

## Thinking About ‘Space’, ‘Time’, Awareness, and Difference. .

In this essay, I propose “non-identity” (difference), one of the fundamental principles of Korzybski’s general semantics, relates to a fundamental feature of our evaluation of Universe, human existence, critical, and creative thinking, conflicts, compassion, and evaluation of our evaluations -- “epistemology”. From one perspective, “difference precedes similarity”. We evaluate things as being the same (lower level differentiation) by ignoring (non-consciously) differences. And we deal with our perceived world of differences through neurobiological processes involving the creation of structures, and pattern recognition. At conscious-verbal levels, pattern recognition translates to principles including “relative invariance under transformation, structural similarity, maps, models, fractals, metaphors, similes, theories, explanations, and so on. At object levels we organize different elements to create social, economic, philosophical, religions, scientific, architectural, engineering, and other structures.

In this essay, I do not elaborate on relationship between non-identity, and epistemology, except to propose: If what we know, and understand, is not identical with what is being known or understood -- Epistemology must ultimately be based on two premises: “non-identity”, and “structuring” (arranging, organizing, putting together, etc.) and humans as arrangers, organizers, builders. We often forget this and delude ourselves with ideas of “objectivity”, and Truth”.

“Non-identity” can be considered a label for a scientific theory (testable) affirming difference. The principle of non-identity can be considered to represent difference from 4 different perspectives: (1) No two things are the same in all respects...not just “snow flakes”. (2) In terms of “time” involving structural change, and changing relationships, “a ‘thing’ is not identical with ‘itself’”. (3) The individual-observer-evaluator and his/her-abstraction, is not the same as what is observed, and abstracted from. (4) No two abstractors or their abstractions are the same in all respects...this includes so-called “identical twins”... as many parents will attest. (5) Universe is not the same as the divisions-distinctions we make for our convenience. In other words “non-identity” (difference) constitutes our human evaluation-classification based on our particular nervous systems processes. (Non-human conscious processes might not ‘see’ things the ways we do.) Two better known expressions of non-identity are formulated as “The map is not the territory it is a map of”; and “The word is not the thing (process) we use it to represent”.

### The Differential Calculus as an Awareness Tool

The “differential calculus” has been ‘defined’ as “The study of a continuous function by following its development through indefinitely small steps”. This mathematical exercise involving “indefinitely small changes”, can be translated to behavioral acts involving appreciation of difference, finely tuned awareness, highly refined discrimination”, keen awareness, making fine distinctions, and so on. (See ETC, Volume 53, Number 4 “An Approach to Everyday Living”). The differential calculus, in terms of incremental change, can be seen as an ideal formulation of difference, and non-identity, and structuring. In the limit (‘integration’), when we ignore difference, and include “time”, we move from difference to continuity, and wholeness. Student-practitioners of general semantics, concerned with critical-creative thinking, thinking about thinking, might recognize a close connection between the calculus -- in terms of close awareness from one instance of consciousness to another -- and one of the main general semantics goal “consciousness of abstracting”.

Consciousness of abstracting involves: awareness that in our evaluations, we have not included all (principle of non-allness). If we think of consciousness (while awake) as a “continuous function”, following the development of this continuous function in indefinitely small steps involves an awareness -- a consciousness of each instance of consciousness – ideally, without gaps (in the limit, “meditation”, and “silence on the object level”). A keen thinker-evaluator in a calculus orientation, would be able to make more, and finer distinctions, and *catch him/herself more often* in identifying his/her ‘maps’ – including explanations, what she/he knows, or think she/he knows, understands, believes, theorizes about, feel-thinks, and so on -- as being the same as what is going on outside their nervous systems.

### Working 'Definition' of Universe

I propose a working definition of Universe-Space: Indefinitely extended matter-energy configurations interacting at wide ranges of frequency, mass, density, electromagnetic charge, speed, rotation, etc.; and life forms, as special emergent processes – “special” in the sense of exhibiting consciousness, and with humans, self-consciousness (consciousness of being conscious)...characteristics not recognizable in other energy configuration.

