

Science of the Impossible and Societal Transformation, Part I

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By Nicanor Perlas, www.truthforce.info

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Recently US President Barack Obama reflected on the impossibility of his victory. '...what started out as an improbable journey when nobody gave us a chance was carried forward, was inspired by, was energized by young people all across America.' In the Philippines, in 2004 and 2007, Governor Grace Padaca and Governor "Among Ed" Panlillo respectively, also achieved the impossible. Both defeated well-organized, wealthy, powerful, and well-connected political dynasties without money, without political machinery, and without political experience. Is there a science of the impossible that would empower societal reformers not only with an understanding and a methodology for profound change, but with a force that can topple diseased societal structures and create new futures and civilizations?

Fortunately the answer to this question is a resounding "Yes"! Just as our world is increasingly faced with massive, complex, and seemingly unsolvable problems, modern science is discovering many mind-blowing facts about the nature of the universe, human consciousness, and societal dynamics. Taken together, these discoveries are giving an integral understanding of the vast array of human capacities for societal good in a universe that is alive, intelligent, and full of meaning.

To understand this emerging *Science of the Impossible*, let us examine briefly our day-to-day beliefs about what is possible or impossible to achieve. This will then lead us to a scientific understanding of how we can manifest the "impossible" in our quest for a better society, for a better world.

The Impossible

When we say things are "impossible", we have to understand from what aspect of our individuality and consciousness we are uttering this pronouncement. For if we do not understand the peculiarity of our inner condition from which such a statement comes, we may unwittingly trap ourselves in our own self-constructed prison where we can only (and automatically) deny future possibilities for ourselves and for our world.

What are we really saying when we say that something is "impossible"? In essence, we are simply saying that because a proposition about a future possibility does not align with our past experience, our prevailing belief system, our values, our habits, and our expectations about the future, then such a proposition is impossible. It cannot happen.

For example, a significant number of Filipinos believe that it is impossible to overthrow the control of traditional politicians in 2010. From their past experience, they know that traditional politicians have the "guns, gold, and goons" to cheat their way to national and local government elective positions. They emphasize that, especially in the present political situation of the Philippines, traditional politicians control almost every facet of the executive, legislative, and judicial branches of government.

Indeed, old habits of thought, attitude, and behavior, die hard. And until they die, are modified, or placed in a different contextual understanding, then the victory of a new and very different kind of

politics in 2010 is impossible.

This is an understandable position. Life would be immensely complex and unmanageable if we face the present and the future from a totally open position, all of the time. Our experiences educate us about certain laws and regularities in life and it is important to heed the lessons of the past, in this case the tremendous power of traditional politicians in the governance and control of a nation's life.

Fatal Assumption, Fatal Consequences

When we say "impossible", we rely on what we have experienced in the past as our guide to what will happen in the future. There is, however, a fatal assumption in this practice and in its resulting statement of "impossible". We assume, erroneously, that our current paradigm or belief system has the power to know not only ALL of Reality but to also predict how that Reality will behave in the future.

Characterized in this manner, it is obvious that any statement about "impossibility" is nothing but self-fulfilling prophecy—one's identity writ large in the affairs of the world, and not a privileged access to Reality and its Future. The proponent is asserting that nothing new can ever appear on the horizon. The future can never be anything except the repetition of the past.

Obviously such a position is untenable. Under the "impossibility" principle, there would be no room for new things to emerge. And sometimes the inability to predict the "impossible" can have devastating societal and global consequences.

We need not look too far into the past to realize the gravity of the flawed assumption of impossibility. When a certain Nouriel Roubini predicted in 2005 that there would be a global financial and economic crisis, experts laughed him off as a crank. No one believed him. And he was deridingly called "Dr. Doom". People who are bearers of the "impossible" future often have to carry the burden of being insulted.

And when his "impossible" predictions started to come true in 2008, Roubini became the hottest economist around. Everybody now wants to get a piece of his wisdom. Dr. Doom is now Dr. Oracle, helping world leaders navigate the unpredictable and turbulent waters of the present world economic crisis.

