Quest for Synergy

How the Greeks Created the First Age of Innovation

Tracing the Roots of Synergy and Co-Creativity

Updated July 4, 2013 Version 1.42

By Robert Porter Lynch & Ninon Prozonic

(Author's Note: this article is still in Draft Form. Any comments and ideas are welcome)

CONTENTS

PRELUDE

Innovation is one of most important competitive advantages a company can possess. To understand innovation in a new light, our study team realized we could gain a valuable and unique perspective by exploring innovation in a wide variety of contexts. One era we knew would be fertile territory was the period in Greece from about 510 BC to 146BC – the time known as the Golden Era of Hellenic[1] Invention. This time is particularly intriguing for several reasons:

There is no period in the history of the world where, on a per-capita basis, there was more intense innovation. It was during this era that the Greeks invented new language, new architecture, new medicine, new literature, new philosophy, new theatre, new mathematics, new astronomy, and many great scientific inventions, such as the steam engine and the first geared chronometers, new engineering, and especially new insights into the nature of the world.

---

[1] The Hellenistic Era is formally considered beginning at the time of Alexander the Great (323 BC). However, for the purposes of this article, we are also including the earlier Greek Classical Era (beginning about 510 BC). Some scholars advocate that, despite the fall of Greece to the Romans, the vestiges of Hellenistic culture continued, though somewhat diminished, until 180 AD with the death of Marcus Aurelius, the last of the great Roman Emperors, who was not only a military general, but a philosopher of Greek tradition.

There was very little precedent for what the Greeks did. While the Hellenistic era followed their Egyptian predecessors, the Greek epoch was a breakthrough from their Egyptian antecedents. In other words, the Greek innovation was a massive shift in thinking from any other civilization that preceded or co-existed with it.

The heart of the innovation center was Athens, which was populated with a relatively small number of people, probably not more than 40,000, which would make it just a very small city by today's standards. What emanated from that city and the surrounding regions is staggering, even by today's standards.

By taking the study of innovation out of the realm of our modern era forced the authors to look at innovation through the eyes, mind, and heart of an ancient Greek.

While innovation did not start with the Greeks, there is no question that, until the modern era, there is no precedent in history for such a burst of creativity in such a narrow time window of only three hundred years, from approximately 500BC to 200 BC.

IMPACT OF CULTURE

We wanted to know what unique characteristics of the Greek culture spawned such a massive outburst. What innovations were created from individual effort and what from collective collaboration, we shall never know. But what can be stated with certainty is that culture nurtures innovation; innovation seldom occurs independent of culture. If it did, innovation would occur randomly throughout the world and throughout time. For this reason, we made it a point to examine the cultural underpinnings that enabled a few Grecian City-States to create breakthrough innovations so discontinuous from anything that preceded it.

When the Greeks were conquered by the Romans about in the second century BC, this great era of innovation slowed dramatically, retrogressed horribly during the Dark Ages after the fall of Rome in 455 AD, not to be resumed until the Renaissance, a millennia later. During the seven hundred years of Roman domination, the society produced no scientists, but many engineers; no thought leaders, but many orators; no breakthroughs, but many incremental improvements. We wanted to know why and how.

QUEST FOR SYNERGY

Our quest began a few years ago. We all know that words "name" things, events, or processes. We asked ourselves this fundamental question:

"If the Greeks created the word 'synergy,' then they must have had a process enabling its manifestation or genesis. What, then, was the process for creating synergy that produced so many magnificent breakthroughs in thought, science, architecture, and politics?"

We did not realize this was a singularly unique question. From our search through the literature and questions to academics, we came to realize this question had not been asked before. In fact, what we were doing was somewhat out of the ordinary, that, remarkably to our knowledge, no one had ever tried before. We called our quest: "process archeology."

As we searched through reams of Greek writings and commentaries by scholars over the millennia, we hoped we could discern the process for creating an innovative culture in Greece.

More importantly, we believed that such a comprehension could be used to propel modern innovation teams. Synergy produces innovation. In today's world, more often than not, innovation occurs in teams, and alliances, where communities of interest attempt to channel the synergies of interaction, and, particularly utilized unique but compatible differentials in thinking to trigger breakthrough innovation. What "collaborative culture" did the Greeks design or discover over two thousand years ago that we can utilize today?

Cracking the Code

What we did not understand at the beginning of the project was how deeply the Greek code was buried. A search revealed there was no "best practices" handbook that had been written by a student of Socrates that addressed this issue. Like most issues of culture, the "code" was imbedded in the invisible subconscious – something that every citizen just knew and took for granted.

After several years of digging into the culture we came to realize that the ancient Greeks had evolved into a highly sophisticated society – an evolutionary strain that has probably never been duplicated before anywhere on the face of the earth, even in modern times.

This evolutionary strain came to a slowed dramatically about in the second century BC when the Romans conquered the Greeks, but its aftermath lingered in early Rome for another two or three hundred years.

If one might imagine the Greek culture being a mountain, with the most precious gems located in the top of the mountain, the Romans lopped off the top of the mountain because it was impractical to access the real heart and soul of the culture. What remained was a flattened mountain where the practical uses of Greek innovation remained. Much like a modern corporation acquires a smaller, more entrepreneurial company, gains access to its current technology, but drives those who are the real source of its innovation away by imposing a lugubrious culture upon the entrepreneurs, so the Romans suppressed the Greek innovators.[2]

---

[2] Perhaps the only Roman Emperor to recognize the real value of the Greek culture was Marcus Aurelius.

We found the evidence of the synergy process buried in the word structure of the Greeks. Sadly, many of the Greek words never made it into the Roman language, thus nearly becoming lost forever. Some words passed into Latin, but were either "flattened" of their depth and richness, or were never passed through the old French into English.[3]

By delving deep into the original Greek language to explore the true richness of meaning, we found a virtual treasure trove ("thesaurus" in Greek) of coded meaning. We believe we may have cracked the code on how the Greeks created synergy.

Reaching Back to the Future

Archeology searches for lost artifacts from a by-gone age. We approached archeology a bit differently – searching for *lost processes and practices*. We looked into the writings of ancient Greeks, such as Plato and Aristotle, from about 500 to 200 BC, but did not find what we were looking for. We examined the works of many of those Greeks who wrote in the early Roman Era, such as Plutarch, Ptolemy, Galen, and Epictetus, finding few clues. Apparently, after several hundred years of daily usage, many of the key process issues had already migrated into the invisible aura of "context.[4]"

Surprisingly, the massive amount of innovation was produced by a very small number of people. Athens, the by far the largest of the Greek City-States had a population of 40,000. Only 6-8,000 were members of the educated male elite; the rest were women, children, and slaves. The wealth both financially and culturally, attracted many of the best and brightest of the times to study and live within its bounds.

Search for the Essence of Creation

Man's search for meaning starts with creation[5], which the ancients believed emanated from a "divine spark" – *Energies of God* – a mystery just beyond the normal human being's grasp. The objective was to convey this energy to humans through transcendence, giving us the power and spirit of the divine. Our reverence for inventors, such as Leonardo da Vinci or Thomas Edison, continues our long tradition marveling at creative energy.

---

[3] Upon closer examination of Greek and Roman word structure, one finds that the truly spiritual words in the English language originate from the Greek, while the more practical words come from the Latin, German, or Anglo-Saxon roots of English.

[4] (Context is something everyone knows and understands, but does not need to talk about. For example, every corporate culture has a rewards system that is just "known," and seldom discussed. Thus, as Carl Gustave Jung observed, the "collective unconscious" becomes "invisible." And, because it is invisible, it can easily become lost, foreign, and inaccessible.)

[5] The theme continues today: Schiller's *Ode to Joy*/Beethoven's 9th (adopted as the Anthem of the European Union) begins and ends with: "Joy, beautiful Spark of Divinity!" The Old Testament evidences the linkage of the creation and the divine: Genesis 1:1 "In the beginning God created ..."

Deep inquiry was the hallmark of many ancient thinkers and their philosophic followers. The path of knowledge would lead first to wisdom and then to truth and freedom, as early passage written nearly two thousand years ago implies:

What makes us free is the knowledge
  of what we were
  of what we have become
  of where we were
  of wherein we have been cast
  of whereto we are hastening
  of wherefrom we are being freed;
  of what birth truly is,
  and of what rebirth truly is.[6]

Man's search for meaning starts with creation, which the Ancients believed emanated from a "divine spark" – Energies of God

The two themes that prevailed in both Greece and China centered on the energies of resonant harmonies and differential polarities – two distinctly different themes. What the Greeks learned about innovation was never truly understood by their Roman conquerors, and was then lost to history. What we discovered by sifting through ancient Greek writing revealed buried secrets that unleashed the power of collaborative innovation.

Because this high level *synergistic trust* is both so important to understanding the essence of collaborative innovation, and entangled in a complex paradox, it's useful to take the time to understand the paradox and the thinking required to unravel it.

Differentials & Greek Quest for Synergy

Collaborative innovation is the effective result of synergy from differential energy. Hence the expression: If two people think alike, one is unnecessary for innovation.

The Greek Golden Age of Innovation begins about 500 BC and lasted until about 146 BC, until they were conquered by the Romans.

During this time short, three hundred and fifty year period, the legacy of new thinking had such a profound effect on the future of civilization that the names of the thought leaders of the day are known to school children now over two thousand years after their passing: Pythagoras, Hippocrates, Socrates, Plato, Aristotle, Aristophanes, Archimedes, Euclid, and many others. Their thinking is imbedded in all our philosophy, democracy, education, science, literature, and mathematics. They invented the block & tackle, the formulations of geometry & trigonometry, the first computers, nutritional medicine, the theory of a planetary solar system, and the basis of the steam engine, among many other accomplishments.

What's more, this revelation opened an insight to another more profound, higher level of trust; one whose path leads to the ever-sought, but so elusive, pinnacle of synergy

---

[6] Hoeller, Stephan; Gnosticism, New Light on the Ancient tradition of Inner Knowing; Quest Books,2002,p 10

(another word invented by the Greeks.) We call that level of trust: *synergistic trust* (which we will discuss later)

What Created a Cluster of Thought Leaders?

