



POPCORN TIME!

(Enlightenment for Everybody)

by

The Wizard of Amen

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Educational Technologies

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What is Popcorn Time?

When people get together with friends to watch a movie or a big event like the World Series or Superbowl, they often prepare a batch of popcorn.

Making your own popcorn is easy. You pour seeds in the popper and add hot air. For a while nothing happens. Then a kernel pops. Soon another pops. After a few random pops, the popping increases. Before you know it the whole batch is popping almost all at once. Then the popping tapers off to just a few late pops. The kernels have almost all expanded and turned inside out. You are ready to add seasoning and enjoy the show.

The Greatest Show on Earth

We are about to participate in the greatest show on Earth, and we are the popcorn. Earth is undergoing what scientists call a phase transition -- a radical shift from one style of functioning to a completely new style of functioning.

Mankind is the key element in this transition, but it will affect every aspect of our beautiful planet -- spiritual, emotional, mental, physical, and environmental.

This little book is about the epic event that is beginning to happen right **NOW**. In a sense it marks the moment that humanity comes of age.

Transition to Enlightenment

"Popcorn Time" is just an analogy for the inside-out flip-over transition of humanity from a race of beings groping to understand who they are and what they are doing here on this planet to a civilization of enlightened beings fully integrated with the galactic community and the cosmos.

The transition from "ignorance" to "enlightenment" is a curious experience that can be somewhat confusing -- so much so that many people don't even want to go there. The purpose of this book is to sort out what changes and what does not change during such a transition so you know what it's about.

What is Enlightenment?

Many people believe enlightenment is something mystical or spiritual that is impossible to explain clearly and logically. I strongly disagree.

You may have noticed that you do not see things clearly in a dark room. To resolve this problem you simply flick the light switch on. When you turn on the light, you see everything in the room clearly. Once you can see clearly, the only question becomes: what are you going to do in your brightly lit room?

The beautiful thing about this era is that we now know where the light switch is, so anyone can turn it on.

So Where is the Switch?

There is a common belief that you must go find a master, meditate, join a religion, and/or generally develop yourself in various ways for a long time (years or even decades) and then **maybe** you will reach enlightenment.

Many religious leaders and teachers hold out "enlightenment" or some spiritual equivalent as the final reward for joining their organization and practicing their faith or discipline. The wise men of the past who popped by themselves discovered in retrospect that this was not necessary. Belief systems and disciplines can often hinder enlightenment rather than promote it. They unbalance a person.

Would You Prefer Now or Later?

Practice of a discipline can be very good for a person, and practice of some disciplines may lead some day **later** to a mystical state of enlightenment, but usually within no well defined period of time.

On the other hand, what if there is a form of enlightenment that is scientifically verifiable, clearly understandable, and available to almost everyone right **now**? Such a state provides a solid and stable foundation for any life-supporting practice, discipline, or program of development.

Would you prefer now or later?

Imagine

If you are already enlightened and clear about the essence of your reality, you can focus your attention on practical achievements in your life.

You can develop social skills, business skills, intellectual skills, technical skills, athletic skills, and so on with the express aim of enjoying life to its fullest for yourself, and perhaps also for making some significant contributions to the quality of life on our planet to be enjoyed by many others. At the same time you can do all this with the certainty, security, and stability of a person with a clear vision that is eternally valid for past, present, and future.

Balance and Attention

The ancients called the state of balance *samaadhi* (India), and *semtawy* or *aakhet* (ancient Egypt). In a state of perfect balance you perceive nothing. This is undefined awareness. To perceive something you disturb the balance. The disturbance creates a motion with an equal and opposite motion that restores the balance, returning all to equilibrium. Perception of something is a viewpoint out of equilibrium. We can call it attention or defined awareness. Passive attention simply observes without judgment, and dynamic attention is directed by the judgments of the will. Consciousness is a flow of attention.

The State of Balance is Equilibrium

The ancient Egyptians used a mechanical scale to represent the state of equilibrium. One pan holds a human heart, and the other pan holds a feather that symbolizes truth. The scale is always drawn in equilibrium, and right over the fulcrum is a little golden baboon sitting at the balance point. With the slightest impulse the baboon can impart motion to the scale in any direction he desires. He playfully acts from the viewpoint of enlightenment.



Then What Do You Have to Do?

Nothing. Enlightenment is not something that happens because you DO something. It is a point of view, an attitude, and does not depend on any practice or way of life. You don't even have to flick a switch. Just by noticing the enlightened point of view you are already there. It is not particularly mystical or even spiritual -- unless you believe it is. Of course, once you are there you can adapt to the enlightened viewpoint and develop yourself in many remarkable ways with enlightenment as your stable foundation. So let's switch our attention to the enlightened viewpoint and explore it to see whether it is worth enjoying.

How Do I Know It's Real?

Doubt is natural when you are faced with such an outlandish claim that you are really enlightened. However, the nature of enlightenment is such that it verifies itself. There is a sort of transcendental logic to it.

"This sentence is a lie." If this sentence is a lie, it is true, if it is true, it is a lie. Logic breaks down with such a self referring statement.

"You experience what you believe." Even if you do not believe that statement, it is still true. This is an example of transcendental logic that interfaces with experience and is not just "logical" words.

Transcendental Enlightenment (TE)

A lady recently told me, "I know you are not enlightened." I told her, "Fine, that is your viewpoint." From the viewpoint of enlightenment everyone is enlightened, so if you think someone (yourself or someone else) is not enlightened, that thought merely indicates you are not viewing the world from the viewpoint of enlightenment. This is the transcendental logic of enlightenment that self-verifies itself. The lady is enlightened, but chooses not to know it, and is free to feel that way. An enlightened one does not deny the possibility of other viewpoints that seem in conflict. Let's explore the enlightened viewpoint to see why.

Some Examples of TE

Buddhist tradition holds that Gautama Sakyamuni vowed to enlighten all sentient beings before attaining his own enlightenment as Buddha. How could he have fulfilled his vow if so many people still see themselves and others as very unenlightened today?

Many Christians believe that Jesus has saved everyone. How is that possible if so many people still reject Jesus as their savior and so many still experience suffering?

The secret is that Jesus and Buddha found the viewpoint from which all sentient beings are by definition enlightened. Let's find it.

A Scientific Definition of TE

Transcendental Enlightenment is the viewpoint from which you perceive everything in terms of light that you yourself generate. To understand this statement we first broaden our definition of "light" to include the full spectrum of electromagnetic (EM) interactions.

Our entire experience of the universe is via the sensory perceptions of vision, hearing, touch, taste, and smell. We add to this the mental activities of thought, feeling, emotion, imagination, memory, and so on.

The nervous system is a biological EM device.

What Does This Mean?

Since every mental or physical experience we have occurs via the EM interaction, we may say that all sentient beings perceive and experience their reality in terms of **light**. By this scientific definition all sentient beings are by definition enlightened and always have been.

This means that you and everyone else have always been enlightened whether you knew it or not. Most people with a high school education already know these scientific principles, but their teachers do not draw the obvious conclusions. A closer look reveals many other startling conclusions.

EM Perception Physics (Vision)

Vision is obviously perception of light. However, the EM interaction is always a two-way "handshake" process. When a photon of light reaches your eye, you have already sent an "attention" photon to the light source. Attention photons move backward in time and light photons move forward in time.

This becomes an awesome interaction when you look at a star that is a million light-years distant. Your attention travels a million years into the past to interact with and travel with the photon that reaches your eye from the distant star in the present moment.

EM Perception Physics (Touch)

When you walk on the ground, your feet seem to touch the ground. Actually you experience EM levitation, because the outer electrons in your feet and in the ground mutually repel. The atoms are mostly space and never actually touch. Only the EM energies of the atoms interact.

Hearing, taste, and smell are specialized variations of touch. So all physical perceptions are forms of EM interaction and only interact as light.

EM Mental Physics

All mental processes are biochemical EM interactions. These include:

Thoughts

Feelings

Emotions

Memories

Imaginations

Dreams

Internal physiological processes are also all governed by EM interactions, most of which are biochemical in nature and are also for the most part automated.