The Black Swan

Science itself had to change its notion of scientific theory because it had to deal in its own way with the "impossible". Science could not defend the old position that the best theory is that one that has worked the best in the past. If something has worked best in the past, it does not mean that it will always and forever be true in the future. Today science's concept of scientific theory is one that can be subjected to an empirical test, whether the theory can be falsified or not.

There is a very instructive event in world history that metaphorically found its way into the center of the world of scientific theory construction. For a long time, many people believed that all swans were white. Because past experience has shown, time and again, through hundreds of years, that swans are white, whole nations believed that there could be no black swans. They believed that the existence of black swans was impossible.

Yet in the 17th century, black swans were discovered in Australia where they exist until today. Two hundreds years later, John Stuart Mill used the example of the black swan to discuss the importance of falsification in science. Past success of a theory is not a gauge of its future success. For "impossible" things, like black swans, can emerge in the future. That beginning ultimately led to Karl Popper's philosophy of science that placed falsification as the key foundation of modern scientific theory. Something is not scientific if it cannot be falsified. Gone was the confidence with regard to past successes predicting future successes.

Today there is the "Black Swan" theory of Nassim Nicholas Taleb. He uses the term to mean something impossible that actually came to pass. He regards many scientific discoveries as "black swans", totally unpredicted, that intrude into the world of accepted reality, the world of "white swans".

The world of science and technology is the hotbed of "black swans". Before the global recession, Sony introduced two new products everyday. A few years ago, 80% of Hewlett Packard's income was from sales of products that were barely a year old. Scientific and technological innovation is rushing at breakneck speed, inundating the world with "impossible" black swans.

The Trap of Success and the Case of Microsoft

There is another way to emphasize the important point that the past is not the predictor of the future, that impossible things can overcome the constraints of the past.

Not too long ago Harvard Business Review published a very revealing study. The article illustrates the real-world consequences and hazards of believing that only the past is the secure foundation from which to venture into the future.

The journal reported on a study of the top 500 corporations in the US, the so-called Fortune 500 corporations. The researchers tracked the performance of these Fortune 500 corporations for one to two decades. Through the years, they found out that a significant number of these top corporations were gone from the list, many no longer in existence.

The researchers examined different possible reasons for their demise. The researchers discovered that **past success was the major reason for failure** of corporations. Their past success prevented them from adjusting to a world that was rapidly changing.

Past successes became embedded in the narrative and self-image of the corporation. These past successes then codified themselves in the goals, policies, programs and activities of the corporation. Anything outside this self-defined reality was not important. In short it was labeled an unlikely or improbable future.

Similarly, and not too long ago, two young unknown doctoral students approached Microsoft to sell their software discovery for \$1 million. Microsoft was not interested and turned the offer down. A few years later, the two set up a new corporation called Google. Today Google is one of the world's largest corporations, one that Microsoft is trying hard to undermine.

Microsoft was a victim of its own success. It could not see the value of Google. What Google wanted to do was not where the future was from the perspective of the belief system of Microsoft. The computer

giant thought that a "google future" was unlikely, was "impossible". But in a few years, the world of the Internet has been "googleized" and Microsoft is now trying hard to catch up with this development.

Obama's Reflections and a Key Question

It is clear that the past can never become the sole determinant of the future. And when our past says "impossible", it does not necessarily follow that the "impossible" will not happen. Instead, what we are saying is that, from our past experience, it is difficult to perceive and conceive how certain future possibilities will emerge. Thus we label these possibilities as "impossible".

Let us take Obama's own reflections of his struggle with the impossible. Obama said 'what started out as an improbable journey when nobody gave us a chance was carried forward, was inspired by, was energized by young people all across America.' And that led to his "impossible" victory as President of the United States of America.

The "improbable journey" is nothing but the judgment of Obama's friends and critics that, from their past experience, what Obama was attempting was highly unlikely to succeed. It was impossible. There has been no black President of the United States of America, ever. Worse, racial overtones are still very much visible in US society. So why would a predominantly white US population agree to be led by a young, relatively inexperienced and relatively unknown black politician?

On top of that, Obama did not have the profile, influence, resources, organization and experience of Hilary Clinton. Occasionally, Obama even doubted himself. He was not sure whether he would succeed or not. So it is understandable that, in his "improbable" journey, Obama said "nobody gave us a chance". From the perspective of the past, the future is simply "impossible". Yet, in Obama's case, the "impossible" happened.