What most people don't think about is the size of the City of Athens at the time was only 30-40,000 people – just a large town or small city in the modern era. Why then don't all our small cities today produce as many thought leaders? Other such centers were in Ephesus and Alexandria.

(To jump ahead of our story, it's no coincidence that during this short period of history, the Greek civilization was able to escalate the level of innovation because of the increase in the level of trust in the society associated with first experiments with democracy.)

Understanding how a culture could produce so many breakthrough thinkers is a truly worthy endeavor, for if we can replicate their process, we can rapidly conquer many of the problems of our times too. But we must also understand that what the Greeks discovered was buried during the Roman era,[7] and nearly lost during the Dark Ages. Our modern age has never reclaimed the Greek ground around collaborative innovation and trust as exemplified by that which the Greeks had attained. (Some micro-cultures have approximated portions of the Greek methodology, but it remains yet to be duplicated or excelled.)

Today, we are still anchored in belief systems that actually limit our innovation capacity. A few organizations have discovered the Greek methodology by accident or intuition. This "Thought Piece" serves to illustrate the power of the Greek system of trust and collaborative innovation.

The Greek Innovation Age was launched about 500 BC with two great names: Pythagoras and Heraclitus. Both were on an incessant search for the "inner truth," the "underlying law," the "hidden meaning (discovery), the "reconciliation of the anomaly," and the quest for "first cause." They sought to learn the "inner design" or "architecture" of all of life – philosophically, scientifically, practically, and artistically.

---

[7] Lucio Russo has written a brilliant analysis of the scientific revolution of the Greeks and how the entire scientific revolution came to an abrupt halt with the Roman occupation. (see The Forgotten Revolution, Springer, 2004, recently published in English) His insights will confirm the scientific side of this article.

Pythagorean Harmonies

Pythagoreans were not just mathematicians, they were seekers of wisdom[8], and firmly believed that the universe was designed around a set of boundless interrelated *harmonies* which determined how things functioned.

While today we are most familiar with the Pythagorean Theorem for triangles, $(A^2 + B^2 = C^2)$, Pythagoreans believed that the limitless of the universe and creation was definable by mathematical progressions or resonances which embraced both the concrete substance and the indefinable voids of the universe.[9] The proper harmony between what was limited and what was limitless gave rise to virtue.

Golden Spiral

In geometry, a **golden spiral** is a logarithmic spiral whose growth factor related the golden ratio 5:8. (Not coincidently the same proportional size of this book). The ratios between these two numbers have remarkably reciprocal features: 5 divided by 8 approximates .6, 8 divided by 5+8 approximates .6, 8 divided by 5 is 1.6, etc. The Golden Spiral or Fibonacci Curve is based on Pythagorean Progressions A:B=B:(A+B).
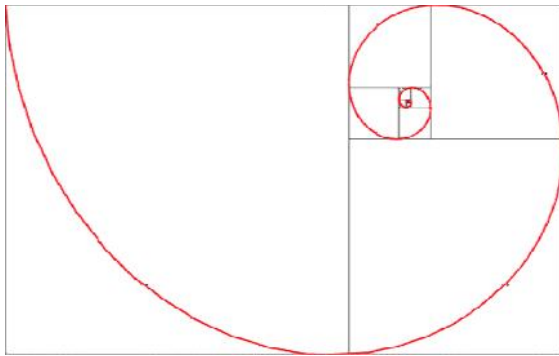
Figure 1: Golden Spiral or Section

---

[8] The word "philosopher" (said to have been coined by Heraclitus) means a "lover of wisdom" (from *philo*: love = *sophia*: wisdom)

[9] From the Catholic Encyclopedia regarding numbers: Pythagoreans held that one is the point, two the line, three the surface, and four the solid. Seven they considered to be the fate that dominates human life, because infancy ceases at seven, maturity begins at fourteen, marriage takes place in the twenty-first year, and seventy years is the span of life usually allotted to man. Ten is the perfect number, because it is the sum of one, two, three, and four-the point, the line, the surface, and the solid. Having, naturally, observed that all numbers may be ranged in parallel columns under "odd" and "even", they were led to attempt a similar arrangement of the qualities of things. Under odd they placed light, straight, good, right, masculine; under even, dark, crooked, evil, left, feminine. These opposites, they contended, are found everywhere in nature, and the union of them constitutes the harmony of the real world.

The architectural "golden mean,[10]" which is at the core of all Greek architecture expressed in the Fibonacci curve and manifested in the nautilus shell are all expressions of this mathematical insight. (see Figure 1) The Pythagoreans built our modern musical scales based on the resonances of harmonic scales.[11]

While the Pythagoreans acknowledged that opposites did exist, – odd and even define each other, straight defined crooked, good defined evil -- they contended that opposites gave rise to harmonies that were the foundation of existence. In music, major and minor (unequal) scales can be harmoniously united.

What's important for us today is that the Pythagorean notion of harmony gives rise to our modern notion that trust is based on virtue and harmony. (see Figure 2: Classical Trust)

We'd all like to think that if we could only live in harmony, we would be happy and content. War, divorce, and crime would cease; a perpetual love-in would breakout with the popular song that resonates in our hearts:

> I'd like to teach the world to sing
> In perfect harmony.
> I'd like to see the world for once
> All standing hand in hand;
> And hear them echo through the hills
> For Peace throughout the land!

Destiny

Let not a man do what his sense of right bids him not to do, nor desire what it forbids him to desire. This is sufficient. The skillful artist will not alter his measures for the sake of a stupid workman.

One who understands Destiny will not stand beneath a tottering wall"

One who follows Destiny will live a long and successful life.

One who rebels against Destiny will die before his time.
– Mencius
(Chinese Sage B.C. 372-289)

---

[10] A ratio that equals 1.618 or roughly a 5X8 relationship

[11] From Wikipedia on Pythagoreans: A musical scale presupposes an unlimited continuum of pitches, which must be limited in some way in order for a scale to arise. The crucial point is that not just any set of limiters will do. One may not simply choose pitches at random along the continuum and produce a scale that will be musically pleasing. The diatonic scale, also known as "Pythagorean," is such that the ratio of the highest to the lowest pitch is 2:1, which produces the interval of an octave. That octave is in turn divided into a fifth and a fourth, which have the ratios of 3:2 and 4:3 respectively and which, when added, make an octave. If we go up a fifth from the lowest note in the octave and then up a fourth from there, we will reach the upper note of the octave. Finally the fifth can be divided into three whole tones, each corresponding to the ratio of 9:8 and a remainder with a ratio of 256:243

There was one major flaw in the Pythagorean thinking, and it had to do with opposites: differentials or polarities were likely to destroy each other, rather than create harmony.

The Greeks had ample experience with this having been in a state of almost perpetual war with the Persians, and even with other Greek city-states at various times.

Heraclitus & the Dynamic Power of Polarities[12]

Differential energy has a long history of exploration, starting with Heraclitus (~500 BC).

As disciplined thinkers, the ancient Greeks not only sought a philosophy for everything, but also there was always a counter-philosophy.[13] No ideals like the Pythagoreans' could go unchallenged. To counter the Pythagorean flaw emerged another brilliant thinker of the time, Heraclitus, who suggested that life was maintained by a tension of opposites replacing each other in a series of transformations.

Whereas the Pythagoreans had emphasized harmony, Heraclitus's theme seemed discordant.

Heraclitus' lucid thinking is so relevant today that one wonders how he came to these conclusions over twenty five hundred years ago. He coined the word "logos" (from which our English word "logic" is derived[14]) to explain the nature of this search. Logos meant the "truth about the cosmic cause of all things," or the "divine essence of the deepest truth." (The "inner logic derived from deep root cause analysis" might better approximate the scientific meaning of this word today.)

Observing the forces of nature, he identified a set of Principles of Nature that he believed underlay the universe:[15]

---

[12] So much of today's description of Greek thinkers by modern philosophic historians tend only to "complexiguify" (the act of entangling complexity and ambiguity); I hope to elegantly simplify.

[13] For example, the Greeks had two different theories on the nature of the Solar System. One hypothesized that the sun was at the center, the other the earth. It took Renaissance Polish astronomer Copernicus, after extensive study of the two theories, a life-time of observations and calculations to determine the earth and planets revolved around the sun. Competing theories are often quite a conundrum to resolve because they contain paradoxes that are not explained within the current paradigm or level of thinking. For example, the current scientific debate about light being a photon or a wave expresses the duality of this paradox.

[14] (this meaning was grossly mistranslated into Latin as "the Word," as in "the word of God." Our English word "logic" implies that it is "rational," but totally leaves out the "inner truth" or "first cause" connotation.

[15] While a *governing structure* or set of intelligent *guiding principles* underlies the entire universe, these principles may not be derived by simple analytical, deductive thinking:

The Heraclitian First Principle of the Universe (cosmos or world order): the *Unceasing Movement and Flux of Change. Dynamic change is a causative force* in the development of life itself.

> *Strife is the father of all.*
> *There is nothing permanent except change.*
> *The more things change, the more they stay the same.*
> *Cold things warm up, the hot cools off; wet becomes dry, dry becomes wet.*

The dynamic and cyclical interplay of opposing forces forms a transcendent unity that causes all change. He contended that *opposites*, or *polarities of forces,* in tension against each other (such as joy-sorrow, wellness-illness, waking-sleeping, and life-death) were not just an afterthought, but a central theme in the story of creation and life itself. From today's practical perspective, this is much like Schumpeter's description of capitalism's *creative destruction*, whereby the old is continually being replaced by the new by the tension of competitive forces.

The Second Principle: the *Polarities of Opposites are Essential for Life Itself*, but these polar forces are unified in a System of Balanced or Equilibrious exchanges. He contended that if one force disappeared, the dynamic balance of the universe would be thrown into disarray. Thus opposites create a series of transformations which become interchangeable or "transformationally equivalent." (This does not mean opposites are identical, or the same).

