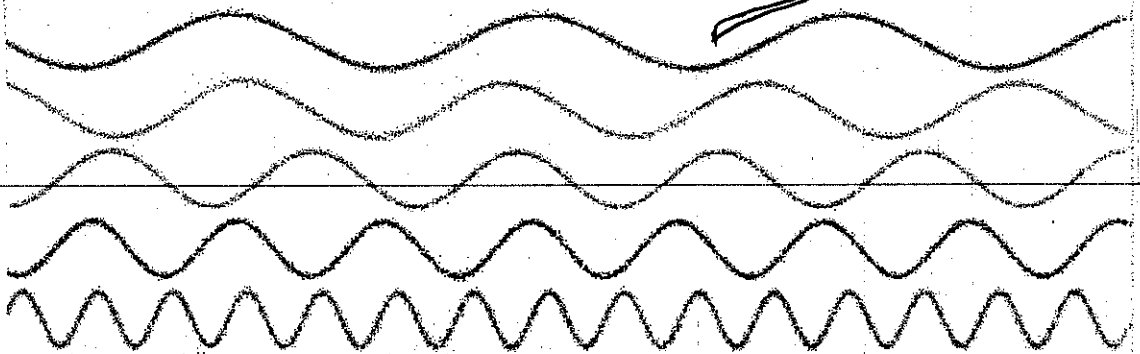


Christiaan Huygens



The
Father
OF
Cycle Theory



Martin A. Armstrong
former Chairman of Princeton Economics International, Ltd.

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The
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of
Cycle Theory



by: Martin A. Armstrong

former Chairman of Princeton Economics International, Ltd.
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CYCLICAL WAVE THEORY is present in everything around us from music where the progression of notes known as a **harmonic** that could also be shown as 8.6, 17.2, 25.8, 34.4 ... etc, in terms of the model frequency I discovered, to light, sound, and even how a cop gives you a speeding ticket. Yet bring up the subject with economics and the behavior of man, and you are called the insane "fringe" despite the fact that women have their cycles and animals migrate like clockwork. In fact, Post-Dark Ages, the first interest in investigating how to describe motion appeared during the 1300s with Richard Swinehead at Oxford University and Nicole Oresme at the University of Paris. They were followed by Leonardo da Vinci (1452-1519) as he conducted studies into motion and hydraulics. There were many who predate these early pioneers studying the motion of planets. Even Rene Descartes (1596-1650) had challenged the presumption that the absence of motion was the natural state of all things. Sir Isaac Newton (1642-1727) began to create laws of motion. Yet it was Newton who postulated that light was composed of particles. This was challenged by Christiaan Huygens (1629-1695) who argued previously that light travels in waves. It was Thomas Young (1773-1829) who revived Huygens' theory and by 1850, the universal belief was now that light traveled in waves of cyclical energy.

It was the Austrian physicist who showed the observed frequency of both light and sound waves is effected by relative motion of the source and the detector. His name was Christian Doppler (1803-53) who certainly is worthy of the title of being one of the **Founding Fathers** of all **Cyclical Theory**. He published his work in 1842 and to demonstrate it simply, go stand on the curb of a street with moving cars or at a train track. Close your eyes and you will instinctively know if the object is coming toward you or moving away.

An object coming closer will be known by the sound waves getting louder. If the object is moving away, the waves begin to widen in wavelength and thus diminish with the resistance of the air (medium) through which they travel.

This is the **Doppler Effect** and this is how we understand that the universe is still expanding, because the light from distant stars has a red shift to its spectrum color and that means the light wave is starting to diminish, widening in wavelength, changing color to red.

There are those who just can't stand the idea of cycles. Some even go to show bias or ignorance claiming Pi has nothing to do with living organisms and only with the world of tangible objects. They obviously never even heard of Brain Waves or looked at the Pulse of your heart or understood when a doctor takes your pulse, he is counting the beats. Pi has to do with all cyclical movement.

There are those who will even attack Arch Crawford who has been around a long time using astrology. During the 1920s, that was the rage on Wall Street. There were astrology meetings and consultants. Even J.P. Morgan is said to have been a believer.

While I do not follow astrology, it would be arrogant of me to boast it does not work without doing the empirical evidence study to support it. So I have no standing to make any criticism whatsoever of the field for I have not tried to prove it right or wrong. What I do understand is that it is still a cyclical science insofar as it looks for events that take place upon certain alignments.