The past clearly cannot determine what the future will be. The "white swans" in our lives cannot predict the emergence of "black swans". Our day-to-day personality, our day-to-day identity is basically constructed out of the past. Our parents, our teachers, our friends, our work colleagues, our societal environment – they all have influenced and determined who we are today. What we have experienced from them constitutes who we are at the present moment. Social psychology specializes on how the different aspects of our societal environment shape our personality, our identity.

So a key question emerges. If our ordinary identity is constructed by our past, how then can we access the future? What in us can access the future if our day-to-day identity is gripped by the past? How can we develop a confidence that what comes out of the future will truly be transformative and hopeful when our center of identity is constructed from the past and keeps on telling us that such future possibilities are "impossible"?

It is important to see this tension between the past and the future and how this tension creates our experience of the present. If we understand the full measure of what we are facing at this moment of tension, then we are at the heart of understanding how the "impossible" becomes the "real", how the "impossible" is really the future that wants to enter into our lives.

This understanding is of profound strategic importance in how we situate ourselves in our society and in the world. We are all immersed simultaneously in a world of despair stemming from our past

actions and a world of incredible possibilities that beckon from the future and which our past labels as "impossible".

On the one hand, humanity is on the brink of destroying the life support systems of the planet, is undermining the very democratic structures that could prevent disaster, and is placing itself on the tragic course of planetary suicide. But, on the other hand, we are in the midst of a world renaissance of breath-taking visionary ideals and potent personal and societal transformational approaches that can turn the seemingly unstoppable trajectory of mass planetary suicide into the impossible genesis of a new, breath-taking, sustainable planetary civilization.

Which path we take depends on whether a critical number of us will understand and act upon the new Science of the Impossible that is emerging in our midst. Part II will elucidate the contours of this new Science of the Impossible that integrates many fields of science, spirituality, and methodologies of societal transformation, into a powerful approach of truly creating a better world.

Science of the Impossible and Societal Transformation, Part II

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Overcoming our sense of the "impossible" is arguably the most difficult challenge facing all those who want to create a better world. Many believe, for example, that it is "impossible" for a very qualified candidate for new politics to win if that person has no money, machinery, or exposure to begin with. This belief will become a self-fulfilling prophecy. And voters will settle for the famous "lesser evil", in effect, throwing away their hopes for inaugurating a new politics of integrity, accountability, and performance. Yet, as the Obama victory demonstrated, in the "impossible" is a new world waiting to emerge. And new developments in science point to how change agents can attain the "impossible" and usher in a new and more moral and sustainable world order.

In Part I of this editorial, we posed the key dilemma. Our ordinary identity is constructed by our past. Our identity judges anything not in conformity with that past as "impossible". So how can future possibilities emerge when we often suppress the future by labeling it as "impossible"?

The Power of Creativity

Fortunately there is a convincing answer, one that gives us a deep sense of hope. We often forget that there is another side to us. We are not just our past. We all have within us another aspect of our being, one that can access the future and one that can use this access to create momentous changes in the present.

We all have had "Aha!" moments in our life when something that puzzled us, all of a sudden becomes understandable and solvable. We all have had our moments of **creativity** when something totally new, something different from our past, something from the future, comes to our awareness and energizes us with a deep sense of possibility and hope. The energy is so strong that we often have a sense that our idea is undefeatable and that what we want to do in the world will surely come to pass.

More and more people are realizing the importance and power of creativity. A Google search on "creativity" yields more than 60 million entries! There is literally an explosion of interest in understanding what creativity is and how to harness it. Scientists and researchers including cognitive psychologists, neurophysiologists, brain scientists, organizational development consultants, historians, philosophers, and sociologists, astrophysicists, evolutionary biologists, among others, are uncovering a wealth of data on many aspects of creativity. Their discoveries are altering our notions of self, the nature of the universe, and the possibilities of societal transformation.

Personal creativity is the most understood and accessible aspect of creativity. This writer has conducted dozens of workshops on creativity and related topics in Europe, the United States of America, and the Philippines. Hundreds of individuals from more than 20 countries have attended these workshops. ALL – rich and poor, male and female, young and old, black, brown and white, have vivid experiences of creative moments in their life. All know that creativity is latent within each and every one of us. All want to be able to enter the state of creative consciousness at will. All understand the power of creativity to change their lives.