Suffering is a Light (EM) Signal

If you are ill or injured, your body sends signals that something is happening that may threaten your body's ability to stay alive.

We often resist pain and other discomforts. However, we installed them there as instincts so that we would know when the body is not functioning properly. Usually the more threatening the situation, the more severe the discomfort.

Nevertheless, all of these distress signals are forms of light since they are all EM interactions.

Is Enlightenment Bliss?

There is a notion widely circulated by New Age gurus such as Maharishi Mahesh Yogi that the nature of life is "bliss" and that enlightenment brings one into the realm of permanent bliss. Unfortunately Maharishi himself, as his Master before him, grew old and died. So have many of the followers of such great masters. This tells us that we may not avoid the suffering and death attendant to the possession of a physical body. Maharishi once commented that the expanded awareness of enlightened consciousness is like a large line of bliss drawn next to the small dot of personal suffering. Bliss trumps suffering but does not fully erase it.

The Role of Stress

Stress arises from resistance. Where does resistance come from? It originates from an effort to **not** accept the way things are just as they are. Increase of stress eventually results in the break down of any structure, however robust it may be. Originally there is nothing, and the emergence of something is a resistance to the existence of only nothing. Resistance is the beginning of creation. Harry Palmer points out that the more one resists any thing (including nothing), the more that "thing" persists. Therefore the formula for a cosmos that persists in time and space or any dimension is to continuously resist its existence.

The Effects of Resistance

The more one resists nothingness, the more nothingness persists. The more one resists "somethingness", the more "somethingness" persists. Because any creation is only a very partial value of the whole cosmos, it is never totally satisfying. By its nature consciousness only permits partial experiences, so people persistently resist the resulting dissatisfaction. Wise ones learn to deliberately resist whatever they desire -- which results in the persistent experience of what they resist. The truly wealthy continuously invest or donate their wealth, so it keeps flowing in. The poverty stricken resist their poverty and so they continue in poverty.

Stress and Health

If a person resists conditions that affect mind and body, the persistence of such stress may accumulate in the individual and result in the loss of mental and/or physical health. The antidote to stress is relaxation and acceptance. Even better is deliberate and positive selection of experiences, because that eliminates the feeling of stress and allows for true relaxation in the stressful situation.

One technique for conscious deep relaxation is meditation. Regular meditation develops a smooth adaptability of the attention to any stressful situation. Deep relaxation of mind and body releases stresses.

Managing Personal Stress

We can understand the role of relaxation by recognizing personal suffering as a very localized event within the vast ocean of EM light interactions. The ability to shift attention from fixation on an isolated local event or simply to expand the horizon of attention shows how bliss trumps suffering as long as we decide that the general EM light interactions are what we may call "bliss". In a localized consciousness, suffering due to stress pulls the attention out of deep silence. This is a side effect of relaxing prior stresses, not adding new stress. Regular relaxation with increased adaptability systematically reduce stress in any system.

Personal Stress and Cosmic Stress

An organism can only handle a limited amount of stress without breaking down. Thus systematic removal of old stress through relaxation and prevention of new stress through adaptability can lead to the minimization of stress on a functioning organism. If stress is what pulls the attention of an organism out of deep relaxation (such as sleep or meditation), it might seem that there would be nothing to pull a stress-free and highly adaptable organism out of deep relaxation. When asked why someone who is stress-free might find attention pulled into activity, Maharishi suggested it could be "cosmic stress".

Cosmic Stress = Cosmic Suffering?

The notion of cosmic stress suggests that all of the phenomenal universe has the essential nature of stress (i.e., suffering) since it consists of disturbances within undefined awareness that generate the appearance of mental and physical creations. Bliss seems only "real" in the sense of the undefined awareness that is the transcendental nature of the self. Since this nature is undefined, we may call it "bliss", but it really has no particular quality. The "bliss" becomes the self-defined subtle platform for all creations, the essential nature of the EM light bubble. All creations then become expressions of that fundamental quality.

Sat, Chit, Ananda

In classical India the fundamental qualities of the self traditionally are called *Sat*, *Chit*, and *Ananda*. *Sat* is the pure undefined awareness of the observer. *Chit* is the discriminating quality that decides what a creation shall be. *Ananda* is the quality of bliss that derives from the reality that it makes no sense to create something that you do not enjoy. The creator/experiencer has the essential quality of bliss since there is no point in creating anything unless it has some quality of interest, enjoyment, entertainment, etc., and the source of the creation has to be something full of interest, joy, and humor in order to reflect such qualities in creations.

Mental and Physical Limitations

Every sentient being lives in enlightenment. The only problem a being faces is a habitual attachment to a mental and physical identity.

The EM light energy is by nature always conserved and may not be destroyed. However, the mental and physical identities that we attach attention to in order to play in the universe are subject to eventual dissolution. Such dissolution violates the instinctive programs for survival and results in a sense of suffering.

Enlightenment simply involves a shift of perspective so that such limitations and discomfort are not so bothersome.

Is Enlightenment Difficult?

Maharishi once commented :
Whosoever advocated concentration, control, and the need of detachment and renunciation for enlightenment
Did not know what he was talking about. (quoted by Jerry Jarvis in G. Ellis, Symposium of Silence: An Enlightened Vision, p. 88.) It is hard to achieve enlightenment in these four ways because of the nature of the mind and body. These four are all special skills that actually tend to unbalance awareness and render relaxation into the simple state of enlightenment much more difficult to achieve. Since enlightenment is only a chosen viewpoint the shift is easy.

Enlightenment is Always for All

Enlightenment is a viewpoint every person already has available and always has had. It is our essential nature. No technique, practice, or special life style is necessary. In a sense enlightenment is a meaningless concept -- except that by developing certain habits of thought and perception within an organic body, we have somehow become biased into believing that we are subject to physical, mental, and spiritual limitations. We are always free to assume any viewpoint, and viewpoint shifting is virtually effortless. So we might as well recognize that we are always free at any moment to choose the viewpoint of enlightenment.

Enlightenment Has Practical Value

The global viewpoint of enlightenment is not simply a meaningless idea. It has extreme practical value in our lives. It provides a stable platform for knowledge, action, achievement, and fulfillment -- the components of a "successful" life. Of course success is something measured firstly by personal and perhaps also secondarily by social values. If you do not know for sure where you are going, it is hard to be sure you are doing the right thing to get anywhere or whether any action will be of any ultimate value. From the enlightened viewpoint there is certainty plus compassion and appreciation for all things.

An Enlightenment Checklist

Here is a checklist so you can tell whether you are enjoying enlightenment.

*Do you see yourself and all beings as enlightened?

*Do you make all the decisions that affect your reality?

*Do you take full responsibility for all decisions (yours and those you "delegate" to others)?

*Do you deeply appreciate every phenomenon and being in your cosmos?

*Can you relax and simply enjoy your reality just as it is as perfect and full of wonder?

*Do you feel compassion for and harmony with all creations?

Five Eternal Keys

Key #1 is light. Everything is in terms of the EM "light" interaction.

Key #2 is balance. Everything always exists in a perfect balance.

Key #3 is self-interaction. Every action has a corresponding opposite interaction that maintains perfect balance in awareness.

Key #4 is will. You create everything with your will by deciding with various levels of intensity.

Key #5 is awareness. You witness as a detached observer all that you create as your creations.

A Personal Mission in Life

An additional, but optional, aspect of enlightenment is the discovery (or choice) of a "mission" in life. A mission (as I use the term here) is different from a goal in that a goal can be fulfilled, but a mission is an endlessly expanding project that can fascinate the attention so much that it inspires conscious attention to continue exploring and evolving the mission game plan over many organic life times and gives rise to the notion of an avatar as a being capable of maintaining conscious awareness of the mission plan within an eternal light bubble despite any sort of phase transitions that may occur to the person's chosen embodiments.

