

UNIVERSAL DUALITY
Essential Principles of the Nature of Energy/Matter and Human Nature
David Woolfson, c November 25, 1995

Everything in the Visible Universe is Energy/Matter

The "big-bang" which created the Universe initially radiated only energy. Energy transformed into Matter as a result of the early cooling of the Universe. Accordingly, matter and energy are dual manifestations of a single entity.

There is only one kind of Matter in the Universe

Atoms and Sub-Atomic Particles are the fundamental constituents of all Energy/Matter in the Universe. These basic "building blocks" combine to make up everything we can see. These fundamental units are quarks, electrons and neutrinos which combine to form various atoms which combine to form various molecules.

Different types of molecules then combine to form different types of matter. In organisms, the molecules form biological molecules which form cells which form living organisms. Therefore, plants, animals, human beings, planets, stars, galaxies, etc. are all formed from the same fundamental sub-atomic particles and are all a specific form of energy which we define as matter.

Energy/ Matter is governed by the 4 Fundamental Forces of Nature at the atomic and sub-atomic levels

These invisible forces, in order of strength, are: strong nuclear, electromagnetic, weak nuclear and gravity. A primary function of these forces is to continually "bind" matter together in a coherent whole as atoms, molecules to organisms, planets, stars, etc.

Energy/Matter has a "Dual Nature" at the sub-atomic level

Every sub-atomic particle has an associated anti-particle, another particle with the same mass but with all charges opposite. In addition, at this sub-atomic level, Matter/Energy also exhibits the aspect or behavior of either Particle or Wave depending on the particular circumstances. However, both aspects are unable to be measured at the same time. That is, matter only exhibits one side of its nature at any specific moment, as a particle or wave. This "dual nature", therefore, can be viewed as a dual manifestation of a single entity - as "two sides of one coin".

The behaviour and effects of "Dual Nature Energy/Matter" are Opposite or "Mirror Symmetrical"

Particles and anti-particles are identical or symmetrical in every respect except for their electrical charges which are opposite, i.e., either positive or negative charge. At this level, particles also have a "wave function" - they can behave like waves. Particle behavior is energy acting as a tiny, pointed entity that can be visualized as a tiny pin-point or "micro-bullet" and causing direct effects when striking a surface. Whereas, a wave is, antithetically, a wide energy-pattern which creates broad interference patterns when interacting with an entity or surface. Thus, the manifestation of energy as either particle/anti-particle or particle/wave behavior is a manifestation of two opposite or "mirror symmetrical" behaviors and effects.

Energy/Matter has the inherent capacity to combine to form advanced and complex living organisms with "self-aware and self-reflective" consciousness - - such as Human Beings. Human Beings are fundamentally formed of "dual-natured" and "mirror symmetrical" sub-atomic particles, as are all other visible elements in the Universe. Therefore, the basic nature of these particles is also inherent in the basic nature of Human Beings

Thus, our basic nature is also dual as particle/wave, with two fundamental elements or aspects and is "Mirror Symmetrical", with the two elements being opposites within a System. A primary example can be seen when addressing the most common question about human nature, "Is the nature of "man" good or evil?" The way the question itself is framed, as "either/or", actually precludes the answer and well illustrates our current mental paradigm. The answer, pursuant to this principle, must be that *human nature contains the potential for both good and evil*. And, as with particles, individual human beings can exhibit both these aspects of their nature but never at the exact same moment in time.

Our basic Nature (through our attributes, emotions, thoughts, and behaviours) operates within a "Dual Nature/Mirror Symmetry" Relationship System

As our basic individual Nature is both dual and mirror symmetrical, all our inherent attributes, emotions, thoughts and resulting behaviors and actions reflect this and operate within this System framework - from good/evil, love/hate to cooperation/conflict, etc., and everything in between. The evidence for this fundamental nature of human beings can be found in any dictionary. There is not and can never be any "positive" human attribute, emotion or behaviour that is not exactly matched by its opposite "negative" attribute, emotion or behaviour and vice versa. Each must have its counterpart.

In addition, there is the key concept of paradox or "simultaneous opposites". This, as we have seen, is not a coincidence but, rather, the way the Universe essentially works in terms of the nature of elements. Inherent duality and "mirror symmetry" are woven into the very fabric of the universe and, thus, into reality itself.