### Differential awareness

The contents of our consciousness are not the same from one instant to another. We recognize this difference, and give things, situations, happenings, etc, names, labels, classify them, and so on. With more experience, and with finer distinctions, we make up new names, new labels, and new categories. We also note that things occupy different positions. (If two ‘things’ occupied the same position we would not be able to differentiate the one from the other...We wouldn’t be able to say “Here is this one, and here is the other”). From this it seems reasonable to theorize-propose, generalize that “No two things can occupy the same position” -- and “We live in a world of differences”. A question comes up: “What’s going on between things?” As we did yet know of molecules of air, waves of energy, or other substances in the interval between things, we assumed that there was nothing substantial there, and so we called this ‘betweenness’, this interval of seemingly ‘no thing’, “space”. That was then.

### Space

In some dictionaries, “space” is defined as “the distance, expanse, or area between, over, within, etc, things”. Here is what I am proposing: We could think of the word “space” as a label for “the totality, the integration of intervals between positions -- including whatever exists in these positions”. From this we can assume “There are no empty spaces”. In other words...there is no location where there is nothing, or nothing going on. Following this, things, humans, animals, plants, objects, light waves, sub-atomic particles, atoms, molecules, electromagnetic waves, etc., could be considered -- not as existing in space, not as occupying space, but as “different expressions, and configurations of space”. On the premise that “there are no empty spaces”, only one vast interconnected, and interactive system, “cause and effect” translates to “causes and effects” (infinite valued causality). In this latter orientation, instead of elementalistically looking for “a cause”, we look for “contributing factors”. Looking for “a cause” can be considered an example of the primitive principles of “allness”, “elementalism”, and “identification” (one cause only; leaving out other interrelated factors -- including our limited sensory processes; and believing that what is said is the same as what is going on). When we think and act in terms of “one cause one effect”, innumerable interrelated, and interactive factors do not go away: Significant ones will sooner or later sabotage our plans, and our attempts to resolve our problems.

### Space Configurations

Universe-space-matter-energy configurations exist at different densities, electro-magnetic charge, speed, rotation, frequency, etc., and interact in diverse ways. They penetrate, destroy, displace, merge, pass through, and so on, creating other space (matter-energy) configurations, and expressions...a dynamic Universe. We structure (organize) space configurations (including our knowledge), to include a wide range described by various fields of exploration -- biology, chemistry, physical sciences, mathematics, astronomy, psychology, politics, religion, anthropology, history, technology, and so on. Some experts in these diverse fields, recognizing and appreciating the interconnectedness, and unavoidable interactions between fields, have created fields such as: psychobiology, socio-biology, socio-linguistics, psycho-acoustics, psycho-neuro-immunology, psychopharmacology, and others. (In this scheme, I give the discipline “general semantics” a special place. It constitutes “a system about systems”, and a method to help us “think more clearly about our thinking”. It was designed as a “cognitional structure about cognitional structures” – to be used to help us make better sense of our structuring (the way we put things together), and the structures we have created (the things we have put together to make sense of our experience, our behavior, and ourselves.)

### Time and Us

We seem to have a special relationship with our notion of time. This might not be so surprising if we consider this: The ‘normal’ functioning of our organisms involving the interactions between organs,

neurochemical, neurophysiological, cognitive, and other processes, depend on events occurring in certain orders...What happens before what matters a great deal. Without doing any research into other cultures, and languages, I suspect that few other notions remain so prominent in our consciousness as the notion of time. I infer this from the following list of English phrases: Once upon a time. What time is it? Time piece. Time is money. Time heals all. Time management. Once in a lifetime. Time flies. In good time. Time waits for no one. A stitch in time saves nine. It's a matter of timing. Lunch time. No time like the present. Time out. In no time. Having the time of your life. From time to time. For the time being. On time. Time and again. Time consuming. When time stood still. Time bomb. Time capsule. Making up time. Running out of time. Time table. Saving time. Spending time. Losing time. Time zone. Time dilation. Lots of time. Waste of time. Its' high time. Biding time. Time card. Time-binding...and others you might remember.