But personal development is only one area of application of creativity. We can also harness our innate and latent powers of creativity to guide society towards a transformative future.

But first we must pass through a process of purification. We must cleanse ourselves of all temptations to use our creativity for selfish ends.

The Dark Side of Personal Creativity

In recent years, one book has helped fuel the explosion of interest in personal creativity. This is *The Secret*, a book that millions of readers have bought and read. The book expounds on the Law of Attraction and how it can be used for personal gain. Think intently on attracting a car, a house, money, a relationship and, presto, it will be granted unto thee. You can attract what you picture and will in your mind.

The book is not alone in advancing the powers of our creative consciousness. There are thousands of seminars and programs all over the world advocating the use of the law of attraction to be become successful in life.

The positive value of the book is that it awakens people to the tremendous amount of power that lies within them. If they understand the secret of the law of attraction, then they can control their destiny. They no longer have to depend on chance and circumstance. They can improve their lives. The book rightly points to the existence of current scientific discoveries that can be interpreted to support the centuries-old law of attraction.

The downside of the book is that it trivializes the tremendous powers that lie in human creativity. Instead, it limits human creativity to a narrow pursuit of selfish interests. It traps the awesome potential of human beings into a narcissistic and self-absorbed pursuit of creature-comforts, rather than unleashing this power to create better, healthier, and more sustainable societies.

This dark application of personal creativity creates socially naïve individuals who seem successful in life but who contribute very little to the authentic advancement of society. On the contrary, they may be creative participants in an institution that can spread tremendous harm to societies. One only

needs to think of the many creative individuals in corporations and government institutions that have socially and environmentally harmful products and policies.

They are happy in their own narrow world of wealth and prosperity while millions around them are suffering from illness or dying from hunger, drugs, and violent crime among others. In effect, their creative self, instead of liberating and ennobling their day-to-day self, becomes a slave to the meaningless and sometimes destructive pursuits of our lower nature.

This is not to deny that we all need money, food, housing, clothing, health, nurturing relationships and other essentials of life. Rather, this is to emphasize that all our needs can be met in a more spiritually and socially fulfilling way when these day-to-day needs are under the guidance of and subsumed by our pursuit of a higher and more profound purpose in life.

When we have not only understood this, but have aligned our life to this understanding, we are then prepared for a higher and more profound use of our creativity. We are now ready to pursue a creative life in service of others, society and the planet.

The Societal Transformative Power of Creative Vision

In the early 1990s, the National Academy of Science, the largest scientific establishment in the world, reported on the results of a very illuminating research that they had done on predicting the future. The scientific researchers asked the question. What approach would predict the future more accurately: computer modeling or visioning?

Computer models predict the future by relying on past data and trends. Computer scientists look for causal relationships among various trends and factors that can affect the future. For example, they try to look at the impact of population growth, technology, economic performance, education, health, and other factors on poverty estimates. Poverty growth rates, in turn, are causally connected with peace and order conditions, which, in turn, affect poverty growth rates. Some computer models have as many as 10,000 factors that the model tries to link together into a coherent whole. And out of these, computer scientists then try to get a glimpse of what the future may be.

In the visioning approach, computer models do not play the central role in determining what the future may be. Instead proponents rely on a creative process called scenario building, where participants envision possible different ways that the future can unfold and, where appropriate, choose the most likely outcome.

The NAS study came out with a startling conclusion. Visioning predicts the future more accurately than computer modeling. Vivid and hope-engendering images of the future had the power to affect the behavior of humans in the present so profoundly that human beings actually alter past trends in order to realize their vision of the future.

Put another way, past trends set blinders and delimit the sense of what is possible. A creative vision, however, pursues what is "impossible" from the perspective of the past and, despite all obstacles, makes the "impossible" real.

Alan Kay, a computer pioneer, realized this power of human creativity years before the National Academy of Science confirmed it. He said: "The best way to predict the future is to invent it."

Earlier than Kay, social scientist, Fred Polak, found an empirical basis for the power of creative vision to create the future. Polak did a study on what factors determined the rise and fall of civilizations. He studied 5000 years of Western civilization. He examined economic, military, political, religious, environmental, cultural and other factors. The facts of his research led him to an inspiring conclusion.