The "Dual Nature/Mirror Symmetry System" is a Closed Loop

The two opposite elements are the "dual extremes" which together and inseparably form the basic system parameters, i.e., love/hate, cooperation/conflict, etc. Within the closed loop there are various levels or degrees of intensity between the two extreme attributes, emotions, thoughts or behaviors such as like/dislike, collaborate/confront, etc., but again, always as "matched opposite pairs".

The Dual Nature/Mirror Symmetry System is in a Dynamic Balance

Just as the balance of elements and energies in nature, such as between particle and wave and between positive and negative electromagnetic force, etc., are in a dynamic and constantly fluctuating system of duality and force and counterforce, so are the opposite elements in human nature. It's a "dynamically balanced" system. Everything in the Universe is in constant motion although at very different extremes, i.e., the velocity of quarks vs. the velocity of the movement of galaxies, etc.

Forces continually push and pull and dual aspects flip back and forth depending on the specific circumstances. The net effect, however, is that the Universe, galaxies, stars, planets, the biosphere, the Earth's eco-systems, etc., are in an overall state of balance or equilibrium in harmonious interaction at almost all times. When this balance of forces is disturbed the result is an explosion, disintegration or collapse of the body or system involved.

All Human "Dual Nature/Mirror Symmetry Systems" are in actual or potential relationship and connection with other Systems

All our attributes, emotions, thoughts and behaviors as "Dual Nature/Mirror Symmetry" systems potentially can or actually do interrelate and interconnect with the other such systems within our individual self depending on the particular circumstances. Further, our systems can and do interrelate and dynamically effect other individuals with whom we interact or those we indirectly effect. This is due to the fact that everything manifests within these "relationship systems" and also due to the force/counterforce principle.

Accordingly, this provides confirmation of many intuitive understandings including "there's always a price to pay", "for every action there's a reaction", "the unanticipated appearance of unexpected consequences and results", the concept of "paradox", etc.

Therefore, every attribute, emotion, or thought that each of us translates into behaviors and actions has the potential to effect others up to and including everyone else and including our larger environment - the Earth's biosphere and eco-systems. Thus each of us, other people and the Earth can have a potentially different and even opposite perspective in every situation.

"Dual Nature/Mirror Symmetry Systems" apply equally at the level of individuals, organizations, communities and societies

Organizations, communities and societies can also act cooperatively or confrontationally, compassionately or indifferently, wisely or foolishly, etc. as organizations, communities and societies are, of course, made up of individual human beings. And, as individual, organizational, community and societal systems interrelate they can be in opposition such as an individual or organizational interest vis-à-vis the wider community interest, etc.

Successfully Managing the "Dual Nature/Mirror Symmetry" System

Successfully and effectively managing these essential systems involves firstly identifying one extreme of the two elements; whether attribute, emotion, thought or potential behavior and action. Once one extreme element is identified it is then simple to identify the "diametrically opposed" or extreme element, e.g., partner/adversary. Then, the "system parameters" are known and the particular "Dual Nature/Mirror Symmetry" system can be framed with the closed loop. All possible choices and options under that system exist within the closed loop and nothing outside of it.

The next step is to then identify as many other systems as possible which the one in question will potentially affect in relationship within yourself, as to the perspective of others, or that of the Earth. This, of course, can be quite complex to map.

There are Two basic types of "Dual Nature/Mirror Symmetry" Systems:

1. The first is the **Single-Preference System** where it is initially very apparent that actively promoting one element over the other is substantially more desirable as promoting the other element can be viewed as being essentially harmful to oneself, others or the Earth in view of the absolute of "Universal Direction" - which is the progressive direction of evolution is toward the development of "advanced life" in the Universe). (See the Code of Life) i.e.) Creative development vs. stasis (entropy)

2. The second is the **Dual-Preference System** where both of the opposite elements are desirable and even necessary to us and the goal then becomes finding an appropriate and effective balance, equilibrium and harmony between them, i.e.) self/community, local/global, unity/diversity, etc.

Again, both "preference systems" apply equally to individuals, organizations, communities and societies and the more relational effects we are aware of in advance the more successful our choices will be in terms of achieving our desired objectives. In this regard, computer modeling will be a major help in identifying the relationship possibilities and potential consequences and effects on others and the Earth, in advance.