What I have always avoided is making the argument for the cause of cycles. This is an area that I tended to believe bordered on religion, and out of respect for the freedom of belief, I tended to stay away from this subject.

There is no person in history who has ever made any contribution to the knowledge of mankind, who has not suffered the arrows of those who resist any new theory. Mankind does not like change, and what cycles are all about, is the force applied to man to force that change. There would have been no migrations if weather never changed and the life was easy and perfect. Mankind is a creature of survival, who is reluctant to ever adopt anything new, until compelled to do so.

I have often commented that formal education is man's way of perpetuating mistakes eternally. I found social science largely a waste, because much of what was written was just other people's opinions with no proof. When I read Herbert Hoover's memoirs, I read of the currency crisis and government defaults that did not appear in any socialist's story of events because it contradicted their view and thus the means (omitting history) was used to support a predetermined conclusion (ends). Other than doctors & lawyers, rarely does a individual practice his school major.

My father had a great influence on me. He was a lawyer, a judge, and a Lt. Colonel and aide to General Patton who was with him from North Africa to Berlin. He would tell me stories about Patton and his deep belief in history, as well as reincarnation. He explained that every person had a duty to leave something behind. Some major contribution.

He told me that it did not matter if you believed what your opponent did be it religion, politics, or ethics. What mattered was knowing what he believed in, and to then craft the appropriate response. He told me how Field Marshal Erwin Rommel (1891-1944) had written a book on tank warfare. Patton read it very carefully so he would understand the moves Rommel would make. When he knew his opponent, he defeated him in battle.

My father told me how Patton not only felt the past, but understood the future with incredible comprehension. He saw Germany as only the pawn, that was contradictory to just about every other person's views. Patton had looked into the eyes of history and saw the evil lurking within and that Marxism with its grip upon Russia, would be the real threat to mankind.

So my father's love of history was his gift to me. By being fed all the knowledge of the ancients at a young age, what he had created in my mind's eye was a coherent progression of knowledge that I could look at and see was constructed brick by brick by every individual. History was alive - not dead, and its knowledge is there if anyone cares to just pick up the book and read.

I was taught to trace ideas, to take them to their seed. For a man cannot ever understand a tree unless he understands the origin of that pieces. What my father gave me was the understanding of how to explore with a clear unbiased mind like a child who for the first time encounters a candle flame. This was the spirit of true knowledge gathering that was possessed by Adam Smith and Charles Darwin for example. The quest to just look at a subject without preconceived ideas to learn its nature and its origin.

Of course I will be criticised for that claiming I am comparing myself to them. I guess anyone who follows Aristotle's logic must be also comparing themselves to him not using his methods.

THE FATHER OF TIME & CYCLES
(1673 - Horologium Oscillatorium)



Christiaan Huygens
(Dutch Physicist 1629 - 1695)

Whenever someone writes about cycles, the first thing they do is try to paint anyone in the field as the nut-jobs, because the key reason comes down to it threatens their belief in the world, God, or some religious cult that has been fed to them and they lack the reason to review their own thoughts. When Ayn Rand was alive, her books were criticised in the press with horrible reviews. They tried to make sure no one would ever read them since they called into question the whole socialist agenda that they supported. They were read by real people and in a survey, Atlas Shrugged was the 2nd most read book after the Bible.