Polak demonstrated that a positive image of the future is the most important factor in the rise and fall of civilizations. Civilizations flourish when they pursue a positive image or vision of the future. The moment that inspiring vision of the future is gone, then civilizations also decline and eventually die.

The Renaissance is one such period of history. Inspired by a new positive image of the human being and the universe, an unprecedented torrent of creativity burst onto the landscape of economic and political intrigue and violence in 15th and 17th century Europe. Innovations in art, architecture, science and technology reshaped the medieval world of Europe and inaugurated the modern world. Today, especially in the modernizing economies of the world, we are still feeling the impact of these creative developments that took place over 400 years ago.

Many studies on creativity, beyond the personal and institutional level, focus on its power to unleash scientific, technological, and societal innovation. However, we are facing new and urgent challenges. Humanity has become a geological force, altering the climate, the species composition, and the face of planet earth. We are also facing huge existential problems connected with a search for meaning and purpose, a search that feeds into fundamentalisms and anarchic acts of violence. And, at the same time, we are in the midst of a profound and unprecedented second scientific revolution, the likes of which humanity has not encountered before.

We cannot be content with this societal level of understanding of creativity. We need to pursue our investigations into the nature and source of human creativity and its place and meaning in the universe itself. When we do so, not only will all notions of impossibility disappear. We will also align ourselves with an incredible source of power and energy to realize what we want to usher with and for humanity as a whole. We will then begin to understand the source of our power to create, with full consciousness and responsibility, new civilizations, new worlds.

This we shall clearly understand in Part III of this editorial when we take a look at the scientific discoveries that will forever change our understanding of the universe, and what it means to be fully human in the 21st century.

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Science of the Impossible and Societal Transformation - Part III

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Today the biggest scientific question is no longer about life and its origins. Today the biggest scientific question is why the universe is so friendly to the emergence of life and intelligence. Understanding this will mean not only appreciating the foundational basis of a science of the impossible. Knowing the answer to this great riddle not only means understanding the cosmic dimensions of human creativity.

It also means that one can now harness this knowledge to overcome seemingly "impossible" obstacles to profound societal change and evolution, including the power to change corrupt governments.

Anthropic Principle

In the 1970s, astrophysicists were struggling with the "impossible" structure and evolution of the universe. There were dozens of improbable aspects to our universe. It seemed that chance alone could not have created the universe and the self-conscious intelligent life (humans today) that emerged after almost 14 billion years of evolution.

They coined the term, "Anthropic Principle" to describe this astonishing discovery. Scientists asked the question: Why is the universe structured the way it is? The Anthropic Principle answers: "because we are here." In other words, there is an inherent directionality in the evolution of the universe, as evidenced by its overcoming one improbability after another, towards the emergence of self-conscious intelligent and creative life.

We will not go into the four versions of the Anthropic Principle that are now the subject of animated debates in the world of astrophysics. Nor shall we explore the Biocosm Hypothesis, a variation of the Anthropic Principle, which postulates that life and intelligence emerged in the universe because the universe itself is alive and intelligent. Let us just appreciate the facts that astrophysicists have encountered, facts that stimulated them to think of such a radical framework as the Anthropic Principle.

Six Constants of the Universe and the Improbable

Scientists discovered that there are just six key constants that determine the structure and evolution of the universe. ϵ (epsilon) defines how firmly atomic nuclei bind together thereby influencing how atoms behave in nature. The cosmic number Ω (omega) measures the amount of matter in our universe. N (nu) measures the strength of the electrical forces that hold atoms together, divided by the force of gravity between them. Cosmological constant, Λ (lambda) measures cosmic repulsion. How tightly stars and galaxies are held together can be expressed as a ratio between the force of gravity and the amount of energy needed to disperse them ("antigravity"). This ratio is the fifth number, Q . The sixth number is the number of spatial dimensions in our world, Δ (delta), that is, the three dimensions of space.

What astonished the scientists is how a simple universe, specified by just a few numbers, can evolve, **if these numbers are suitable tuned**, into our intricately structured cosmos. These six numbers constitute a 'recipe' for a universe. The outcome is sensitive to their values: if any one of them were to be 'untuned', there would be no stars and no life.