> *God is day and night, winter and summer, war and peace, plenty and hunger.*
> *Opposition brings concord; out of discord comes the fairest harmony.*
> *Couples are wholes and not wholes; what agrees disagrees, the concordant is discordant.*
> *There would not be harmony without high and low notes;*
> *nor living things without female and male, which are opposites .*
> *From all things one, and from one all things.*[16]

Classical Greek Trust
is Built upon 8 Foundational
Principles: (Modernized Version)

(F.A.R.T.H.E.S.T.)

Fairness & Reciprocity

Accountability & Integrity

Respect & Honor

Truth & Honesty

Honorable Purpose

Excellence & Standards

Safety & Security

Transparency & Openness

The Third Principle: *Character* (the essential quality of trust) *is the Primary Determinative Force in*

> *If you expect the unexpected you will find it, for it is not to be reached by search or trail.*
> *Man is most nearly himself when he achieves the seriousness of a child at play.*
> *The eyes are more exact witnesses than the ears.*
> *[However], eyes and ears are poor witnesses to people if they have the uncultured soul of a Barbarian.*

[16] The motto of the Unites States: *"E Pluribus Unum"* "Out of many, one" is a derivative of the Latin translation of Heraclitus' 10th fragment, "Out of all things one, one out of all things."

One's Own Fate. How harmonies and polarities interplay -- co-exist, evolve, destroy, or transcend -- is primarily based on one's character. This underlying *Principle of Nature* manifests as a moral laws for human beings:

> *A man's character determines his destiny.*
> *Good character is not formed in a week or a month;*
> *it is created little by little, day by day.*
> *Protracted and patient effort is needed to develop good character.*
> *If you went in search of the Soul, you would not find the boundaries of it.*

The non-deductive elements of Heraclitus' passionate and extreme view seemed "irrational" and bothered many of the intellectual elite of Greece at the time. Believing that there is *nothing* permanent in the universe flew in the face of the belief in material matter.

Reconciling Heraclitus' ephemeral polarities and Pythagoras' mathematical harmonies was a daunting philosophical task. The Greek culture at that time also required embracing harmony of design and beauty in the virtue and perfection of man. As we will see shortly, both Pythagoras and Heraclitus will have a resounding impact on the greatest innovators of the 19th and 20th centuries (although most of today's innovation teams will ever know where this originated and only a few may fully understand the nature of the process).

The philosophical[17] debate raged for a hundred and fifty years. Finally it took the combined effort of three of the greatest heavyweight thinkers the planet has ever produced -- Socrates, Plato[18], and Aristotle --to worm their way through the constraints of the paradox.

---

[17] Philosophy means, literally, the love (philo) of wisdom (sophia) in Greek.
[18] Plato was Socrates' student; Plato then taught Aristotle, and later they together formed a joint venture teaching academy.

Crisis & Change

Crisis is a Change poised and ready to happen.

The word "danger" is the emotional word for the rational word "risk"

The Greeks understood that danger/risk was substantially reduced by a culture that honored differences, trusted virtuously, and built a common unity (community).

The Chinese symbol for crisis is a combination of the symbols for Danger & Precarious Moment (sometimes Opportunity).

The Greek word for Crisis is *Krisis*, meaning a critical turning point or moment of critical decision.

The ancients understood that an impending crisis was a critical turning point, when diversity could fragment and turn into dissention, or unify and result in synergy.

Character builds the trust that makes the difference in destiny's fate.

Differentials in Thinking

The Case of IDEO

IDEO is considered on the foremost organizations that conceives new innovative products for their clients. Thousands of new products have been first conceived by this organization.

They have mastered the whole concept of using *Harmonies & Polarities* -- differential thinking -- for innovation.

Just look at one of their innovation teams. Diversity: in creating teams – gathering insightful, motivated people, with a range of expertise

It is likely to be composed of:

Both men and women, varying in ages

People from highly differentiated backgrounds, such as:

Business (marketing, finance, etc)

Sociology or Psychology

Engineering or Architecture

Design or Art

People also come from different perspectives, some are extraverts, others are introverts, some are thinkers, others are doers.

In each and every team, however, they all cherish the differences within the team and honor each other's point of view. This is the essence of trust. Without it the innovation teams would rapidly implode.

Figure 3: Differentials in Thinking

Harmonizing Differentials

The Case of IDEO
How does IDEO bring it together?

It's not great talent or the best brainstorming technique. The "secret sauce" if the truth be known is a soft, squishy thing that makes hard-nosed business executives uneasy: "empathy."

In IDEO's world, innovation doesn't launch out of hair-brained ideas or super-slick graphics. Instead it starts in the heart before migrating to the head with a very sincere connection with people's frustrations, pains, anxieties, as well as their joys and desires.

Step One in the IDEO method is to comprehend and feel the human condition, empathizing with the people who will be using or servicing a new product.

Empathy is at the core of the drive to *Bond* and the essence of the collaborative spirit. Engaging collaboration is the first step in empowering IDEO's drive to Create.

Empathy is essential to trust. It's invisible – you don't see it, but without it, collaborative innovation rings hollow.

Figure 4: Harmonizing Differential Energy

Page 14

Just acknowledging the inherent value of Heraclitus' negative polarities was disturbing to the rational, virtue-seeking Greek minds.[19] They could accept some, but not all of Heraclitus' dynamic views of the universality of change and the nature of tensions between opposites.[20] Socrates[21] did, however, embrace the ideals of polarities is his use of dialectics -- dialogues between two or more people holding often very different views. He advocated that by exchanging ideas or vigorously debating across the differing polarities, one may find the real "truth," Socrates' highest value which should guide all of life. This method of debate forms the core of political discourse and legal argumentation to this day.

While Heraclitus' understanding of the universe came through "insight," Socrates was adamant that truth came from a rigorous use of logic, evidence, and proof, seeking contradictions or incongruities in reasoning, thus freeing the soul from falsehood.

Building on the insights of his mentors, Socrates and Plato, Aristotle[22] was able to formulate the resolution, which accelerated thinking about innovation. It required a set of new ideas that were considered breakthroughs at the time. Today's innovator or scientist is well advised to embrace each of these as the basis of the Collaborative Innovator's Fundamental Mindset, for if even one part of this mind set is missing or defective, the whole system of innovation is in jeopardy, for the chain is only as strong as its weakest link, a fray in a cord is where it will break, a crack fractures under pressure, a divergent course strays farther from its objective over time.

Joining Harmonies & Polarities

First, Aristotle acknowledged the Pythagorean concepts of both *harmonies* and the *power of opposites*,[23] the latter being a core element of the Heraclitus' position. Thus the idea of *differentials* as a causative force in nature and life itself became accepted thinking.

---

[19] However, the Stoics more readily embraced much of the teachings of Heraclitus.

[20] Socrates and Plato described the dichotomy of dualities in Phaedrus where two opposing drivers in the human psyche pulled in opposing directions, and it was in the development of character that we must let the higher, soulful force harness the force of debased self-interest. The idea of using dialectics – such as pros and cons, (or later in the early 1800s Hegel built on both Heraclitus and Socrates, introducing the process of thesis and antithesis which converged into a synthesis, which would be the springboard for the next level of challenges. Edison used the thesis model, and many modern innovation teams still use this model.

[21] Socrates could be extremely acerbic in his inquiries and moral criticisms. His motto was the maxim he coined: "the unexamined life is not worth living."

[22] Aristotle, considered the first scientist, followed this type of thinking with deductive reason, a method followed by most scientists to this day.

[23] Aristotle focused on ten opposites: finite - infinite; odd - even; one - many; right - left; rest - motion; straight - crooked; light - darkness; good - evil; square- oblong; male - female. Why he chose these is not know.

Phaedrus

Socrates and Plato grappled with the problem of harmonizing differentials in their story about Phaedrus, a charioteer whose destiny was determined by his ability to unify the spirit of his two chariot horses. One horse was a wild and wanton black stallion, representing Phaedrus' inner lustful passions and the other was a pure white honorable steed symbolizing inner beauty and integrity.

Phaedrus' course in life depended upon his ability to harnessing the power of black stallion while enabling the white steed to serve as a guiding light.

Aristotle grappled with the concepts of "first cause" (today we refer to this as "root cause analysis.") which encompassed causative chain that determined the nature of the universe, motion, and ethics. Following in the path first laid by Plato, he examined what was eternal, such as the cosmos, and what had a definable cause that made it come into being.

Unity, Diversity & Adaptation

Whereas his teacher, Plato, emphasized unity in his writings[24], Aristotle expanded, addressing what's been referred to as three of the most enduring puzzles in the study of life:

the *diversity* (differentials/polarities) in all of nature,

how to *unify (*integrate) these differentials in a holistic manner, and

the *adaptive transformations* (both negative and positive to humanity) that emerge from the problem of differentiation and integration. [25]

Regarding *diversity*, Aristotle explained that understanding diversity was the central problem to the discovery of the nature of life itself. [26]

---

[24] The theme of unity in diversity was not new with Plato. In the sixth century BC, in addition to the Pythagoreans and the Heraclitians, the Ionians and Eleatics all searched for the essence of reality – another way of saying the unity in the diversity. Plato revered the thinking of the "seven sages" that preceded Socrates, and upon whose work they built their innovative thinking. Einstein spent the latter years of his life seeking the Unification theory of physics. The search for unity in diversity is an underlying theme of collaborative innovation.

[25] Note: the theme adopted by the European Union is *Unity in Diversity*.

[26] According to Aristotle: We must first grasp the differences that belong to all animals as well as their proper attributes, and then attempt to discover their causes; for to proceed in this way with respect to inquiry, beginning with an investigation into the differences between things, is in accordance with nature. (History of Animals [HA] I 6, 491a7-10, cited in working paper by Henry, Devon; Aristotle and the Unity and Diversity of Life, University of Western Ontario, Jan 2011

Beethoven's Harmonies & Polarities

To grasp the harmony-polarity interplay from another dimension, listen to a Beethoven symphony, such as his 9th.

It contains miraculous and ever-changing harmonies, melodies, counter-points, oppositions, rhythms, and beats.