A major problem related to time can be expressed this way: Our human problems increase in number, and complexity in a shorter time than it takes for us to recognize the problem or start to address the problem. And with our ability to be both creative and creatively destructive, one individual, in five minutes, can destroy what it took hundreds of individuals five years to build.

### **Chronological time**

No two happenings, no two changes, activities, or movements are identical (the same in all respects). If they were, we would not be able to distinguish one from another. So similar to our observations related to "space", we are aware of an interval between happenings, changes, or activities. We could now define "chronological time" as a term relating to "the totality of intervals between spatial changes, movements, and activities". If we accept there are no spatial gaps, it follows there are no time-gaps. If we are aware of movements, activities, and change, "time" represents one way of relating with, ordering, and measuring intervals between such movements, change, and activities. We represent our ordering, relating, and measuring with labels such as "before, during, after, past, present, and future".

We determine a spatial location by relating it directionally -- with our chosen unit of measurement -- to some other selected location as our reference point -- No absolute place. Similarly with "time": We determine ('measure') an interval of time by comparing it with some selected unit based on an agreed on standard interval between selected happenings such as the interval of the swing of a pendulum, the passage of the moon around the earth, the frequency of vibration of a Cesium-133 atom, etc. So similar to space, there is no absolute position, and no absolute time -- only relative space, and relative time. . (Note that the interval of the swing of a pendulum, or passage of the moon around the earth, etc., all involve observable spatial changes taken as standards.)

### **Psychological time**

We have our own unique personal sense of intervals between locations, and events. What seems like a short distance to me might seem quite far to you. What seems to go by quickly for one, might seem to last an 'eternity' for another. Our sense of time is different. So to avoid confusion, and conflicts, and better organize our activities, and interactions, we create measures, and standards we label "seconds, minutes, hours, days, years, and so on. "Psychological time" (personal time) relates to our individual 'measure' (feel, judgment) of our awareness of the interval between happenings. As with Einstein's relativity theories, psychological time is not absolute but relative -- relative to one's 'state of mind', physical state, frequency of awareness, etc. For instance: When we feel sad, distressed, impatient, uncomfortable, in pain, there are usually more instances of awareness in the intervals between events, than when we feel happy, or having a 'great time'. In the first instance, time for us seems to drag, and slow down: five minutes of chronological time seems like an hour (We might say "Jeez, why is this taking so long?). In the other, with fewer instances of self-consciousness awareness, time (compared with chronological time) seems to go by quickly (We wonder "Where did the time go?")

We determine what comes first in our personal time) through our awareness and memory that one instance of our awareness of an occurrence took place before another. But what comes first for us, might not be so for others -- if information from a happening reaches them before or after us. In a sense, we live in different times. Living in different times, we (personal, and cultural) have access to information at

different times. A great deal of personal, international conflicts, and violence arise from this difference. We make allowances for this difference personal and cultural time by using clocks and distance units as our reference (agreed on) standards. Things move: We determine their speed, frequency, and duration by comparing their change of position to some other selected interval between happenings. Similarly, we use selected standards of measurement to minimize conflicts that predictively would arise if we followed our individual estimations of speed, distance, weight, and so on. Unfortunately, in much of our everyday interactions and communications (not including many commercial transactions, scientific, architecture, engineering activities, etc.), we do not have agreed on universal standards. This makes it difficult for parties to come to agreements in everyday discussions, in negotiating political, cultural, and international differences, and appreciating our diverse priorities, and values