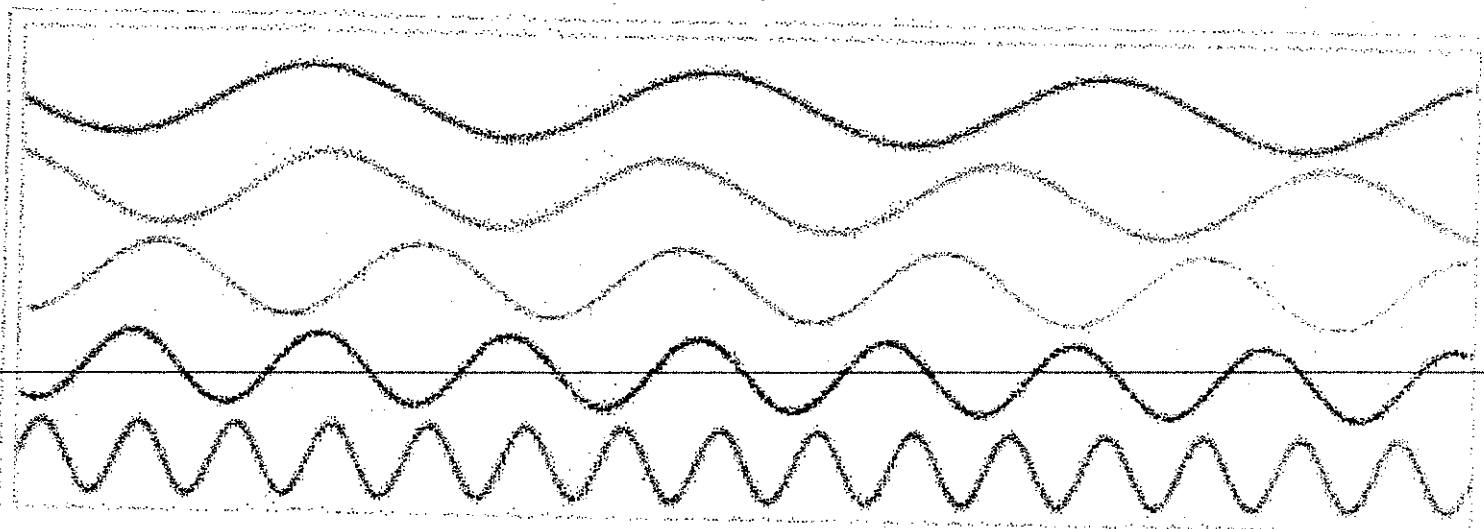
The mainstream hate anything that will challenge their world. They like to keep the people enslaved and see themselves as being in charge, yet nobody knows whose driving - it is most likely the monkey.

When they write about cycles they will naturally go to Kondratieff. Then when they want to discredit the field, they go to Edward Dewey and drag up the whole sunspot theories. This will then lead them to William Stanley Jevons, who often they will point to as dropping out of college, I guess sort of like Bill Gates.

Yet this is hardly the beginning of "Wave Theory" for just in modern times, you have to go back yet another 200 years or so and tarnish a few more reputations. No one ever asks - Why sunspots?

While I do not subscribe to the whole sunspot theory stuff, as my father taught me, always go back to the seed if you want to understand something. (not to compare myself now to Patton, since I do not think I have any army). The whole thing about sunspot theory happens to emerge from the notion about light. For you see, it began with the very inquiry into: What is light, how does it move, and where will it go?

Cycle theory goes to the heart of the debate between Isaac Newton and Christiaan Huygens over the nature of light itself. This



Horologium Oscillatorium

1673

Horo = Period of Time

Logium = To Gather, Speak, Tell

is the "origin" of cycle theory in modern times. This understanding of light has been itself a oscillation in theory that even had become manifest in the work of Albert Einstein during the 20th Century. It was this fascination with understanding light that created a seed that went down the path of sunspots - a interesting journey, but far from any such empirical evidence upon which knowledge can be built.

Christiaan Huygens was a Dutch mathematician, astronomer, and a physicist. This is the man who has been lost to history, perhaps overshadowed by Newton and Einstein, yet whose work has had long lasting impact upon society to this very day. Huygens is not merely the man who founded Wave Theory of light, but he discovered the true shape of the rings of Saturn and made original contribution to the understanding of complexity or dynamics in science - the study of action by force upon bodies. His accomplishments do not end there. His keen interest to explore and understand with an unbiased mind's eye as an astronomer, led him to perfect a far superior telescope with a new method of grinding and polishing lenses. This not only allowed him to clearly see the rings of Saturn in 1659, but he had discovered satellite of Saturn in March 1655 and was able to distinguish components of the Orion nebula in 1656. His genius did not end even there. He began to explore TIME ("horo") that led him to try to accurately measure it where it had been the "horologe" that was the primary tool - a sundial. This pursuit of the accurate measurement of TIME, led him to the discovery of the PENDULUM as a regulator of TIME that reshaped the world we live in.

Being a man of many talents, was common back then, because the pursuit of knowledge was not restricted to a single field. This

laid a foundation for much more dynamic thought than specialization. What also helped, was that he came from a wealthy middle-class family that provided him with social contacts and the means to explore his own thoughts.

Huygens' father was a diplomat and was friends with Rene Descartes (1596-1650). This led his father to introduce his son to the philosophy of Descartes. He showed a talent for math and for drawing that impressed Descartes. In 1645, Huygens entered the University of Leiden to study math and law. He left, and two years later he entered the College of Breda during the real furious reaction to the philosophy of Descartes that unfolded in 1647.