Together the harmonies and polarities inter-play; the tension of opposing energies creates an internal synergy that distinguishes this piece as one of the finest ever composed.

A number of music historians maintain that Beethoven was inspired to use the tensions of opposites after becoming familiar with the work of his German contemporary, Hegel, who resurrected Heraclitus' theories in the early 1800s.

Listen to any great music or dancers and you will find a tapestry of interwoven polarities and harmonies that make a symphony a beautiful synergy.

Diversity was a double edged sword in ancient Greece. Each city-state had its own gods and religion.[27]

The search for unity was not just an esoteric quest or a scientific venture; enemies like Xerxes of Persian intended to destroy the Grecian city-states one by one. Through alliances unity had major defensive benefits. Could Greece be the first place in the world that could unite without military force?

Diversity without unity was plagued with other dangers as well. Conflict, then as today, arises when tribal polarities turn vicious, vengeful, and ultimately violent.[28]

Finding the underlying laws that governed all things was an almost obsessive quest of the Greek thinkers. As an independent disciple of Socrates and Plato, Aristotle also sought to find the *unifying* order of the universe itself, whether it be in the solar system, plants and animals, or human existence. Without unity, life would be illogical, disorganized, and without an *inner design*. As Einstein commented more than two millennia later, "God does not play dice with the universe."

---

[27] Athens revered Athena, Eleusis worshipped Demeter, Samos honored Hera, Ephesus sanctified Artemis, and so forth.

[28] The relationship between city-states was both collaborative and competitive, composed of trade and military alliances on the one hand and competitive rivalries and sometimes clashes on the other. The Olympic Games were established to build a more unified view of themselves and turn the rivalries into something less political. The effort to build unity, in 472 BC the Olympic Games were expanded from one to five days and made a truly monumental religious and artistic, as well as athletic, event, including foot races, wrestling, boxing, horse racing, chariot races, a pentathlon. Athletes represented their native city-states. Political alliances were announced at the Games, which were also used to help spread Hellenistic culture throughout the Mediterranean.

The diversity of nature obviously could be attributed to some causative *adaptation* which enabled every plant and animal to function uniquely in its environment. He abounded with questions:

What were the causes of such adaptations?

Why so much differentiation?

What was the force that integrated all of life and its specialized components into a whole?

This query raised and endless stream of even more questions, more than even Aristotle was equipped to answer, especially considering there were no scientists yet. (This is why Aristotle was consider the first scientist).

Dynamic Energy

In his treatise on *Metaphysics*, seeking the first cause,[29] Aristotle introduced two new ideas that apparently had never been conceived before: *dynamic* plus *energy*.[30] Dynamic meant something had the potential, capability, or power to create change or be changed; and Energy – the first cause which causes motion-- described the actual shift/change such as in motion, work, or even human energy such as pleasure.

The two terms are polar in that *to have potential* disappears once *converted into action; dynamic* and *energy* are mutually *exclusive* because the presence of one denies the presence of the other, or as Heraclitus described, the "tension of opposites" (or the tension of opposing energies.) First causes were the forces that transformed potential energy into actualized energy.

The Chinese symbol for Synergy is a boiling pot on a fire, implying a mixture of different ingredients boiling into a new form when heat is applied.

Synergy

Next, in *Metaphysics* Aristotle addressed the problem of holistic unity. Heraclitus had proposed that from *all things one, and from one all things*. Aristotle responded by introducing the concept of *synergy,* defining it as *the whole being greater than the sum of*

---

[29] In *Metaphysics*, Aristotle explained the one exception to first cause: The "unmoved mover" which describes a philosophical concept that sets the universe into motion, but not moved by any other action or force. Aristotle describes the unmoved mover as being perfectly beautiful, indivisible, and contemplating only the perfect contemplation: itself contemplating.

[30] In the Greek: *dunamis* or *dynamis:* the potential or capability and *energia (*actus in Latin)*: to be in the act of work

the parts. (*Synergy* comes from the Greek, literally meaning "joined energy" and implies working together or co-operating to create more.[31]).

Synergy is *not just the components* of something, but *their interactions* that were important.

Thus the idea of "synergy" encompassed a holistic dimensionality about nature, giving credence – truth and weight (veritas and gravitas) --to the active interplay of both *harmonies and polarities* in nature's force field.

Truth

The idea of truth also needed to be examined. In *Metaphysics*[32] Aristotle asserted that something is either true or not true, it cannot be both. But truth can be an illusion on the surface. He introduced the concept of *relativity* (something Einstein would later become famous for).

Truth & Trust

To win trust, one must first be true to oneself, first by understanding goodness, which is the way of the Spirit of Nature.

A person true to themselves will certainly be trusted and move others.
-- Mencius (Chinese Sage B.C. 372-289)

---

[31] While this definition can limit the perspective on the phenomenal breadth and depth synergy can create, it nevertheless became a key element in the uniquely Greek cultural foundation for launching Greece's "Golden Age of Innovation." (see Lynch & Prozonic, 2006).

[32] Note: the modern reader who attempts to read Aristotle's writings today may be somewhat perplexed by what seems to be ambiguities or a lack of detail. This is because, according to Plutarch, [c100 AD] Aristotle's doctrines of morals and politics were delivered in two parts: one *written* and the other *oral interaction*, which was reserved only for the highly initiated students (what we might consider "post graduates" in today's vernacular.) Plutarch states: "[Aristotle's] books on metaphysics are written in a style which makes them useless for ordinary teaching, and instructive only, in the way of memoranda, for those who have been already conversant in that sort of learning." – p 543. The same evidently occurred with Socrates, Christ, and many other teachers of the period, of which only the oral parables to the common folk have remained.

Trust is More Important than Life Itself

When asked what his politics were, Confucius (551–479 BC) replied:

It is to provide people food,
protect people with armaments, and
gain trust from people.

When asked further: "Which should we abandon first if our country is forced to abandon food, weapons, or trust?" Confucius stated:

Abandon weapons first, then food.
But never abandon trust.
Trust is more important than life.
More people can be born,
but trust is never regained.

The appearance of something may differ from the true reality of that thing. Moreover, the appearance of something may be relative to the position of an observer, and may depend on the opinions and attitudes of the observer. Things may not appear the same to everyone, and may have contradictory appearances.

Any scientist, innovator, inventor, technician, engineer, or architect must be committed to seeking truth, lest they succumb to being a mere charlatan. A seeker of the truth, looking to solve a problem or invent a new method or create a new product must be searching for this greater truth, or the solution will fail on its own merits. The sages of the past tell us that such truths are only found on the path of trust.

Courage, Character & Relationships

Aristotle reinforced Heraclitus' emphasis of character as a "first cause" of one's personal destiny with the idea of *courage*:

Courage is the first of human qualities
because it is the quality which guarantees the others.

Others would contend, however, that *creation is first cause.* This was the principle of the Hebrew tradition (Genesis 1:1) as well as the Chinese believe in the ideals of Yang (creation) and Yin (reception).

But Aristotle takes the game of life and relationships to a much greater height. To be trusted, one must possess character, which he maintains, while is founded on a firm commitment to virtue and excellence (Greek: arête), must be taken much further.

Linking Ethics to Friendship

What will surprise the modern reader is that Aristotle's approach to ethics is more about *friendship* and *relationships* than the weighty and often dry perspective we hold today, as described by Lorraine Smith Pangle, whose fresh insights into Aristotle's viewpoint are as inspiring as they are elucidating:

> The phenomenon of friendship, with its richness and complexity, its ability to support but also at times undercut virtue, and the promise it hold out of bringing together in one happy union so much of what is highest and so much of what is sweetest in life, formed a fruitful topic of philosophic inquiry for the ancients.

> By far the fullest and most probing classical study of friendship is to be found in Aristotle's Nicomachean Ethics, which devotes more space to it than to any of the moral virtues, and which presents friendship as a bridge between moral virtues and the highest life of philosophy [love of wisdom].

> The study of friendship in the classical authors is in many ways a study of human love altogether….[embracing] all bonds of affection, from the closest erotic and familial ties to political loyalties, humanitarian sympathies, business partnerships, and even love for inanimate things…..

> In the friendships of mature and virtuous individuals we see human love not only at its most revealing, but also at its richest and highest…

> With the coming of the Christian world, however, friendship fell into eclipse….[with] Christianity's emphasis on humility, chastity …. [while] elevating one particular human bond, that of family, which had received special sanction in the Scriptures….

> However, friendship has virtually disappeared as a theme of philosophical discourse…

In a cruel philosophic twist of fate, beginning with Hobbes in the 18th century, trust and relationships became decoupled from ethics and innovation.

> This devaluation of friendship is the result of a decisive new turn in [18th century] philosophy …[that] reinterpreted human nature as directed neither to friendship nor virtue

Honor

The way to gain a good reputation is to endeavor to be what you desire to appear.
-- Socrates (B.C. 469-399)

In honorable dealing you should consider what you intended, not what you said or thought.
– Mencius (B.C. 372-289)

[arguing] that man is by nature solitary, and his .. true condition is one of serious, always potentially deadly, competition with other human beings for all that we most need and want….

Modern moral philosophy…has conceived of men's most important claims upon one another to lie outside the realm of friendship…. understanding each individual's relations to his fellows to be rooted in self-interest, taught that these relations could be regulated by sensible laws and appeals to rational self-interest. [33]

The cleaving of relationships from ethics has caused the disassociation of ethics from both trust and compassion – which was never intended and that has mechanized the unique art of building relationships that are capable of sustaining true collaboration for innovation.

Aristotle was clear and emphatic that moral virtue may lead to a dignified life of justice for the greater good, but it certainly does not equate to happiness and the experience of a joyful, creative life. As Aristotle declared: *Friendship are Partnerships --* the vital alliances that form the bridge spanning between and uniting morality and happiness; the bridge is a higher summit than the two land masses it connects, as Pangle explains Aristotle's insight:

Friendship …goes beyond justice, or even renders justice unnecessary. The goodness shown in noble friendship seems higher than justice, not only because its object is so worthy, but because it is entirely dependent on one's own character and choice and is not defined and compelled by law.