### Evaluating standards

Unresolvable conflicts arise when each side comes to the table with their ideas, opinions, plans, decisions, expectations, etc., linked to their individual ‘measures’ and “standards” (what they consider valid, reasonable, fair, important, valuable etc.)...usually without an awareness of their differing ‘measures’, and standards. Our individual ‘measures’, standards, values, expectations, sense of time and space, etc. are based on our individual time-space-experiences – No two are identical: Lacking this awareness, conflicts become unavoidable, and their resolution practically impossible. Imagine trying to decide how important, how true, how valuable, how good, how serious, how beautiful, how funny, how heavy, and so on, something “is”, when both parties in a conversation or dispute do not agree on some standard they can use as a reference.) Applying the methods of science and mathematics can help us become better evaluators, map-makers, critical and creative thinkers following more reliable standards based on extensional agreed on measures. We could learn a great deal about ourselves, and learn how to better manage our personal, social, and international situations; we could improve our human being toward higher levels of sane behavior if we studied ourselves as fractal structures, and space-time configurations - with characteristics different from, and similar to other space-time configurations and operations.

In Alfred Korzybski’s general semantics (Science And Sanity), where we find a proposal for evaluation standards, indiscriminate use of the word “is” constitutes a general source of many of our personal, interpersonal, and international problems. We often use the word “is” as if one thing, situation, equals another. Korzybski labeled this the “is of identity” – not to be confused with “is of predication, is as auxiliary verb, and is of existence”. Something to remember: We tend to treat ourselves, another, and a situation based on labels -- what we say, or think she, he, or it “is”. Things, situations, etc., observably are not identical with what we say, or think they are. Without training and practice, we do not easily recognize that what is said, or thought about something or someone – involving words, images, symbols, etc., occupies a space-time position of the speaker, demonstrably different from the thing or person being thought about or talked about. (See how often you catch yourself using the word “is” (as “being equal to”) in speaking or writing. For more on “is” and other forms of the verb “to be”, look up D. David Bourland ‘E Prime’.)

### Space-time

From these notions of spatial movement, and activity... if we accept that there exists no absolute stillness – that everything moves, we can easily make sense of the seemingly mysterious interconnection between our notion of “space” (matter-energy configurations), and our notion of “time” (noted intervals involved in the movement or activity of matter-energy configurations). We estimate intervals between events (time) through a relationship that includes, awareness, distance, and speed. We estimate spatial intervals (distance) through a relationship that includes awareness, time, and speed. Speed involves a measure of the rate of change of position. Based on these propositions related to awareness of intervals between spatial change, and happenings -- We might avoid a great deal of confusion if we evaluated expressions such as “absolute time”, the “passage of time”, “time marches on”, “the beginning, and end of time”, “managing time”, “losing time” not as descriptions, but as metaphors. Time, in this scheme, like length, weight, or speed, does not move. (With regards to “managing time”, we can translate this to “managing our behavior in the increments of time-space available to us”.)



## **To be...is to be in relationships**

Human existence, awareness, evaluations, time, space, matter, energy, change, movement, activity, rhythms, and relationships” are all interrelated – with “difference” (non-identity) a fundamental and invariant evaluated characteristic of Universe. I elaborate on some of this with the following generalizations:

### **Existence**

Anything that exists, exists somewhere at some time. (In planning to meet someone for instance, we want to know not only “when”, but also “where”.) As we assume that there are no empty spaces -- “To be, involves relationships, and interconnectedness”. Ignoring the factor that our living involves multiple relationships (with ourselves, with others, with our surroundings, with earlier times, later times, etc.,) often gets us into deep trouble – not only with others, but also with ourselves. (See “Rhythms” below.)

### **Difference, Non-identity**

Consciousness, curiosity, conflicts, communication, comprehension, creativity, computations, start with difference. When consciousness of difference involves other instances of consciousness, we use the label “self-consciousness”. If objects, happenings were identical (the same in all respects, no difference whatsoever) – we would have no sense of, and no awareness or notion of change, and intervals, to label ‘time’, ‘space’, and awareness. Creativity, self-improvement, and improvement in any area depend on an awareness of different possibilities – seeing, understanding, evaluating, and doing things, etc., with a different attitude, and from different ‘points of viewing’.