It was Descartes' earlier published work Discourse on Method (1637) that set forth his four rules to acquiring knowledge. (1) accept nothing as true unless clearly recognized as such; (2) to solve problems systematically by analyzing them part by part; (3) to proceed from the simple (seed) to the complex; and (4) to review everything thoroughly to ensure that nothing is omitted. If everyone followed these simple rules, it would reduce the number of idiots, slanders, and name calling that accompanies challenges to any new ideas.

Huygens was thus taught this from a young age. This is the seed of his rejection of some of Newton's work. Huygens also met Blaise Pascal (1623-1662) in Paris. In fact, Huygens lived in Paris between 1666 and 1681 where he met the German mathematician and philosopher Gottfried Wilhelm Leibniz (1646-1716). It was while he lived in Paris that he published in 1673 his Horologium Oscillatorium.

The *Horologium Oscillatorium* (1673) was a brilliant work that has been relied upon by many, yet forgotten in the credits of time. This was the first theory in mathematics of curvatures, and offered a complete solution in the spirit of Descartes methodology of dynamics as the derivation of the formula for **TIME** and its oscillation of the simple yet important pendulum. The oscillation of a body about a stationary axis. This was the birth of the laws of centrifugal force for uniform circular motion. Huygens' complete proofs were published after his death.

In 1689, Huygens visited London where he now met Sir Isaac Newton (1642-1727). Huygens even lectured at the Royal Society on his theory of gravity. But, being Dutch, there was a bias in the air those days. Newton had in 1687 published his *Principia*. Newton's life was filled with bitter conflicts with others. Huygens appears to have been more the gentleman of the day. His correspondence with his friend Leibniz shows that Huygens respected the math of Newton, but not his theory of gravity that he regarded as devoid of any mechanical proof or explanation as just being completely unacceptable.

Huygens' work on gravity dated back to 1669. He was prompted to publish in 1690 his rebuttal in the *Discourse of the Cause of Gravity*, with his mechanical proof built upon Cartesian vortices. He also was moved to then publish the same year in 1690, his *Treatise on Light* that he had completed back in 1678. So again we find his mechanical explanation of light that established **WAVE THEORY**.

Huygens' Principle in optics, is the key source to **WAVE THEORY**. He explains that the points of light on a wave front, may be thus regarded as new sources of wavelets that then expand in every direction at a rate depending on their velocities. This forms the principle for understanding various optical phenomena.

The surface tangent to the wavelets constitutes the new wave front and is called the envelop of the wavelets. When the medium is homogeneous allowing light to travel at constant speed, a 3-dimensional envelope of a point source will be spherical, otherwise it will be ellipsoidal. This explains everything from rainbows to crystals and the reflections of light that are enhanced by various cuts in a diamond. This was the birth of **WAVE THEORY!**



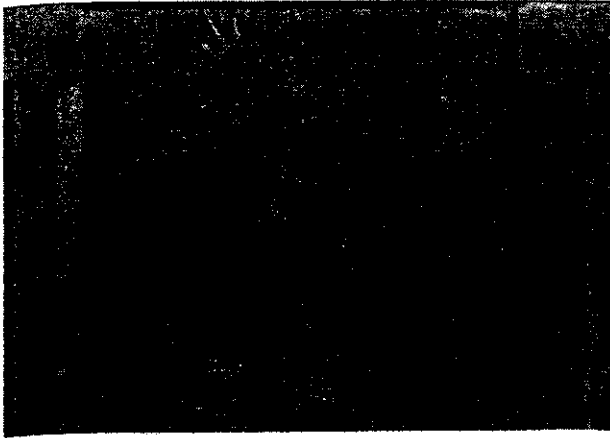
William Stanley Jevons
(1835 - 1882)

I believe that the credit to exploring the idea that cycles applied in economics, belongs to William Stanley Jevons (1835-1882). Here we find a man who did not sit in his ivory tower and pontificate to the masses below. Jevons was studying natural science at the University College in London. He left school and took an exciting job far away in Australia as a assayer in Sydney, in 1854.

Jevons was now exposed to the gold trade and had a front row seat. Copper had been discovered in Australia in 1842. There was the famous gold discovery and the 49'ers in California in 1849. This was followed by yet another great gold discovery in Australia in 1851. Clearly, Jevons was struck with the gold bug and left school to seek his fortune.

Jevons was now fascinated by migrations and the boom and busts that were taking place. There was the 1857 Panic that was again a new global "contagion" and this caused him to return to England in 1859. He was probably inspired by the rise and fall of prices as I was in the 1960s. He began to write his theory based upon observation and produced the "*General Mathematical Theory of Political Economy*" in 1862 and this was followed by *A serious Fall in the Value of Gold* published in 1863.