Einstein's ~~Relativity~~ "Absolutivity"

Light has many peculiar properties. One is that it appears to travel at a constant velocity relative to any observer. Once this was confirmed experimentally, Einstein made it the cornerstone of his famous "Theory of Relativity". People spoke of "relativity" because of the strange effects on space and time that occur as a result of a constant light speed c of approximately 300,000,000 meters per second ($c = 3 \times 10^8$ m/s). Since the theory is based on an absolute and universal constant, that means Einstein's theory is really "absolute" and not relative. In our new enlightened age we can appreciate this truth.

Absolute Time is Eternal

According to Einstein's theory, the faster something moves, the slower its clock goes. At the speed of light the object's clock stops.

Einstein rightly claimed that no physical object can travel at or faster than light speed. However, since we perceive only via the light (EM) interaction, that means our "clock" never moves and we live in eternity. Light traveling from distant stars does not slow down or grow old. Thus light is immortal. As light beings we are immortal. All our experience is light self-interacting at light speed which is not really any motion at all because our light speed clock is still.

Why is Light Speed Not Motion?

Our notions of space and time derive from a viewpoint that identifies with a complex group of light waves that appears to travel slower than light (STL). The actual perception interaction takes place at the speed of light (SOL). Physicists often call that the "natural" velocity and give it the value of 1. STL speeds are less than 1, and faster-than-light (FTL) speeds are greater than 1. There is no 0 speed, because every object moves and vibrates relative to everything else. However, at SOL the clock stops, so we can say that any object moving at SOL seems to move from our STL perspective, but actually never moves relative to itself.

The End of the Mayan Long Count

Recently there was a lot of talk about the "end" of the Mayan calendar. This idea did not refer to the 260-day Sacred Tzolkin Calendar that continues forever in endless rotations. What has "ended" is the so-called "Long Count" that tracks cycles of extended eras.

Each era has a certain quality, and the meaning of the "end" is not that the Earth is destroyed or that things stop happening. What it means is that human consciousness shifts into a mode in which awareness of the eternal, non-changing aspect of life begins to dominate civilization in a practical and scientific way.

You Are Here

Have you ever traveled on a subway line where each station has a map of the whole subway system with a colored star marked "**You Are Here**" at the station you have reached?

Pay attention to your own life experience. You will notice that wherever you seem to go, whenever you pay attention to your location, you find that "**You Are Here.**" **Here** is wherever you happen to be at any moment. As we shall see, the notion of actually going somewhere is an illusion caused by the self-interaction of light. Wherever you go, your embodiment will be in your "light bubble".

The Eternal Light Bubble

Instead of imagining that you are moving from point A to point B, see yourself as a light form within a bubble of light.

You can move around within the bubble and change the colors and shapes within the bubble, but you are always in the bubble -- or at least so it seems. In a moment we will show you how to step out of the bubble.

Play around with the notion of the light bubble until you are very certain that wherever you go you are always somewhere within your own personal light bubble that you define by the limits of your attention and beliefs.

You Generate Your Light Bubble

The remarkable thing about the light bubble is that you create it every moment instantly and project it outward as a bubble of "reality" that you cleverly pretend has a life of its own in which you may participate.

The truth is that you are responsible for creating the light bubble and everything in it. It is a fantastic entertainment device filled with endless fascinating possibilities.

People speak of a "universe" and the wonders of "unity consciousness" while actually resisting the loneliness such an idea implies. The longing to be loved is a great misperception.

Love and Responsibility

The desire to be loved and appreciated is a big mistake. You create your own universe, so if it does not love you, who are you going to blame?

If you create beings with the freedom to exist on their own and self-aware beings with free will, you get an interesting universe, but not one in which you can expect everyone to agree with you, like you, or even respect you.

As the creator of your universe it makes sense to love and appreciate your own creations, but if you choose not to make sense, then you still have to take responsibility for the nonsense.

Other Denizens of the Light Bubble

If you pay attention, you soon discover that your light bubble is populated with many other people, other non-human animate beings, and lots of "inanimate" objects.

These "denizens" who share your light bubble may seem to come and go within the range of your attention. You have partial control over the condition and contents of your bubble, but so do the denizens who share the space. You often can make them appear or disappear. They also can appear or disappear on their own "initiatives", making up their own minds as they go. Total control is totally predictable and totally boring.

Can You Leave the Light Bubble?

Yes. You step out of the light bubble in several ways. One common way is via deep sleep. During deep sleep you relax and turn off your sensory perception. Attention loses focus and expands until you are not aware of anything.

A second way is by dying. When you drop the physical body that you use for playing in your light bubble, you slip out of the light bubble for at least a moment.

A third way is through deep meditation. During meditation your attention gets very subtle and may slip beyond the bubble of perception.

Your Light Bubble is Your Universe

Your light bubble extends in every direction through every sensory modality as far as your attention can conceive of anything.

This means your light bubble defines the universe in which you live. Another way of describing it is to say it is the sum total of all the beliefs you hold. These beliefs may be manifest as experiences or just as subtle thoughts and feelings, memories or dreams, depending on your intensity of belief. In effect your light bubble includes everything that you consciously or unconsciously consider as part of your universe or panoply of universes.

Your Light Bubble is NOT YOU

The fact that you can step out of your light bubble means your light bubble is **not you**, nor is the image you have of yourself in the light bubble you.

Whenever you step out of the bubble, the image of you disappears. That means what you see or imagine in the bubble is merely an idea of you and of your world, but is not you or your real reality. The light bubble is only your creation. It is not you.

So what is your real reality, and what or who are you?



Will the **REAL YOU** Show Up?

Unfortunately you are wasting your time if you try to find some identity that is the "REAL ME". There is no such thing.

You are an **unknown** -- the one thing in the universe that is most **unknowable**, and ironically what most people fear the most is the unknown. It turns out that people tend to be needlessly afraid of themselves.

You are not a creation or an experience. You are a **creator** and an **experiencer**. That is why you will never find something that is you. You will only find your creations.

Get Acquainted with Your Self

You will never be able to pinpoint yourself as having any particular identity, but you can exercise your powers. Your powers are unlimited (with certain self-imposed limitations), but fall into two categories.

First, you are **aware**. **Awareness** is the fundamental nature of existence and has no particular content. The content depends on what you choose to be aware of.

Second, you have a **will** that can decide. You choose by your will from options and collapse awareness from all possibilities down to a single choice or a subset of all possibilities.

The Ancient Chinese World View

The ancient Chinese called awareness *yin*. It is passive and simply exists. It is intelligent, because it experiences creations in a structured and orderly way. It is receptive to experiencing any possible creation.

The ancient Chinese called creativity *yang*. It is dynamic and resists the *status quo*, so it generates change. Change can only be experienced in terms of what already exists. Therefore *yin* and *yang* play together endlessly. The Chinese symbolized this as a dragon playing with a ball of light. The dragon is creative *yang* of the will, and the ball of light is the *yin* awareness that experiences creations.



A pair of Chinese creative energy dragons play with a magical particle ball of light. (Wikipedia, "Dragons")



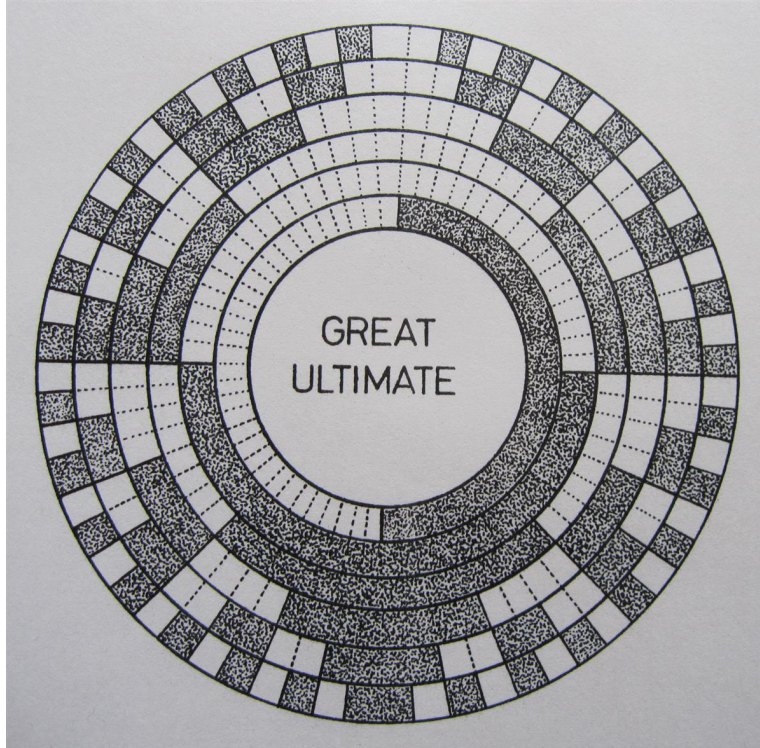
Two decorative dragons play with a ball of light as they are often seen cavorting atop Chinese temples.