### **Movement, Change**

We live in a Universe of spatial change, activities, movements, emergence, and extinction....a pulsating Universe: To get a feel of this, “Look at the bubbles in a simmering pot of soup”. We can think of movement as “a sequence, continuity, or succession of spatial activity (things, objects, energy waves, etc.) changing positions from one location, through others, to others.” We can assume a close relationship between movement, activity, (change), and awareness. When we forget that things change, however slowly or rapidly, we are apt to persist in out of date responses with often disastrous results. For instance: War (1), 17<sup>th</sup>. Century, is not war (2), 21<sup>st</sup>. Century. When one combatant (A) moves in ways predictable to combatant (B), and the movements of combatant (B) become increasingly less predictable to (A), this asymmetric relationship, involving difference in rhythms, puts side (A) at a noticeable strategic disadvantage. When (A) dresses in the traditional manner of a soldier, and (B) dresses like a civilian buying something in the market or waiting for a job, not recognizing this change in tradition puts one side in more danger the other.

### **Different Rhythms**

Rhythms involve “patterns of change” – including “changing patterns of change”. Observing, thinking-evaluating in terms of rhythms help us make better predictions. Extensionally (observably): Spatial configurations, particles, objects, individuals, groups, ‘societies’, ‘cultures’, ‘nations’, etc. operate following their own rhythms – their own pace -- and tend to resist change. (“Inertia” can be applied not only to physical forces, but also to psychological, physiological, social, and other activities.) When ‘we’ make demands on others that disrupt their rhythms – whether at interpersonal, societal, or international levels, they are likely to resent ‘us’ for their having to make accommodating behavioral adjustments, and for ignoring what *they* consider important, and valuable. We often make demands on others that they sometimes cannot meet. Insensitivity to difference in rhythms contributes to conflicts, and violence at personal, and international levels. We exhaust and stress ourselves when we forget that the rhythms of conscious operations (memories, fears, hopes, likes, dislikes, plans, decisions, etc.) usually operate at higher and more diverse frequencies, than do the rhythms of our ‘bodies’. Our ‘feelings’, ‘determinations’, ‘ideas’, ‘commitments’, etc., often make demands on our ‘bodies’ that our ‘bodies’ cannot meet. Probably one of the most intriguing difference for us involves the difference between neural activities (electrochemical processes), and the emergent consciousness. (For more on rhythms, change, stress management, consciousness, relationships , and other themes, visit <http://miltondawes.com/>)

## Humans

We could consider ourselves as “particular space-time configurations, with the ability to respond in increasingly diverse ways, symbolically represent, and purposefully, destructively, creatively, transform, and use other space-time configurations...including ourselves”. We have the ability not only to cognize difference, but also to differentiate (take apart), integrate (put together), and unendingly refine and improve on our differentiation, and integration – improving on our improvements indefinitely.

We could think of human self-consciousness as a “fifth dimension”, since whatever we say, sense, think about, understand, and know, involve relationships based on our particular human, and individual perspective. Our ‘observations and ‘measurements’ are not absolute. Other evaluating entities might not ‘see’ things the way humans do. For instance we lack the odor differentiating sensitivities of dogs, the electric field sensitivities of sharks, the infra-red discrimination of snakes, the acute vision of birds, and so on. Despite Heisenberg’s uncertainty principle, Neils Bohr’s complementarity principle, and Korzybski’s non-elementalism, non-allness, and non-identity principles, and others (emphasizing the unavoidable interconnectedness between the observer, and his/her ‘measurements’, ‘maps’, and evaluations), many scientists, many in the field of journalism, many religions, and many of us, have not yet re-viewed or abandoned the ‘primitive’ and absolute notions of “objectivity”, and “Truth”.