Paradoxically, acts of friendship seem both more truly generous and more conducive to one's own happiness than acts done strictly because they are moral…..

Spontaneous acts of friendship tend to be more pleasant than impersonal acts of virtue for the doer as well as for the recipient. …

Aristotle encourages the hope that in friendship one may find all the nobility of virtuous action at its best without the ultimate sacrifice of happiness, and at least a partial answer to the question of what …the best life should be. [34]

---

[33] Pangle, Lorraine S.; Aristotle and the Philosophy of Friendship, Cambridge University Press, 2008, p 1-3
[34] Pangle, Ibid, P 10

Aristotle also pointed out that:

Without friends no one would choose to live, although he possessed all material wealth.

Aristotle also warned that friendships based primarily on personal advantage, not on character, really didn't qualify to be called friendships and would likely falter due to distrust.

More than two millennia later, Charles Darwin would later observe in the *Descent of Man* what Aristotle observed twenty three hundred years ago (as described by Pangle):

Friendship seems to be … rooted in our animal nature and that does not aim at virtue at all. Nature has implanted many animals and especially human beings, a love of those who are kindred – of children and parents above all, but also of fellow tribesmen and even of the whole human race.[35]

Understanding Aristotle's exaltations of friendship as not only the bridge between happiness and virtue, but it's capacity to have *transcendent* and metamorphic impact is profound, because it gives us the critical insights to open our understanding of how the Greeks created the synergies that enabled collaborative innovation. Later we will look at how those friendships, using more of the Greek methods, actually become something more elevated; what we will call *Creationships*. (see Figure 5: Friendships & Creationships)

Friendship & Creationship

Both Aristotle in Greece (384 -322 BC) and Mencius in China (372-289 BC) said

"Friendship is one mind in two bodies."

Today, we take this to another level beyond friendship. We call it a *"Creationship:"*

Creationship is four minds in two bodies

– your mind,
-- my mind,
-- the differential potential between our minds,
-- the potential of the collective unconscious.

Figure 5: Friendships & Creationships

---

[35] Pangle, Ibid, P 20

The Three Treasures
(from Lao Tzu ~500 BC)

The nobility of great wisdom is in its utter simplicity and humility.
That is the way of the Holy Spirit of Nature….There are three cherished treasures to hold and protect;

The first is Compassion,
By which one finds Courage.
   When a man cares, he is unafraid.

The second is Fairness,
By which one maintains a reserve of energy
to reach widely.
    When he is fair he leaves enough for others.

And the third is Humility,
By which one finds influence
to assume leadership.
   When he is humble he can grow….

Those who are
  Fearless while discarding compassion,
  Seek extravagance while discarding fairness,
  Lust for glory while discarding humility,
Cannot endure --
  Living in fatal tension and conflict!

The compassionate warrior will be the winner, and if compassion is your defense you will be secure. Compassion is the protector of Heaven's salvation.

There is no greater disaster than to underestimate one's enemy.

As long as there be a foe, value him, respect him, measure him, be humble toward him;

A leader becomes blinded when he severs connection to the Three Treasured Principles: – Compassion, Fairness, and Humility.

Arrogant haughtiness thus renders him unable to see the skills and cunning of his competitor, endangering the very existence of what might remain of the three treasures, As he now must do battle with two enemies, one within and one outside.

When evenly matched forces oppose each other, the side that holds the three treasures shall win.

Aligning Forces of Greek Innovation System

In total, Aristotle's magnum opus thinking became a unifying mindset for collaborative innovation, opening up new pathways of collective creation.

While Aristotle did not have a corner on all the intellectual thinking of the times, and the collective thinking of Greece at the time was intense and profound, Aristotle's architecture of collaboration was a massive breakthrough in thinking, especially considering that there was no precedent for such insight anywhere in the world he could readily access (there was no solid intellectual interplay between Greece and China, from what we can gather that would link, for example, Heraclitus and Lao Tzu, who were alive at the same time).

Why Alignment is Essential to Trust

We know the real power of Aristotle's configuration of the Greek innovation system. It is the Power of Alignment, which is essential for anyone to come to trust the whole – the "*system's integrity*." As Robinson and Stern emphasize as the first element of success in their book *Corporate Creativity*:

Alignment is about ensuring that the interests and actions of all employees are directed toward a company's key goals, so that any employee will recognize and respond positively to a potentially useful idea. Companies … cannot be consistently creative unless they are strongly aligned.

Alignment is often overlooked, it is intangible and elusive, and as far as corporate creativity is concerned, its effects are readily visible only when the company is either extraordinarily well aligned or misaligned.

Our own research and experience has led us to conclude that corporate creativity is more sensitive to alignment than any other aspect of business or management, and that unless a company is strongly aligned, it cannot be consistently creative.[36]

Without alignment on the larger vision or purpose and key principles or processes, no leader of innovation can be successful. Alignment is at the core of trust. The Greeks discovered this and we are now re-learning it today.

Destructive Potential of Differentials

However, there is one powerful, and often overwhelming problem that Aristotle did not address directly: *Differences are often charged with emotion, fear, conflict, and even warfare.* Differentials, polarities, and opposites seemingly have a greater chance of exploding into conflict, not synergizing into innovation. Just look at Arabs and Israelis or Conservatives and Liberals today.

---

[36] Robinson and Stern, Ibid, p 13, 90

Why didn't Aristotle address these issues head-on, just as he had wrestled with other thorny problems?

The answer is actually quite simple: in the context of Greek culture of the times, these issues were already addressed and considered a "given," imbedded in the cultural context of the time. There were four powerful cultural forces influencing the Greeks in Aristotle's era that were considered a "given" or "self evident" because they were so deeply imbedded within the culture of the day. Some of these forces *directly* contributed to the innovation flows, while others were essential *enabling* forces.

We discovered a number of interacting cultural phenomenon that underpinned the Greek synergy, and several of them we will outline here, as they were highly instrumental in generating innovations.

Substantial research in the world of innovation has concluded that establishing a

---

The idea of imbedded or contextual values is a blessing and a curse. I remember asking a Japanese business executive in 1990: "could you tell me what specific things cause trust?" He looked at me with a querulous, almost jaundiced eye and said: "Why? No. "It should be understood. (meaning that everyone knows this without having to verbalize it and anyone who doesn't get it shouldn't be trusted in the first place.)"

When something becomes imbedded or implicit, it doesn't' require thinking or explication – people just do it. But for an outsider, what is implicit is effectively "invisible."

The Greeks had created an "implicit" culture that was not easily communicated or seen by the Romans who had to have it codified.

The purpose of having a structure or architecture is that one can transfer implicit knowledge and understandings to outsiders and newcomers so that there is no question about its meaning and purpose. Thus civilization can be transmuted to other generations and cultures.

Architecture, then, can be trained, learned, and communicated. Architecture enables the flow from the explicit to the implicit, and the translations of the implicit back into the explicit. Architecture give form, substance and meaning to the implicit, and reveals the inner design and value of the explicit. Without architecture, the implicit can never evolve to higher orders of meaning and thinking. It is the bridge between the implicit and the explicit enabling a perpetual interplay of learning between the two. Architecture also provides the means to shift to higher orders of thinking and understanding, and fundamental shifts required in the principles, laws, and practices embodied between the earliest evolution of the architecture and later evolutions. Architecture also provides the core standards for behavior.

"culture of innovation" is the most important factor in building an organizational innovation "engine." The Greeks learned that people must "trust" the alignment of principles and processes as much as they trust the alignment of the each organizations

unique goals and objective. When there is misalignment, there is conflict and discord as people fragment and then position themselves to defend their positions and possessions.

SIX CORE VALUES

Much of Greek innovative interaction was manifested in their philosophies and embodied in their words and values. We identified several critical words that epitomized the underlying value structure of the core innovation processes:

Arete (Virtue)

Philotimos (Love of Honor)

Sophia (Wisdom)

Koinonia (Spiritual Community)

Metanoia (Mind Shifting)

Historia (Deep Inquiry)

When the combined force of aligned human energy was released with the core values embodied in these words, a burst of co-creative synergy was let loose, much like a lightning bolt discharges when the energy potential reaches a flash point. The power of these values can be seen in modern times, but to a lesser extent because our value structure is much looser, less rich (flatter), vaguer, more politicized, and more confused and conflictive.

Also, it's vital to understand that the ideals embodied in "philosophy" were far important to Grecian society than "philosophy" is to ours. Back then, philosophy was discussed, debated, honored, and idealized. The idea of creation, beauty, and truth manifested and embodied itself all aspects of society: in architecture, art, sciences, and social discourse. These were powerful reflections of the philosophic values of the Greek culture.

The key six values described below we believe were the "core" values (listed in no particular priority order – each was central and symbiotically important to the synergy process as the other) that contributed specifically to innovation.

1. Arête (Virtue):

Arête, known in Latin and English as virtue (or excellence), was also a pivotal value the co-creative spirit in ancient Greece. It meant to do the right thing, the best thing, to be the best person. One could not perfect one's soul unless virtue was a continual pursuit.

Virtue was dependent upon one's commitment to act in accordance with the dictates of the higher soul, and not forsake oneself to the more prurient, lower level vices such as lust, greed, anger, or revenge. While no one then, nor today, could be expected to be perfect at the practice of virtue, holding this standard as a goal enabled higher order teamwork, intellectual interaction, and co-creativity to take place.

Socrates and Plato introduced the concept of the soul in a profound manner to the Greeks. The soul became a universal connection between people, enabling the sparks of creative energy to flow between individuals without the fear or concern of betrayal[37], who got the credit, or loss of ownership. Ideas were owned collectively and thus shared and built upon by a group, who cherished the value of regenerative energy.

But virtue could never be achieved unless one practiced honor, sought wisdom, and built community. As Ninon Prozonic observes:

"Arête (virtue) was not a moral virtue only, but it was more an aspiration and endowment of qualities that would result in practical efficiency and public fame. Most young Athenians wanted virtue more than anything."