Binary Resolution

The arbitrary binary contrasts of *yang* ___ and *yin* _ _ can be at any resolution. Once you choose the resolution, the number of possible changes (combinations of *yin* and *yang*) is fixed. Whatever happens in a *Taiji* system of a given resolution, the system "bubble" itself never changes, but merely cycles among its various possibilities. The ancient Egyptians also knew this truth, our modern computer scientists know this truth, and civilizations throughout the cosmos all eventually realize this truth and apply it in their lives. The truth is simple. It constantly changes within itself, but never changes as a unitary holistic system.



8 Trigrams, each with 3 lines
(*Taiji* symbol is in the center)



64 Hexagrams, each with 6 lines

How Does Aware Will Function?

Awareness is undefined. Will defines awareness and transforms it into consciousness. Consciousness consists of a flow of thoughts directed by the attention. Attention can be directed deliberately by the will or via conscious or unconscious habits. Experience for yourself with the following (based on an exercise by Harry Palmer in **ReSurfacing**, p. 40). Pause a moment from what you are doing. Then deliberately decide to do something simple. Then do it for a few moments. Then stop what you are doing and decide to do something else. Then do your second choice for a few moments. Then stop the exercise and answer the following questions.

Let's Examine What Happened

Did you do the exercise? Did you make the two decisions. Did you do what you decided to do?

During the pause before you made each decision you were aware and you faced a huge selection of possible choices. Each time you made a choice, you narrowed the options from countless many down to one. You gave up the freedom of all the options and accepted the limitation of doing only one thing.

Choosing from "Free" Will is a strange trade-off. You destroy your own unlimited free choices and obtain in return one real tangible experience.

The Nature of Undefined Awareness

Undefined awareness is your neutral gear. Feel what it is like during the pause before you decide what you are going to do next. You are floating in a state resembling undefined awareness, but still slightly defined by the rules of the exercise or any other responsibilities you have. There are many options, but none are very clear.

Once you make your decision with your will, the field of options collapses into a task that you give yourself. When you perform that task, you experience specifically and concretely what you set out to do, possibly with some distractions or setbacks along the way.

The Range of Experience

From this simple experiment we discover that there is a range of experience from the precise event of fulfilling an intention to a vague realm filled with endless possibilities, all or some of which remain intangible.

In between is the world of habit in which our awareness flows like a river of consciousness along an automated route that contains perhaps a variety of experiences, none of which is remarkable. The value of habit is that it provides a sense of security and normalcy. The down side of habits is that they inhibit growth -- unless the habit is to explore and experiment in the unknown.

Habit and the Will

Habit is a brilliant invention. It allows us to automate any creative activity of will to the point that it does not require any appreciable conscious mental application of the will.

Our deepest level of habits includes the instincts that keep us alive and healthy in our physical bodies. An individual may also develop habits to the level of masterful skills that seem effortless wonders to those who have not witnessed the cultivation required to achieve mastery of the habitual performance. On the other hand, habits hold our will back with routine, and they may blind us to new dangers or new opportunities.

How to Erase or Rewire a Habit

If a habit becomes a problem -- such as an addiction or an inappropriate response, it may be time to erase it or rewire it.

The first step is to bring it to conscious awareness by deliberately performing actions that will trigger the automated habit. It helps sometimes to have a coach observe your actions if you are not aware of them yourself. You have to coach yourself for habitual thought patterns.

Once you identify an unconscious response, mimic it deliberately without actually doing any negative action that it might involve.

Why Consciously Mimic a Habit?

The reason for consciously mimicking a habit is to bring it into the conscious domain of deliberate action. Once you do that, you can deliberately decide whether or not to do it again.

If you decide to give yourself total freedom, you can do anything you want and habits are not an issue.

By limiting your freedom with the will and deliberately mimicking habits and unintended results, you gain total control over your reality. The trade-off is that you must accept the limitation on your freedom by mimicking things you prefer not to experience until you master them.

The Awareness Trade-off

On the other hand, you may shift into pure observation and experience undefined awareness. In that case you end up having to relax into acceptance of all your wonderful age-old habits, or you end up with nothing at all specific -- just an endless bunch of virtual possibilities.

Nevertheless, the **aware will** is your ultimate nature. It has no specific content, but can play with infinite possibilities and evolve through unlimited experiences. Mastery of the aware will (also known as creative intelligence) fully empowers a person and is fully available to every sentient being. Create and experience what is.

The Illusion of Big and Small

No creation has any definite size (or importance). We discover size by comparing objects and by taking certain viewpoints to perceive objects. When we have habitual viewpoints, we begin to believe that things have certain fixed sizes (and importances).

Motion is a way of adjusting the perceived relative size of objects. Moving closer to an object makes it seem larger. Moving away from an object makes it seem smaller. Observe objects you habitually think of as big or small. Adjust your distance for viewing the objects to drastically change their sizes (or importances).

Viewpoint Shifting and Energy

It takes almost no effort to change a viewpoint mentally.

However, if you change viewpoint by changing the location of your physical body relative to an object of perception, the amount of energy involved depends on the technology that you use.

Einstein says that no object or data can go faster than light because too much acceleration energy would be required. That "rule" effectively imprisons us within a very local corner of the universe. However, Einstein's assertion contains hidden assumptions we can work around.

How to Go Faster Than Light

Our physical bodies move slower than light (STL). However, our perceptions move at the speed of light (SOL) within the light bubble as we have just shown.

Einstein's equations combined with de Broglie's extensions that include the vibratory nature of matter tell us that faster-than-light (FTL) motion and communication is inherent in physical theory because of the assumed constancy of the speed of light.

Here is the formula: $(v_g)(v_p) = c^2$. In the formula c is the constant of light speed, v_g is the velocity of an object, and v_p is a related FTL phase velocity.

What Does This Equation Mean?

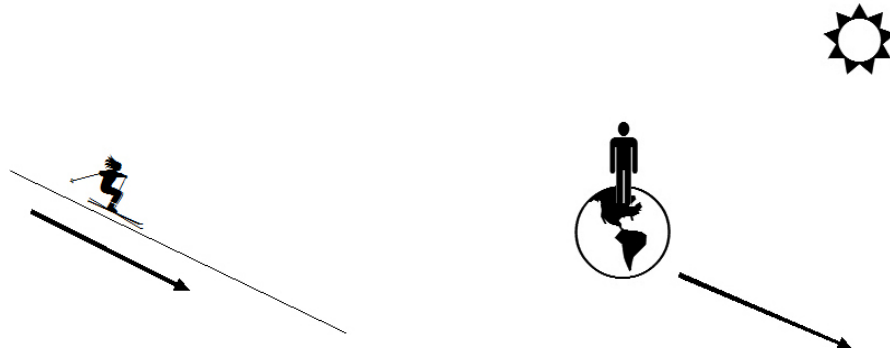
The equation is simple algebra in which c is a constant velocity and there are two variable velocities, one for the object, and another for its "phase wave" cluster. The motions of material objects are always STL. Thus the corresponding "phase wave" velocity must be FTL. It also must contain the same information that the slower object contains. Also, if the object slows down to become nearly motionless, then its phase velocity becomes super FTL and may encompass the universe in a moment.

$$(1/500)(500/1) = 1^2. \quad [\text{Set } c = 1]$$

It appears that superluminal (FTL) communications and transportation are possible after all.

So How Do We Go FTL?