Let us look at a few examples to realize the profound implications of this discovery. The constant, N , is 1,000,000,000,000,000,000,000,000,000,000 or 10 to the 36th, 1 followed by 36 zeroes. N measures the strength of the electrical forces that hold atoms together, divided by the force of gravity between them. **If N had a few less zeros**, only a short-lived and miniature universe could exist. No creatures would be larger than insects, and there would be no time for evolution to lead to intelligent life. We would not be around.

Gravity is involved in a number of the constants. A slightly stronger **gravitational force** would crush the whole universe into a black hole within a million years. A slightly weaker gravitational force would "explode" the universe. Galaxies would not form, nor solar systems. We would not be around. The fine

tuning of gravity to make it just right means that there can be no deviation greater than a trillionth of a trillionth of a trillionth of one percent or one divided by 1059 or 1 followed by 59 zeroes.

Even more improbable is the existence of "dark energy" which astrophysicists say constitutes more than 70% of the universe. The fine-tuning here is one in 10¹²⁰ or 10 followed by 120 zeroes!

This "impossible" structure of the universe is replicated at the molecular level. One in 1 followed by 40 zeroes is the probability of constructing twenty or thirty key amino acids in a sequence to produce a simple enzyme, let alone an organism! In other words, it is not due to chance.

Intelligent Universe or Multiverse

Because the structure of the universe is "impossible" or improbable, scientists are now lined up into two camps. Materialistic scientists are postulating the existence of multiple universes (multiverse) or over 10500+ universes or 1 followed by over 500 zeroes. In a world of infinite kinds of universes, there is more than enough chance and probability that a universe like ours would exist. Unfortunately, for this hypothesis, it is purely speculative and has very little empirical evidence, if any, to support it. From one perspective, it is a desperate attempt to save the materialistic worldview of blind matter, chance and necessity.

The other, larger group of scientists (at least larger in the US) has come to grips with the fact that, clearly, the universe was not created by chance and probability. For these scientists, there is a higher, infinite intelligence involved in the formation and evolution of the universe and the self-conscious intelligent life that arose out of this creative process.

As a result, in recent years, there has been the re-emergence of the "God Hypothesis" in science. Prominent scientists including molecular biologists and astrophysicists, are advancing the hypothesis that there must exist an all powerful infinite intelligence, to account for the dozens of improbable events and features of the universe. Only an Intelligence of this nature can account for the improbable facts discovered by astrophysics.

The thinking of these scientists is expounded in many articles and books including *The God Theory* by Bernard Haisch, *The Science of God*, by Gerald Schroeder, *The Language of God*, by Francis Collins and *The God Experiments*, by Gary Schwartz. The people advancing the God Hypothesis are top rate scientists including Collins who managed the 2500-strong scientific team that sequenced the entire human genome.

Why Can Human Consciousness Predict the Unknown?

There is another profound aspect connected with the discoveries of astrophysics. Many of the current accepted theories and facts about the universe were predicted first **before** they were empirically discovered.

For example, scientists postulated the theory of "black holes" many decades ago. Black holes are the remnants of exploded stars. Their gravitational force is so strong that not even light can escape the pull of gravity. Yet it was only around two years ago that scientists actually photographed the picture of a star being sucked in and eaten up by a black hole.

It is a similar case with the "Big Bang" theory of the universe. The theory describes a universe born out of an infinitely small point, basically out of nothing, materially speaking. From this very small

beginning, the universe then subsequently expanded to its present astronomical size of over 10 billion light years, creating matter, galaxies, stars, solar systems in the process. It was not until around the late 1980s, decades later, that the microwave energy background of the Big Bang was empirically recorded thus giving credence to the theory. In 2006, the Nobel Prize for physics was awarded to the two scientists who measured the background radiation of the Big Bang.

This highly unusual capacity of human consciousness to postulate and discover something before it is verified by the human senses with the aid of technology, is also prevalent in other physical disciplines. For example, using mathematical theories of quantum mechanics, physicists predicted the magnetic properties of the electron before actually measuring it. Subsequent physical measurements agree with the prediction to an accuracy of one part in 100 million.