In today's world of teams, community, and alliances, virtue should not be neglected as both a price of admission and as a standard of excellence. Differences in opinions can be handled virtuously with compassion, understanding, and acceptance, or, conversely, arrogantly with condemnation, derision, and denial.

Modern day co-creative teams can gain a great edge when a powerful commitment is made by all the members to think, speak, and act in a caring manner. The commitment to exploration and inquiry is an essential component of successful innovation and breakthrough.

2. Philotimo (Love of Honor)

Philotimo is a critical element in understanding the human co-creative foundation. Literally it means the "love of honor," and carries a very special sense of honor, obligation, self respect and teamwork. It was considered as an "extremely sensitive region of men's souls that gives forth gallantry, nobility and moral pride; it is the sense of honor and dignity."

---

[37] See: Mordred Factor & Machiavelli Maneuver by Robert Porter Lynch

Unfortunately, neither the word nor the idea has any English equivalent, and thus the concept has been largely lost in our culture. When Virtue (Arete) was joined with Love of Honor (Philotimos), the union created two powerful foundations for innovation: trust and focus on the "greater good."

As any modern innovation team knows, trust spurs creativity by taking away the fear of betrayal, thus letting the mind expand into imaginative realms. Similarly, by focusing on the "greater good," a team is able to supersede ego, greed, and self-interest with the faith that all will benefit.

As Alexander Makedon has described, the ancient meaning of Philotimos was complex but essential to the functioning of the culture:

"In ancient times, there was great public pressure to behave uprightly. It would be unthinkable that someone without integrity (honesty, justice, truthfulness) is admired…"

"This emphasis on goodness is perfectly encapsulated in the ancient inscription "kalos k' agathos" on numerous Greek artifacts. Kalos k' agathos[38] means, literally, "good and good," with one "goodness" referring to the [outward] social and personal "beauty" of the person being depicted on the artifact, usually an amphora, and the other to his [inner] moral and humanitarian excellence. One is inwardly looking to personal improvement, the other outwardly to the quality of his social relations." "The purpose of education was the formation of character" to build a good and virtuous person – kalos k'agathos anthropos"

"The term "philotimo" …..may be translated as an internalized inclination to do good, with a strong sense of social responsibility. (Etymologically, filotimo means "love of honor" =philos+timi, although the honor referred to is not merely external, or for "show" purposes, but a psychologically internalized yardstick of goodness, as in the ancient "kalos k agathos."

"Few will deny that among modern Greeks, philotimo is not only widespread, but also highly desirable. By now it is considered almost a cliche that if you want Greek men to cooperate with you, then somehow you must appeal to their "philotimo," including their personal worth, or the degree to which what they are about to do is lofty. Modern Greek culture puts inordinate pressure on young people to acquire philotimo, often through their teacher's rhetorical exhortations to "act with philotimo." At others times, anyone may be asked by someone else such embarrassingly castigating questions as, "How could you act that way? Don't you have any philotimo left in you?"

"By making them confront the possibility of their "aphilotimia" (=lack of philotimo, or integrity), they are at once chastised, or, worse, threatened with virtual exclusion from civilized company. Furthermore, and perhaps most painful, to be branded

---

[38] Kalos k' agathos has a number of connotations, including being Noble and Ethically Courageous, and in the 4th Century BC carried implications of "dutiful citizenship."

as "aphilotimos" is sometimes even equated as being dispossessed of your true "Greek [culture]."

The power of Philotimos was extraordinary in that it bound the individual to a very high standard of behavior. Philatimo was not just an admired trait among Greek citizens, it was expected of them. The expectation was that all members of the society or community would first act in the interests of the greater good of the whole, not in their self interest.

And anyone who violated the honor code of Philatimos would be branded a heretic, labeled with the scarlet letter "A" for Atimia - which means unscrupulous, dishonest, dishonourable, like a weasel and a fox etc.. The consequences of atima were severe: excommunication – to be ostracized or exiled from one's community for violating the "common unity." As my colleague Ninon Prozonic says:

"In ancient Greece - the very worse thing that could happen to a man was to lose his 'timiotita' (from the word 'atimia') meaning lose his honesty.. men were judged for their moral traits.. and lost their civic rights when accused of 'atimia' They were thrown out of Athens and had no rights.. They did not have to be caught killing, or stealing to be branded 'atimos' - Athenians had to cast 6000 votes in order to judge someone.. Everyone voted. If a majority of the 6000 people voted and found you to be dishonourable, you just lost your civic rights and had to leave Athens and go into exile!! Moral values during that era were far more important to ancient Greeks than anything else! It was very important to them from a religious stand point to live a very honourable and virtuous life. They believed that if they lived and acted honourably, would reach a superior 'level' of virtue, which would give them happiness."

Philotimos was the principle source of trust that enabled the group to overcome their fear of betrayal, their fear that one person's unscrupulous or selfish desire would supersede the greater good of the whole. Aristotle observed that that all human actions have one or more of these seven causes:

Chance   Nature   Compulsion   Habit   Reason   Passion   Desire

Of these seven, if Reason and "constructive" desire were to prevail over compulsion, passion, old habits, chance, and "destructive" desire, then any group must adhere to a code of honor which would form the covenant of cooperation.

The implications of this idea/ideal on any community, team, or alliance today are profound. Those who break the bond of virtue by violating honor, respect, and love for one another can no longer play in the game. Those who play by the rules of honor will cherish the greater good – all for one, one for all – thus being released from the bondage of fear of betrayal, released to explore the unknown together.

3. Sophia (Wisdom)

Wisdom was so vital to the Greeks that it was not embraced by just a word, but honored in the highest manner by dedicating a god to it. The Greeks knew Wisdom as Sophia, a Goddess who brought Truth. The distinction the Greek made between knowledge (gnosis) and wisdom (Sophia) is important.

An active mind could bring deep knowledge. But knowledge alone is often empty of real learning, and can carry with it much conceit and narrowness. Knowledge existed in answers, wisdom in questions and in revelations, uniting idea with action. Knowledge is intrinsically self fulfilling, while wisdom creates higher order purposes and new destinies. The pursuit of wisdom created the challenge to grow upward with a spiritual yearning. Wisdom, thus was sacred. As written in the Wisdom of Solomon from the Apocrypha:

"Wisdom, the fashioner of all things, taught me. For there is in her a spirit that is intelligent, holy, unique, manifold, subtle, mobile, clear, undefiled, distinct, beyond harm, loving the good, keen, unhindered, beneficent, philanthropic, firm, sure, free from care, all powerful, all seeing, and interpenetrating all spirits that are intelligent, pure, and most subtle. For wisdom is more mobile than any motion, and she penetrates and permeates everything, because she is so pure; for she is the breath of the power of God...." [39]

It is this sacred journey that so excited and empowered the Greeks. Wisdom combined knowledge with spiritual transcendence and human compassion and passionate action.[40] Wisdom was not dry like knowledge, but it was dynamic, engaging, vital, and soulful. As Ninon Prozonic pointed out:

"Athenians were always excited and happy when a sophist (teacher of wisdom, such as Socrates) would visit Athens so that they could learn those qualities which were a pre-requisite of Arete – to be virtuous, one must also be wise."

By holding wisdom as a sacred ideal, it unified groups to search, to inquire, to explore, to be open to new ideals. This approach is diametrically different from the arrogance of those who found prideful pleasure in knowing more than someone else, who put others down for some perceived weakness, or treasured a condemnation for lack of superficial wealth or status. (Interestingly, some of the most revered wise men in Greece -- Socrates, Homer, Aesop -- were actually quite poor; and Epicticus was a slave.)

---

[39] Later versions of the Apocrypha became embodied in the Catholic Church's Bible (but omitted in the Protestant version). Because gods and goddesses were clearly a pagan belief, the early Christian church struck out the references to "Sophia" from the Wisdom of Solomon, and renaming her as the "Holy Spirit" in her place, still retaining the sacredness of Wisdom. See John 14 & 16 for more details on this connection.

[40] The Greeks did not write obituaries. Instead they asked the question: "Did he live a life of passion?"

4. Koinonia (Community)

To unify and manifest these three ideals required a forum for group action. Without joint action, the words would be simply abstract and irrelevant concepts. Today's idea of teamwork had a deep meaning for the Greek. Joint action required a powerful framework for a group of people to produce something unique and potent. For this, the idea of synergy came into being. The word synergy means:

The interaction of two or more agents or forces so that their combined effect is greater than the sum of their individual effects.

Cooperative interaction among groups, that creates an enhanced combined effect.

The word itself is derived from the Greek `sunergi,` meaning *cooperative work or unified energy*, and from `sunergos,` meaning *working together in fellowship.* In effect, for the ancient Greek, simply working together would produce and effect far greater than more than the sum of the individuals. This is a critical meaning, because it transcends issues of conflict, dissention, and factionalism.

Did the Greeks believe that when a group adopts the values of honor, virtue, and wisdom, a synergistic effect occurs? Were the Greeks that naïve? Or did they understand something we have lost?

To answer these questions it's valuable to understand the ideas and nature behind *Koinonia.* The word has such a multitude of meanings that no single English word is adequate to express its depth and richness. It is a derivative of *koinos,* the word for common.[41] *Koinonia,* is a complex, rich, and thoroughly fascinating Greek approach to building community or teamwork.

Because of Virtue (Arete) and Love of Honor (Philotimos) were conjoined, their union produced a strong commitment to *Kalos k' agathos* meaning *"good and good,"* – an *inner* goodness toward virtue, and an *outer* goodness toward social relationships. This laid the foundation for outer goodness to embrace joint participation in something with someone, such as in a community, or team or an alliance or joint venture. Those who have studied the word find there is always an implication of action included in its meaning. The definition of the word is quite rich in that there are many connotations because the word used in a variety of related contexts:

Generous Sharing: Koinonos means 'a sharer' as in to share with one another in a possession held in common. It implies the spirit of generous sharing or the act of giving as

---

[41] "Common" has two different meanings in the Greek and English. It can refer to that which is jointly held by a large group, such as the "town commons." It can also mean something that is commonplace and vulgar (as contrasted with that which is precious and uniquely distinguished. The former meaning is implied here.

contrasted with selfish getting. When koinonia is present, the spirit of sharing and giving becomes tangible. In most contexts, generosity is not an abstract ideal, but a demonstrable action resulting in a tangible and realistic expression of giving.