Simple observation demonstrates how it is done. We have not unfolded all the technology that is possible, but here is an example. When you stop moving your body around on Earth, you identify with the next largest moving object to which you are connected -- e.g. Planet Earth, that is moving rapidly around the sun and with the sun around our galaxy. The slower you go as a body, the faster you go as a phase relation. Further FTL principles require that you shift from serial to parallel processing of information, shift your viewpoint by 90 degrees, and expand your perspective to embrace an entire communication channel.



A man skis rapidly down a mountain slope at 80 kph. A man standing still on Planet Earth moves at Earth's speed (about 108,000 kph). The sun moves in the galaxy at about 782,000 kph, still well below SOL. (Add 1000 for Earth rotation.)

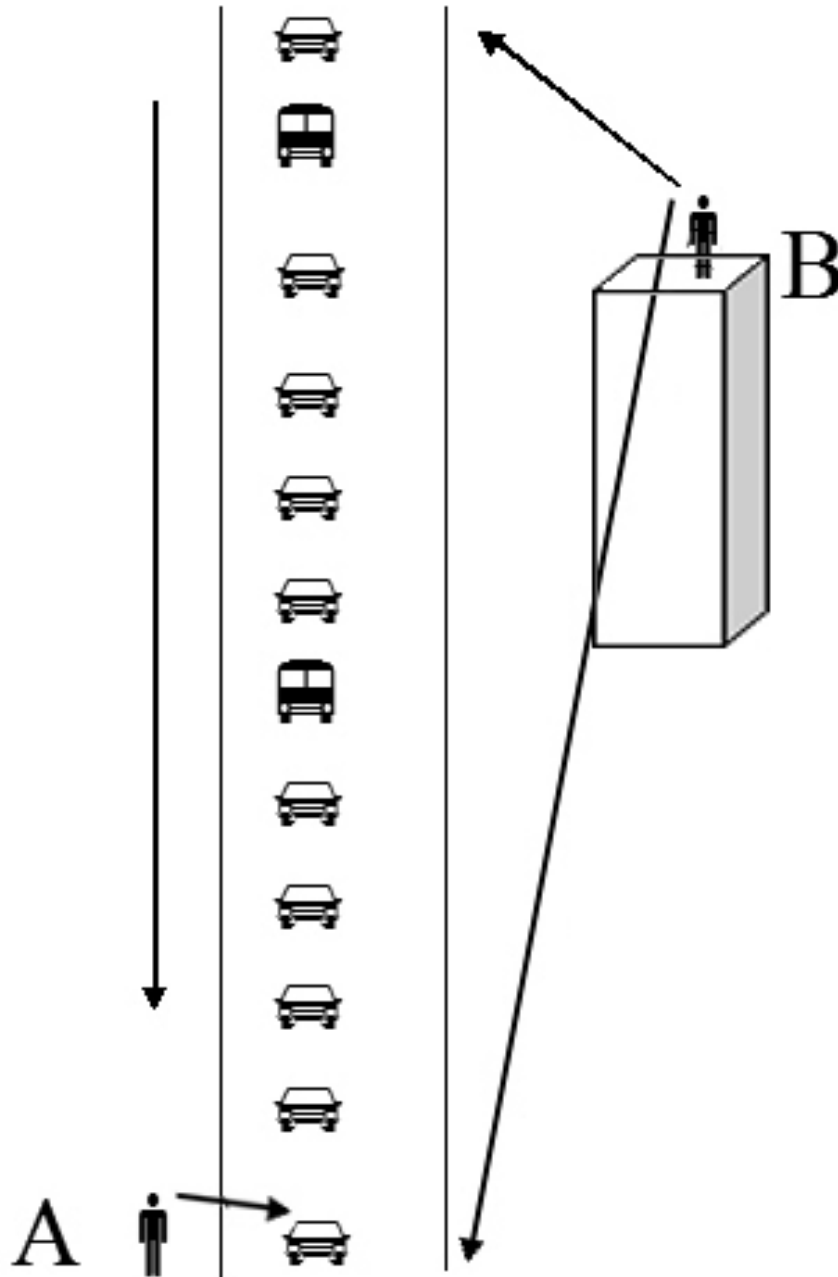


A saucer spinning fast on its rim stands tall at 90° to the table top and touches the table at one tangent point. As its physical spin slows, it begins to fall and shifts its momentum into a phase wave rolling between rim and table top. As the saucer spin slows, the phase wave amplitude drops, but the phase wave accelerates until it breaks light speed. Then with a plop it hits silent "infinity". The physical plate comes to rest and the rim touches the table at all points simultaneously. Try it and listen.

How to View the world FTL

Stand by a city street and watch cars go by. This is serial processing. You see cars go by one at a time, clearly much slower than the speed of light.

Now go up to a high floor in a building along the street and look down on the entire length of the street. From that viewpoint you process the information on the street in parallel. The information reaches your eyes at SOL, but in one glance you see **all** the cars on the street and can even get a good estimate of how many there are. This is FTL communication. It is extremely commonplace and no big deal. To reach distant galaxies we simply upgrade the technology.



The vehicles move "down" the street. Mr. A stands on the sidewalk watching the cars go by one at a time. Mr. B stands on top of a tall building and sees all 12 vehicles in a single glance FTL.

More FTL Examples

Open up a text file on your computer. Type a period. Then place the cursor in front of the period and hit space bar multiple times to move the period. You will see the period move with a jerky motion across your screen. This is STL motion.

Now move the cursor to the left margin. Press the period key and hold it down. This will produce a faster STL row of periods across the screen:

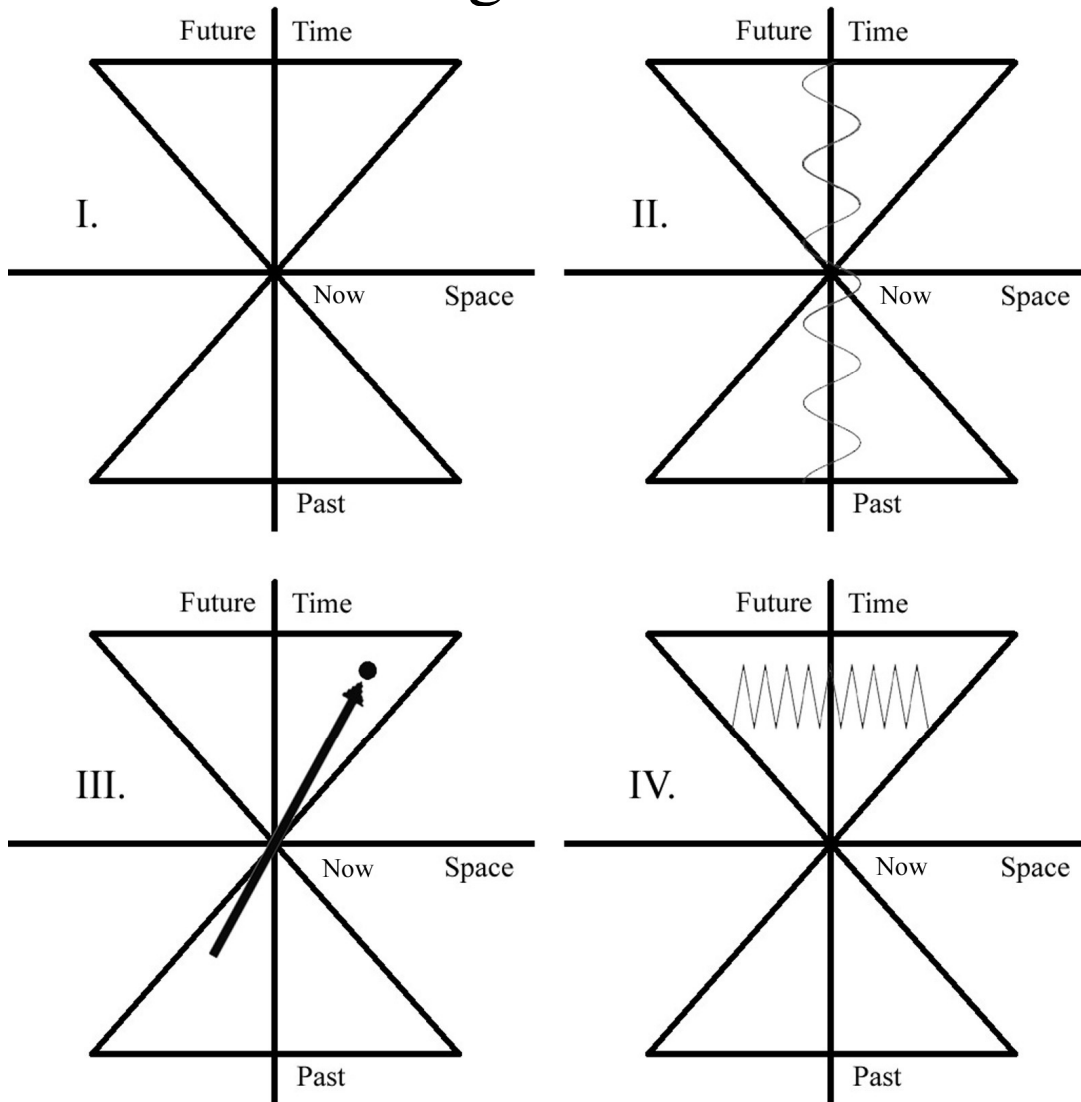
.....