## Time-binders

A unique characteristic of ourselves as space-time configurations is our ability to purposefully, and self-consciously modify our responses; to learn from the consequences of our responses; and to learn about learning, and improve on our improvements indefinitely -- all this toward achieving more appropriate responses to what’s going on in and around us. Alfred Korzybski labeled this unique human ability “time-binding”, and humans “time-binders”. (See Korzybski’s “Manhood of Humanity”). Time-binding behavior is ‘motivated’ sometimes by curiosity, and experimentation: We want to know “What if I tried ‘this’ instead of the habitual, and expected ‘that’? Sometimes it arises through feeling dissatisfied, and uncomfortable with something ourselves or others have made or done. Sometimes through our competitiveness we want to do better than another, or better than our last effort. Sometimes out of a concern to be more effective, and more efficient. And sometimes simply “that’s what we human do”. When the time-binding process is explored in depth, one finds close relationships between time-binding, consciousness of abstracting, and the creative process.

Korzybski’s “general semantics” constitutes a proposition that “The methods, and approach of science and mathematics constitute models of ‘good’ (rigorous, critical, creative) thinking, and excellent examples of time-binding in action. Sadly, except in the activities of science and mathematics, there seems to be very little appreciation, interest, or determination in consciously exercising this ‘most important for survival’ ability. As humans we constitute natural time-binders – but not necessarily “conscious time-binders”. We can apply Korzybski’s generalized principles of science and mathematics toward becoming conscious time-binders. As conscious time-binders, we set out to improve by going beyond gut feelings, intuition, guesswork, etc. With generalized science and mathematics, we have tools, and a method to consciously and deliberately improve ourselves, and what we do in any area of human activity. Using the tools of general semantics, we have the ability to achieve higher levels of sanity in our human affairs -- in our relationships (attitude, and behavior) with ourselves, and with others. (See “Science And Sanity”, and read “On Conscious Time-Binding” in ETC Volume 62, July 2005, or visit <miltondawes.com>)

## More Differences More Complexity More Problems

We function at different levels of comprehension, intelligence, ignorance, sanity, and insanity. We have different sensitivities, experiences, memories, ‘learning curves’, beliefs, fears, worldviews, visions, opinions, expectations, interests, priorities, loyalties, values, and so on. Many of us ignore our individuality, and identify ourselves as members of different ‘tribes’, cultures, religions. We speak different languages even when we think we speak the ‘same’ language. Based on different time-space experiences, comprehension, and valuing, the meanings we intend to transmit, the words we use, how these are translated-interpreted by a listener or reader are not identical. We constitute creative beings: Ideas interact and new ideas emerge. Our technological creations (instruments, tools, machines, bombs,

guns, etc.), and our technological, architectural, engineering, artistic, economic, and other accomplishments, result in other time-binding creations. Clashing, and merging, new ideas, new inventions, new discoveries, new points of viewing emerge. Improvements in technological areas outpace the rate of improvements in human relationships. The constant emergence of 'new' -- resulting from the interactions involving our diverse differences -- generate more differences, and increasingly, and seemingly unmanageably higher levels of complexity. (I note in passing, that there have been no significant improvements in the area of religious beliefs. I won't elaborate. I invite the reader to wonder about this.)

Our many differences result in conflicts, problems, and violence which seem to be increasing exponentially, in intensity, and more rapidly. We face some major challenges as a species. Outstanding ones include: increasing population, increasing diversity and complexity, time, and our creativeness. The 'quality' of our human 'beingness' and relationships depends on recognizing these challenges, and how we choose to address them. Can we meet the challenges to our psycho-physiological wellbeing, sanity, and survival? Can we strive to be as good in making peace as we have been in making war, and instruments of war? Can we give more value to, and make our interdependence, and interconnectedness more important to us than our differences? Do we have time? The system-discipline "General Semantics" offers some guidelines, psychological tools, methods, and principles we can use to help us appreciate the powers, and dangers related to language; improve our understanding of ourselves and others; improve our relationships with each other, with other societies, and with the physical world that supports us. Study and practice of general semantics constitute one way, those of us so concerned (not all of us, since we can not ignore differences -- and for many, things are just fine), can contribute to maintaining some degree of sanity and harmony within ourselves, and in our human affairs.

(For more information on general semantics contact "The Institute of General Semantics", 817 922 9812)

– Milton Dawes/2007