Jevons was fascinated with the rise and fall of prices following the California and Australian Gold Rush. He created indexes to map out inflation. Keep in mind, this was the first Global Contagion involving inflation since 1720 and the South Sea/Mississippi days of the Rubble economies. He was not taken very seriously until he wrote *The Coal Question* in 1865 in which he predicted the same effect by the dwindling coal resources in England that would lead to a dramatic price rise. It was Jevons who was caught up in the whole sun question and began the attempt to then correlate sun spots to price movements.



Helios in his Chariot found at Troy

The Greek god Helios, who was the sun-god, drove his chariot every day from east to west across the sky and sailed around the northerly stream of Ocean each night in a huge cup. It was Helios who was the famous statute at Rhodes. Notice the spikes emerging from his head. They are sun beams that became the crown worn by the Statute of Liberty in New York harbor. This is also the origin of the idea of a halo in art of the Christians.

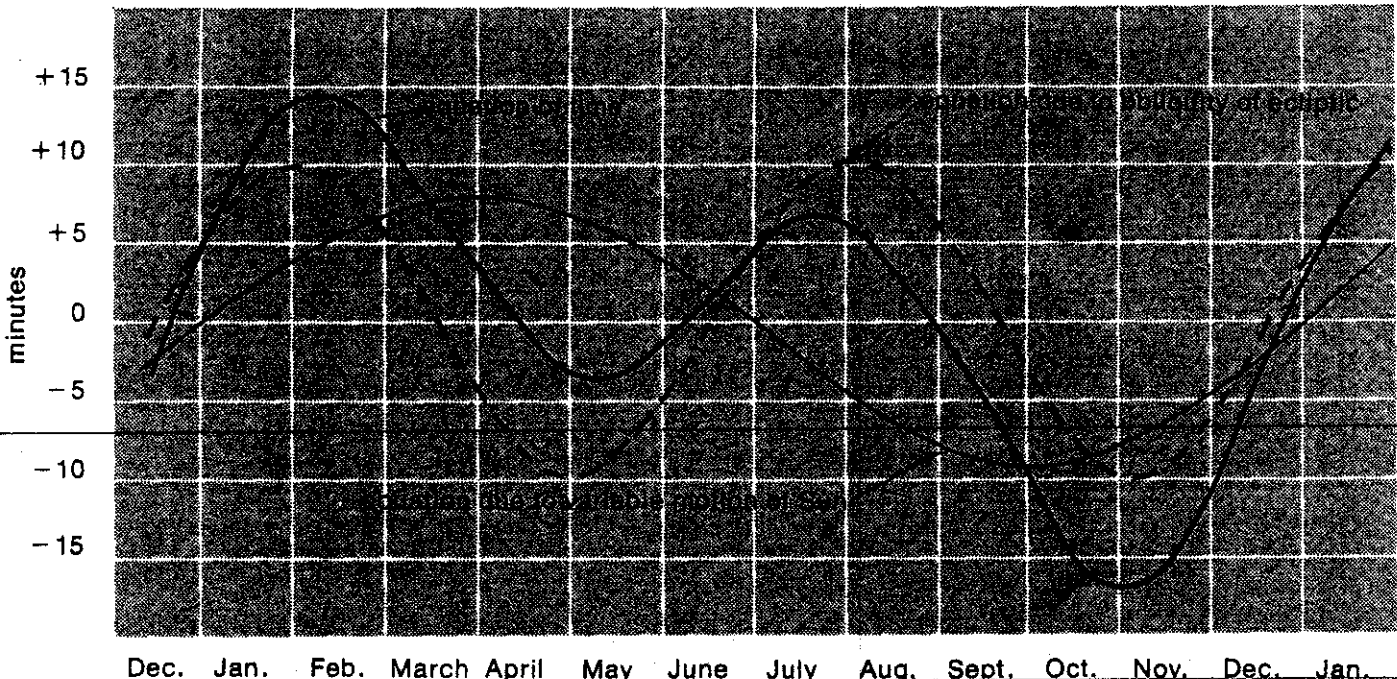
While the question of what causes a cycle is one I have avoided all my life, at least in public, I can say that this will be part of my discussion in the Geometry of Time. Suffice it to say, that ALL such cyclical activity has a common source. I do not believe it is the sun. Nor do I