The row of dots forms a line. A line is a dot moving FTL. Actually it is still STL because of the refresh rate of the screen. Print out the row of dots and it becomes truly FTL.

Temporal and Spatial Motions

In our universe light speed (SOL) is the standard for stillness, a state of "no" motion (i.e., no time). Two other types of motion occur: temporal and spatial. Temporal motion is STL. Spatial motion is FTL. Pure temporal motion means that an object does not change location in space, but moves only through time. Pure spatial motion means that an object does not change location in time, but moves only through space. In that case it seems to exist simultaneously in multiple locations. Physicists explain the way STL and FTL motions differ from SOL with a light-cone (or light-cross) diagram. Rotate the cross to see the cone.

Light Cones



The diagonal cone edge is SOL.
 Light cone II shows a time-like particle, vibration exaggerated.
 Light cone IV shows a space-like particle vibrating back and forth in time.
 Cone III is a fast STL particle.

Experience FTL in Daily Life

This page goes to your eye SOL, the data bits arrive all at once FTL, your mind processes STL. Look at a bank of TV sets in a store all displaying the same channel simultaneously. That is FTL transmission. Crystals are FTL devices. All electrons look the same so there probably is only one electron in the universe that moves about at FTL. FTL transportation involves an object (potentially a person) disappearing from one location and simultaneously appearing in another location (even light-years distant). Bilocation is a subset of the multi-location principle. Mass produced identical objects present a crude form of FTL phenomenon.

Your Light Bubble Stays Put

All motion or exchange of information takes place within the light bubble. The light bubble never moves relative to itself.

We are not the light bubble, although we can identify with it or assume the role of an **avatar** and play within it. The light bubble never moves relative to the real **SELF** which is transcendental to the light bubble and is its creator. Thus motion and communication are simply a matter of deliberately managing attention with respect to aspects of the light bubble. You can know or do anything you like within your bubble and the bubble always stays put.

What is an Avatar?

An avatar is a physical, mental, spiritual, or other-dimensional embodiment of an enlightened being that plays a role within the being's own light bubble drama, and perhaps also appears in the light bubbles of other beings. Such a role is usually for the purpose of exemplifying the enlightened perspective in some way for those beings in certain light bubbles that have chosen to ignore the reality of their enlightened perspective and instead choose to follow a path of self-limitation, conflict, and needless identification with suffering. Some avatars assume embodiments purely for the purpose of playing in their own bubbles and/or those of others.

The Big But

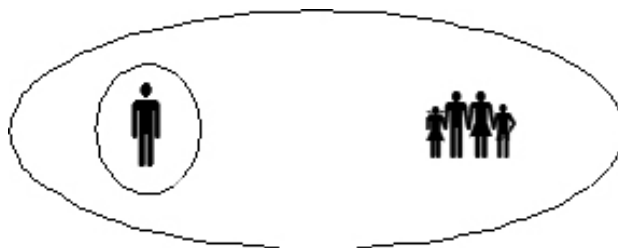
Once we see clearly our relationship to light bubbles, we have complete access to any information and any location within the light bubbles. The details are merely technical.

But, the big hitch is that the bubble is your own unitary creation. You are therefore totally responsible for whatever you do with your light bubble. You will have to witness and experience whatever results you impose on it.

You are God/Buddha/Whatever, but so is everyone else in your light bubble by virtue of the enlightened viewpoint. So it's no big deal.

Why Do We Have Others?

We have others because we created them. We created them because of the inherent **loneliness** of the unity that is enlightenment. The entities we create in our universe can only reflect our own level of consciousness. As our level of consciousness grows, we become more aware of the higher consciousness in others. From the enlightened perspective all beings are enlightened and immortal and always have been. The cosmos exists eternally in peace and harmony as beings evolve and play with their creations.



Where Does Gravity Come From?

Gravity has resisted the researches of scientists, but is really not so difficult to understand. All physical laws involve resistance rather than attraction. So where does gravity's "attractive force" come from? The universe begins with a resistance to loneliness. We objectify awareness as light and imagine it to be separate from us. This creates our ball or bubble of light. To experience the light requires a number of additional twists that generate the 3D EM interaction (electric, magnetic, and quarking of antimatter). The "gravity" resistance is global, but, as the EM interaction sets in, attention localizes and the global resistance relaxes.

The Big Rebound

Once attention becomes fixated on local developments, the global loneliness gets forgotten and the global resistance relaxes. Then all phenomena start to collapse from the primal push-away expansion back into the void black hole of the universe. To get a feel for this, simply expand your attention until it encompasses the universe and even goes far beyond until the universe becomes a tiny speck. From this unitary perspective there is no gravity. It takes two or more to "gravitate". Experience it. Space is an EM phenomenon. Like charges repel, and unlike charges cancel the space between particles, giving the feel of EM attraction.

Space-Time is Filled with Energy

What appears to be empty space is actually packed with energy that is sometimes called zero-point energy because its phenomenal aspect cancels out. If you push hard against a sturdy wall, you seem not to move, but still can expend a lot of energy.

The energy of the vacuum state is the "aether" medium through which EM energy propagates at a fixed speed. If the emitting and absorbing particles move at various slower-than-light (STL) speeds, the interacting EM energy shifts frequency to compensate -- which means that the EM energy shifts up or down to match the energy gained or lost in particle motion.

Our Best Energy Resource

The zero-point energy (ZPE) "aether" of the vacuum state is our ideal energy resource since it is lavishly abundant everywhere and does not pollute the environment chemically, thermally, or with radiation hazards.

Harnessing this energy will provide all the energy needed for future operations on and off the planet. We no longer will rely on fossil and nuclear fuels and will clean up the mess created by their extensive use over the past 150 years. Experiments in quantum mechanics demonstrate the ZPE's reality, but our technologists have yet to make available its applications in practical forms.

Creating Universes

Each individual being from his, her, or its viewpoint creates a universe. There are many universes similar to ours and many that are very different.

Each universe has in common a small set of physical and geometrical constants that provide stability to the universe. Each constant is a relation of two or more qualities that form the fundamental properties of the given universe: e.g., length (L), time (T), and mass (M). For example, velocity is L/T , and energy is $M (L/T)^2$; π is L_C/L_D , (where C is circumference and D is diameter). Then we choose units such as meters, seconds, and kilograms to measure quantities.

Overlapping Universes

We create beings like us with aware will because that is much more interesting than a universe of lifeless and unresponsive particles or rocks.

However, this means that beings exercise their wills and have a variety of viewpoints simply due to their relative positions within your light bubble. The challenge is to negotiate a harmonious coexistence with these beings that benefits all.

Each being has its own viewpoint and its own light bubble, and the bubbles can overlap so that you are in their universes and they are in yours -- if you believe they have universes.