Such amazing feats of knowledge raise a fundamental, philosophical (epistemological) question. Who are we that, in our consciousness, we can "perceive" in the invisible and predict the existence of things physically unseen. What does the correspondence between our ideas and the actually physically verified laws of the universe say about us, about our nature?

The answer to this puzzle lies in the realm of quantum mechanics and its equally revolutionary discoveries.

The Clue from Quantum Physics

In 1925 a group of scientists inaugurated the third scientific revolution in physics. They called it "quantum mechanics". Just as Einstein's Theory of Relativity made Newtonian physics a subset of itself, quantum mechanics subsumed both Einstein's and Newton's discoveries into a more vast and profound synthetic theory of the universe. Today, scientists consider quantum theory the most successful scientific theory of all time. It is responsible for the workings of many technological inventions including computers, cell phones, and dozens of other modern day technologies.

In the beginning, even Einstein and his followers resisted the theories of quantum mechanics. Most of all, they rejected the notion of "non-locality", a key aspect of quantum theory. Non-locality is a kind of instantaneous cause-and-effect that seems to transcend time and space. For example, twin or "entangled" or previously related quantum particles can influence each other simultaneously even though they are separated by billions of miles.

Einstein called non-locality as a kind of "spooky action at a distance" and resisted this notion throughout his life. He was annoyed with the theory because it challenged his notion that the speed of light is the upper limit of time. Nothing can travel faster than light. And, if human beings broke this barrier, then that would mean that they would have access both to the past and the future. However, non-locality means just that: breaking the upper limits of the speed of light or indicating the existence of still higher principles in the universe that can overcome space and time.

Then, in 1982, scientists in France experimentally confirmed once and for all the reality of non-locality. And this experimental verification has since then been replicated in other research laboratories around the world.

Scientists are discovering non-locality not only in the realm of quantum particles. In an impressive overview of this new science of non-locality, Lynn McTaggart in her book, *The Field*, demonstrates that non-locality also pervades the world of biology and human consciousness. And astrophysicists are also

arguing that the whole universe itself is non-local because all the particles of the universe came from one source during the Big Bang.

Non-Local Supercomputer and the Human Brain

These scientific discoveries have been sending shock waves throughout not only the world of science but also to humanity as a whole. They give a powerful clue to a previously unknown property of existence, one that is now radically impacting our self-image and the kind of technologies we are releasing in the world.

The US Department of Defense is currently engaged in the creation of a super quantum computer. This computer, once built, will be the most powerful and unusual computer the world has ever seen. The computer scientists at the Pentagon are planning to use the universe as its hardware to store infinite amounts of information. How? By using the property of non-locality and storing and accessing data stored in the non-local quantum field of the universe!

Meanwhile brain scientists are also postulating a non-local model of human memory. Scientists have long puzzled over the seemingly distributed nature of memory storage in the human brain. It seems that memory is not localized in one specific location in the brain. So now some brain scientists are theorizing that the human brain has non-local properties. They postulate that memories are stored in and accessed from the quantum field of the universe.

Human Capacity to Commune with the World Process

With these scientific discoveries, we can go back and answer the question we posed earlier. Why do we have the power to access the laws and properties of the universe even though we have no physical experience of these laws and properties?

The answer: Human consciousness is non-local in nature. Therefore it is deeply embedded in and in communion with the very essence and processes of the world, of the universe itself, including the non-manifest.

In creativity workshops in the Philippines, USA, and Europe, participants often characterize their creative experience as being "one with the world". When they say this, they are merely confirming their non-local link to the universal world process, which links them with seemingly limitless ideas and possibilities during their moments of creativity.

The Creative Human Mind and Infinite Intelligence

In light of these discoveries, the comments of Tomas Edison, one of the greatest and most creative inventors of all time, take on a new meaning. Edison has the distinction of having invented the incandescent light bulb that lighted the world for over a century and continues to light hundreds of millions of homes today. True, it is not energy efficient and is now being replaced by more efficient light bulbs including compact fluorescent light bulbs (CFLs) and light emitting diodes (LEDs).