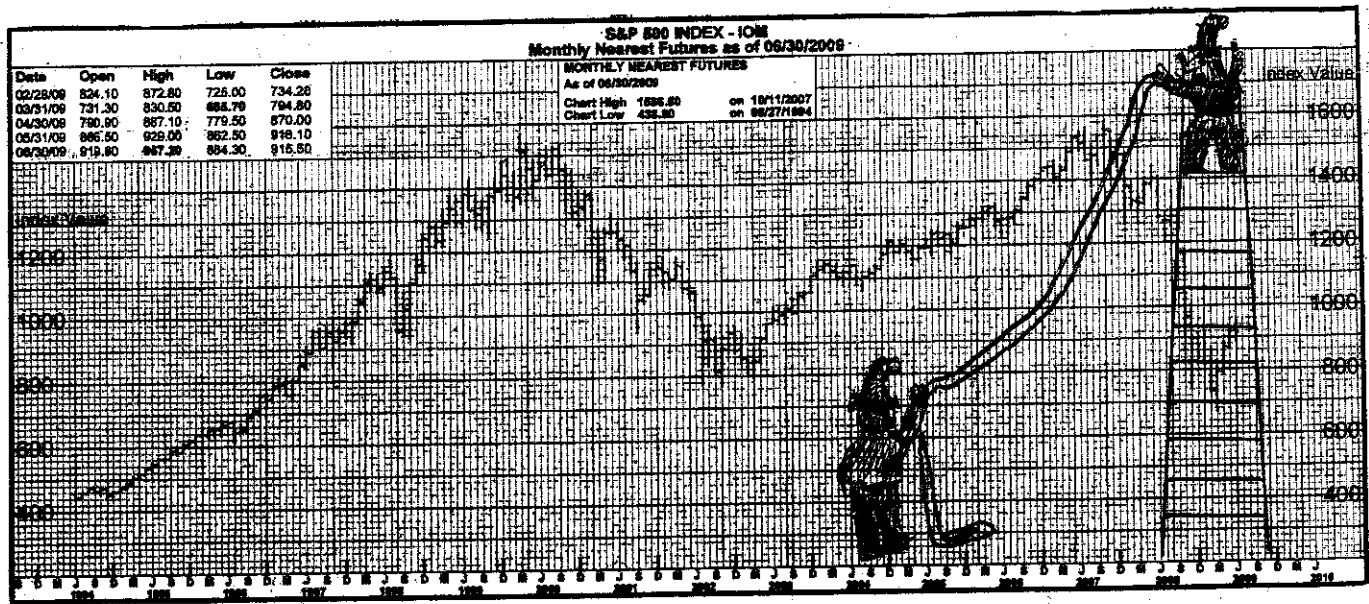
believe it lies in the stars nor within the planet configurations. Do not take this in any way a criticism of Arch Crawford or others. I do NOT dispute that there may be correlations to those events even precisely. I lack any empirical study that I have done to argue against that field. It is my simple belief that the problem with mankind is he dismisses things because he is biased or when he is threatened by such theories. All I am saying is that these methods may be in fact accurate, but they do NOT prove the source.

I hate to burst a lot of people's world of beliefs, but we should wake up and smell the roses. Most people do not come close to understanding what Einstein's work really meant with relativity. What he did was shatter the idea that SPACE and TIME are even a constant.

When I say I am writing a comprehensive work I am calling the Geometry of Time, those who know me, I leave no stone unturned. TIME is relative, and it flows. As nuts as that sounds, there is solar time and then there is atomic time. Most people do know that economic statistics are "seasonally adjusted" yet fail to understand that this means they are "smoothing" the numbers and removing the cyclical movement in the economy. What you will find illustrated below is the Equation of Time which is the difference of the mean solar time and the "apparent" solar time.

Equation of Time





I believe that cycles were set in motion at the time of big bang. Cycles are how energy travels be it alternating current or the beat of your heart pumping the blood. It is how we think as evidenced by brain waves. We can be alert and then get so tired we cannot think straight. We go through life in alternating states of sleep and awake. And then we are born, grow, peak and then start to decline. Some of us come in this world needing diapers, and go out the same way through the cycle of life. So to me, if someone claims Pi does not apply to living organisms, please show me the empirical study for that statement. They cannot, and you will see that evaporate as just hot air.