Enlightened Universes

Beings in a universe reflect the level of consciousness of the viewpoint that creates the universe. From the viewpoint of an enlightened creator, all beings in that creator's universe are by definition enlightened, whether they know it consciously or not. Since enlightenment encompasses all possible universes, *a priori* all universes are "enlightened" even if they are not based on the EM light interaction because the ability to create a stable universe assumes by definition a state of enlightenment that is eternal and immortal. The experience of such universes simply may not involve EM light interactions but some other constants instead.

How Does God Fit In?

Do you believe in God? If you do, then you have imagined into reality a projection of your own secret identity. If you are a missionary, then you want to convince all the identities you created that your secret identity is the best of all. This is a funny and subtle game, because you created all those identities. Maybe you created that someone converted you to believe in God. The missionary and his convert are all part of the divine humble game, a gigantic pretense intended to generate an astonishingly complex obfuscation of your true secret identity that somehow never really convinces any of the players in the game that you created before all.

What Do the Enlightened Do?

Some believe that the enlightened live in service to society, but there is no reason why this should be so. Throughout history some enlightened ones have shared their experiences and often religions arose around their teachings. This usually degenerated quickly into a cult of the personality or codified ways of life and discipline, all of which took people further away from their inherent enlightenment.

Attempts by groups to create enlightened societies founder on the rocks of the reality that enlightenment has nothing to do with a way of life, belief, or a "spiritual" practice. To the enlightened all are enlightened.

Enlightened Planetary Civilizations

Nevertheless, it is still possible to create enlightened planetary civilizations (EPC) with the understanding that all participants, whatever their mode of life are enlightened and treated as such. Since all physical, mental, and spiritual creations are limited in time, space, and other dimensions within a light bubble, no EPC (EGC, or EIGC -- galactic or intergalactic) is permanent -- including even an enlightened cosmic civilization (ECC). These are temporary approximations to an ideal that exists only as a reality from the viewpoint of the fully enlightened aware will and needs no making or doing.

The Paradox of the Enlightened

Each enlightened being is omnipotent and omniscient -- although not necessarily exercising such powers openly through a certain avatar embodiment at a certain time or place.

Each enlightened being has totally free will to act deliberately from the state of undefined awareness.

There exists an inherent potential for conflict between or among differing enlightened viewpoints. Conflict among omnipotent beings is an insane game, since no player can win. The only sane solution to this paradox is for **all** to win, each player obtaining what he, she, or it prefers.

Planning Ahead

We can remotely view times and places. However, the farther we look into the future, the less detail we can see regarding the big picture. Nevertheless it makes sense to plan ahead to a certain extent, if you wish to bother with time. Some cultures believe in acting with attention on consequences for seven generations. I tend to prefer at least seven million generations. Given 25 years for a human generation, that roughly matches the era in which dinosaurs ruled our planet. Our known era of civilization is a mere 6000 years. If we wish to pursue "advanced" civilization long term, then we must plan for true sustainability.

A Billion-Year Civilization

Advanced civilizations on other planets may well have had thousands, millions, or even billions more years of experience than we have. Earth has had about 3 billion years of evolution. Life began as unicellular archaeons during the first billion years, added unicellular eukaryotes during the second billion, and evolved multicellular organisms during the third billion years. Evolving forward, Earth may enjoy at least another billion years with flourishing life forms. That may or may not include humans. Successful human transition to sustainability may lead to human expansion into the galactic community and beyond. Or not.

A Plan for a Planet

A sustainable civilization must live in harmony with its environment and leave a mostly self-dissolving footprint on the planet, except perhaps for a few special "permanent" monuments. There are five major components to a plan for sustainable civilization on a large scale.

The Personal Development Plan

1. If the population is self aware, it must be consciously enlightened. This is the basis in awareness for designing a civilization.
2. The population must be skilled in managing its belief systems, including the setting of priorities, commitment, action, and follow through.

The Social Component

3. The population must have holistic social skills and protocols for sexual relations (if they reproduce sexually) that allow for peaceful coexistence, a stable economy, and respect for individual rights.

A reasonable social structure is necessary to ensure that each succeeding generation receives the love, care, and attention that leads to a balanced emotional and social life.

Negotiations between various parties (whether individuals, organizations, communities, nations, and species) should lead to win-win outcomes.

Our Environmental Footprint

4. Energy resources must not pollute the environment in the harvesting of the resources, the packaging of the resources, or the usage of the resources.

5. Material resources must be renewable and/or fully recyclable. Non-renewable resources are to be avoided unless a method of renewing them is found. Infrastructure and architecture must match the geo-physical environment and not produce hazards for wildlife or humans. Toxic residues and waste material from the past must be cleaned up.

Money and Society

Money is a convenient social convention by which people agree on tokens or records for measuring perceived values traded in payment for information, resources, products, services, debts, and so on. Chris Martenson refines this definition to "a claim on human labor". The labor may be spiritual, mental, or physical, may take place in the past, present, or future, and may involve any degree of difficulty or complexity. Money is handy, but is always subject to the risk of unforeseen events that change perceived values. Most money today is *fiat* notes with a government declared value but lacking intrinsic commodity value.

Value as the Basis for a Currency

In a given economy any product or service has a basic "cost" in terms of human labor. The "price" in the market must at least cover the "cost". Any extra price above cost is governed by the market. A conventional currency is used to measure prices in transactions. The total cultural heritage of the society sets the true underlying value of the currency and includes its tools, processes, skills, knowledge, wisdom, and quality of life. This heritage belongs to all people to share, enjoy, and expand with new contributions. Since all are enlightened, each person must decide what quality of life is preferable for individual and society.

Stable and Balanced Finances

The United States and quite a few other nations have greatly unbalanced financial economies. Most of the wealth has shifted into the hands of a small minority of the population. A large percentage of the population lives on the brink of or deeply in poverty. The government is essentially bankrupt and has acquired debts that will take generations to pay off unless special measures are taken. Otherwise (periodic) economic collapse in which the money loses its value is a strong likelihood. The US is by far the largest debtor nation in the world, but none of this is necessary if the people simply wake up and take the proper steps.

Example of a \$25-Trillion Plan

The US currently has about \$17 trillion in national debt on the books, but the real debt is much greater.

If the wealthiest 5% individuals and corporations **invest** (not as a tax) \$500k to \$1.5 million per entity to pay off the national debt, up to \$25 trillion could be raised in a single day. This would ensure that the dollar remains the global reserve currency, would restore confidence in the US economy, and would bring special tax benefits to the individuals and corporations that made the **investments**, allowing them to increase their assets. The payoff would be marked with National Debt Freedom Day.

Or Is There Really Debt?

Another way of looking at it is to say that the U.S. debt is owed to people for whom it is an asset. The U.S. is a sovereign nation and can issue fiat currency as it pleases, spending it on infrastructure, R&D, education, health care, space exploration, and so on -- creating value, employment, and cash in the hands of people to buy what they need. Full employment and value creation grows the economy without inflation and the wealth is in the hands of the people. U.S. trade deficits mean foreigners hold U.S. dollars that they must ultimately spend in the U.S. economy to get their value back in terms of goods and services. No problem: just do it.

Steps to Ensure Continued Success

The "national debt" is not as important as the distribution of wealth. Measures are necessary to equalize it.

1. Tax reform is needed to ensure that low income people are not (over)taxed and that the wealthy who do not **invest** in the "debt payoff" pay their fair share. However, the wealthy who do invest get special tax breaks to expand their business interests and are celebrated as national heroes.

2. Budgetary reform is needed to ensure that investment funds are used for maximum benefit of the citizenry. Let taxpayers vote most of the budget when they submit tax returns, not congress or vested interests.

A Second \$25-Trillion Plan

The US still has many trillions in hidden "debt". Some estimates of the total public and hidden debt (i.e. assets) are as high as \$50-60 trillion.

However, the US has a vast repository of advanced classified technology -- hidden **assets** that could be adapted rapidly to civilian applications for solving many problems in the energy and materials sectors.

The US also provides military and security assistance to many countries around the world and could properly charge much more than it does for these services in the form of foreign exchange or trade credits.