But this does not detract from the fact that Edison produced, in addition to the light bulb, 1092 other inventions including industry-creating ones like the typewriter, phonograph, motion picture camera, alkaline storage battery and many others. Edison also wrote down many of his creative ideas in 3,500 notebooks, now preserved in a temperature-controlled vault at the Edison National Historic Site in New Jersey, USA.

Clearly, creativity and innovation oozed out of Edison. And to what did Edison attribute his talent? Edison pointed to two things. First, he said that genius is one percent inspiration and ninety-nine percent perspiration. Less known, however, is that he attributed crucial inspirations to his ability to access what he called "infinite intelligence". Edison was not aware of non-locality. But, he unconsciously harnessed its power.

Edison's comments provide an essential entry point regarding human nature, creativity, infinite intelligence and societal transformation. We can now draw out what it means for a world thirsting for vision, power, energy, enthusiasm, perseverance, and courage to create a better planet.

Realizing the Impossible

It has been important to take a look at modern scientific developments because people think it is just blind faith that makes people believe in the "impossible". In fact, these discoveries point to the existence of a "science of the impossible". And if one understands this science, one can manifest new societal possibilities often considered "impossible".

These scientific discoveries indicate that infinite conscious Intelligence predates the creation and existence of the universe. The ideas of this Intelligence have become the laws of astrophysics and the natural sciences. Consciousness is a creative force in the Universe. It creates everything that is – matter and all living things.

We have a spiritual creative power embodied in our minds. Our consciousness is our connection with this pervasive Infinite Intelligence whom some people call, God. Our higher nature is made in the image and likeness of this Infinite Intelligence.

Furthermore, we are the Universe becoming conscious of Itself. The future evolution of our planet depends on what we do with our Divine-given talents. We have entered the age of Conscious Evolution. Will we squander our talents?

One way to understand Conscious Evolution is to link it with our yearning for dignity, respect and freedom. If we yearn for these, then we are experiencing the force of universal evolution at work within us. To seek for freedom, dignity and purpose is to express 14 billion-years of evolution towards greater consciousness, individuation and integration that is now operative within us. Will we use this power to advance or destroy our planet and our very nature?

When we understand this, there are no limits to societal transformation except the limits we unconsciously or ignorantly impose on ourselves. True, realizing this will not mean the immediate transformation of our world. We will need to harness our creative intelligence to transform aspects of our identity that are a hindrance to the flow of the universal process within us. We will also need to use our creativity to provide innovative solutions to structural and systemic problems that plague our societies and our planet. But, at minimum, we need to recognize this sacred creative power within to even seriously think of engaging in the moral act of transforming the world.

We Create Our Future Reality

This, then, in essence is the "Science of the Impossible". We are not just a product of the past. We also have a creative self that has access to an "infinite intelligence" responsible for, among other things, the creation of our present physical universe.

When we are in our creative moment, we are, by virtue of the non-local nature of human

consciousness, at one with the Source of our creativity, in communion with the Infinite Intelligence that guides the evolution of worlds.

If we feel hopeless and impotent, it does not necessarily mean that this negative self-image of ourselves is true. We have only forgotten the profound creative power that lies within us. We will only make our hopelessness and our impotence real if we believe and act upon our negative and self-limiting beliefs.

When we are in our creative moment, nothing is "impossible". To say "impossible" is simply to admit that our current level of ordinary thinking cannot grasp the complex logic of an Infinite Intelligence which forms and shapes the birth and future of planets, stars, solar systems, galaxies, and galactic clusters that abound in the universe. Our notion of "impossibility" ends when we enter into the flow of this Infinite Intelligence that allows us to peer into the future possibilities. In our creative state, we have glimpsed, we have tasted the real possibilities of the future from the creative Source of the future itself, the realm of Infinite Intelligence,

Out of this access to the future that is emerging, we situate our intention and will. We will then have a kind of transformative power that is almost as inevitable as a force of nature. Old societal systems will yield before the power of this future that wants to find entry into our world through our creative self. And no power in the world, whether big business, corrupt dictators or governments, or even misdirected elements of civil society can resist it.

There is a new world wanting to be born and it cannot be stopped. As long as there are individuals who have the courage to take risks and courageously act out of their highest ideals and deepest convictions, then the "impossible" will become real. Then new worlds will be born out of the ashes of corrupted and morally decadent societies.