In classical Greek, koinonein means "to have a share in a thing," as when two or more people hold all things in common. It can mean "going shares" with others, thereby having "business dealings," such as joint ownership of a ship. It can also imply "sharing an opinion" with someone, and therefore agreeing with him, or disagreeing in a congenial way. Participation is vital because vital as the members are sharing in what others have. What is shared, received or given becomes the common ground through which Koinonia becomes real.

The Greeks seemed to have known what we know now: "Sharing Expands, Hording Contracts."

Partnership: "Koinonos" in classical Greek means a companion, a partner or a joint-owner. Therefore, koinonia can imply an association, common effort, or a partnership in common." The common ground by which the two parties are joined together creates an aligned relationship, such as a 'fellowship' or 'partnership.' In a papyrus announcement a man speaks of his brother "with whom I have no koinonia", meaning no business connection or common interest. In the New Testament, (Luke 5:10) James, John, and Simon are called "partners" (**koinonia**). The joint participation was a shared fishing business.

Marriage: Two people may enter into marriage in order to have "koinonia of life", that is to say, to live together a life in which everything is shared. **Koinonia** was used to refer to the marriage bond, and it suggested a powerful common interest that could hold two or more persons together.

Spiritual Relationship: In this sense, the meaning something that is held and shared jointly with others for God, speaking to man's "relationship with God". Epictetus talks of religion as 'aiming to have koinonia with Zeus". The early Christian community saw this as a relationship with the Holy Spirit (see footnote 1). In this context, koinonia highlights a higher purpose or mission that benefits the greater good of the members as a whole. The term *enthusiasm* is connected to this meaning of koinonia for it signifies *"God in Us,"[42]* or *one's participation in the Divine.*

Fellowship[43]: To create a bond between comrades is the meaning of koinonia when people are recognized, share their joy and pains together, and are united because of

---

[42] Definition: The source of the word is the Greek *enthousiasmos,* which ultimately comes from the adjective *entheos,* "having the god within," formed from *en,* "in, within," and *theos,* "god." **Word History:** "Nothing great was ever achieved without enthusiasm," said the very quotable Ralph Waldo Emerson.

[43] Definition: Fellow is from the Anglo-Saxon and Old Norse 'felagi', comrade or partner.. 'Ship' is a suffix indicating state or condition. Fellowship is a state in which we share as fellows, that is as partners or

their common experiences, interests and goals. Fellowship creates a mutual bond which overrides each individual's pride, vanity, and individualism, fulfilling the human yearning with fraternity, belonging, and companionship. This meaning of koinonia accounts for the ease by which sharing and generosity flow. When combined with the spiritual implications of koinonia, fellowship provides a joint participation in God's graces and denotes that common possession of spiritual values.

Thus early Greco-Roman Christians had a fellowship God, sharing the common experience of joys, fears, tears, and divine glory. In this manner, those who shared believed their true wealth lay not in what they had, but in what they gave to others. Fellowship is never passive in the meaning of koinonia, it is always linked to action, not just being together, but also doing together.

With fellowship comes a close and intimate relationship embracing ideas, communication, and frankness, as in a true, blessed interdependent friendship among multiple group members.

Community[44]**:** The idea of community denotes a "common unity" of purpose and interests. By engaging in this united relationship a new level of consciousness and conscience emerges that spurs the group to higher order thinking and action, thus empowering and encouraging its members to exist in a mutually beneficial relationship. Thus community and family become closely intertwined, because aiming at a common unity strives to overcome brokenness, divisiveness, and, ultimately gaining wholeness with each of the members, with their environment, and with their God. By giving mutual support, friendship and family merge. Both fellowship and community imply an inner and outer unity. No where in the framework of community is their implied a hierarchy of command and control. While there is leadership, the leader's task is to focus energy, and align interests, not impose control.

Koinonia is a very expansive and meaningful term, for which no single word in the English dictionary can describe.

Koinonia creates a brethren bond which builds trust and, especially when combined with the other three values, overcomes two of humanity's deepest fears and insecurities: being betrayed and being demeaned.

---

peers. Fellowship addresses the relationship between people, not between material objects. One doesn't have a fellowship with a house, a companionship with a tree, or a comradeship with a bed. It relates to a state or condition in which such persons interact, thus we speak of friendship, partnership, and fellowship.

[44] Definition: from Latin *communitas*, *fellowship*, from *communis*, *common*; **a.** A group of people having common interests. **b.** A group viewed as forming a distinct segment of society. **c.** Similarity or identity: a community of interests. **d.** Sharing, participation, and fellowship.

Whether working collectively or individually, the innovators of ancient Greece worked for the greater good of the whole – to propel their community forward, to share their understanding with others so that all ships would rise on a rising tide. Thus loftier goals and dreams are more easily manifested in the mind and achieved in reality. The team's sense of Purpose became manifest.

5. Metanoia (Mind/Paradigm Shifting)

If one looks up the word Metanoia in a modern dictionary, the definition is typically overly simplistic: *beyond the mind.* Unfortunately, the richness and depth of real meaning has been "flattened" in the English language.

More properly metanoia meant:
shift the mind to a higher/transcendent order of conscious understanding.

In this sense, metanoia sought to move the level of perception from a more mundane experience to a spiritual one where the perceptions of reality embrace the role of God as creator and maker of the highest and deepest truth.

The word is made of two parts:

Meta = beyond, in the sense of outside the normal realm of perception, shifting to a higher plane, higher than what the birds that fly might see. Modern English words like meta-principles, metamorphosis, metaphysical, etc embrace this notion.

Nous = the highest good, beyond normal being, the "first cause." When one reaches the level of "nous," everything becomes natural, obstacles cease to exist, life opens, and one's soul and mind marvelously unite – giving access to a transcendent universe of "first source," or "fundamental truth," referring with reverence to the deepest meaning of life.

Albert Einstein was well acquainted with these concepts (although probably not the word itself) and where such thinking could take him when he said:

Creativity is More Important than Knowledge,

We Cannot Solve Today's Problems
with the Same Level of Thinking that Created the Problem.

God Does Not Play Dice with the Universe

When Greeks used the soul to 'see' beyond, the 'mind' transcended to "the heart of the mind" (in the Greek the word is 'nous') The *heart of the mind*[45] is more expansive, more powerful, more peaceful, more natural because it operated above and beyond people's normal experience and expectations – functioning at the level of *divine expectations.*

In the ancient writings, the words *repentance* and *forgiveness* are often closely linked to metanoia. While this seems strange to the modern reader today, it must be understood that the word *repent* originally meant to "shift or change one's mind to a higher order of thinking.[46]" When a person had acknowledged this shift in the mind, they had "repented." Similarly forgiveness meant to shift from the moribund thinking of anger, hatred, revenge, and vindictiveness, and upward to releasing the pain and hurt one holds within. Forgiveness first heals the forgiver.[47]

As one shifts to a higher view of life, the relinquishing of the of the old point of view left one to regret the old framework or paradigm, which is now seen as fallacious, incorrect, or regrettable. We then relate to the world and to others in a fresh, innovative way

Thus metanoia connoted a regenerative force. By exercising forgiveness, whether it be self-forgiveness, or with others, the effect is cathartic, cleansing the mind and the soul to enable a blossoming as one figuratively leaves a dark winter to enter a flowering of spring. By shedding the old husk, the human spirit is released from the bondage of anguish, pain, pettiness, and bitterness and reborn anew at a higher level.

This process of renewal was uniquely Greek. The Latin word "revival" (to re-live) was not nearly as fulfilling as its Greek counter-part: Anapterosis (to take flight, to rise above as on the wings of a bird, such as a phoenix rising from the ashes). The Greek word, despite its nearly impenetrable pronunciation, embodies the whole idea of transcendence and transformation lacking in the Latin version.

Similarly, metanoia often required "courage," a word meaning *a heartfelt conviction,* by which the courageous person put their ideals ahead of their fears, or taking the less comfortable path to stand for what's right, despite the consequences. In the world of the twenty-first century, the rich Greek meaning of courage is used nearly synonymously with the Latin word "valor," meaning fearlessness or bravery.

---

[45] Another commonly referred to reference on this concept is in the Old Testament Book of Proverbs: As a man *thinketh in his heart,* so shall he be.

[46] Now the word means to acknowledge or pay for one's sins. For the ancient Greek, it was simply an acknowledgement that one had been experiencing the world at a lower order of perception.

[47] Christ's admonition: "Judge and ye shall be judged, condemn and ye shall be condemned, forgive and ye shall be forgiven" is a perfect example of such a framework of thought.

By shifting the mind to a higher plane, metanoia became a fundamental learning process through which "discovery" (Latin: to uncover) or "anacalipto (Greek: to uncover that which is hidden) was an important piece. Much like Michelangelo, who, after unveiling the Pieta, said he didn't really carve the statue, but simply revealed that which was already in the stone, so metanoia became not a process invention, but a discovery, an unveiling of that which has been hidden. This idea was also expressed by the Wright Brothers on the evening after their first flight in 1903 when Orville Wright said: "Isn't amazing how all these secrets of flight have been hidden for so many years just so we can discover [uncover] them." The Wrights did not "invent" the airplane, they simply uncovered that which was hidden.

Socrates is credited with using dyads to juxtapose one idea against another to seek the truth. He postulated that one idea would represent "thesis" and an opposing idea would be "antithesis." Debating the merits of each would then enable the creation of "synthesis" (the joining or aligning of ideas in a new form. What seems to be missed in the understanding of the ancient Greek system was that "metanoia" was engaged to enable the shift to synthesis, thus preventing debilitating argument and rancor, such as that which lawyers do in court, often obfuscating the real truth.