Conclusions

We stand at the threshold of a new era in which a literate and fairly well educated populace with access to global communications and transportation can shift their world view almost instantaneously into a state of enlightenment. In that state, they will gain amazing efficiency. They will discover that they are eternal, immortal light beings able to shape shift endlessly. They will discover that it is not necessary to run around madly chasing busy-ness. Enlightenment brings a sense of global stability and non-change together with the ability to transform the quality of life and achieve an intergalactic harmonious civilization.

Now is Forever

As sentient beings with aware will we all exist beyond space, time, and any other physical, mental, or spiritual properties of reality that we might imagine. Wherever we go from here in our light bubbles, we always have our light bubbles as potential or actual realities to play with. Enlightenment is only a viewpoint. It will not make us happy, healthy, or rich. But it is a great foundation for those qualities of life. What we experience as our shared reality depends entirely on the decisions we make and the actions we take, now and at each moment. Integrity of existence requires complete honesty with self and others in our reality. We are all responsible.

Enlightenment and Science

Enlightenment and science are closely aligned. Science is organized knowledge that is verified by experience. Organization means that a set of component elements has a natural arrangement that is holistic, structurally sound, and functionally operational within the limits of its defined properties. Science is a process of exploration in which we discover the structure and function of our reality by adapting our beliefs until they precisely describe and operate as our reality. In any scientific reality experience (experiment) corresponds to belief (theory). Other realities may not correspond with experience.

Doubt and Certainty

Enlightenment is a state of absolute certainty. Certainty includes an endless number of possible viewpoints, each of which may be accepted with certainty once all doubts have been removed by experimental experience. This leaves us with "designer reality" or "just-as-it-is reality" as the two polar outcomes for reality. The coalescence of these two polarities lies in an undefined awareness wherein all possible designer realities and just-as-it-is realities coexist virtually. The role of doubt is to inspire elimination of any variances between our beliefs and our realities or between our realities and our beliefs.

Experiment and Experience

The problem with experimental experience is that, due to its inherent local nature, it can never prove any global belief-theory. The problem with logic is that it is an arbitrary self-consistent mental system with no necessary connection to real experience. In quantum mechanics experimental evidence is governed by statistical probability, which means that it is theoretically possible to "filter" any system so as to skew its probabilities toward any desired reality -- leading to designer realities. Or one can simply let the probabilities fall as they may and take reality as it is as your reality, certain they will fall, but not knowing finally how or why.

The Certainty of Uncertainty

There is a fundamental uncertainty at the quantum level of reality. We can not determine the precise position and velocity of a quantum particle at the same time. Measuring the position changes the velocity, and measuring the velocity blurs the position. We can be certain about uncertainty in such cases, but can still measure one component as precisely as our instrumentation permits.

$$(\Delta x)(\Delta v) \geq h/m$$

In this equation x is position, v is velocity, h/m is the constant ratio of Planck's constant to the rest mass of the particle. Delta (Δ) means a range. Uncertainty recalls the Einstein/de Broglie relation we discussed earlier.

A Strangely Uncertain Example

An atom of hydrogen consists of a proton with an electron in orbit around it. Because of the quantum scale, if we try to find the precise position of the electron in the atom at a certain moment, then its velocity accelerates to the FTL range. On the other hand, if we try to determine the precise velocity of the electron at a given moment, its position becomes vague as if it is a cloud of quasi-electrons distributed all around the proton. All we end up with is a range of probabilities, so scientists treat the electron as if it forms a "stationary" probability shell around the proton. The electron is everywhere with some probability.

Probability Management

In the quantum world all is probability. Enlightened science will focus on the management of probability. Your identity is a cloud of virtual "yous" that exist everywhere, everywhen, and under every condition. Therefore the proper method of "transportation" simply consists of manipulating your maximum location probability to match where you prefer to be. The same is true for health, wealth, relationships, knowledge, and any other quality of life that a person places any value on. Depending on your skill in action the "manipulation" of probability may be complex or virtually effortless -- taking no more energy than it takes to think a thought.

You Ben Busy

Putty much ev-body on dis here planet ben kinda busy doin' dis or dat. Why not kick back a bit an' dig *con*-shusness, 'n' see how't do it stuff? Den check out yo pry-orities 'n' see where'bouts yo headed now dat you *no* yo ain't really goin' nowhere fast. When a man, woman, fambly, city, state, nay-shun, en even a plan-net done reacht a det-to-ass-et race-yo dat go ovah one, den dat entity be headin' to a state o slavery to one's own cree-a-shuns. Now dat don' make nobody no sense nohow. Mebbe take anudda look atchyer ass-ets, and count 'em up if ya like. But if dey happen to git stuck at im-*f*inity, den yo' DTA always gon' be nuffin, rich o po'.

For Practice, Play, or Reading

(A short list of techniques, disciplines, and books)

Chan (Zen) Meditation (Buddhist meditation)

Transcendental Meditation (Maharishi Mahesh Yogi)

Ocean Awareness Meditation (Egyptian meditation)

(other effortless meditation practices)

The Avatar Materials (created by Harry Palmer)

Loving What Is (and other books by Byron Katie)

The Feynman Lectures on Physics

Modern Monetary Theory (MMT)

Seven Deadly Innocent Frauds of Economic Policy (by Warren Mosler)

Partial List of Books by Dr. White

***A Plan for a Planet**

***The Yoga Sutras: An Enlightened Translation and
Commentary**

***The Cosmic Game**

***The Pyramid Texts: Avatar Wizards of Eternity**

***A Tour of Atlantis or What Happens in the Astral
Realm (The Amduat)**

***The Story of Ra and Isis**

***Mantras and Yantras of Ancient Egypt**

***The Holistic Change Maker (The Book of Changes)**

**Books by Dr. White are available from the
www.dpedtech.com website store, some at Amazon.com.**

Delta Point Educational Technologies

The Math for the Velocity Equation

Einstein discovered the relationship among mass, energy, and light speed: $E = m c^2$, along with the quantum (particle) wave nature of light ($E = hf = hc/\lambda$), where E is energy, h is Planck's constant, f is frequency, λ is wavelength, and c is light speed.

$$E = hf = \frac{hc}{\lambda} = mc^2$$

Louis de Broglie extended the idea to describe the wave nature of particles, finding, for example, that the electron has a characteristic wavelength (λ_e) that relates to its momentum: $\lambda_e = h/p$, where h is Planck's constant and p is the particle's momentum (mass times velocity).

$$E = pc = hc / \lambda.$$

$m_\gamma c^2 = hc / \lambda_\gamma$, where m_γ is the virtual mass of a light particle (photon).

$$m_\gamma c \lambda_\gamma = h.$$

$$\lambda_\gamma = h / m_\gamma c.$$

The insight of de Broglie was that you could then take the mass of a particle such as an electron m_e and plug it into the relationship. The wavelength of the particle would be Planck's constant divided by the particle's mass times its velocity.

$\lambda_e = h / m_e v_e$, where the subscripts now represent electron properties, and v_e is the velocity of the electron.

The problem with these ideas is that the mass and energy of a particle are abstract properties. Only properties like length, velocity, and constants such as c are measurable by observation. So we re-interpret the relationship in terms of velocity alone, starting with the velocity of the particle (v_e), which we now call the "group velocity" (v_g) since it is composed of a bundle of interacting waves that always move along as a totality at less than the speed of light and give the impression of a particle with mass.

$$v_g = h / m_g \lambda_g.$$

The phase velocity of light is (v_p) = $c = \lambda_\gamma f_\gamma$, which is the photon's wavelength times its frequency. So the phase velocity associated with an electron would be $v_{pe} = \lambda_e f_e$ and in general $v_p = \lambda_g f_g$, the phase velocity (v_p) that corresponds to a particle's group velocity (v_g). $E = hf$, and hence $E_g = h f_g$. Substitute ($h f_g / c^2$) for the particle's mass m_g and cancel out the h 's.

$$v_g = (h / \lambda_g)(c^2 / hf_g) = c^2/v_p.$$

$$v_g v_p = c^2.$$

This reciprocal relation is what I call the Einstein/de Broglie Velocity Equation.