For all the other forms of analysis from technical charting, Gann and Elliott Waves, this line of analysis is pattern oriented and has nothing to do with TIME. We can square prices and draw technical projections or count the waves. But none of these methods can tell you WHEN and to pretend to do so, relies on subjective forms of analysis - opinion and experience. They do not offer empirical evidence of the future, just another confirmation tool of manifestation. Technical analysis gives me a map of the future as to price. It does NOT give me TIME. Elliott Wave is the same art form with interpretation being highly dependent upon the experience of the one making the calculation.

All of these things do something that is different from what cycles are all about. Measuring patterns and trying to practice divination on how the pattern will manifest from here, is only a piece of the puzzle and you will be left out in the cold like just about every fundamental economist who cannot see when the complete meltdown is about to take place.

We had taken cycles to new levels. At Princeton Economics, we also developed a "Panic Cycle Model" that would just forecast outside reversals, irrespective of the net direction. There were cycles for just the opening calculated from the previous day's close. There were so many individual models the computer would calculate daily, we were mapping every possible individual aspect. It was just not humanly possible to do that work.

These various methods of pattern type recognitions, were also carried out by the computer. It would take discrete periods of time and attempt to match that against the past patterns with the same market. Then it would test them against major patterns it observed in all markets. This was not the cyclical model. This was pattern recognition.

I will also save for the Geometry of Time the discussion between simple empirical cycle waves of fixed wavelengths and then the complex nonlinear waves where believe it

or not, the wavelength and the frequency also oscillate. There are actually waves that may be traveling with a frequency of 6, then 8, then 3, then 16, and then back to 6 restarting the entire sequence. There are even waves where the PHASE velocity is traveling through a nonlinear wave where there is inside a GROUP velocity that is traveling at a slower speed.

There are shock waves that take place from a sudden external force that overpowers the individual wave's inherent frequency and creates a rogue wave of profound impact and consequences. In the ocean, we called them a tidal wave such as that in Asia that had killed so many people due to an earthquake. This also takes place within society and may be caused by disease, such as the Black Death that wiped out almost 2/3rds of all people in Europe, or it may be triggered by economic collapse, as was the case with the fall of Rome in 476 that wiped out western civilization.

Shock Waves are "contagions" that will overpower society and wipe it out. They have vast amplitudes, very short frequencies, and thus die off also quickly just as a tidal wave. The energy within such waves is clearly measured and is directly proportional to the frequency, while inversely proportional to their wavelengths.

For everything I have written since about October 2008, I have not touched upon these structures of nonlinear waves and the methods I developed for measuring the real energy within the economy that can be then carried on forward in TIME by the propagation of energy through SPACE and TIME.

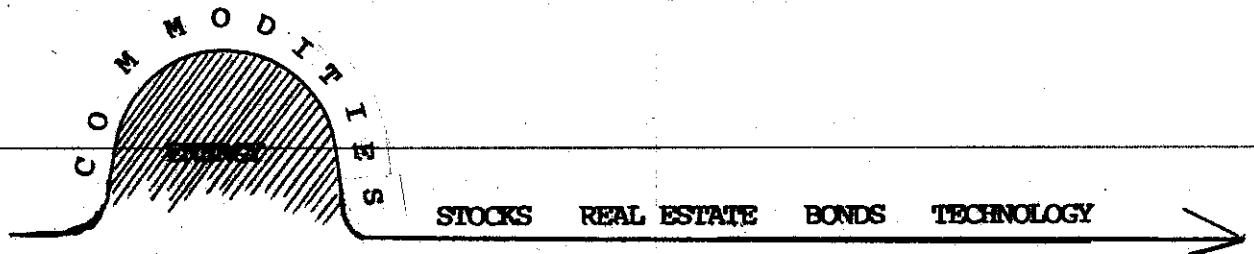
What I have illustrated below is that there is also the effect of capital concentration. This is what Marx saw and hated at the individual level. But as I have explained, it takes place at the sector level within the national economy, and then between nations and regions. This is how Rome rose as wealth concentrated there, and it is how it fell when government's thirst for taxes forced capital to be hoarded reducing money supply and thus the wealth of the nation.

This is how Spain rose and fell, and Britain, not to forget the United States. As the capital moves from one sector to the next, it defines the next boom and bust. Capital will rotate within a national economy from one sector to the next, but when the grass is greener elsewhere, it will flee as capital did concentrating in Japan for 1989. These are not subjective interpretations by me. They are documented trends and events. This is the nature of cycles and it is what we must come to grips with if we ever hope to breakout into the next period of true enlightenment.