6. Historia (Deep Inquiry)

The father of inquiry ('h'istoria[48]) was Herodotus (484-425 BC), who travelled in every direction systematically asking questions, making inquiries (*historia*). Always asking "why" and "how," he travelled to Egypt asking how many forms of mummification they used, or in Babylon what healing methods were used by doctors. He was curious about how other cultures lived differently, what practices were forbidden, and why. He produced a large volume called *The Inquiries* that detailed his travels and observations.

A good historian is objective, analytical, and seeks root causes, asking numerous questions about the reports he receives, compares the details with other people's views about the same event, critically analyzing and challenging the data, comparing opposing positions, then using logic and the best other sources to find as much truth about the event as possible. The next generation produced Thucydides (460-395 BC), who improved greatly on existing methods. Known today as the father of "scientific history," his methodical approach and strict standards of evidence-gathering and cause-effect analysis is admired to this day. Military schools still study his history of the Peloponnesian wars. He also pioneered the exploration of human behavior in times of stress, wars, and plagues.

Socrates (469-399BC), a contemporary of Thucydides, was equally disciplined in his approach to inquiry, which is still used today, known as the Socratic Method. There is perhaps no other thinker in the history of the human race that was so filled with deep questions as Socrates. His dialogues, as recorded by Plato, were among some of the most challenging interactive questionings ever recorded. It is reasonable to assume, while

---

[48] The origins of the English word *history* stems from the Greek word *to inquire.*

Socrates had obviously mastered this method, others had also become quiet adroit at inquiry, which enabled them to dig deep into the depths of scientific investigation. When one reads Hippocrates, for example, one is immediately impressed by his level of insight, investigation, and analysis. Unquestionably Socrates' student to become thought leader, Plato, and his student to become thought leader Aristotle, were all masterfully disciplined at the art of inquiry.

Were it not access to Polybius' detailed inquiry and analysis of monarchies, democracies, and dictatorships, the American Founding Fathers would have been severely limited in their thinking about the design of our contemporary republic.

One can read Ptolemy's[49] scientific inquiry into the nature of the universe and see the tremendous integration of sophisticated observations, trigonometric calculations, and analytical deductions. While Ptolemy's thesis (position) that the world was the center of the universe (and later proven wrong), other Greeks, using the method of deep inquiry, proposed their opposing thesis (antithesis), that the sun was central. This form of debate, called "dialectic) with supporting and opposing modes of inquiry is central to any community of learning.

The idea of dialectic debate was not for one side to "beat" the other or show its intellectual prowess, but to illuminate everyone, to reveal fundamental truths, and reveal inherent weaknesses in thinking, thus allowing all participants to engage in "metanoia" – the co-creation of a new order of thinking that came closer to the truth – today we call this a "paradigm shift."

Fundamentally, inquiry is more than just a process of asking questions. For the Greeks, it was an awe-inspiring journey of discovery that commenced from *wonder* as the first step. This was a somewhat playful, even child-like experience that embraced genesis (creativity), synthesis (system thinking), analysis (observing components), and sympathesis (relating).

---

[49] Ptolemy was a Greek Egyptian operating outside of Alexandria writing about 100 AD. Using centuries of accumulated data, he had carefully plotted the course of the stars and the planets, and, erroneously concluded that the sun and the planets had revolved around the earth. Without the benefit of telescopes, the Greeks had pondered and debated whether the sun or the earth was central in the solar system. In the late 1400's, Copernicus, studying under a Greek scholar in Padua, learned of the theories of early Greeks, such as Aristarchus of Samos, Heraclides Ponticus, and Philolaus who proposed the first models of a heliocentric solar system: the Earth and all other planets revolving around the Sun, the Earth rotating around its axis daily, the Moon in turn revolving around the Earth once a month. Because those works have not survived (but Ptolemy's have) Copernicus is rightly credited with having proven the sun is central to the solar system. During the early 1500's, Copernicus disproved the theory of an earth-centric universe, and proved the sun was the center of the solar system. (All calculations by Copernicus were made without the aid of a telescope, which was not invented until early in the 1600's and then improved upon by Galileo.)

CONCLUSION

By combining a strong amalgam of Honor (Philotimos), with Virtue (Arête), Wisdom (Sophia), Koinonia (Community), Metanoia (Paradigm Shifting), and Historia (Deep Inquiry), Athenians and other citizens of allied city-states were able to work collectively, to co-create, co-operate, and generate a revolutionary community that exceeded all other tribal nations of that era, and set a standard of excellence that, in many ways, as never been duplicated.

This was the essence of how the Greeks created synergy.

Synergy is the deepest yearning of the human soul. Few people do not have a heartfelt desire to create a synergistic relationship between themselves, their God, and nature.[50]

Sadly, at the very time these Greek values were being transformed into a Christian context, the Roman Empire fell to the Barbaric tribes and spiritual Christianity succumbed to the regimented dogma of the Church. Lost were what was left of the traditions, culture, and practices of the ancient Greek, buried in the dearth of inspiration by the arduous death-march of the Dark Ages.

In the modern world, a concerted (but unknowingly superficial) effort was made to resurrect a few of the symbols, edifices, and teaching of some of the values and principles of the ancient Greek. Beginning with the Renaissance, the Greek books of learning were reopened after a thousand years of collecting dust. Their genetic code was examined only as an exoskeleton, without understanding their DNA buried within the culture after the Romans left only a shadow of the evidence.

These six values formed the "core" or "kernel" of the Innovation System. Like a seed kernel, the entire plant is imbedded in the kernel's DNA. And, like a seed, it will not germinate and grow without sun, water, and fertile soil. Continuing the analogy, the kernel needs a support system of other values to flower. In the next edition of this study, we will include the "support values."

With this newly discovered level of understanding, what has been lost or invisibly imbedded in our collective unconscious can now be manifested, replicated, and regenerated. We believe by engendering these six values into a modern innovation team, community, or alliance, magic will occur as synergy blossoms. For the first time in over

---

[50] It therefore should be no wonder that, when Christ preached the overarching commandment "Love God with thy whole mind, and whole spirit, and love thy neighbor as thy self, he was exhorting people to engage in synergy. Early Greek Christians, already practicing their core cultural values would not be as perplexed as we are today by the passage in John 14:12-16 "I leave you so that the Great Comforter, the Holy Spirit (Sophia) may come to you ... And these work that I do so shall you do, and greater works shall you do than I."

2000 years we should be able to create synergy on a sustainable and replicable level. And, if the team does something to lose that synergy, it can be resurrected.

****

Author's Notes:

This is a fourth draft. Further editions will amplify on our "process archeology." In particular, in later editions, we will be elaborating on how the Greeks created a series of support values to reinforce the core values. We invite feedback from readers. While we believe the core values enumerated above were the key innovation enablers, there were other supportive values that will be discussed in the future. Also, in later editions, we will lay out a case describing why the Romans were unable to sustain the Grecian Age of Innovation, and its implications on our society today.

In somewhat simplistic terms, one might say that unleashing the innovative spirit in any human civilization involves only four things:

Cherish Differences

Honor Others

Inquire Deeply

Share Fully

We are especially appreciative of Jerry Dell Erlich's comments and insights on this unique period in human history. Jerry's books and his personal guidance have been extremely helpful. He is one of the few Platonist scholars in America. Three of his books: *Plato's Gift to Christianity*, the *Platonic Bible,* and *The Profound Charm of Plato* are fascinating reading for those willing to dig deeply into the spiritual roots of the Greek culture and how it influences our culture today.

Overview of the Golden Age of Greek Innovation
Keynote Speech

In his presentation, Robert Porter Lynch, who has led a team dedicated to finding the Greek Innovation Source Code, reveals:

- The fascinating story of how the code was buried, and how it was found
- How the Greeks were able to generate a sustained level of scientific innovation that is unrivaled, per capita, by any society since
- Why the Roman Empire was unable to produce any significant scientific breakthroughs over a period of 700 years of world dominance, and why they were unable to replicate the extraordinary method of the Greeks
- How to apply Six Greek Innovation Principles to any modern innovation team and see the profusion of innovation soar
- How the Greek discovery of Dynamic Differential Energy can be used with modern innovation teams to jump-start creative collaboration
- How to build a foundation of trust that is essential to trigger massive levels of collaborative innovation and generate high performance teamwork

APPENDIX

Technology	Date
Streets	*c. 400 BC*
Cartography	*c. 600 BC*
Rutway	*c. 600 BC*
Caliper	*6th century BC*
Truss roof	*550 BC[9]*
Crane	*c. 515 BC*
Escapement	*3rd century BC*
Tumbler lock	*c. 5th century BC*
Gears	*c. 5th century BC*
Plumbing	*c. 5th century BC*
Spiral staircase	*480–470 BC*
Urban planning	*c. 5th century BC*
Crossbow	*c. 5th century BC*
Winch	*5th century BC*
Wheelbarrow	*5th century BC*
Showers	*4th century BC*
Central heating	*c. 350 BC*
Lead sheathing	*c. 350 BC*
Astrolabe	*c. 300 BC*
Canal lock	*early 3rd century BC*

Ancient Suez Canal	*early 3rd century BC*
Lighthouse	*c. 3rd century BC*
Water wheel	*3rd century BC*
Alarm clock	*3rd century BC*
Odometer	*c. 3rd century BC*
Chain drive	*3rd century BC*
Cannon	*c. 3rd century BC*
Double-action principle	*3rd century BC*
Levers	*c. 260 BC*
Water mill	*c. 250 BC*
Three-masted ship (mizzen)	*c. 240 BC:*
Gimbal	*3rd century BC*
Dry dock	*c. 200 BC*
Fore-and-aft rig (spritsail)	*2nd century BC*
Air and water pumps	*c. 2nd century BC*
Sakia gear	*2nd century BC*
Surveying tools	*c. 2nd century BC*
Analog computers	*c. 150 BC*
Fire hose	*1st century BC*
Vending machine	*1st century BC*
Wind vane	*50 BC*
Clock tower	*50 BC*

NOTES