We can climb the ladder and measure the patterns all day long. But that will never give you TIME. We can rely on pattern forms of analysis for price projections, but we must understand cycles alone for the TIMING.

TIME as relative to us may appear to be constant for the moment. In that instant, we must recalculate everything in all currencies just to see the gravitational pull if you will upon capital from all countries that will then cause it to concentrate in one nation as it did in Japan 1989. This is where understanding the future truly lies. Global "Contagion."

Cycles are the method by which Energy is Transmitted Through ALL mediums
(Including Herds & Organized Society)



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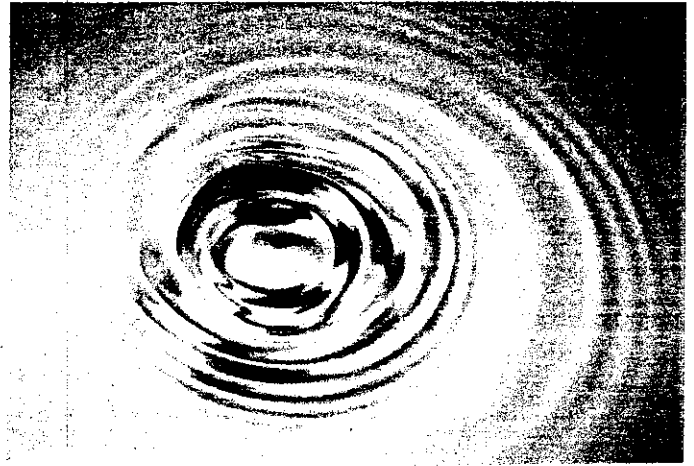
Dark Energy

What I find is the incredible stupidity or arrogance to even believe that mankind is not subject to cycles. If this erroneous idea were true, death would be abolished. Even the aging process is the cyclical deformation of the elements that bind us to create a life as we know it. Those who want to criticise the idea of cycles, please produce an empirical study to prove they do not exist. Until then, go back to your soap box and preach that the world is flat and if you run off into the distant horizon you will fall off the edge and be eaten by monsters. Opinions do not cut it in the real world. Where is the proof?

That said, there was once a theory that light moved through a mysterious material that was called ether. Nobody found it, they just had an opinion that something must be there. In the mid 1800s after Huygens' theory that light traveled in waves was revived by Young, the presumption emerged that light had to move through something. This mythical substance ether became the subject of experiment. It was Lorentz (1853-1928) who tried to calculate the speed of the earth through this ether. He had failed since ether was believed to be motionless, he announced that it must be dragged along with the earth. Two American physicists in 1887, Michelson and Morley, said there was no effect upon the speed of light by the earth movement in space and thus concluded that if this ether existed, it moved with the earth and was not some mystic substance through which light traveled.

In the 1940s, George Gamov predicted we should be able to see remnants of this escaped radiation from the big bang that was trapped in free space. The search began for background radiation and Arno Penzias and Robert Wilson discovered this remnant and won the Noble Prize. In 2003, NASA's Wilkinson Microwave Anisotropy Probe was able to accurately measure the temperature of this background radiation and thus we are able to deduce that the universe is now about 13.7 billion years old.

What has emerged from this research is a new mystery where evidence suggests that there



must be hidden matter and hidden energy that cannot be directly observed. This dark matter is most likely composed of gas, large numbers of small cool objects and/or sub-atomic level particles. The evidence is indicated by the rotation curves of galaxies and dynamics of clusters of galaxies.

Evidence of DARK ENERGY is derived by studies of distant Type Ia supernovae in far galaxies indicating that the expansion of the universe is accelerating, rather than slowing down. The visible matter in the universe is only about 4% whereas the DARK MATTER appears to be about 24%. This places the DARK ENERGY at a very interesting number - 72%. It is this DARK ENERGY that is the force that seems to work on the entire fabric of the universe and is the source of its expansion spreading it apart.

Because I have studied this 8.6 year cycle and found it exists in nature at all levels that is in earthquakes, storms, disease, and collective society in what we call our economy, it is a unified force.

It is my BELIEF that we will find that the source of all cyclical movements from the light, planet, and life, were set in motion at the instant of the Big Bang. This energy force that is traveling in cyclical form, is most likely within this DARK ENERGY. Since there is an energy field, there can be no question as to its movement MUST be cyclical in nature.

Drop a stone into a still pool of water. What you will see are energy waves that form from the epic center. This is the structure of everything. At the instant of Big Bang, the same thing happened - cycles!

